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# Student-Faculty and Peer Interactions among Immigrant College Students in the United States

Michael J. Stebleton, Krista M. Soria, Marina B. Aleixo, and Ronald L. Huesman Jr

## Abstract

This study examined student-faculty interactions and peer interactions among immigrant college students attending 4-year research universities in the United States. Using the Student Experience in the Research University (SERU) survey completed by 58,000 undergraduate students from six large, public research universities, the researchers used analysis of variance and multiple linear regression analyses to explore differences between immigrant populations. The results suggest that there are significant differences between immigrant and non-immigrant college students with regard to their sense of belonging, faculty interactions, and peer interactions. There are also differences within immigrant waves and generational status. Implications and recommendations for educators in multicultural learning and teaching contexts are outlined.

**KEYWORDS:** immigrant students, belonging, student-faculty interactions, retention, engagement, peer interactions

The United States continues to receive the largest number of immigrants in the world with over a million immigrants receiving legal permanent residence each year (Camarota, 2010). These immigrants and their children have a significant impact on the demographics of the United States population. According to the Center for Immigration Studies, 24.3 million immigrants lived in the United States in 1995; that number grew to 31.8 million in 2001 and is currently at 37.6 million for 2010 (Camarota, 2010). According to Winqvist Nord and Griffin (1999), one out of five school-aged children is foreign-born or has a foreign-born parent. This trend may have an immediate and significant impact on teacher education programs, the need for special resources (e.g., interpreters), and school curriculum planning. Furthermore, as these students graduate from high school, many will move on to postsecondary education opportunities. Therefore, an examination into the experiences of immigrant students on college campuses can provide postsecondary educators with valuable information to meet the needs of these students. The primary objective of this study is to examine the experiences of immigrant college students who attend 4-year research institutions located throughout the United States.

Currently, approximately 12% of the U.S. undergraduate population is comprised of immigrant college students (Kim, 2009). For purposes of this study, we define *immigrant students* as those who were born in another country, or were born in the United States to foreign-born parents (i.e., second-generation immigrants). Refugees are not considered a separate immigrant group in this study (although we acknowledge that their experiences are unique). The current inquiry regarding the experience of immigrant college students is timely and relevant; hardly a day goes by without national and international news stories tied to immigration issues. Several researchers (Erisman & Looney, 2007; Gray, Rolph, & Melamid, 1996; Kim, 2009; Szelényi & Chang, 2002) emphasized the need and urgency to better understand and discuss immigrants' college experiences. They indicated that such knowledge is important because college persistence and success serves as the primary vehicle for immigrants to assimilate and improve their economic status and mobility (Suárez-Orozco, Suárez-Orozco, & Todorova, 2008). Furthermore, there is evidence that immigrants' college lives are distinct from other students, and their experiences deserve further merit for scholarly inquiry. Szelényi and Chang (2002) contended that "the literature on immigrant education highlights the position that the growing body of immigrant students in American higher education represents a distinct population with specific needs" (p. 59).

In this study, we intend to explore the experiences of immigrant college students who attend large, research institutions located in the United States. More specifically, our aim is to learn how immigrant college students compare with their peers on factors related to sense of belonging and satisfaction. Additionally,

this paper explores the associations between faculty and peer interactions and immigrant students' sense of belonging on their campuses. The following research questions were posed to help frame the study:

- Are there differences between three immigrant generations and non-immigrant students with respect to their levels of faculty and peer academic interactions?
- After controlling for additional demographics, is there an association between faculty and peer interactions and sense of belonging among three immigrant generations?

## **Literature Review**

### **Student-Faculty Interactions**

Student-faculty interactions—inside and outside the classroom—hold the potential to positively impact college student development, student persistence, and achievement measures (Astin, 1993; Chang, 2005; Lomport, 1993; Pascarella & Terenzini, 2005). Scholarly inquiries about the influences of student-faculty interactions are replete in higher education literature; in fact, research on student-faculty interaction at the postsecondary level has been conducted for several decades (Endo & Harpel, 1982; Pascarella, 1980; Pascarella & Terenzini, 1977). Evidence suggests that student-faculty interactions are particularly important factors in overall student success (Astin, 1993; Pascarella & Terenzini, 2005; Tinto, 1993).

While prior evidence has demonstrated the many benefits of student-faculty interactions, dissonance exists between students' expectations regarding the frequency of interactions and the reality they experience when interacting with faculty members. Other students do not receive or pursue opportunities to engage with faculty. Entering college students place importance upon interactions with faculty. For example, approximately 94% of entering college students indicated that they will at least occasionally ask their instructors about their academic performance although less than 66% actually did so (Kuh, 2005). Additionally, the majority of students expected to socialize at least occasionally with faculty outside of the classroom but only 44% reported doing so (Kuh, 2005). Finally, approximately 77% of students expected that they would frequently ask faculty for information about their courses (assignments, grade status). However, only 54% of students actually asked their faculty about course information (Kuh, 2005). Kuh (2007) surmised that perhaps "the discrepancy between what students expect and experience in terms of interacting with faculty may also be partly the result of large first-year classes that discourage such

contacts” (p. 38). Large lecture courses are especially common in lower-division courses at public research universities, such as those involved in the present study.

Student-faculty interactions are positively associated with student persistence and other positive student outcomes, including students’ view of the campus environment and their overall satisfaction (Kuh, 2007; Pascarella & Terenzini, 1976). Informal student-faculty interactions (e.g., speaking with faculty outside of class, working on a research project with a faculty member, or serving on committees with faculty) are also positively correlated with student learning and development (Astin, 1993; Kuh, 2003; Kuh & Hu, 2001). Generally speaking, out-of-class contacts with faculty “appear to positively shape students’ perceptions of the campus environment and seem to positively influence educational aspirations” (Kuh, 2007, p. 56). Such engagement activities may reinforce students’ collegiate goals, deepen their commitment to graduate (Pascarella & Terenzini, 1991), and lead students to develop a strong bond with the institution (Kuh, Douglas, Lund, & Ramin-Gyurnek, 1994).

Conversely, it is expected that students who do not have meaningful connections with faculty are likely to feel less connected to the institution, have lower educational aspirations, and are less satisfied with the campus environment. These are factors which potentially contribute to lower feelings of sense of belonging, satisfaction, and in turn, attrition. In summary, according to Pascarella and Terenzini (2005), research “indicates that student contact with faculty members outside the classroom appears consistently to promote student persistence, educational aspirations, and degree completion, even when other factors are taken into account” (p. 417).

The large size of public, research institutions frequently limits meaningful and extensive student-faculty interactions to the extent that it negatively influences student success and persistence towards graduation. Unlike other causes of attrition, the dearth of student-faculty interactions on public university campuses is something which can be intentionally and programmatically enhanced within institutions. In other words, it is a known retention factor that can be improved. We contend that educators play an important role in student retention efforts that includes engaging students in multicultural teaching and learning contexts—both inside and outside the classroom (e.g., directed research projects; office hours; service learning; internships; advising; graduate school planning) (Clark, Walker, & Keith, 2002).

Much of the work on student-faculty interactions has been conducted on students who attend Predominately White Institutions (PWIs). More recently, scholarly inquiry has been conducted on historically marginalized student populations, including students of color. However, there is scant research conducted on the experiences of immigrant college students. Chang (2005) explored faculty-student interaction in the community college system and

discovered that students generally have low levels of interaction with faculty. Also, Asian American/Pacific Islander students and Latino/a students reported significantly less faculty interaction than their peers. Perceived racial difficulties may be one issue that impacts the establishment of faculty-student relationships.

Additional research conducted on Latino/a college student populations tends to confirm the importance of strong student-faculty interactions. Anaya and Cole (2001) examined Latino/a student populations in terms of student-faculty relationships and the relationship to student grades. Academic interactions and the perceived quality of those interactions tended to be positively related to overall academic performance. The frequency and quality of the interactions mattered for the students, especially if the nature of those interactions were academically focused; social interactions tended to play less of a role (Anaya & Cole). Rendón and Valadez (1993) discovered that culture can influence students' perceptions in that many Hispanic students sensed that non-Hispanic faculty did not understand their unique needs and issues. This perceived cultural gap contributed to lack of student engagement—both academic and social—and led to student isolation in many situations.

Additionally, Kim and Sax (2009) used a large survey data set from University of California undergraduates to analyze student-faculty interactions at large, public institutions (i.e., similar to the institutions surveyed in the present study). Specifically, they explored differences by student gender, race, social class, and first-generation status. In terms of differences related to race, they found that “Asian American students are more likely than other racial groups to be involved in undergraduate research experience, but they are least likely to interact with faculty regarding course-related issues” (p. 452). In this same study, Kim and Sax found that African American students tended to interact more frequently with faculty for course-related matters than other racial groups, although they were least likely to assist faculty with research. The authors suggested that faculty members need to be aware of cross group differences in terms of preferences for communication and faculty-student interactions. For example, faculty members can intentionally make efforts to encourage high ability African American students to get involved with research projects and discuss graduate school possibilities with students. Some students may not be aware of such opportunities, especially if they are first-generation students. Overall, students from historically marginalized groups often take their cues from faculty members in terms of interaction. It is evident that faculty members' attitudes, personality, and presence affect the quantity and quality of student interactions (Cotten & Wilson, 2006). Faculty members' actions and influence in regard to student interactions matter.

## Peer Interactions

Rendón and Valadez (1993) opined that many students—including immigrant students—are not aware of the culture of higher education and lack knowledge of the institutional system. As one important influence, peers can help students to acclimate to the college culture. Peer interactions are important to college students; according to Pascarella and Terenzini (1991), “A large part of the impact of college is determined by the extent and content of one’s interactions with major agents of socialization on campus, namely, faculty and student peers” (p. 620). The many benefits of student interactions with their peers can positively influence academic development, analytical and problem-solving skills, and self-esteem (Kuh, 1995). According to Astin (1993), peers are “the single most potent source of influence” on college students, affecting virtually every aspect of development—cognitive, affective, psychological, and behavioral (p. 398).

In addition, peer teaching and participation in peer tutorial programs have a positive impact on learning and personal development (Goldschmid & Goldschmid, 1976). Moreover, students who teach other students have the potential to grow more knowledgeable about the material to be taught, a factor presumed to produce greater conceptual learning (Pascarella & Terenzini, 1991). Positive peer interactions are also thought to be associated with overall success. According to Pascarella and Terenzini (1991), obtaining a bachelor’s degree is “positively influenced by attending a college with a high level of cohesion in the peer environment” (p. 384). The present study is distinct in that we focus specifically on the experiences of immigrant students who attend large, public research institutions. To our knowledge, this is the first study to specifically explore student-faculty interactions and peer interactions of immigrant college students by generational status.

## Sense of Belonging

Scholarly research conducted on college student experience and sense of belonging suggests a strong relationship between belonging (i.e., academic and social integration into the college/university) and student retention (Alford, 1998; Tovar, Simon, & Lee, 2009). It can be argued that the greater the sense of belonging to the institution, the more likely it is that the student will remain in college (Hausmann, Schofield, & Woods, 2007; Hoffman, Richmond, Morrow, & Salomone, 2002-2003). Foundational concepts related to sense of belonging are built on the early student retention work of Astin (1993) and Tinto (1993) and described thoroughly by Pascarella and Terenzini (2005).

A critique aimed against Tinto is how these early theories can be applied and integrated with issues pertaining to students of color (Hurtado & Carter,

1997). In response to this concern, inquiries have been conducted on sense of belonging issues among different racial/ethnic groups. Several studies have examined sense of belonging among different racial and ethnic groups. For example, Hurtado and Carter (1997) discovered that ongoing discussions of course content with students outside of class and membership in social-community organizations are strongly associated with students' sense of belonging. These outcomes are comparable to other work conducted on Latino/a students (Hurtado & Ponjuan, 2005). Furthermore, Johnson, et al. (2007) examined a sample of 2,967 first-year students of color and found that African American, Latino/a, and Asian Pacific American students reported a lower sense of belonging than White/Caucasian students.

It should be noted that Hurtado and Carter (1997) discovered that ongoing discussions of course content with other students outside class and membership in religious and social-community organizations are strongly associated with students' sense of belonging. According to the authors, "first-year experiences have positive effects, while perceptions of a hostile racial climate have direct negative effects on students' sense of belonging in the third year" (p. 324).

In sum, there is strong evidence to suggest that sense of belonging is important to student success, especially for students of color and other historically marginalized college students. Multicultural educators can help create and foster this sense of belonging through a variety of strategies and purposeful initiatives.

## **Conceptual Model**

In this study, we examined the frequency of student-faculty and peer interactions as a means of understanding whether immigrant college students may experience potentially fewer opportunities to receive validation from faculty and peers in academic contexts. For purposes of this study, we opted to use Rendón's *validation* theory (1994) that focuses on diverse students. Due to the changing demographics of higher education, Rendón contended that faculty, administrators, and student affairs professionals need to acknowledge that not all students will learn and progress through college in the same way. In particular, Rendón explored the college experiences of students of color, immigrants, and non-traditional learners. Rendón (1994) defined validation "as an enabling, confirming and supportive process initiated by in- and out-of-class agents that foster academic and interpersonal development" (p. 44). When strong validation is present, learning is more likely to occur and students feel empowered and noticed. When validation is absent, students can feel isolated and marginalized, experience a lack of belonging to the institution, and be more likely to withdraw from college. Validation tends to be a developmental process as opposed to a



stage theory—not all students will experience the same validating agents or encounter the same interactions.

Under validation theory, multicultural educators can engage in in-classroom validation strategies. Examples of in-class academic validation noted by Rendón included the following traits: faculty who demonstrated a genuine concern for teaching students; who were personable and approachable toward students; who treated students equally; who structured learning experiences that allowed students to experience themselves as capable of learning; who worked individually with those students needing extra help; and who provided meaningful feedback to students (Rendón, 1994, p. 40). Out-of-classroom validating agents can include support from friends and family as well as engagement in extracurricular activities such as intramural sports or joining student organizations. Interactions with peers can provide students with validation as well.

Educators can integrate and apply validation theory to classroom and outside-of-classroom activities. The impact will likely influence many students but may have compensatory effects for historically marginalized student groups such as students of color and immigrant students (Kuh, 2008).

## Method

### Instrument

The Student Experience in the Research University (SERU) survey is based at the Center for Studies of Higher Education (CSHE) and is administered by the Office of Student Research and Campus Surveys at the University of California-Berkeley. The SERU/Association of American Universities (AAU) Consortium is a collaborative project of faculty and institutional researchers with the intent of creating data sources geared toward policy-relevant analyses of the undergraduate experience within major research universities and to promote a culture of institutional self-improvement.

The SERU survey sampling plan is an environmental census scan of the undergraduate experience. All undergraduates enrolled spring 2009 who were also enrolled at the end of the prior term are included in this web-based questionnaire, with the majority of communication occurring by electronic mail. The SERU survey contains nearly 600 individual items. Each student answers a set of core questions that highlight four thematic research areas: academic engagement, community and civic engagement, global knowledge and skills, and student life and development.

## **Participants**

The survey was administered in the spring of 2009 to 145,150 students across six large, public universities classified by the Carnegie Foundation as having very high research activity. The institutional level response rates varied from 26% to 69%, for an average response rate of 39.97% ( $n = 58,017$ ). Approximately 35% of our sample was comprised of immigrant students from three generations. Immigrant generation was defined by examining self-reported birth location of maternal and paternal grandparents, followed by birth location of parents and finally birth location of the student. Students not born in the United States were considered recent immigrants; this group was further delineated by estimating age at arrival in the United States. Students who arrived in the U.S. by age 12 were considered “wave one” (8.6% of the sample) and those who arrived after the age of 13 were considered “wave two” recent immigrants (3.4% of the sample). The remaining immigrant generation was defined as second generation (22.9% of the sample) if at least one parent not born in United States and all other groups were referred to as non-immigrant.

Table 1 represents the demographic information associated with the wave one, wave two, and second generation immigrant students as compared to the non-immigrant students in our sample. According to this information, wave one, wave two, and second generation students are more likely to be non-White and more likely to report their social class as low-income or working-class as compared to non-immigrant students. As a result of these differences, we controlled for race/ethnicity and social class in our regression analyses.

## **Variables**

For this analysis, socio-demographic control variables included students’ gender, race, and self-identified social class when they were growing up—all variables were dummy-coded (female = 1, male = 0; underrepresented minority = 1, all other students = 0; Asian = 1, all other students = 0, low-income = 1, all other social classes = 0; working-class = 1, all other social classes = 0). Within the dummy-coded race/ethnicity variables, we excluded other/unknown and international students. We also separated Asian students from the underrepresented minority group in our analysis because Asian students represented over half of the immigrant students within our three immigrant generation groups.

Table 1  
*Frequency of Demographic Variables*

Area	Variables	Wave One		Wave Two		Second Generation		Non-Immigrant	
		<i>n</i>	%	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%
Gender	Male	1829	40.4	809	45.9	4906	40.8	14063	41.1
	Female	2697	59.6	954	54.1	7111	59.2	20191	58.9
Race and Ethnicity	American Indian or Alaskan Native	4	.2	4	.2	18	.2	234	.7
	African American	270	6.0	162	9.2	875	7.3	1773	5.2
	Chicano-Latino	684	15.1	269	15.3	2291	19.1	1121	3.3
	Asian	2448	54.0	906	51.4	5627	46.8	651	1.9
	White	882	19.5	314	17.8	2444	20.3	28962	84.5
	Other/Unknown	243	5.4	109	6.2	764	6.4	1542	4.5
Social Class	Low Income	576	12.7	211	12.0	993	8.3	1246	3.6
	Working Class	1326	29.3	421	23.9	2664	22.2	5120	15
	Middle Class	1717	38.0	725	41.2	4984	41.5	14894	43.5
	Upper-Middle/Professional-Middle	847	18.7	351	19.9	3140	26.2	12079	35.3
	Wealthy	55	1.2	52	3.0	220	1.8	906	2.6

Additionally, within the SERU survey, students were asked, “During this academic year, how often have you done each of the following?” and answered questions regarding their frequency communicating with a faculty member by email or in person, interacting with faculty during lecture class sessions, having a class in which a professor knew or learned their name, and working on class projects with classmates outside of class. These questions were scaled one (never) to six (very often) and were used as our measures of student-faculty and peer interactions.

For this analysis, our primary outcome variable was a factor score derived from students’ self-reported sense of belonging. We developed this variable by conducting a factor analysis on four items with oblique rotation (Promax). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis (KMO = .77). Bartlett’s test of sphericity  $\chi^2(6) = 97454.89, p < .001$ , indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues; one component had an eigenvalue over Kaiser’s criteria of one and explained 68.89% of the variance. Given Kaiser’s criteria on one component and the convergence of the scree plot that showed an inflexion that justify retaining one component, the final analysis retained a single component: sense of belonging. Table 2 shows the factor loadings after rotation in a pattern matrix. This component had high estimated internal reliability (Cronbach’s  $\alpha = .85$ ). The factor score was computed using the regression method and saved as standardized scores with a mean of zero and a standard deviation of one.

Table 2

*Summary of Factor Analysis Results for the SERU Questionnaire (n = 54,079)*

<i>Item</i>	<i>Sense of Belonging (<math>\alpha = .85</math>)</i>
I feel that I belong at this campus	.884
Knowing what I know now, I would still choose to enroll at this campus	.857
Overall social experience	.803
Overall academic experience	.770

*Sense of belonging items for the first two items began with “Please rate your level of agreement with the following statement” and was scaled 1 (strongly disagree) to 6 (strongly agree) and the last two items began with “How satisfied are you with each of the following aspects of your educational experience in your major?” and were scaled 1 (very dissatisfied) to 6 (very satisfied).*

## Analysis

We began by analyzing whether there are statistically significant differences between three immigrant generations and non-immigrant students with respect to their levels of faculty and peer academic interactions and their sense of belonging on campus. For this analysis, we used an analysis of variance (ANOVA) with immigrant status as a between-subjects factor. We next conducted multiple linear regression analyses for each of the three immigrant generations while controlling for the effects of pre-college characteristics, including gender, race, and self-identified social class. In our models, we sought to examine the relationships between faculty interactions, peer interactions, and immigrant students' sense of belonging.

## Results

### Differences between Immigrant Generations and Non-Immigrant Students

The main effect of immigrant status was found to be significant for students' sense of belonging on campus ( $F(3, 60761) = 211.40, p < .001$ ), indicating likely population mean differences in sense of belonging between the four groups. The main effect of immigrant status was also found to be significant for the frequency with which students communicated with a faculty member by email or in person ( $F(3, 61007) = 117.09, p < .001$ ), interacted with faculty during lecture class sections ( $F(3, 60900) = 216.09, p < .001$ ), worked with a faculty member on an activity other than coursework ( $F(3, 61029) = 25.15, p < .001$ ), had a class in which the professor knew or learned their name ( $F(3, 61170) = 248.95, p < .001$ ), and worked on class projects or studied as a group with other classmates outside of class ( $F(3, 61141) = 7.79, p < .001$ ).

The significant main effect for immigrant status was further analyzed using the Games-Howell posthoc test, which takes into account unequal variances and unequal sample sizes. While many pairwise contrasts were found to be significant, we have only reported a few salient results in our analysis (Table 3). The contrast tests indicated that there was a significant difference in the average sense of belonging between the immigrant groups, with non-immigrant students reporting a statistically significant ( $p < .001$ ) higher sense of belonging than the other groups. The contrast tests also indicated that nonimmigrant students had statistically significant ( $p < .05$ ) more frequent communications with faculty via email or in person than immigrant students. Nonimmigrant and second wave immigrant students also had more interactions with faculty during lecture class sessions than first wave and second generation immigrants ( $p < .05$ ).

Nonimmigrant students were more likely than all three immigrant generations to report having a class in which a faculty member knew or learned their name ( $p < .001$ ). Finally, the contrasts indicated that nonimmigrant students reported working more frequently on class projects or studied as a group with classmates as compared to second generation immigrant students ( $p < .05$ ). The mixed findings suggests that nonimmigrant students tend to have more frequent contacts with faculty and classmates outside of class except in the instance of working with faculty on activities other than coursework.

Our models for first wave immigrant students ( $F(9, 4172) = 52.30, p < .001$ ), second wave immigrant students ( $F(9, 1584) = 24.72, p < .001$ ), and second generation immigrant students ( $F(9, 10929) = 118.82, p < .001$ ) significantly predicted sense of belonging (Table 4). We found that when controlling for sociodemographic factors among the three immigrant generations, faculty and peer interactions were nearly always positively associated with students' sense of belonging. This suggests the importance of faculty and peer interactions in facilitating a sense of belonging among immigrant students. Additionally, we discovered that Asian students and low-income students nearly always reported a lower sense of belonging among all three immigrant generations, while working-class second generation immigrants reported a lower sense of belonging as compared to their referent group.

The findings suggest that when holding the other variables constant, peer interactions appear to hold the greatest weight in predicting sense of belonging among the immigrant student waves; for example, a one-unit change in working with classmates outside of class (e.g., from "often" to "very often") is associated with a .12 increase in sense of belonging among all three immigrant generations. Faculty interactions were comparable: a one-unit change in communicating with a faculty member by email or in person (e.g., from "somewhat often" to "often") is associated with between a .02 and .06 increase in sense of belonging among the three immigrant generations. The faculty interaction associated with the highest increases in immigrant students' sense of belonging was having a class in which a professor knew or learned students' names, which were associated with between a .05 and .07 increase in sense of belonging for the three immigrant generations.

Table 3  
Analysis of Variance for Sense of Belonging and Student-Faculty Interactions

	First Wave		Second Wave		Second Generation		Non-Immigrant		
	<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>	<i>F</i>
Sense of Belonging	4904	-.10 (1.03)	1789	-.09 (1.00)	13188	-.10(1.02)	40528	.12 (.96)	219.21***
Communicated with a Faculty Member by Email or in Person	4935	3.98 (1.35)	1811	4.08 (1.36)	13243	3.94 (1.36)	41018	4.17 (1.31)	117.09***
Interacted with Faculty During Lecture Class Sessions	4916	3.19 (1.46)	1812	3.41 (1.49)	13206	3.07 (1.47)	40966	3.43 (1.47)	216.09***
Had a Class in Which the Professor Knew or Learned Your Name	4931	3.89 (1.50)	1814	4.03 (1.53)	13296	3.85 (1.53)	41129	4.22 (1.47)	248.95***
Worked on Class Projects or Studied as a Group with Other Classmates Outside of Class	4933	3.85 (1.44)	1811	3.94 (1.49)	13282	3.80 (1.44)	41115	3.85 (1.44)	7.79***
<i>Note.</i> * $p < .05$ , ** $p < .01$ , *** $p < .001$									

## **Discussion**

The results suggest that there are significant differences between immigrant and non-immigrant college students with respect to their sense of belonging, faculty interactions, and peer interactions in large, public research universities. Furthermore, there are differences between these three immigrant generations that suggest each generation should be considered unique and that research and practice should take into account the different experiences of immigrant generations based on several factors, including time of arrival.

Our study also suggests a positive relationship between interactions with faculty and peers and sense of belonging among immigrant students. The strength of these relationships also varies among the generations of immigrant students. However, the overall findings suggests that, when controlling for demographic variables, working with peers and having a class in which a professor knew or learned their names are among the greater contributors to immigrant students' overall sense of belonging.

Based on these results there are several specific recommendations and strategies that multicultural educators could implement. First, faculty can make honest attempts to learn (and correctly pronounce) all students' names. Names are important to students and the acknowledgment of each student by name can be especially powerful towards building a strong student-faculty rapport. Second, faculty should encourage all students, and especially immigrant students, to communicate with them both inside the classroom as well as outside the classroom context. The interactions can take the form of meeting during office hours, sending email exchanges, and engaging in discussions related to life-career and major decision-making. Based on Rendón's (1994) validation theory, these are the types of activities that can help students feel more noticed and appreciated. Similarly, encouraging students to meet regularly with faculty can help to establish mentoring relationships that can last beyond the baccalaureate degree as well.

Third, faculty could consider adding more opportunities for both faculty and student interaction during class time. This includes implementing interactive components during large lectures, such as small group discussions or conversations. Currently, there are a number of technological advances (e.g., clickers) that allow for this type of intermittent opportunity for engaged learning (Davis, 2009). These opportunities have the potential to engage all students. However, they may work to especially engage students who are hesitant to speak with instructors in large classes.



Table 4

*Results of Regression Models Predicting Sense of Belonging among Three Immigrant Generations*

Predictor	First Wave		Second Wave		Second Generation	
	B	SE	B	SE	B	SE
Intercept	-1.13***	.07	-1.19***	.12	-.92***	.04
Female	.05	.03	.01	.05	-.01	.02
URM	.13**	.05	.23**	.07	.01	.03
Asian	-.09*	.04	-.08	.07	-.16***	.02
Low Income	-.15**	.05	-.31***	.08	-.28***	.03
Working Class	.01	.03	.00	.06	-.14***	.02
Communicated with a Faculty Member by Email or in Person	.04**	.01	.06**	.02	.02**	.01
Interacted with Faculty During Lecture Class Sessions	.05***	.01	.03	.02	.04***	.01
Had a Class in Which the Professor Knew or Learned Your Name	.05***	.01	.06**	.02	.07***	.01
Worked on Class Projects or Studied as a Group with Other Classmates Outside of Class	.12***	.01	.12***	.02	.12***	.01
$R^2$		10.1%		12.3%		8.9%

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p \leq .001$

A number of institutions have responded by incorporating intentionally designed programs to further promote student-faculty interaction (Lardner & Malnarich, 2008). One such example is the creation of formal faculty-mentor programs (Campbell & Campbell, 1997; Cotten & Wilson, 2006). The McNair scholars program is a successful example where students of color and/or first-generation students who are considering graduate school are paired with faculty to collaborate on a summer-long project. This recommendation ties to the work conducted by Kim and Sax (2009), who found that there are differences based on race/ethnicity when it comes to collaborative research opportunities between students and faculty. Educators should encourage high ability students of color and immigrants to actively explore the pursuit of undergraduate research, especially at public research universities.

Another related initiative is the creation of living-learning communities at 4-year research institutions. This can be an especially powerful initiative when implemented successfully at larger institutions like the ones included in the SERU sample. Multicultural learning communities have the potential to build community and provide a home for students of color as well as White students (Jehangir, 2010). Learning communities can be paired with any number of courses, including student development-oriented courses and writing instruction (Stebbleton & Nownes, 2011). Furthermore, large institutions have experimented with the addition of freshman seminars (enrollment of 15-20 students) that focus on a specific theme or topic of inquiry. At one such institution, instructors have included the president of the university as well as nationally recognized literary professionals. By including these types of high impact initiatives, students have the opportunity to interact more comfortably with the teachers as well as their fellow peers. Moreover, it allows for greater overall engagement for all.

Finally, it appears that immigrant college students may benefit from more peer-focused group learning opportunities. Faculty can incorporate class projects that promote group interaction and the opportunity to create a collaborative project that is shared with others, perhaps in a public space or a capstone event. One such example at the University of Minnesota-Twin Cities included a first-year multicultural learning community that is focused on food-related issues. The students are required to create a 60-second public service announcement in video format that discusses an important message about food concepts (Stebbleton, Jensen, & Peter, 2010). At the end of the semester, the students share their video presentations with their peers, departmental staff, and others in the university community. Such methods can increase the outside-of-class interactions that students have with their peers related to academic work, and also encourage creativity and positive interactions that can promote social engagement among students.

### **Limitations of the Study and Future Inquiry**

The overall variance accounted for in our models predicting sense of belonging is relatively small. Since sense of belonging is a highly complex factor, it is unsurprising that student-faculty interactions only account for a marginal amount of variation in sense of belonging. As a result, we advocate for continuing studies to find evidence of latent variables not examined in our analysis. We also encourage scholars interested in this area to pursue qualitative studies that explore the lived experiences of immigrant students in order to learn more about the ways in which faculty and peer interactions contribute to their sense of belonging and other gains. According to work conducted by Kuh and Hu (2001), the causal direction of the link between student interactions with faculty remains overall somewhat ambiguous, as students who were better prepared and studied more were more likely to seek out and interact with faculty (Pascarella & Terenzini, 2005). The present study did not take into account such factors into the conclusions.

The generalizability of this study is limited because it explores immigrant students at a single institutional type—large, public research universities; as a result, we recommend further inquiry including multiple institutional types. Additionally, we did not assess how students' faculty and peer interactions and sense of belonging may change from a longitudinal perspective. Therefore, we advocate for a longitudinal analysis to determine whether the observed differences in faculty and peer interactions persist over time, if immigrant students' sense of belonging changes over time, or if students' faculty or peer interactions are more salient to students at different levels (i.e., perhaps first-year students gain more from peer interactions than seniors).

### **Conclusion**

In summary, faculty and other educators play important roles in helping to validate all students, and in this case, immigrant college students. Immigrant students who attend 4-year research universities in the United States experience college differently than non-immigrant students with regard to their sense of belonging on campus and their student and faculty interactions. Given the changing demographics of higher education, the findings and recommendations from this study have the potential to assist educators meet the diverse needs, issues, and challenges of immigrant college student populations. Moreover, we believe that educators emphasizing multicultural teaching and learning techniques have the power to positively influence immigrant students' belonging on campus.

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