

Examining Sense of Belonging Among First-Year Undergraduates From Different Racial/Ethnic Groups

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This study examined sense of belonging among a national sample of 2,967 first-year students. Guided by the work of Hurtado and Carter (1997), relationships between several aspects of the college environment and sense of belonging were examined. Findings indicated that African American, Hispanic/Latino, and Asian Pacific American students reported a less strong sense of belonging than White/Caucasian students. The social dimensions of the transition to college and residence hall climate and perceptions of the campus racial climate had strong significant relationships to students' sense of belonging. Implications for practice and future research are discussed.

Researchers have theoretically and empirically linked persistence and degree attainment in higher education to students' abilities to connect with a peer group and develop positive relationships with faculty (Astin, 1993; Pascarella & Terenzini, 2005). Such relationships are seen as indicators of the extent to which students have integrated themselves into the academic and social aspects of a college

community, which Tinto (1993) asserted is critical to students' first-year persistence decisions. However, several scholars (e.g., Hurtado & Carter, 1997; Rendón, Jalomo, & Nora, 2000; Tierney, 1992) have taken issue with the centrality of integration to college success, especially as it pertains to students of color, arguing that Tinto's integration theory emphasizes student, rather than institutional, responsibility for change and adaptation.

Despite these challenges, Bensimon (in press) has noted the tenacity with which many scholars—and by extension consumers of higher education literature—have clung to the concept of integration and other hallmarks of Tinto's (1993) theory of departure. As part of a broader charge to practitioner-researchers for the creation of counter-narratives that shed light on the experiences of a diversifying student population, Bensimon argued for the exploration of alternative conceptualizations of persistence and the problematization of an existing theory that purports to explain broadly the student experience, and as Tierney (1992) asserted, privileges a narrow set of Eurocentric

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values. Hurtado and Carter's (1997) work on Latino students' sense of belonging is one such promising effort and forms the foundation for the present study.

Hurtado and Carter (1997) contended that integration as conceptualized by Tinto (1993) does not value culturally supportive alternatives to collegiate participation but instead emphasizes "mainstream" activities that may not foster Latino student success. In its place, they offered the concept of *sense of belonging*, which "captures the individual's view of whether he or she feels included in the college community" (p. 327). Rather than expecting students to bear sole responsibility for success through their integration into existing institutional structures, sense of belonging illustrates the interplay between the individual and the institution. Students' success is in part predicated upon the extent to which they feel welcomed by institutional environments and climates. A key influence upon sense of belonging, at least for Latino students, was their perception of supportive campus racial climates (Hurtado & Carter).

The present study is guided by Hurtado and Carter's (1997) work in two significant ways. First, we investigated whether their model of sense of belonging was applicable to a broader range of racial and ethnic groups by extending our sample beyond Latino students. Second, we enhanced the richness of their model by including the influence of an important socializing factor not considered in their original work: students' residence hall experiences. We begin with a brief discussion of the extant literature on persistence and then consider how sense of belonging is represented in the higher education literature. We then turn to a review of the constructs that inform our study's conceptual framework.

Integration and Its Critiques

Tinto (1993) theorized that students' persis-

tence was in large measure dependent upon students' integration within their institution's existing academic and social structures. Students achieve integration in formal ways, such as comportsing with academic regulations and standards and involving themselves with co-curricular offerings, and informal ways through less structured interactions with faculty and peers. Students "unable to establish . . . the personal bonds that are the basis for membership in the communities of the institution" (Tinto, p. 56) are less likely to persist, especially in their first year, than those who forge academic and social connections with their institution.

Rendón et al. (2000) took issue with Tinto's (1993) placement of the onus for collegiate success so heavily upon the shoulders of the new student. Using Tinto's logic, they argued, if a student withdraws from college it is due to his or her failure to integrate successfully, not institutional shortcomings. This can be especially problematic for underrepresented students (Rendón et al.). Building on Tierney's (1992) argument that integration theory demands racial minorities acculturate to institutions of higher education that have grown out of systems of oppression by abandoning their home culture (or maintain past affiliations and risk academic and social disintegration), Rendón et al. challenged the applicability of Tinto's construct of integration to any student who identifies with any nondominant social identity (i.e., non-White, non-male, non-heterosexual, non-Christian). They argued the salience of integration in fostering college success is inappropriately thought to be universal and identical among students of all backgrounds. Thus, a current empirical challenge includes not only the examination of how persistence outcomes vary by students of different backgrounds, but also the operationalization of a construct that demonstrates an interplay of responsibility for

persistence between the student and the institution. Hurtado and Carter (1997) offered one such conceptual alternative in their study of sense of belonging.

Sense of Belonging

Several researchers have examined a variety of constructs related, but not necessarily identical, to sense of belonging. Many of these conceptualizations were informed by psychological or sociological theory or the literature exploring issues of person-environment fit. Schlossberg's (1989) work on "mattering" highlighted students' need to feel that their presence on campus was noticed and important to others (including peers, family members, faculty, and staff). "Sense of community" within residence hall environments was identified by Berger (1997) as students' perceptions of "membership, influence, integration and fulfillment of needs, and shared emotional connection" (p. 442). Finally, Nora's (2004) concept of "fitting in" represented the extent to which students felt they would "fit," both personally and socially, at a particular institution. Taken together, the works of Schlossberg, Berger, and Nora suggest that students have a fundamental need to feel that they are an important part of a larger community that is valuable, supportive, and affirming.

Understanding students' sense of belonging to their campus communities represents yet another way to explore the influence of connectedness on their campus experience. However, sense of belonging as a theoretical construct has been little studied and inconsistently defined in the higher education literature (Hoffman, Richmond, Morrow, & Salomone, 2003; Hurtado & Carter, 1997; Hurtado & Ponjuan, 2005). Hurtado and Carter's study used a composite measure of sense of belonging to determine the extent to which students saw themselves as part of the campus community, felt they were members

of the campus community, and felt they belonged to the campus community. Hurtado and Ponjuan conceptualized sense of belonging in a similar manner and included the degree to which students were enthusiastic about their institution and whether they would recommend their university to others. Finally, Hoffman et al. developed several measures of sense of belonging that included first-year students' perceptions of academic and social support from peers, academic and social interactions with faculty, isolation from peers, and comfort in classroom environments.

Influences on Students' Sense of Belonging

Research has indicated that race/ethnicity relates to students' sense of belonging in that African American students were more likely to report a less strong sense of belonging than White students (Gilliard, 1996). Scholars have also identified several facets of the college environment as having profound effects on students' sense of belonging. These include interactions with peers and faculty (Hoffman et al., 2003; Nora, Kramer, & Itzen, 1996; Velásquez, 1999), co-curricular involvement (Hurtado & Carter, 1997), perceptions of the campus racial climate (Cabrera, Nora, Terenzini, Pascarella, & Hagedorn, 1999; Chavous, 2005; Gilliard; Hurtado & Carter; Hurtado & Ponjuan, 2005), and living on campus (Berger, 1997; Gilliard; Hurtado & Ponjuan).

Positive peer and faculty interaction can influence students' sense of belonging by making complex environments feel more socially or academically supportive. For example, Velásquez (1999) found that socializing with White students contributed to Chicano students' sense of belonging. In a study of nontraditional Hispanic students, Nora et al. (1996) found that the encouragement of fellow students, faculty, and advisors supported students' social integration into

campus life. Similarly, Hoffman et al. (2003) identified a positive relationship between supportive faculty interactions in both academic and social environments and students' subsequent sense of belonging. Other influential factors that have contributed to sense of belonging include participation in co-curricular activities and membership in campus sub-environments (Hurtado & Carter, 1997).

Just as some aspects of the college environment were identified as facilitating sense of belonging, others were found to inhibit it. Perceptions of a hostile campus racial climate negatively affected Latino students' sense of belonging (Hurtado & Carter, 1997; Hurtado & Ponjuan, 2005) and their interactions with peers (Hurtado & Carter). Similarly, African American students' perceptions of a prejudicial or discriminatory climate were negatively related to their commitment to the institution (Cabrera et al., 1999) and sense of belonging (Gilliard, 1996). Conversely, positive racial climates (as evidenced by perceptions of institutional support and fair treatment, and group interdependence) were positively related to the sense of campus community felt by African American students (Chavous, 2005).

Perceptions of the campus racial climate are influenced, in part, by students' interactions with others from different racial/ethnic groups (Hurtado, Milem, Clayton-Pedersen, & Allen, 1999). Indeed, experiences with diverse peers may result in attitudinal or developmental shifts that subsequently affect sense of belonging. As policies designed to create more diverse learning environments have come under increased scrutiny due to the Supreme Court decisions in *Gratz v. Bollinger* (2003) and *Grutter v. Bollinger* (2003), much of the scholarship about the influence of diverse peers has focused on the academic benefits associated with such interactions (see Chang, Astin, & Kim, 2004; Pascarella, Palmer, Moye, & Pierson, 2001). However,

interaction with diverse peers offers students of all racial/ethnic backgrounds nonacademic benefits as well. In their study of the civic benefits of diversity experiences (including those that happened in the classroom, at campus multicultural events, and through intergroup dialogue), Gurin, Nagda, and Lopez (2004) found that White students' participation in such activities was positively related to the ability to take others' perspectives and to develop a sense of commonality with students of color. For both White students and students of color, diversity experiences were positively related to participation in other racial groups' activities and an ability to learn about others' cultures. Similarly, Whitt, Edison, Pascarella, Terenzini, and Nora (2001) found that students (regardless of race) who interacted with diverse peers reported greater openness to diversity and challenge. In addition, Hurtado and Ponjuan (2005) found positive interactions with diverse peers contributed to sense of belonging among Latino students.

Finally, researchers have explored the influence of living on campus on students' sense of belonging. In general, students living in residence halls reported higher levels of both peer support and social integration than their nonresident peers (Pascarella, 1984; Pascarella, Terenzini, & Blimling, 1994). Berger (1997) found a positive relationship between residents' level of reported social integration and their reported sense of community. Differences may exist, however, by race. Gilliard (1996) found that White students' sense of belonging was positively influenced by living in residence halls, but African American students' perceptions of the overall campus racial climate were more influential in shaping their sense of belonging than place of residence. Hurtado and Ponjuan (2005) reported that Latino students who lived on campus had a greater sense of belonging than students who lived off

campus. Notably, the studies reviewed above only concerned themselves with *whether* or not a student was living on campus, not *how* resident students' perceptions of the residence hall environment might be related to their sense of belonging.

METHOD

The above literature serves as a basis for our understanding of the constructs related to college students' sense of belonging. The conceptual framework for the current inquiry is guided by Hurtado and Carter's (1997) study of Latino students; however, the present study supplements Hurtado and Carter's work by (a) including students from a wider range of racial and ethnic groups, including multi-racial students; and (b) adding residence hall experiences as a college environment to learn more about key predictors of students' sense of belonging. Taken together, this study used student background characteristics, college selectivity, residence hall environments, perceptions of the transition to college, and perceptions of the campus racial climate as independent variables to predict the sense of belonging reported by students from different racial and ethnic groups.

The measure of sense of belonging used in the current study consists of participants' level of agreement with the following items: (a) "I feel comfortable on campus," (b) "I would choose the same college over again," (c) "My college is supportive of me," (d) "I feel that I am a member of the campus community," and (e) "I feel a sense of belonging to the campus community." This measure of sense of belonging is consistent with the concepts of membership and belonging that were included in the works of Hurtado and Carter (1997) and Hurtado and Ponjuan (2005).

The sample for this study was drawn from the 2004 National Study of Living-Learning Programs (NSLLP), which included students

who attended 34 universities from 24 states and the District of Columbia. The majority of institutions in the 2004 NSLLP were large, public, flagship universities, and all had predominately White enrollments. Each institution in the study identified a full or random sample of students participating in living-learning programs as well as a comparison group of equivalent size from the population of students living in residence halls, but not involved in living-learning initiatives. Gender, race/ethnicity, and academic class standing were the variables considered in matching the comparison sample to the living-learning sample (Inkelas & Associates, 2004).

For this study, only first-year students were included in the analyses. The racial/ethnic composition of the entire first-year sample was 4.9% African American ($n = 493$); 9.9% Asian Pacific American ($n = 1,002$); 3.3% Hispanic/Latino ($n = 334$); 3.6% Multiracial/Multiethnic ($n = 367$); and 77.3% White/Caucasian ($n = 7,852$). Only 31 first-year respondents indicated that their racial/ethnic background was Native American/American Indian. Unfortunately, the analytic technique employed in this study precluded Native American/American Indian students' inclusion due to their low representation within the sample. White/Caucasian students were overrepresented in the sample relative to other groups; therefore, in order to roughly balance the racial/ethnic samples by size, 10% of the 7,852 White/Caucasian first-year respondents were randomly selected to be included in subsequent analyses. Thus, the total sample for this study included 2,967 first-year students.

Data Collection and Instrumentation

The data for this study were collected between late January and mid March 2004 using a 258-item Internet survey. After an initial electronic mail message inviting students to participate in the study, two reminder messages

were sent to nonresponders to encourage their participation. Most of the 34 institutions in the 2004 NSLLP offered modest incentives in order to encourage increased participation. Of the total number of students initially sampled at the 34 institutions ($N = 71,728$), there were 23,910 respondents, yielding a response rate of 33.3% (Inkelas & Associates, 2004). A response rate of 30-40% is considered typical for Internet-based survey data collection techniques (Crawford, Couper, & Lamia, 2001).

The reliability and validity of the measures on the 2004 NSLLP survey instrument are detailed in Inkelas, Vogt, Longersbeam, Owen, and Johnson (2006). Face validity for the survey instrument was established by consulting with 2 survey development experts and 15 living-learning program administrators about questionnaire clarity. The survey was pilot tested in 2001 and 2003, first with students at one institution, and later with students at four different institutions. By using exploratory factor analysis with principle axis factoring and orthogonal rotation and Cronbach's alpha estimates of internal consistency, composite measures representing a variety of constructs were created using the data from the pilot study. The scales used in this study include student perceptions of or experiences with (a) academically supportive residence hall climates, (b) socially supportive residence hall climates, (c) course-related faculty interactions, (d) smooth academic transition to college, (e) smooth social transition to college, (f) interactions with diverse peers, (g) the campus racial climate, and the dependent measure, (h) overall sense of belonging. Tests of internal consistency for these composite scales (Cronbach's alpha) ranged from .62 to .90. (See Appendix A for more information on the composite measures used in this study, including individual variable factor loadings and Cronbach's alpha reliability estimates.) To

test the composite measures for construct validity, the reliability of the scales was tested across the pilot samples and intercorrelations among conceptually related subscales were examined (see Inkelas et al., 2006).

Conceptual Framework and Variables in the Study

The conceptual framework for this study was informed by Hurtado and Carter's (1997) model of sense of belonging for Latino students, and examined an expanded set of predictors for students' sense of belonging among the following racial/ethnic groups: African American, Asian Pacific American, Hispanic/Latino, Multiracial/Multiethnic, and White/Caucasian students. The inclusion of our study's constructs was guided by Hurtado and Carter's past research and research regarding the residence hall environment (Berger, 1997; Pascarella, 1984; Pascarella et al. 1994). The variables were evaluated using hierarchical multiple regression procedures in accordance with Astin's (1991) input-environment-outcome (I-E-O) model. Demographic or input characteristics were entered first, followed by structural characteristics of the college environment and student involvements with their college environments, and concluding with students' perceptions of their college experiences, namely their perceived transition to college and opinions about their campus' racial climate. As Astin (1991) described, students' perceptions of their experiences can be considered to be "intermediate outcomes," or outcomes shaped by students' interactions with the college environment that are related to the final outcome of interest, in this case, overall sense of belonging.

The conceptual framework for the current study includes:

- (Block 1) Student background characteristics: gender, socio-economic status, and high school grades;

- (Block 2) Institutional selectivity, represented by the average SAT score of the institution's undergraduate student body;
- (Block 3) Living-learning participation: whether or not respondents were participants in a living-learning program. (This variable was entered separately from other college environments in order to control for variance contribution prior to other college environment constructs.);
- (Block 4) College environments: (a) student perceptions that the residence hall climate was academically supportive, (b) student perceptions that the residence hall climate was socially supportive, (c) student levels of faculty interaction, and (d) student co-curricular involvement;
- (Block 5) Student perceptions of the transition to college (both academic and social), and;
- (Block 6) Student perceptions of the campus racial climate, including (a) interactions with diverse peers, and (b) perceptions of the campus racial climate.

See Appendix B for a full list of all variables and scales used in this study.

Data Analyses

First, racial/ethnic group differences in sense of belonging were analyzed using analysis of variance (ANOVA). Significance levels for the ANOVA were set at $p \leq .05$. Next, five hierarchical multiple regression analyses were conducted—each for African American, Asian Pacific American, Hispanic/Latino, Multiracial/Multiethnic, and White/Caucasian students. The independent variables were entered in six blocks as specified in the conceptual framework,

and the dependent variable was overall sense of belonging. Before the regression analyses were run, the independent variables were tested for possible multicollinearity; tolerance and VIF collinearity diagnostics indicated that the independent variables conform to the standards set by Cohen, Cohen, West, and Aiken (2003). To assess the statistical differences among the significant predictors from the hierarchical multiple regression analysis, paired t tests were conducted on the unstandardized regression coefficients for all racial/ethnic groups. Finally, based on findings obtained from the regression analyses, limited ancillary descriptive analyses (ANOVAs and chi-square distributions) were conducted on specific variables, which are elaborated upon in the results and discussion.

RESULTS

ANOVA results (see Table 1) indicated significant differences in sense of belonging by racial/ethnic groups, $F(4, 2541) = 9.582$, $p = .000$. Post hoc tests (Table 1) indicated that White/Caucasian students expressed the greatest sense of belonging among all the racial/ethnic groups (except for Multiracial/Multiethnic students).

Results from the final block of the hierarchical multiple regression analyses indicated that the model's predictive ability for sense of belonging was similar across all racial/ethnic groups (see Table 2). The model was the strongest for Multiracial/Multiethnic students, explaining 37% of the variance in sense of belonging, whereas it was the weakest for Asian Pacific American and White/Caucasian students, but still accounting for 30% of the variance. Among the student background characteristics in the first block, being female was a significant predictor of sense of belonging for Hispanic/Latino students. None of the other inputs contributed significantly to sense of belonging for the other racial/ethnic groups. In Blocks 2 and 3, there was no significant

TABLE 1.
Mean Differences in Sense of Belonging by Race/Ethnicity

	Overall Sense of Belonging			<i>F</i>	<i>p</i>	η^2	Tukey's post hoc
	<i>M</i>	<i>SD</i>					
1. African American	15.39	3.19					
2. Asian Pacific American	15.28	3.07					
3. Hispanic/Latino	15.29	3.34					
4. White/Caucasian	16.18	2.88					
5. Multiracial/Multiethnic	15.70	3.10					
				9.582	.000	.01	1,2,3 < 4

relationship between institutional selectivity and sense of belonging, nor did participation in a living-learning program contribute significantly to sense of belonging.

The fourth block contained measures of the college environment and was the most powerful in the model for all groups, with changes in R^2 ranging from .14 to .25 (see Table 2). Students' perception of the residence hall as socially supportive was a significant predictor for sense of belonging for all racial/ethnic groups, except for Multiracial/Multiethnic students. Regression results indicated that a socially supportive residence hall environment was especially important for Asian Pacific American students (see Table 2). The measure "residence hall is socially supportive" includes students' perceptions that people in their residence hall appreciate various aspects of diversity, including race/ethnicity, religion, and sexual orientation. Additional significant college environment predictors included perceptions of the residence hall as academically supportive among Multiracial/Multiethnic students, course-related faculty interaction (negative relationship) among Hispanic/Latino students, and co-curricular involvement among Asian Pacific American and White/Caucasian students. Ancillary chi-

square analyses of co-curricular involvement indicated that Asian Pacific American students were among the most likely to be involved in ethnic/cross-cultural clubs and religious groups. White/Caucasian students were most likely to be involved in fraternities/sororities and intramural/club sports.

The block containing perceptions of the transition to college indicated that, for all racial/ethnic groups, a smooth social transition to college significantly predicted sense of belonging. Here, however, subsequent *t* tests of the unstandardized regression coefficients revealed statistically significant differences *between* groups: When comparing White/Caucasian and Asian Pacific American students, a smooth social transition influenced the former group's sense of belonging more strongly than the latter's. Perception of a smooth academic transition to college was a significant predictor for Asian Pacific American, Hispanic/Latino, and White/Caucasian students. This block was also a significant contributor to the model for all racial/ethnic groups, with changes in R^2 ranging from .05 to .13 (see Table 2). ANOVA results indicated that African American students were more likely than Asian Pacific American and Hispanic/Latino students to report a smooth

TABLE 2. Predictors of Sense of Belonging Among First-Year Students (last block only)

	African American (n = 297)			Asian Pacific American (n = 676)			Hispanic/Latino (n = 233)			White/Caucasian Random Sample (n = 567)			Multiracial/ Multiethnic (n = 236)		
	B	β	p	B	β	p	B	β	p	B	β	p	B	β	p
<i>Student Background Characteristics</i>															
Gender (female)	-.10	-.01		-.16	-.03		.86	.13	*	.03	.01		.04	.01	
Cumulative SES	-.03	.05		-.01	-.02		-.02	-.03		.02	.04		-.04	-.06	
Average high school grades	.08	.03		.01	.00		-.11	-.03		-.12	-.04		.22	.06	
R ² change	.02			.00			.03			.01	*		.01		
<i>College/Structural Characteristics</i>															
Selectivity	.00	.09		.00	.00		.00	.03		.00	.01		.00	.04	
R ² change	.02	*		.00			.01			.00			.00	.00	
<i>College Environments</i>															
L/L program participant	-.19	-.03		.16	.03		.73	.11		-.20	-.03		.46	.07	
R ² change	.00			.01	*		.00			.00			.00	.00	
<i>College Environments</i>															
Residence hall academically supportive	.05	.05		.07	.08		.01	.02		.07	.08		.40 ^{a,b,c,d}	.41	***
Residence hall socially supportive	.16	.20	**	.15 ^e	.23	***	.15	.23	*	.08	.13	*	-.04	-.06	
Course-related faculty interaction	.01	.01		.00	.00		.25 ^b	-.18	**	.00	.00		.01	.01	
Cumulative co-curricular involvement	.01	.01		.08	.07	*	.08	.07		.14	.13	***	.12	.11	
R ² change	.18	***		.21	***		.20		***	.14	***		.14	.25	***
<i>Perceptions of the Transition to College</i>															
Smooth academic transition	.08	.08		.13	.12	***	.28	.22	***	.14	.14	***	.05	.04	
Smooth social transition	.19	.21	***	.13	.14	***	.19	.19	**	.27 ^b	.31	***	.27	.27	***
R ² change	.08	***		.05	***		.08		***	.13	***		.08	.08	***
<i>Perceptions of the Campus Climate</i>															
Interactions with diverse peers	.01	.02		-.01	-.01		.07 ^d	.14	*	-.03	-.06		-.01	-.03	***
Positive perceptions of racial climate	.23 ^c	.26	***	.16	.20	***	.02	.03		.13	.15	***	.22	.21	***
R ² change	.05	***		.03	***		.02		***	.02	***		.02	.03	**
R ²	.35			.30			.34			.30			.37		
F	11.60	***		21.89	***		8.54	***		18.49	***		10.17	***	

Notes. Bold coefficients are significant at the p < .01 level; ^a African American; ^b Asian Pacific American; ^c Hispanic/Latino; ^d White/Caucasian; ^e Multiracial/Multiethnic.

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

academic transition to college (see Table 3).

In the final block containing perceptions of the campus racial climate, interactions with a diverse peer group was a significant predictor only for Hispanic/Latino students. Finally, for African American, Asian Pacific American, Multiracial/Multiethnic, and White/Caucasian students, perception of a positive campus racial climate was a significant contributor to their sense of belonging on campus. ANOVA analyses (see Table 3) revealed that White/Caucasian students reported the fewest positive interactions with their peers from different racial/ethnic groups, and African American students were the least likely to report positive perceptions of the campus racial climate.

DISCUSSION

There are a few limitations associated with the current study. First, due to the nature of the data set used in this study, approximately half of the first-year students in the sample participated in some type of living-learning program. In order to maintain adequate statistical power for the regression analyses, the living-learning students could not be excluded. However, to statistically control for the “living-learning effect,” living-learning participation was included as a separate block in the regression analysis before other college environment measures were entered. The regression analysis results (see Table 2) show that the percent variance attributed to living-learning participation is a meager 0.0-1.0%, so the effects of living-learning programs may not be as noteworthy as one might assume.

Another limitation is that the data for this study were collected from students during their first year of college between late January and mid March. Students were not surveyed at the end of their first full year of college. The first year in college has been viewed as a critical time in terms of improving student learning and retention (Barefoot et al., 2005; Upcraft,

Gardner, & Associates, 1989). However, rates of student departure have been found to be particularly high among first-year students during their first semester or quarter at an institution due to this important time of transition into the college environment (Tinto, 1993). The findings of this study provide insight into the experiences of first-year students during this critical time prior to the end of their first full year of college.

A third limitation of the study is a function of its cross-sectional design. All of the self-reported data used in this study were collected at one time. Therefore, it is impossible to assert whether the relationships among the college environment measures and the sense of belonging outcome were causal in nature. However, it is still notable that the college environment and outcome constructs in this study share a relationship. Further, the results of this study show that these relationships differ by students from different racial/ethnic backgrounds.

Despite these limitations, the results of this study offer insight into the ways specific college environments contribute to sense of belonging among students from different racial/ethnic groups in the earliest stages of their collegiate experience. Overall, first-year students of color (namely African American, Asian Pacific American, and Hispanic/Latino students) perceive a less strong sense of belonging on their campuses than do White/Caucasian students. Consistent with the results of Hurtado and Carter (1997) who studied only Latino students, students from all racial/ethnic backgrounds who experienced a smooth academic and social transition to college are also likely to perceive a strong sense of belonging to their campuses.

Another element of the college experience that is consistently related to sense of belonging for students of all racial/ethnic backgrounds is the perception that their residence hall climate is socially supportive or tolerant of

TABLE 3.
Mean Differences of Key Environments by Race/Ethnicity

	(1) African American		(2) Asian Pacific American		(3) Hispanic/Latino		(4) White/Caucasian		(5) Multiracial/Multiethnic		F	p	η^2	Tukey's post hoc
	M	SD	M	SD	M	SD	M	SD	M	SD				
Residence Hall Academically Supportive	16.61	3.50	16.21	3.34	15.95	3.60	16.35	3.45	16.45	3.23	2.162			NS
Residence Hall Socially Supportive	22.39	4.33	23.01	4.41	21.99	4.89	22.52	4.49	22.53	4.46	3.836	**	.00	2 > 3
Smooth Academic Transition	11.26	3.04	10.44	2.83	10.69	2.74	10.93	2.70	10.96	2.90	7.842	***	.01	1 > 2,3
Smooth Social Transition	13.25	3.50	12.86	3.27	12.83	3.52	13.05	3.35	13.21	3.39	1.652			NS
Interactions With Diverse Peers	22.33	6.47	23.56	6.63	23.62	6.87	18.33	6.21	23.79	7.07	84.115	***	.10	1 < 2,5; 4 < 1,2,3,5
Positive Perceptions of Racial Climate	16.56	3.72	17.22	3.85	17.30	3.86	17.66	3.43	17.35	3.29	6.577	***	.00	1 < 2,3,4,5

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

diverse backgrounds. The residence hall appears to provide a compelling environment for shaping students' sense of belonging, perhaps through the intimacy and intensity of relationships formed and experiences gained in the residence hall during the first year. These findings are consistent with research linking the sense of community students experience in the residence halls (Berger, 1997) and the social support they experience from living on campus (Pascarella, 1984; Pascarella et al., 1994) with greater levels of social integration. These findings also support Newcomb's (1962) assertion that the most potent peer influences on student outcomes are those with the greatest "propinquity," or those influences of closest proximity to students' lived experiences.

There are several findings from this study that demonstrate the interplay of students and their institutions in facilitating a sense of belonging and how this interplay can vary among students from different racial/ethnic backgrounds. For instance, the level of interaction that first-year students have with their professors is not significantly related to sense of belonging for any of the racial/ethnic groups, except for Hispanic/Latino students, and that relationship is negative. This finding runs directly counter to Hurtado and Carter's (1997) study as well as the preponderance of research over the past 30 years on the positive effects of faculty-student interaction on student persistence and degree completion (Pascarella & Terenzini, 2005). Given the inconsistency of this finding in relation to the extant literature, this study's results should be treated with caution, and future research on the relationship between faculty-student interaction and sense of belonging of Hispanic/Latino students should continue to explore this apparent anomaly. However, in contrast, Hispanic/Latino students are the only racial/ethnic group for which interactions with diverse peers was significantly related to their

sense of belonging. So, although interacting with professors tends to be a negative influence on Hispanic/Latino students, interacting with peers across difference is an important activity in fostering sense of belonging for this racial/ethnic group. Meanwhile, interactions with faculty or diverse peers were not significant predictors for any of the other racial/ethnic groups in this study.

Other results from the study also show that sense of belonging is influenced by different college environments for students from varying racial/ethnic backgrounds. For example, participation in co-curricular activities is significantly related to only Asian Pacific American and White/Caucasian students' sense of belonging. Descriptive analyses of various types of co-curricular involvements among the students in this study reveal that the majority of students expressed absolutely no involvement in a number of different activities. Yet, Asian Pacific American students are among the most likely to participate in ethnic or cross-cultural clubs. Thus, the contexts through which Asian Pacific American students may derive a sense of affiliation with their institutions may be those that emphasize and celebrate their ethnic identities. Critics of Tinto's (1993) theory of student departure (e.g., Hurtado & Carter, 1997; Rendón et al., 2000; Tierney, 1992) have noted that diverse students' social identities are important aspects of their lives that should not be supplanted in favor of integration into the dominant norms of the institution. Perhaps Asian Pacific American students locate their sense of belonging within their college environments in those activities that value their heritage.

Three sets of findings, namely perceptions of the (a) residence hall climate, (b) transition to college, and (c) overall campus racial climate, are strongly suggestive of the mutual responsibility that individuals and their institutions share for successful integration.

For students from all racial/ethnic groups except Multiracial/Multiethnic students, finding their residence hall environments to be socially supportive and inclusive was significantly related to their sense of belonging. The socially supportive residence hall climate measure is a composite scale composed of students' perceptions of their residence halls as places where people of different races/ethnicities, religions, sexual orientations are appreciated and people help and support one another. Similarly, students from all racial/ethnic backgrounds who felt that they made a smooth social transition to college were more likely to feel a sense of belonging to their institutions. In addition, Asian Pacific American, Hispanic/Latino, and White/Caucasian students who perceived a smooth academic transition to college were associated with a stronger sense of belonging as well. The perception of a smooth social transition to college scale includes items related to getting to know peers and roommates in the residence hall and an ease with making new friends. Smooth academic transitions to college include items such as ease with communicating with instructors outside of class, finding academic help when it was needed, and forming study groups. Finally, positive perceptions of the campus racial climate were significantly related to students' sense of belonging among all racial/ethnic groups except Hispanics/Latinos. The composite scale that comprises the positive racial climate measure includes items related to students' observations of frequent transracial interaction, friendship, trust, and respect.

Each of the above perceptions on the part of students is based not only on how students experience their campus environments but also on how welcoming and supportive the various campus environments have been to the students. Residence hall social climates, although in part created by the residents of the

buildings, are also shaped by housing staffs and their residential vision. The extent to which residence halls are seen to be culturally inclusive and supportive is influenced by the efforts of the residence life staff to foster residents' appreciation of cultural differences (Hughes, 1994). Students' smooth academic and social transitions to college are also molded by the supportiveness of key players in the college environment that facilitate the transition, such as faculty, academic advisors, and peers themselves (Upcraft et al., 1989). Finally, the campus racial climate for diversity is indelibly shaped by institutional forces. In fact, Hurtado et al. (1999) asserted that an institution's historical, structural, behavioral, and psychological facets combine to influence the climate for racial and ethnic diversity.

Thus, to return to the question of whether integration into the college environment is the responsibility of the individual or the institution, the results of this study suggest that a more appropriate goal may be attending to students' sense of belonging through nurturing a mutual responsibility shared by the individual and the institution. Rather than placing the burden on students to adapt to an unalterable campus context, this study's findings reinforce the importance of understanding students' perceptions of their college environments and experiences. Those perceptions, in turn, should guide campus stakeholders in fostering inclusive climates that relate positively to diverse students' sense of belonging (Hurtado & Carter, 1997; Rendón et al., 2000; Tierney, 1992).

Moreover, this study shows that a particularly important college environment that contributes significantly to students' sense of belonging is the residence hall. This underscores Astin's (1993) assertion that the peer group has the strongest influence on students' outcomes in college. Given that students of color have a generally less strong sense of

belonging, researchers and practitioners alike might focus their attention on the residence hall environment for improving conditions for students of color on college campuses. Furthermore, measures of the residence hall environment should be incorporated into future conceptual models studying students' sense of belonging. Similarly, the results of the regression analyses find that relationships among students' perceptions of their transition to college, the campus racial climate, and their sense of belonging are generally consistent with

the Hurtado and Carter (1997) study. Thus, just as Hurtado and Carter recommended, institutions must attend to both their formal and informal environments in order to facilitate a more tolerant and responsive racial and general campus climate.

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APPENDIX A.

Scale Measures in the Study

	Factor Loading	2004 Study Cronbach's α		Factor Loading	2004 Study Cronbach's α
<i>Residence Hall Climate is Academically Supportive</i>		.808	<i>Smooth Social Transition to College</i>		.624
Environment supports academic achievement	.706		Ease with getting to know other people in residence hall	.785	
Most students study a lot	.612		Ease with making new friends	.746	
Most students value academic success	.555		Ease with getting along with roommate(s)	.573	
It's easy to form study groups	.529		<i>Interactions With Diverse Peers</i>		.898
Adequate study space available	.513		Attending social events together	.857	
Staff helps with academics	.501		Sharing meal together	.847	
<i>Residence Hall Climate is Socially Supportive</i>		.868	Having intellectual discussions outside class	.832	
Appreciate different races/ethnicities	.747		Sharing personal feelings & problems	.819	
Appreciate different religions	.705		Studying together	.766	
Help and support one another	.699		Discussing race relations outside class	.694	
Would recommend this residence hall	.584		Doing extracurricular activities together	.685	
Intellectually stimulating environment	.548		Rooming together	.531	
Different students interact with each other	.545		Dating	.495	
Appreciation for different sexual orientation	.544		<i>Positive Perceptions of Racial Climate</i>		.812
Peer academic support	.481		Transracial student interaction	.738	
<i>Course-Related Faculty Interaction</i>		.767	Transracial friendship	.723	
Visited informally with instructor before/after class	.692		Transracial trust & respect	.674	
Made appt to meet instructor in his/her office	.673		Campus commitment to success of students of color	.628	
Asked instructor for info related to course	.620		Transracial dating	.585	
Communicated with instructor via email	.591		Professors respect students of color	.523	
<i>Smooth Academic Transition to College</i>		.634	<i>Overall Sense of Belonging</i>		.898
Ease with communicating with instructors outside class	.748		I feel a sense of belonging	.845	
Ease with seeking academic or personal help when needed	.710		I feel a member of the campus community	.826	
Ease with forming study groups	.499		I feel comfortable on campus	.726	
			I would choose the same college over again	.704	
			My college is supportive of me	.692	

APPENDIX B.

Means and Standard Deviations of the Variables in the Study

Variables	M	SD	Coding
<i>Student Background Characteristics</i>			
Gender (female)	1.65	0.48	1 = male; 2 = female
Cumulative SES	17.40	5.39	Constructed variable from 3–28 composed of father's education, mother's education, and family income
Average high school grades	5.11	0.89	1 = D+ or lower; 2 = C–, C ; 3 = C+, B–; 4 = B, B+; 5 = A–; 6 = A
<i>College/Structural Characteristics</i>			
Selectivity	1178.25	88.15	Constructed variable from 970–1305 composed of average SAT score of student body
<i>College Environments</i>			
Residence hall academically supportive	16.31	3.41	Scale index from 6–24, with high value indicating supportive residence hall climate
Residence hall socially supportive	22.61	4.49	Scale index from 8–32, with high value indicating supportive residence hall climate
L/L program participant	1.42	0.49	1 = in L/L program; 2 = not in L/L program
Course-related faculty interaction	8.51	2.48	Scale index from 4–16, with high value indicating greater faculty interaction
Cumulative co-curricular involvement	13.90	2.97	Constructed variable from 11–44 composed of cumulative number of co-curricular activities participated in (fraternity/sorority, service fraternity/sorority, marching band, arts/music performance, intramural/club sports, varsity sports, student government, political/social activism, religious clubs/activities, ethnic/cross-cultural activities, media activities)
<i>Perceptions of the Transition to College</i>			
Smooth academic transition	10.80	2.84	Scale index from 3–18, with high value indicating smooth transition
Smooth social transition	13.01	3.38	Scale index from 3–18, with high value indicating smooth transition
<i>Perceptions of the Campus Climate</i>			
Interactions with diverse peers	22.01	6.95	Scale index from 9–36, with high value indicating greater interaction
Positive perceptions of racial climate	17.25	3.67	Scale index from 6–24, with high value indicating positive perceptions
<i>Dependent Variable</i>			
Overall sense of belonging	15.59	3.10	Scale index from 5–20, with high value indicating greater sense of belonging

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