Don't Put Baby in the Corner Alone: Where and with Whom Students Live can Impact Their Peer Belonging and Institutional Acceptance

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Authors' Note

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Abstract

With current concerns about graduation rates, it is crucial that students feel a sense of belonging during their transition to college and throughout their college experience. The purpose of this study is to explore the effects of where students live and with whom they share their living space on how students perceive their integration with peers as well as with their institution. Data from the 2014 administration of the National Survey of Student Engagement are used to explore the benefits and disadvantages of different living situations. Implications for these results are also discussed.

Don't Put Baby in the Corner Alone: Where and with Whom Students Live can Impact Their Peer Belonging and Institutional Acceptance

Less than two-thirds (59%) of first-time, full-time students who enrolled in four-year undergraduate programs at higher education institutions graduate within six years (U.S. Department of Education, 2014). The graduation rates are even lower for certain subgroups of students based on demographics and college experiences, such as race/ethnicity, gender, and first-generation status. In addition, the type of institutions could also affect graduation rates (Snyder & Dillow, 2013). Student perceptions of the campus environment are important for many aspects of the college experience, such as persistence. It is crucial that students feel a sense of belonging during their transition to college. For instance, research suggests that an important reason students select and stay at an institution is because they felt like they fit in with other students there (Berger & Milem, 1999; Read, Archer, & Leathwood, 2003). Read and colleagues (2003) also found that students attending large universities can often be disoriented by the massive 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. Friends and social networks at universities can buffer against isolation, and thus, the student living arrangement is central to the process of developing these relationships (Wilcox, Winn, & Fyvie-Gauld, 2005). Given the extensive interactions with other students that most individuals experience within the first few weeks of college, it is imperative to investigate the best ways in which to promote positive connections with one's peers. Furthermore, it is important to consider how sense of belonging and attachment has an impact on students' behaviors and decisions as they progress through college.

Problem Statement

The purpose of this study is to explore in depth how a variety of student and institutional characteristics, in particular where students live and with whom they share their living space, contribute to their perceived integration with peers as well as with institutional facets. If students with certain demographics characteristics, perhaps those demographics place students at risk for lower involvement, also are more likely to perceive a less welcoming environment, institutions may need to intervene and focus on providing more 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 these facilities. This research focuses on student learning and development and the student experience, specifically on how social integration with both peers and the more formal institution is impacted by a multitude of factors. Student affairs professionals can use this knowledge to make actionable changes in programming and resource allocation at their institutions.

Conceptual Framework

A supportive campus environment includes positive cognitive, social, and physical domains for students (Flowers & Pascarella, 2003; Pascarella & Terenzini, 2005), and the campus environment influences a student's perception of and satisfaction with their space and collegiate experience (Kuh, 1993). A growing body of literature has challenged researchers to consider the cognitive and affective aspects of students' sense of belonging or membership to the institution. First-year involvement, or conversely noninvolvement, can have a domino effect on students. For example, Berger and Milem (1999) found that early peer involvement strengthened perceptions of institutional and social support, which ultimately led to increased persistence. In contrast, students who were not involved in campus life in fall semester were less likely to

perceive the institution or peers as supportive, less likely to become integrated, and less likely to persist. This type of campus involvement, important for retention (Tinto, 2010), may be easier to cultivate in students that live on campus, which is why many institutions have restrictions for living off-campus for first-year students.

Student living situations can vary greatly, both within and across different types of institutions. While many assume that students living in residence halls have an advantage in grade performance over students who commute to campus, after controlling for previous academic achievement, this effect seems to disappear (Terenzini, Pascarella, & Blimling, 1996). However, other studies indicate that students living on campus show larger gains in critical thinking as compared to commuters (Pascarella, Bohr, Nora, Zusman, Inman, & Desler, 1993). Some studies have found that housing assignments in which student are paired with other students who have similar ability levels, or similar major fields, have an advantage in academic achievement (Blimling, 1993; Terenzini et al., 1996). Furthermore, the social density of the residence hall, especially at large institutions, can play a role in social and cognitive outcomes, as residence halls can offer increased opportunities for students to interact with peers and faculty, while also addressing the privacy needs of students (Pascarella & Terenzini, 2005).

Given the mixed past findings on residential situation as a factor in student engagement, continuing to examine the effects of students' living environments in the overall context of the college experience is critical. As the results from past literature would suggest, it is also important to take into consideration many different student and institutional characteristics when trying to determine the impact of living situation. The current study seeks to explore whether various living situations, both in terms of on-campus versus off-campus *and* the number and type

of people with whom students live, influences perceptions of peer belonging and institutional acceptance of first-year students and seniors, after controlling for other factors.

Method of Inquiry

The data from this study come from the 2014 administration of the National Survey of Student Engagement (NSSE). The core survey asks students where they live on campus (dormitory 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 a litany of other demographic characteristics. For these analyses, the first two categories of dormitory or other campus housing and fraternity or sorority house were collapsed to create an "on-campus" category. In addition to the main NSSE survey, an extra set of items were appended to the end of the core survey to explore the relationship between supportive peer environments and engaging in effective educational practices.

Specifically, the extra items focused on students' sense of belonging and feeling supported in various social and academic spaces. For example, students were asked to rate their level of agreement (from strongly agree to strongly disagree) with: 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 know them; and being treated as an individual by the institution. Results of an exploratory factor analysis (using a Principal Components Analysis with oblique rotation) suggested 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 established that the 2-factor solution showed very good model fit (first-year: χ^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, suggesting that the factors are related but not at major risk for multicollinearity. 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 for peer belonging and institutional acceptance. Therefore, scores for these factors were created by averaging the scores for each item loading on the respective factors. There were acceptable levels of internal consistency (McMillan & Schumacher, 2001) for the peer belonging (first-year: Cronbach's α = .72 & senior: Cronbach's α = .72) and institutional acceptance (first-year: Cronbach's α = .67 & senior: Cronbach's α = .68) scales. In addition to the items about peer belonging and institutional acceptance, one final extra 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 five categories: do not share living space with anyone; one other student roommate or multiple student roommates; significant other/spouse, significant other/spouse and my children, or my children; parents/relatives.

Sample

Overall, more than 17,000 first-year and senior students at 44 four-year colleges and universities were administered the core NSSE survey and the extra item set. The final sample included a wide-range of students and institutions closely representing the diversity of college-going students in the U.S. Women slightly outnumbered men by 13%. Two out of five respondents identified as first-generation college students (neither parent holds a bachelor's degree). An overwhelming majority (94%) were 23 years old or younger. Students of color represented a small percentage of the sample. Less than 2% were Asian or Asian American, only 8% identified as Latino or Hispanic, and one in six students in the sample were Black or African American. The remaining two-thirds of respondents identified as White. Almost half of the respondents studied at private institutions and a small percentage (9%) attended a minority-serving institution (MSI). The sample included a range of students studying at highly (13%), moderately (56%), and liberally selective (32%) institutions. Students at baccalaureate colleges (41%) were overrepresented in the sample and those enrolled in Master's colleges and universities were underrepresented (17%). As for where the students in the sample live and with whom they reside, students had a variety of situations (see Table 1). Not surprisingly, first-year students were much more likely to live on campus and have roommates than their senior counterparts.

Analyses

A series of ordinary least squares regression models were conducted to determine if difference exists among groups of students in their perceptions of peer belonging and institutional acceptance. Four models total were run. Because of the differences in the experiences of first-year and senior students, there were separate models by class for each of the

two dependent variables. The dependent variables, peer belonging and institutional acceptance, 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 or ethnicity), five variables describing students' academic decisions and levels of campus involvement (enrollment status, online learning, major choice, earned college grades, and Greek affiliation), four variables identifying the types of institution that students attended (control, MSI, selectivity, and Carnegie classification), and finally the two variables of interest that were specifically about students' living situation (where they resided and with whom). All of the independent variables were dummy-coded. Further details about the coding of all the independent variables can be found in Appendix C.

Results

While not the focus of this research, results suggested that student demographics, college experiences, and institutional characteristics affected students' level of peer belonging (Table 2) and institutional acceptance (Table 3). All of the student characteristics had a statistically significant effect in at least one of the models, with the exception of gender. 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. All four of the characteristics concerning institutional type that were included had significant effects in at least two of the models. Finally, both of the residential situation measures of interest (living environment and with whom a student resides) were statistically significant in all four models.

Student Demographics

Socially disadvantaged students (measured by parental education) seem to have a less positive perception of their peer belonging than their 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=-.07; 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, Black or African American students reported higher levels institutional acceptance than 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 traditionally-aged seniors reported higher levels of peer belonging than their non-traditional peers (B=.13; p<.001), traditionally-aged first-year students reported lower institutional acceptance (B= -.22; p<.01).

College Experiences

College experiences also seemed to matter for peer belonging and institutional acceptance. In particular, for both first-year and senior students lower grades tended to result in a lower perception of their peer belonging (first-year: B= -.31; p<.001 & senior: B= -.09 & -.38; p<.001) and institutional acceptance (first-year: B= -.17 & -.42; p<.001 & senior: B= -.32 & -.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

The type of institution that students were attending seemed to make a difference as well. For example, attending a private institution resulted in a significantly 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). Attending a minority-serving institution 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 (first-year: B= .03; p<.001). Finally, those at Master's institutions reported lower level of peer belonging than their Baccalaureate counterparts (first-year: B= -.12; p<.05 & senior: B= -.09; p<.05) and those at institutions of all other Carnegie classifications were lower than 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).

Living Situation

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

lower levels of institutional acceptance than their classmates living on campus (B=-.09 & -.11; p<.01).

Discussion

In recent years, many institutions have started building new dormitories with many single occupancy rooms in order to encourage upper-level students to remain on campus. While the results from this study, as well as previous research (Pascarella et al., 1993; Pascarella & Terenzini, 2005) would suggest that convincing students to remain on campus would be beneficial for those students, our findings also indicate that this on campus gain can be overshadowed if those students live alone. The proliferation of single occupancy dormitories on campuses could be having unintended negative consequences for students' peer integration at their institution. The results from this study suggest that living with one or two roommates has a higher positive impact on students' feeling of peer belonging than living on campus does. In addition, living off campus (but within walking distance) was found to be better than living on campus for seniors. While this seems in opposition with what was found for first-years students, seniors who live in dormitories and campus housing are more likely to live alone than their first-year counterparts. When seniors lived within walking distance to campus, they were still close to the institution, but more likely to be living with classmates.

Although this study included several different institutional-level characteristics as control variables in the models, another avenue of research that could potentially impact living situation would be the geographic locale of the universities. Institutions located in urban areas might have more enticing off-campus options for students, especially upperclassmen, as compared to those in more rural settings. The volume of on-campus housing needs is then 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 comprised primarily of students that offer a community atmosphere similar to what one might find in a residence hall. 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 could further explore how this particular nuance could influence strengths and weaknesses of various student living situations.

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 informative. For example, the finding that traditionally-aged 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 would be able to find others close to their age with the possibility of common life experiences. In addition, the findings that racial/ethnic minorities report lower levels of peer belonging when compared to their White counterparts supports past literature (Hurtado, 1994; Hurtado & Carter,1997; Johnson et al., 2007; Read et al., 2003).

More research is needed to further explore some of the situational distinctions that may be playing a role in some of these findings. The result that attending a minority-serving institution had a negative impact on peer belonging may actually be due to the racial makeup of the sample and the relatively small percentage of minority-serving institutions included. Since there are larger numbers of minority students attending these institutions, but at most other institutions they are underrepresented, the negative effect on peer belonging for those minority students at predominantly White colleges and universities may be washing over into this element

of the model. To further explore this potential interaction effect, future research might involve replicating the models with different racial sub-groups.

Limitations

There are several limitations to this study that must be considered when interpreting the results and generalizing the findings. First, although the sample is comprised of a wide range of students attending multiple institutions, it is not representative of all first-year students enrolled in four-year colleges and universities in the United States. Colleges and universities elect to participate in NSSE for a variety of reasons, mainly for institutional improvement, which may impact the context of the institutional experience.. Secondly, given the research design, this study was 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 acceptance tend to choose certain living situations, like staying on campus or living with other peers. Yet regardless of the direction, this study opens the discussion about specific effective educational practices and positive attitudes and perceptions that go hand in hand. This study sheds light on two distinct features of sense of belonging, which is valuable to researchers in the field.

Conclusions

Institutional administrators need to consider these results when building new housing facilities. These results might suggest that to enhance peer belonging, administrators actually encourage upper-level students to live with fellow students and within walking distance to campus. If this were the case, administrators should also creating programming in these local communities to make sure that the institutional acceptance of those students is not hindered by not living on campus. Administrators might also reconsider the growing single occupancy

campus housing options to keep students on-campus, as they might be isolating those upper-level students.

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Table 1

Sample Statistics

	First-year		*Senior*	
	Valid N	Valid %	Valid N	Valid %
Living Environment				
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
With Whom Students Reside				
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

Table 2

OLS Regression Models for Peer Belonging[1]: Student demographics, student living environment, and institutional characteristics

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

[1] The dependent variable was standardized prior to entering the model.
[2] Reference group: White
[3] Reference group: College grades-mostly A's
[4] Reference group: Carnegie type-Baccalaureate
[5] Reference group: Campus housing or fraternity/sorority
[6] Reference group: Do not share living space with anyone
*p<.05; **p<.01; p<.001

Table 3

OLS Regression Models for Institutional Acceptance[1]: Student demographics, student living environment, and institutional characteristics

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

[1] The dependent variable was standardized prior to entering the model.
[2] Reference group: White
[3] Reference group: College grades-mostly A's
[4] Reference group: Carnegie type-Baccalaureate
[5] Reference group: Campus housing or fraternity/sorority
[6] Reference group: Do not share living space with anyone
*p<.05; **p<.01; p<.001

Appendix A

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

Item	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
Cronbach's α	*.722*	*.716*
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
Cronbach's α	*.667*	*.677*

Appendix B

Confirmatory Factor Analysis: Model-fit Results for First-Year Students

	N	GFI	CFI	RMSEA	PCLOSE
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 CLOSE greater than .05.

Appendix C

Variable	Description
Parental education (First-generation status) [a]	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[b]
Gender [a]	0 = Male; 1 = Female
Age (Traditionally-aged) [a]	0 = Older than 23; 1 = 23 or younger
Enrollment status [a]	0 = Part-time; 1 = Full-time
Online learning (Took all courses online) [a]	0 = No; 1 = Yes
Earned college grades	Mostly A's[b]; Mostly B's; Mostly C's
Major choice (Major in STEM field) [a]	0 = No; 1 = Yes
Greek affiliation (Member of fraternity or sorority) [a]	0 = No; 1 = Yes
Minority-serving Institution [a]	0 = No; 1 = Yes
Carnegie classification	Doctoral-Research; Master's; Bac[b]; 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[b]; Residence within walking distance; Residence farther than walking distance; None of the above
With whom students reside	Do not share living space with anyone; One or multiple other students roommate(s); Significant other/spouse and/or children; Parents/relatives

[a] Coded as a dichotomous variable (0 = not in group; 1 = in group)
[b] Reference group