



## Where and with Whom Students Live: Impacts on Peer Belonging and Institutional Acceptance



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**SENSE OF BELONGING** is critical for students throughout their college experience, and even more so now, given the current concerns about undergraduate graduation rates. The purpose of this study was to explore how students' perception of their sense of belonging on campus is affected by where and with whom they live. We utilized a multidimensional approach, defining sense of belonging with two dimensions: peer belonging and institutional acceptance. In 2014, additional items measuring these dimensions were appended to the end of the core National Survey of Student Engagement (NSSE). Overall, more than 17,000 first-year and senior students at 44 four-year colleges and universities responded. For both first-year and senior students, results suggest that living environment and with whom a student resides impact their sense of belonging on campus. For example, students living with roommates reported higher levels of peer belonging than did those living alone. First-year students living farther than walking distance from campus reported lower levels of peer belonging than did those living on campus. Additionally, off-campus seniors who lived within walking or driving distance from campus reported lower levels of institutional acceptance than did their classmates living on campus. Additional results, potential reasons, and implications for these results are also discussed.

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Less than two-thirds (59.8%) of first-time, full-time students who enroll in four-year undergraduate programs at higher education institutions graduate within six years (U.S. Department of Education, 2018). Graduation rates can be impacted by student demographics (i.e., race/ethnicity, gender), first-generation status (U.S. Department of Education, 2018), and type of institution (Snyder & Dillow, 2013). Additionally, student perceptions of the campus environment and their sense of belonging on campus are important for many aspects of the college experience, including persistence

(Berger & Milem, 1999; O’Keeffe, 2013; Read, Archer, & Leathwood, 2003; Strayhorn, 2012; Tinto, 2010).

A sense of belonging can be particularly important during students’ transition to college (O’Keeffe, 2013; Strayhorn, 2012). Some studies found that students select and stay at an institution because they feel like they fit in with other students (Berger & Milem, 1999; Read et al., 2003). In addition, early peer involvement strengthened perceptions of institutional and social support, which ultimately led to increased persistence (Berger & Milem, 1999). Attending large universities often exacerbates emotional issues, like feelings of isolation, which results in a reduced sense of belonging, as students attending large universities can often be disoriented by the size of their introductory classes and the physical size of the university itself, making a stable source of social support even more integral during their transition into college life (Read et al., 2003). Friends and social networks can buffer against isolation, and students’ living arrangements are central to the development of these relationships (Wilcox, Winn, & Fyvie-Gauld, 2005).

Given the impact that students’ living arrangements can have on their social networks, interactions, possibly their sense of belonging on campus, and ultimately their persistence, this study investigates the living arrangements of college students and how those can relate to their sense of belonging and attachment on campus. For this study we define sense of belonging with two dimensions: (a) students’ connections with peers (peer belonging) and (b) their feelings of acceptance from members of the institution

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such as faculty, administrators, and student affairs professionals (institutional acceptance). Most studies have operationalized sense of belonging as a single measure (e.g., Hurtado & Carter, 1997; Ostrove & Long, 2007; Stebleton, Soria, Huesman, & Torres, 2014; Strayhorn, 2008) defined roughly as the “psychological dimension of student integration” (Hurtado, Alvarado, & Guillermo-Wann, 2015, p. 62), but a few have expanded this concept into a multidimensional measure (e.g., Freeman, Anderman, & Jensen, 2007; Hoffman, Richmond, Morrow, & Salomone, 2002; Ribera, Miller, & Dumford, 2017; Wilson et al., 2015). Utilizing a multidimensional approach has allowed researchers to focus on specific areas of the campus environment that need improvement. For example, Ribera and colleagues (2017) found lower levels of sense of belonging for students of color when compared to their White counterparts when exploring a peer dimension of sense of belonging, but the same result was not found in another facet focusing on institutional aspects. In this study, taking a multidimensional approach allowed us to look at the effects of housing arrangements on peer belonging more holistically.

Relationships with other students can serve as the foundation for students’ sense of belonging, which in turn can lead to

higher rates of retention and student success (Berger & Milem, 1999; Hausmann, Schofield, & Woods, 2007; Hurtado & Carter, 1997; Hurtado, Gonyea, Graham, & Fosnacht, 2019; Kuh, 2005; Maestas, Vaquera, & Zehr, 2007; Ostrove & Long, 2007; Strayhorn, 2008). Campus housing can offer increased opportunities for students to interact with peers and faculty (Hurtado et al., 2019; Kuh, 1993; Pascarella & Terenzini, 2005), and those interactions can be further impacted by the way that the housing is designed (Brandon, Hirt, & Cameron, 2008). As living situations can then influence relationships, they may also impact students' sense of belonging on campus.

Yet evidence for the positive impacts of campus housing on student success is mixed. For instance, some studies indicated that students living on campus show larger gains in critical thinking as compared to commuters (Gellin, 2003; Pascarella et al., 1993; Pike & Kuh, 2005; Reason, Terenzini, & Domingo, 2006). Other studies suggested that housing assignments in which students are paired with other students who have similar ability levels or similar majors gave these students an advantage in academic achievement (Blimling,

1993; Terenzini, Pascarella, & Blimling, 1996). However, while many administrators at higher education institutions assume that students living in campus housing have an advantage in grade performance over students who commute to campus, Terenzini and colleagues (1996) found, after controlling for previous academic achievement, that this effect seemed to disappear. Another study found a negative relationship between living on campus and cognitive development in highly prepared first-year students (Loes, Pascarella, & Umbach, 2012). Furthermore, perceptions of crowding and personal space in residence halls, especially high-density buildings at large institutions, also play a negative role in social and cognitive outcomes (Kaya, 2004). While not all completely in agreement on the impacts, these findings warrant further exploration of the impact of students' living situation on their success. Another consideration that merits further investigation in this area is the rise of technology, including distance education, course management systems, and social media. Today's students experience peer and institutional interactions quite differently than students did even a decade ago (Dumford, & Miller, 2018; Heflin, Shewmaker, & Nguyen, 2017; Rashid & Asghar, 2016).

In addition to living situation, which was the focus of our study, student demographics, college experiences, and institutional characteristics played an important role in students' level of peer belonging and institutional acceptance.

## THE CURRENT STUDY

Given the mixed findings on campus housing as a factor in student success, continuing to examine the effects of students' living environments in the overall context of the college experience is critical. As the results from previous studies suggest, considering different student and institutional characteristics when trying to determine the impact of living situations on students' sense of belonging is also important.

Another important concern is that much of the literature exploring the benefits of residence halls and on-campus living is increasingly becoming outdated.

The current study sought to explore whether various living situations, in terms of on-campus versus off-campus arrangements and the number and type of people with whom students live, influence perceptions of peer belonging and institutional acceptance of first-year and senior students, after controlling for other factors. If students with certain demographic characteristics are already at risk for lower sense of belonging in either sense, then institutions may need to intervene through a focus on positive forms of involvement and residential options. Additionally, knowing the benefits of certain living situations can provide evidence to secure resource allocation in support of residential facilities. Student affairs professionals can use this knowledge to make actionable changes in programming and resource allocation at their institutions.

## METHOD

The data in this study were drawn from the 2014 administration of the National Survey of Student Engagement (NSSE). The core NSSE instrument asks students where they live in relation to campus (residence hall or other campus housing, fraternity or sorority house, residence within walking distance to the institution, residence farther than walking distance to the institution, or none of the above) as well as about various demographic characteristics. For the purposes of our analyses, the first two categories of residence hall or other campus housing and fraternity or sorority house were collapsed to create an “on-campus” category.

Additional items were appended to the end of the core survey to ask students about how their sense of belonging and acceptance was supported in various social and academic spaces.

## MEASURES

Specifically, the extra items asked students to rate their level of agreement with the following: being able to make friends easily, feeling like they fit in at the institution, having other students share their views and beliefs, being noticed if they missed class, ease of getting involved in student clubs and organizations, having very few friends and acquaintances at the institution, faculty getting to know them, and being treated as an individual by the institution. The response options for these items were a 4-point Likert-type scale from “strongly agree” to “strongly disagree,” with a “not applicable” option. “Not applicable” responses were excluded from the analyses in order to treat these items as ordinal-level variables. These items were developed using a review of past literature and consultation with experts in the field.

Rather than look at each item individually, data reduction techniques were used to identify potential subscales within the additional item set. Results of an exploratory factor analysis (using a principal component analysis with oblique rotation on half of the sample) suggested that these items produced two distinct scales describing students’ sense of peer belonging and institutional acceptance, based on factor loadings and Cronbach’s alphas (Appendix A). The confirmatory factor analysis (using the other half of the sample) established that the 2-factor solution showed very good model fit (*first-year*:  $\chi^2 = 15.329$ ; *senior*:  $\chi^2 = 17.608$ ). Because traditional measures of model fit are sensitive to sample size, a variety of other fit

indices were considered as well (Hu & Bentler, 1999). These fit indices also suggested good model fit, even those that are more conservative indices of model fit (Appendix B), and all path coefficients were significant. The factors of peer belonging and institutional acceptance were correlated at .40 for first-years and .48 for seniors. This suggests that while the factors are related, they are not at major risk for multicollinearity, or having a direct linear relationship due to measurement of the same construct (Field, 2009). The standardized regression weights showed adequate strength of factor loadings for peer belonging, ranging from .36 to .75 for first-year students and .39 to .70 for seniors. The standardized regression weights also showed adequate strength of factor loadings for institutional acceptance, ranging from .41 to .80 for first-year students and .41 to .77 for seniors.

Overall, the fit indices, factor correlations, and regression weights suggest evidence for the creation of two scales: peer belonging and institutional acceptance. Therefore, scores for these factors were created by averaging the scores for each item loading on the respective factors. Levels of internal consistency for the peer belonging (*first-year*: Cronbach's  $\alpha = .72$ ; *senior*: Cronbach's  $\alpha = .72$ ) and institutional acceptance (*first-year*: Cronbach's  $\alpha = .67$ ; *senior*: Cronbach's  $\alpha = .68$ ) scales were acceptable (McMillan & Schumacher, 2001).

In addition to the items about peer belonging and institutional acceptance, one final item asked students to choose from a list of eight response options to describe those with whom they share their living space. For simplicity, these options were collapsed into four categories: do not share living space with anyone; one other student roommate or multiple student roommates (previously two separate options); signifi-

cant other/spouse, significant other/spouse and my children, or my children (previously three separate options); and parents/relatives.

### Participants

Overall, more than 17,000 first-year and senior students at 44 four-year colleges and universities responded to the core NSSE survey and the extra item set. The final sample ( $N = 12,235$ ) included a wide range of students and institutions closely representing the diversity of college and university students in the United States. Women slightly outnumbered men by 13%, while 40% identified as first-generation college students (neither parent holds a bachelor's degree). An overwhelming majority (94%) were 23 years old or younger. Of all the participants, 67% identified as White, 17% as Black or African American, 8% as Latino or Hispanic, and less than 2% as Asian or Asian American. Half of the respondents studied at private institutions (50%), and some (9%) attended a minority-serving institution (MSI). There was a range of students from highly (13%), moderately (56%), and liberally selective (32%) institutions. Students were mostly enrolled at baccalaureate colleges (41%) and Master's colleges and universities (17%). As for where participants lived and with whom they resided, students reported a variety of situations (see Table 1). Not surprisingly, first-year students were much more likely to live on campus and have roommates than were their senior counterparts.

### Analyses

A series of four ordinary least squares regression models were conducted to determine if there were differences among groups of students in their perceptions of peer belonging and institutional acceptance. Because of the differences in the experiences of first-year and

**Table 1**

Sample Statistics				
	First-year		Senior	
	Valid <i>n</i>	Valid %	Valid <i>n</i>	Valid %
<i>Living environment</i>				
Campus housing or fraternity/sorority	4,921	67.5	2,351	21.9
Residence (house, apartment, etc.) WITHIN walking distance to the institution	1,019	14.0	2,936	27.3
Residence (house, apartment, etc.) FARTHER THAN walking distance to the institution	1,180	16.2	5,034	46.9
None of the above	171	2.3	418	3.9
<i>With whom students reside</i>				
Do not share living space with anyone	499	7.1	1,174	11.5
One or multiple other student roommate(s)	5,222	74.8	4,485	43.8
Significant other/spouse and/or children	491	7.0	3,304	32.2
Parents/relatives	773	11.1	1,287	12.6

senior students, there were separate models by class for each of the two dependent variables. The dependent variables (peer belonging and institutional acceptance scales) were standardized, using z-scores, prior to being entered into the model, which allowed for the unstandardized regression coefficients to be interpreted as effect sizes.

The independent variables included four student demographic variables (gender, age, parental education, and race/ethnicity), five variables describing students' academic factors and levels of campus involvement (enrollment status, online learning, major field, earned college grades, and Greek affiliation), four variables identifying the types of institutions that

students attended (public/private status, MSI, selectivity, and Carnegie classification), and the two variables of interest that were specifically about students' living situation (where they resided and with whom). All of the categorical independent variables were dummy-coded. Details about the independent variable coding can be found in Appendix C.

## RESULTS

Results indicate that both of the residential situation measures of interest (living environment and with whom a student resides) affected students' level of peer belonging (Table 2) and institutional acceptance (Table 3) for both first-year and senior students. In addition

**Table 2**

OLS Regression Models for Peer Belonging<sup>1</sup>: Student Demographics, Student Living Environment, and Institutional Characteristics

	<i>First-year</i>		<i>Senior</i>	
	Unstd. Coeff.	Sig.	Unstd. Coeff.	Sig.
Constant	.301	*	-.037	
<b><i>Student demographics</i></b>				
First-generation	-.152	***	-.054	*
Traditional age	-.085		.127	***
Female	-.047		-.033	
Asian, Asian American <sup>2</sup>	-.150		-.204	*
Black, African American <sup>2</sup>	-.220	***	-.034	
Latino or Hispanic <sup>2</sup>	-.188	***	-.083	
Unknown/other race or ethnicity <sup>2</sup>	-.137	***	-.129	***
<b><i>College experiences</i></b>				
Full-time enrollment	-.178		.074	
Took all courses online	.037		.120	*
Major-STEM	-.028		.025	
College grades-mostly B's <sup>3</sup>	-.049		-.092	***
College grades-mostly C's <sup>3</sup>	-.308	***	-.376	***
Member of fraternity/sorority	.259	***	.268	***
<b><i>Institutional characteristics</i></b>				
Private	.158	**	.177	***
Minority-Serving Institution	-.169	**	-.108	*
Selectivity	-.031	**	-.062	***
Carnegie type-research <sup>4</sup>	.050		.049	
Carnegie type-Master's <sup>4</sup>	-.118	*	-.087	*
Carnegie type-other <sup>4</sup>	-.004		-.015	
<b><i>Living environment</i></b>				
Residence WITHIN walking distance <sup>5</sup>	-.033		.116	***
Residence FARTHER THAN walking distance <sup>5</sup>	-.190	**	.029	
None of the above <sup>5</sup>	-.426	***	-.203	*
<b><i>With whom students reside</i></b>				
One or multiple other student roommate(s) <sup>6</sup>	.287	***	.228	***
Significant other/spouse and/or children <sup>6</sup>	.070		.051	
Parents/relatives <sup>6</sup>	.046		-.119	*
Adjusted R-squared	.090	***	.084	***

<sup>1</sup> The dependent variable was standardized prior to entering the model.

<sup>2</sup> Reference group: White

<sup>3</sup> Reference group: College grades-mostly A's

<sup>4</sup> Reference group: Carnegie type-Baccalaureate

<sup>5</sup> Reference group: Campus housing or fraternity/sorority

<sup>6</sup> Reference group: Do not share living space with anyone

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



**Table 3**

OLS Regression Models for Institutional Acceptance<sup>1</sup>: Student Demographics, Student Living Environment, and Institutional Characteristics

	<i>First-year</i>		<i>Senior</i>	
	Unstd. Coeff.	Sig.	Unstd. Coeff.	Sig.
Constant	.090		.384	***
<b><i>Student demographics</i></b>				
First-generation	-.064	*	-.028	
Traditional age	-.219	**	-.039	
Female	-.039		.006	
Asian, Asian American <sup>2</sup>	-.077		-.034	
Black, African American <sup>2</sup>	.085	*	.215	***
Latino or Hispanic <sup>2</sup>	.014		.003	
Unknown/other race or ethnicity <sup>2</sup>	-.027		.001	
<b><i>College experiences</i></b>				
Full-time enrollment	.071		.063	
Took all courses online	.087		.026	
Major-STEM	.002		.039	
College grades-mostly B's <sup>3</sup>	-.174	***	-.316	***
College grades-mostly C's <sup>3</sup>	-.421	***	-.636	***
Member of fraternity/sorority	.164	***	.184	***
<b><i>Institutional characteristics</i></b>				
Private	.417	***	.235	***
Minority-Serving Institution	.084		.021	
Selectivity	.034	***	.013	
Carnegie type-research <sup>4</sup>	-.626	***	-.734	***
Carnegie type-Master's <sup>4</sup>	-.114	*	-.124	***
Carnegie type-other <sup>4</sup>	-.206	**	-.100	
<b><i>Living environment</i></b>				
Residence WITHIN walking distance <sup>5</sup>	-.048		-.094	**
Residence FARTHER THAN walking distance <sup>5</sup>	-.113		-.114	**
None of the above <sup>5</sup>	-.252	*	-.286	***
<b><i>With whom students reside</i></b>				
One or multiple other student roommate(s) <sup>6</sup>	.068		.051	
Significant other/spouse and/or children <sup>6</sup>	.025		-.014	
Parents/relatives <sup>6</sup>	.175	*	.025	
Adjusted R-squared	.225	***	.212	***

<sup>1</sup> The dependent variable was standardized prior to entering the model.

<sup>2</sup> Reference group: White

<sup>3</sup> Reference group: College grades-mostly A's

<sup>4</sup> Reference group: Carnegie type-Baccalaureate

<sup>5</sup> Reference group: Campus housing or fraternity/sorority

<sup>6</sup> Reference group: Do not share living space with anyone

\*p < .05; \*\* p < .01; \*\*\*p < .001

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The results from this study suggest that, for first-year students, living with one or more roommates has a higher positive impact on their feelings of peer belonging than living on campus does. This finding is consistent for seniors as well.

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to living situation, which was the focus of our study, our findings indicate that student demographics, college experiences, and institutional characteristics played an important role in students' level of peer belonging and institutional acceptance.

### Living Situation

Results suggested that where and with whom students live impacted their feelings of peer belonging and institutional acceptance, even after controlling for all of the previously mentioned characteristics. Perhaps not surprisingly, those students living with roommates reported higher levels of peer belonging than did their counterparts living alone (*first-year*:  $B = .29, p < .001$ ; *senior*:  $B = .23, p < .001$ ). First-year students living farther than walking distance (within driving distance) from campus reported lower levels of peer belonging than did those living on campus ( $B = -.19, p < .01$ ). In contrast, seniors who lived within walking distance felt higher levels of peer belonging than did their on-campus counterparts ( $B = .12, p < .001$ ). Finally, off-campus seniors who lived within walking or driving distance from campus reported lower levels of institutional

acceptance than did their classmates living on campus (*walking distance*:  $B = -.09, p < .01$ ; *driving distance*:  $B = -.11, p < .01$ ).

### Student Demographics

All of the student characteristics had a statistically significant effect in at least one of the models, with the exception of gender. First-generation students seemed to have a less positive perception of their peer belonging than did their socially advantaged counterparts (*first-year*:  $B = -.15, p < .001$ ; *senior*:  $B = -.05, p < .05$ ). For first-year students, this pattern is also observed for institutional acceptance ( $B = -.06, p < .05$ ). In addition, both first-year and senior students of color were significantly less likely than White students to feel strong peer belonging (*first-year*:  $B$  ranging from  $-.14$  to  $-.22, p < .001$ ; *senior*:  $B$  ranging from  $-.13$  to  $-.20, p$  ranging from  $<.05$  to  $<.001$ ). This disparity was largest in peer belonging for first-year students. In contrast, African American students reported higher levels of institutional acceptance than did their White counterparts (*first-year*:  $B = .09, p < .05$ ; *senior*:  $B = .22, p < .001$ ). No other racial/ethnic differences were found in institutional acceptance. While traditional age seniors reported higher levels of peer belonging than did their non-traditional peers ( $B = .13, p < .001$ ), traditional age first-year students reported lower institutional acceptance ( $B = -.22, p < .01$ ).

### College Experiences

Three of the five college experiences were statistically significant in one of the four models, with both membership in a fraternity or sorority and earned college grades having an impact in every model. In particular, for both first-year and senior students, lower grades tended to

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result in a lower perception of their peer belonging (*first-year*:  $B = -.31, p < .001$ ; *senior*:  $B = -.09$  and  $-.38, p < .001$ ) and institutional acceptance (*first-year*:  $B = -.17$  and  $-.42, p < .001$ ; *senior*:  $B = -.32$  and  $-.64, p < .001$ ). Additionally, membership in a fraternity or sorority had positive effects for both peer belonging (*first-year*:  $B = .26, p < .001$ ; *senior*:  $B = .27, p < .001$ ) and institutional acceptance (*first-year*:  $B = .16, p < .001$ ; *senior*:  $B = .18, p < .001$ ).

### **Institutional Characteristics**

All four of the characteristics concerning institutional type had significant effects in at least two of the models. For example, attending a private institution resulted in a significant positive relationship with perceptions of peer belonging (*first-year*:  $B = .16, p < .01$ ; *senior*:  $B = .18, p < .001$ ) and institutional acceptance (*first-year*:  $B = .42, p < .001$ ; *senior*:  $B = .24, p < .001$ ). Attendance at an MSI had a slightly negative relationship with peer belonging (*first-year*:  $B = -.17, p < .01$ ; *senior*:  $B = -.11, p < .05$ ), although this effect may be due to the large percentage of White students in the overall sample. Students attending more selective institutions reported lower peer belonging (*first-year*:  $B = -.03, p < .01$ ; *senior*:  $B = -.06, p < .001$ ), but higher institutional acceptance for first-years ( $B = .03, p < .001$ ). Finally, those at Master's institutions reported a lower level of peer belonging than did their Baccalaureate counterparts (*first-year*:  $B = -.12, p < .05$ ; *senior*:  $B = -.09, p < .05$ ), and those at institutions of all other Carnegie classifications reported lower levels than did their Baccalaureate peers for institutional acceptance (*first-year*:  $B$  ranging from  $-.11$  to  $-.63, p$  ranging from  $<.05$  to  $<.001$ ; *senior*:  $B$  ranging from  $-.12$  to  $-.73, p < .001$ ).

... the finding that traditional age seniors reported higher levels of peer belonging could suggest, not surprisingly, that students who go through the college experience together are more likely to bond with one another.

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### **LIMITATIONS**

There are several limitations to this study that must be considered when interpreting the results and generalizing the findings. First, although the sample comprised a wide range of students attending multiple institutions, it is not representative of all first-year and senior students enrolled in four-year colleges and universities in the United States. Higher education institutions elect to participate in the NSSE for a variety of reasons, mainly for institutional improvement, which may impact the context of the institutional experience. However, the institutions receiving the additional item set were randomly selected, and the overall NSSE 2014 participants do mirror the national picture of institutions on a variety of characteristics (National Survey of Student Engagement, 2014).

A second limitation is that, given the research design, we were unable to test for causal relationships between living situation and sense of belonging. The results can only confirm whether or not they are associated. It is possible that students who have a higher sense of peer belonging or institutional accep-

tance tend to choose certain living situations, like staying on campus or living with other peers. Yet regardless of the direction of the relationship, this study opens the discussion about effective housing practices and positive attitudes and perceptions related to students' sense of belonging on campus. This study sheds light on two distinct features of sense of belonging, which is valuable to researchers in the field. It also adds to the body of literature on student living situations, replicating some aspects of previous research while challenging others.

## DISCUSSION

In recent years, many institutions have started building new campus housing with many single occupancy rooms in order to encourage upper-level students to remain on campus (Wheeler, 2014). While the results from this study, as well as those from previous research (Gellin, 2003; Hurtado et al., 2019; Pascarella et al., 1993; Pascarella & Terenzini, 2005; Pike & Kuh, 2005; Reason et al., 2006), suggest that convincing students to remain on campus would be beneficial for them, our findings also indicate that this on-campus gain can be overshadowed if they live alone. The proliferation of single occupancy buildings on campuses could have unintended negative consequences for students' peer integration at their institution.

Students living alone, regardless of proximity to campus, may find it difficult to make new friends and acquaintances who share the same views and beliefs, generating increased feelings of isolation and loneliness. Juang, Ittel, Hoferichter, and Mariam Gallarin (2016) cautioned higher education professionals against

the negative effects of loneliness on students' well-being and academic performance. They reported that lack of peer support could be detrimental to students' college adjustment, especially for those from ethnically diverse backgrounds who encounter daily forms of discrimination. Peer support can serve as a buffer against these negative effects, and thus living with other students may serve in part as that buffer. The results from this study suggest that, for first-year students, living with one or more roommates has a higher positive impact on their feelings of peer belonging than living on campus does. This finding is consistent for seniors as well. Additionally, for seniors, living off campus (but within walking distance) was found to be better than living on campus. While this seems in opposition to findings for first-year students, seniors who live in campus housing are more likely to live alone than are their first-year counterparts. When seniors lived within walking distance to campus, they were still geographically close to the institution, but more likely to be living with other students.

## POTENTIAL FUTURE RESEARCH

While not the focus of this study, the differences found in peer belonging and institutional acceptance by student demographics, college experiences, and institutional characteristics were also informative. For example, the finding that traditional age seniors reported higher levels of peer belonging could suggest, not surprisingly, that students who go through the college experience together are more likely to bond with one another. These students should be able to find others close to their age with the possibility of common life experiences. In ad-

dition, the findings that racial/ethnic minorities report lower levels of peer belonging when compared to their White counterparts support the findings of previous literature (Hurtado, 1994; Hurtado & Carter, 1997; Johnson et al., 2007; Read et al., 2003).

Although this study included several different institutional-level characteristics as control variables in the models, future research could explore the geographic locale of colleges and universities. Institutions located in urban areas might have more enticing off-campus options for students, especially upper-level students, as compared to those in more rural settings. The volume of on-campus housing needs is in turn influenced by these residential patterns and availabilities. Furthermore, in traditional college towns there are generally neighborhoods, while not officially campus property, that are composed primarily of students and offer a community atmosphere similar to what one might find in a residence hall. The boom in private housing complexes immediately adjacent to campus, which have different amenities than those that can be found in on-campus housing, creates another housing option for students to consider. However, in very dense urban areas or sparsely populated rural ones, this type of atmosphere may be more difficult to replicate off campus. Additional research should further explore how these particular elements could influence strengths and weaknesses of various student living situations.

More research is also needed to further explore some of the situational distinctions that may play a role in the present findings. While this study looked at the types of roommates that a student had, the specific number

For those students who opt to live off campus, administrators should consider creating programming in local communities to make sure that students feel connected to campus and the larger student community. There is a long tradition of the town and gown rivalry, but there is also the potential for a more symbiotic relationship with mutual benefits for the university and the surrounding community.

of roommates might have a nuanced effect on peer belonging and warrants exploration. Additionally, the result of MSI attendance having a negative impact on peer belonging may actually be due to the racial makeup of the overall sample and the relatively small percentage of MSIs included. Since there are larger numbers of minority students attending these institutions, while at most other institutions they are underrepresented, the negative effect on peer belonging for minority students at predominantly White colleges and universities may be washing over into this element of the model. To further investigate this potential interaction effect, future research might involve replicating the models with different racial sub-groups.

## CONCLUSIONS

Institutional administrators need to consider these results when planning and building new housing facilities, implementing social programming, and training staff. These results suggest that, to enhance peer belonging, administrators should encourage upper-level students to live with fellow students and live within walking distance to campus. For those students who opt to live off campus, administrators should consider creating programming in local communities to make sure that students feel connected to campus and the larger student community. There is a long tradition of the town and gown rivalry, but there is also the potential for a more symbiotic relationship with mutual benefits for the university and the surrounding community (Kemp, 2013). In addition to community outreach, results from this study have implications for on-campus resources as well. Administrators should reconsider increasing single occupancy campus housing options to keep students on campus, as they might isolate upper-level students. Encouraging students to find roommates not only leads to an efficient use of limited housing space, but can also have a positive influence on their sense of belonging.

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## Appendix A

### Peer Environment Measures: Items, EFA Factor Loadings, and Cronbach's Alphas

Items for peer belonging scale	FY factor loading	SR factor loading
You fit in with the other students at your institution.	.762	.778
It is difficult to make friends at this institution (reverse coded).	.796	.766
You have very few friends or acquaintances at this institution (reverse coded).	.795	.755
There are other students at this institution who share your views and beliefs.	.576	.611
<i>Cronbach's <math>\alpha</math></i>	.722	.716
<b>Items for institutional acceptance</b>		
No one would notice if you missed class (reverse coded).	.508	.614
It is easy to get involved with student clubs and organizations at this institution.	.581	.454
Your faculty got to know you and your background.	.827	.846
This institution treats students like individual people instead of just numbers.	.848	.834
<i>Cronbach's <math>\alpha</math></i>	.667	.677

**Appendix B****Confirmatory Factor Analysis: Model-fit Results**

	<i>n</i>	<b>GFI</b>	<b>CFI</b>	<b>RMSEA</b>	<b>PCLOSE</b>
First-year	5,961	.994	.988	.049	.571
Senior	8,322	.995	.990	.045	.919

Note. Strong model fit is reflected by GFI greater than .85, CFI greater than .90, RMSEA less than .06, and PCLOSE greater than .05.

## Appendix C

### Description of Independent Variables Used in OLS Regression Analyses

Variable	Description
Parental education (first-generation status) <sup>a</sup>	0 = At least one parent earned a college degree or attended some college; 1 = Neither parent attended college
Race or ethnicity	Asian, Asian American; Black, African American; Latino, Hispanic; Unknown/other race or ethnicity; White <sup>b</sup>
Gender <sup>a</sup>	0 = Male; 1 = Female
Age (traditional age) <sup>a</sup>	0 = Older than 23; 1 = 23 or younger
Enrollment status <sup>a</sup>	0 = Part-time; 1 = Full-time
Online learning (took all courses online) <sup>a</sup>	0 = No; 1 = Yes
Earned college grades	Mostly A's <sup>b</sup> ; mostly B's; mostly C's
Major choice (major in STEM field) <sup>a</sup>	0 = No; 1 = Yes
Greek affiliation (member of fraternity or sorority) <sup>a</sup>	0 = No; 1 = Yes
Minority-Serving Institution <sup>a</sup>	0 = No; 1 = Yes
Carnegie classification	Doctoral-research; Master's; Bac <sup>b</sup> ; other Carnegie
Control	0 = Public; 1 = Private
Selectivity	1 to 6 score based on Barron's selectivity index
Living environment	Campus housing or fraternity/sorority <sup>b</sup> ; residence within walking distance; residence farther than walking distance; none of the above
With whom students reside	Do not share living space with anyone <sup>b</sup> ; one or multiple other students roommate(s); significant other/spouse and/or children; parents/relatives

<sup>a</sup> Coded as a dichotomous variable (0 = not in group; 1 = in group)

<sup>b</sup> Reference group

## Discussion Questions

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1. The authors note that neighborhoods in college towns may replicate the culture of a traditional residence hall. Do you see potential opportunities in collaborating with off-campus entities to increase sense of belonging?
2. Recognizing that membership in fraternities and sororities contributes to positive rates of perceived belonging and institutional acceptance, how can we foster better relationships with our Greek Life colleagues?
3. What RA training program or experience would emphasize its role in a student's sense of belonging as it relates to roommate agreements?
4. Some institutions have increased the number of single occupancy rooms to increase the number of upper-division students living on campus. The authors note that this might isolate this group of students. What are other ways you could entice them to live on campus?
5. In what ways can RAs and live-in staff members better support non-traditional students living on campus?

*Discussion questions developed by Jordan Williams, graduate student in the Student Affairs and Higher Education Master's program at Clemson University*