An Analysis of Factors Relating to Students' Perceptions of a Supportive Environment at a Comprehensive Midwestern University

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Abstract

How students perceive their campus environment is affected by a multitude of factors. Some of these include interactions between students and faculty, faculty teaching practices, demographic characteristics of students and students living arrangements. While some research has contributed meaningful findings related to which students see their environment as supportive and why, much of it is outdated, or does not truly consider the campus environment as a critical factor to student success. Students are constantly engaged in the campus environment, which is why it is critical that there is more research to flesh out how a supportive environment is made and upheld at colleges and universities. The goal of this proposed study was to build on the previous research and find which factors relate to students' perceptions of a supportive environment at a mid-size, comprehensive Midwestern university. This study used survey data from first-year and senior students provided by the National Survey of Student Engagement (NSSE) and found that student/faculty interactions, the quality of interactions on campus, and gender were significantly correlated with students perceptions of a supportive environment.

Keywords: campus environment, supportive environment, student engagement

Introduction

Prior research indicates that one of the most significant indicators of post-secondary student satisfaction is their perception of the campus environment as supportive (Johnson, Edgar, Shoulders, Graham, & Rucker, 2016). In broad terms, as defined by the National Center on Safe Supportive Learning Environments, a supportive environment can be defined as an environment that fosters safety, promotes academic engagement, and encourages maintenance of respectful and trusting relationships in and out of the school community. Understanding if and/or how a campus functions as a supportive environment has in recent years become increasingly critical information pertaining to retention rates. Previous research has shown that how students perceive their campus environment relates to student's intentions of returning to campus and in turn impacts retention rates (Johnson, Wasserman, Yildirim, & Yonai, 2014). In the United States, attrition rates have remained anywhere between 30-50% for the average post-secondary institution, which is higher than many other comparable industrialized countries around the globe (O'Keeffe, 2013). According to the Academic Affairs Office at the comprehensive midwestern university in this study, the institution maintains a higher than average retention rate (84%), but is seeing some of its lowest retention rates in almost 20 years. As such, the purpose of this study is to build on the previous research, and to find which factors relate to students' perceptions of a supportive environment at a mid-size, comprehensive Midwestern university.

Literature Review

Student-Faculty Interactions

One prominent finding in the literature related to campus environment is how students interact with faculty on campus. Cotten and Wilson found that a higher frequency of interactions with faculty is

associated with students feeling more satisfied with their college experience overall (2006). Multiple studies have also found that frequency and quality of interactions with faculty have a positive effect on students' perception of a campus as supportive (Belcheir, 2003; Umbach & Wawrzynski, 2005). This was especially true when faculty interacted with students about course-related matters. Students who received frequent feedback from faculty both in the classroom and outside the classroom were more satisfied with their experiences with faculty and had better relationships with faculty (Belcheir, 2003; O'Keeffee, 2013). These connections with faculty and staff not only foster a sense of belonging and connectedness, but they also contribute to the larger perceptions of the campus environment (Umbach & Wawrzynski, 2005). In turn, these feelings of connection can significantly and positively impact students' decision to remain at a college or university (Dwyer, 2017; O'Keeffee, 2013).

Quality of Interactions

For interactions between students and faculty, Cotten and Wilson found that while students perceived the benefits of interacting with faculty to be beneficial, they hardly ever took the time or could find the time to interact with faculty in and outside of the classroom (2006). However, when students did interact with faculty, specifically outside of the classroom, they felt more comfortable with the faculty inside the classroom (Cotten & Wilson, 2006). Students also cited other benefits from positive interactions with faculty like gaining knowledge about job/internship opportunities and achieving higher grades (Cotten & Wilson, 2006).

Another study done by Meeuwisse, Severiens, and Born found that the impact of quality interactions varies between racial minority and majority students (2010). Minority students felt more comfortable at their institution with more formal interactions with faculty and peers while majority race students felt more comfortable with more informal interactions, specifically with other students (Meeuwisse et al, 2010). For majority students, these interactions also had a positive effect on their study progress, with students who had more informal interactions with peers earning more credits (Meeuwisse et al, 2010).

Taken together, these studies allude to the conclusion that taken with the frequency of interactions, the quality of interactions on a college/university campus is an important predictor for students' sense of climate and community on campus (Cotten & Wilson, 2006).

Discussions with Diverse Others

Although the discussions with diverse others variable in the NSSE takes race/ethnicity, socioeconomic status (SES), political views, and religion into account, most of the research in this area tends to center around differences in race/ethnicity and SES. One study that combined race and SES found that having a more racially diverse student body in high school, as well attending a more socioeconomically diverse post-secondary institution were associated with students interacting more with diverse peers at college/university (Park, Denson, & Bowman, 2013). This may suggest that the frequency with which students interact with diverse peers may have more to do with opportunity than purposeful interactions. Another study found however, that neither the diversity of the campus nor the amount of interactions with diverse others is related to how students view the campus environment (Pike & Kuh, 2006). Thus, it appears that the quality of interactions with diverse others rather than the quantity may affect how students perceive the campus environment.

Academic Class

One study found that juniors and seniors compared to freshmen and sophomores, understood more of the importance behind forming relationships in faculty, and in turn students who had more interactions with faculty reported improved levels of satisfaction with their college experience (Cotten & Wilson, 2006). On the other hand, Belcheir found that younger students (primarily freshmen and

sophomores) felt that the campus did more to support them socially compared to older students (2003). This could be due to the higher level of first-year programs and other related activities put on by campuses to help students form initial relationships and find opportunities to be involved in clubs, sports, and other activities.

Even though the research related to this variable was sparse, it is interesting to note that between these two studies, it seems that the age or academic standing of a student may affect what *kind* of support they feel they are getting from a college/university campus.

Living Arrangements

Residence halls are one area of interest given that so many students live on college campuses and are required by some states to live on campus the first year because of the many benefits. In example, one study found that living in a campus residence hall increases the likelihood of campus involvement in a variety of social activities (Lei, 2016). This involvement in the campus community can help build student's self-esteem and comfort in a campus environment. Housing can also be a way to promote diversity and inclusion on campus. In one qualitative study, LGBTQ+ students felt that special interest housing allowed for more inclusivity and gave them the chance to engage in community building (Kortegast, 2017). Universities that utilize living-learning communities, which group students together based on their interests or majors, also see benefits. Students who live in living-learning communities tend to have more positive perceptions of their residence hall climates and their campus diversity climate (Inkelas, Vogt, Longerbeam, Owen, & Johnson, 2006).

Despite where on campus they may live, Li, Sheely and Whalen found that students who choose to live on campus at any point, whether they are required to by their university or not, feel that they have better access to things such as leadership opportunities (within the residence hall and through other on-campus organizations) as well as academic support (2005). Likewise, Graham, Hurtado & Gonyea found that overall, living in residence halls compared to living off campus fosters a positive correlation with the perception of a supportive environment (2018).

Gender

Our outward expressions of gender have important implications given that we still live in a society that focuses so strongly on a dichotomy between men and women. In terms of how gender impacts how students perceive their college or university campuses, research shows that men see a campus environment and their relationships as less supportive compared to women (Inkelas et al, 2006; Nelson Laird & Niskodé-Dossett, 2010). This was found to be true for both white women, and women of color (Locks, Hurtado, Bowman, & Oseguera, 2008). These findings could relate to the fact that most college campuses are comprised of mostly women, or that societal expectations prevent or inhibit men from reaching out for help or guidance. Similarly, other research also suggests that women feel a greater sense of belonging to the campus environment than men (Museus, Yi, & Saelua, 2017). For students who do not identify as a man or woman, on-campus experiences can be much more difficult compared to their cisgender counterparts. According to Garvey and Rankin, students who identify on the trans-spectrum had the lowest perceptions of their campus climate and classroom climate compared to all other groups in their study (2015). While in recent years, many colleges and universities have been working towards making their campuses more inclusive for trans-spectrum students, certain policies and practices still make the campus environment difficult to navigate. For example, students who wish to have their gender and name changed on official documents can find it to be a difficult process, and one that may not be accessible to all students depending on the laws and policies in each state and at each institution (Beemyn, 2005).

First-Generation Status

How first-generation students experience the college/university campus has been a trending topic in recent years given that first-generation students typically have higher dropout/lower retention rates. Studies have found that first-generation students not only have lower academic outcomes and social integration, but they also are more likely than continuing-generation students to see the campus as less supportive (Pike and Kuh, 2005). Additionally, Stebleton, Soria, and Huesman found that first-generation students reported lower ratings of a sense of belonging and satisfaction (2014). There are many reasons why first-generation students may feel like they do not belong in the college/university environment including financial pressure, lowered family support, and lack of confidence in academic skills (Smith & Lucena, 2016).

However, one study found that students who are more involved in curricular and cocurricular activities felt more accepted and connected to the campus community (Demetriou, Meece, Eaker-Rich & Powell, 2017). This finding suggests that first-generation students can find a sense of belonging and connectedness to the campus environment, they may just need extra help finding activities and resources on campus or a push to be more involved and engaged.

Sexuality

While most of the research related to sexuality and the campus environment relates to how LGBTQ+ students feel about "coming out", or being out at college/university, recent studies have still yielded important findings. In general, research shows that students who identify as heterosexual versus gay, lesbian, bisexual, asexual, etc. feel more comfortable on campuses, but the important findings are best understood in how LBGTQ+ students perceive the campus climate through their own experiences, rather than in comparison to heterosexual students (Tetreault, Fette, Meidlinger, & Hope, 2013; Woodford and Kulick, 2015). For LGBTQ+ students, poor perceptions of the campus environment were most strongly related to factors including having experienced unfair treatment from faculty, and not being open about their sexual orientation (Tetreault et al, 2013). Along those same lines, Woodford and Kulick found that perceptions of whether LGB people could be open about their sexuality had a positive association with feelings of acceptance on campus (2015). It seems that if students perceive their campus environments to be inclusive of different sexual identities, students feel more comfortable and supported in those environments. Going one step further, Garvey and Rankin found that higher levels of outness for LGBQ women was associated with better campus and classroom experiences (2015).

Race/Ethnicity

Nelson Laird and Niskodé-Dossett found that there were small, but insignificant differences in how students of different race/ethnicities perceived the campus as a supportive environment (2010). However, when looking at qualitative studies that examine how students of color perceive their campus environments, we see a slightly different picture. A study done by Maramba in 2008 found that students who identified as Filipino/a at a university in southern California felt that overall campus services lacked sensitivity to their needs and felt a lack of connection or community. Similarly, Inkelas and colleagues found that African American and Asian Pacific American students were less likely to engage with peers and faculty, probably due to general distrust of a historically racialized environment (2006).

As in the case of Maramba's study, one would assume that students of color living in a more diversely populated state and campus would foster a stronger sense of belonging and community (2008). But, an NSSE study found that contrary to rationale for affirmative action, a diverse student population did not correlate to more positive perceptions of campus environment (Pike & Kuh, 2006). This could in part be due to institutions of higher learning still promoting cultural norms centered around Whiteness (Tachine, Cabrera, & Bird, 2017).

Theory

After reviewing the literature and its findings, utilizing a sense of belonging framework is useful in understanding the outcomes and implications of this research. Sense of belonging can be best understood as "[the] perceived social support on campus, a feeling or sensation of connectedness, the experience of mattering or feeling cared about, accepted, respected, valued by, and important to the group or others on campus" (Strayhorn, 2012). Previous research supports the idea that when students feel connected to their campus and that their institution cares and supports them, they feel more committed to the institution, and therefore have better retention and graduation rates (Brown, Morning, & Watkins, 2005).

This framework will help support the main research question for this study: Which factors relate to students' perceptions of campus as a supportive environment? It will help to understand which types of students feel cared for, supported, and connected to their campus, and this will help to understand which students feel like they belong on campus and relate to those who students do not. This overall understanding of which students are more likely to feel like they belong can help to create interventions and strategic planning that addresses the needs of students who do not feel like they belong in the campus environment.

Hypotheses

· H1: Students who have more interactions with faculty will report the campus environment as more supportive compared to students who have less interactions with faculty (Belcheir, 2003; Umbach & Wawrzynski, 2005).

· H2: Students who rate their interactions with faculty as higher quality will report the campus environment as more supportive compared to students who have lower quality interactions with faculty (Cotten & Wilson, 2006; Umbach & Wawrzynski, 2005).

· H3: Students who have more discussions with diverse others will not report the campus environment as more supportive compared to students who have less discussions with diverse others (Pike & Kuh, 2006).

· H4: Students who are of a higher academic class will report the campus environment as more supportive compared to students of a lower academic class.

· H5: Students who live on campus will report the campus environment as more supportive compared to students who live off campus (Graham, Hurtado, and Gonyea, 2018).

· H6: Women will report the campus environment as more supportive compared to men and students of other gender identities (Inkelas et al, 2006; Nelson Laird & Niskodé, 2010; Garvey and Rankin, 2005).

· H7: First-generation students will report the campus environment as less supportive compared to continuing-generation students (Pike and Kuh, 2005; Stebleton, Soria, & Huesman, 2014).

· H8: Students who identify as LGBTQ+ will report the campus environment as less supportive compared to heterosexual students (Tetreault, Fette, Meidlinger, & Hope, 2013).

· H9: Students of color will report the campus environment as less supportive compared to white students (Inkelas et al, 2006).

Data and Methods

Data and Sample

  For this research, secondary quantitative data from the National Survey of Student Engagement (NSSE) was used. The NSSE was developed and is administered by the Indiana University Center for Postsecondary Research. The NSSE is administered only to first year and senior students at participating universities to gauge student participation and engagement at a university (Nsse.indiana.edu, 2019).

Measures

Dependent Variable

  The DV in the study is supportive environment which is the sum of eight engagement indicators as defined by the NSSE. The NSSE defines supportive environment as measuring "students' perceptions of how much their campus emphasizes services/activities that support their learning and development." The dependent variable is comprised of 8 questions. The questions in this index include, "How much does your institution emphasize the following...", 1) providing support to help students succeed academically; 2) using learning support services; 3) encouraging contact among student from different backgrounds; 4) providing opportunities to be involved socially; 5) Providing support for your overall well-being; 6) helping you manage your non-academic responsibilities; 7) attending campus activities and events; 8) attending events that address important social, economic, or political issues.

Independent Variables

  The self-reported independent variables (IV) in this study include gender, race, sexual orientation and first-generation status, and living situation. Other IVs included student-faculty interactions, quality of interactions, and discussions with diverse others which were indexed variables.

  The student-faculty interaction IV measures how both formal and informal interactions with faculty, as defined by the NSSE, "model intellectual work, promote mastery of knowledge and skill, and help students make connections between their studies and their future plans." This variable consists of four index questions. The questions include: "During the current school year, about how often have you done the following..." 1) Talked about career plans with a faculty member, 2) Worked with a faculty member on activities other than coursework (committees, student groups, etc.), 3) Discussed course topics, ideas, or concepts with a faculty member outside of class, and 4) Discussed your academic performance with a faculty member.

  The quality of interactions IV measures which individuals on campus students have positive, supportive relationships with. This IV consists of five index questions. The questions ask students to indicate the quality of your interactions with the following people at the institution: 1) Students, 2) Academic Advisors, 3) Faculty, 4) Student services staff (career services, student activities, housing, etc.), and 5) Other administrative staff and offices (registrar, financial aid, etc.).

  Discussions with Diverse Others is the last IV. It measures the relative frequency with which students interact across differences in and out of the classroom. This IV also includes four index questions. These questions included asking students during the school year how often they about discussions with people from the following groups: 1) People of a race or ethnicity other than your own, 2) People from an economic background other than your own, 3) People with religious beliefs other than your own, and 4) People with political views other than your own.

Results

Descriptive Statistics

Dependent Variables: Referring to *Table 1*, the mean for the supportive environment index was 22.01. With a variable range of 8 to 32, with a higher mean representing more support, means that on average students felt that the support from their institution was quite high. This mean also represents that students on average answered that their institutions emphasized support in various areas between "some" and "quite a bit" of the time.

Independent Variables: Illustrated in Table 1 are the demographic characteristics of the students who took the NSSE in 2017 at a comprehensive university in the Midwest. Looking at this data, what is most interesting is that almost two-thirds of the sample (66.7%) identified as first-generation. The First Generation Foundation conducted a study in 2010 that reported nationally about 50% of students in college, and 30% of incoming freshmen are first-generation.

Other notable characteristics of the students included that over two-thirds identified as female, and over 90% identified as White, and heterosexual. Given the location of the university and Midwest culture, these are not unusual findings, but they may have important implications for this project given previous literature.

Looking at the indexed variables in *Table 1*, both quality of interactions and discussions with diverse others yielded interesting results. Quality of interactions had a range of 5-35, with an average of 26.52. This means that on average, students felt the quality of their interactions were in the average to slightly above average range, and that students were having many high-quality interactions on campus overall. The mean for discussions with diverse others was 10.94. This means that on average students reported the frequency with which they had discussions with people of differing identities and experiences was between "sometimes" and "often" during the current school year. This is particularly interesting given the homogeny of the campus.

Table 1. Descriptive Statistics:

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	Valid Percent/Mean
Supportive Environment Index **(DV)** (Range 8-32)	22.0
Student-Faculty Interactions Index (Range 4-16)	8.2
Quality of Interactions Index (Range 5-35)	26.5
Discussions with Diverse Others Index (Range 4-16)	10.9
Institution Reported Class (N=1408)	
Freshman (1)	49.4
Senior (0)	50.6
Living Situation (N=1171)	
On-Campus (1)	52.4
Off-Campus (0)	47.6
Gender (N=1177)	
Female (1)	72.9
All other gender identities (0)	27.1
First-Generation Status (N=1179)	
First-Generation (1)	33.3
Not First-Generation (0)	66.7
Sexual Orientation (N=1169)	
All other sexual orientations (1)	5.5
Heterosexual (0)	94.5
Race/Ethnicity (N=1162)	
Non-White (1)	8.8
White (0)	91.2
Source: 2017 NSSE	

Table 1 description: Table provides "valid percent/mean" for descriptive statistics.

Bivariate Correlation

Referring to *Table 2*, bivariate analysis showed that six out of the nine variables hypothesized to be associated with supportive environment were correlated. Of those six, four had a significant

correlation including quality of interactions, student-faculty interactions, discussions with diverse others and gender. The most interesting finding in this table however is the academic class variable. While this correlation was weak, it showed that Freshman viewed the campus as more supportive compared to Senior students. While this finding parallels previous literature, it is interesting to note how this institution may not be providing enough resources to Senior students to help them feel more cared for and supported by the campus.

Table 2. Bivariate Correlations:

Table 2. Bivariate Correlations	Pearson's R
Student-Faculty Interactions Index	0.21**
Quality of Interactions Index	0.40**
Discussions with Diverse Others Index	0.23**
Institution Reported Class (Freshman=1)	0.06*
Living Situation (On-Campus=1)	0.06*
Gender (Female=1)	0.12**
First-Generation Status (First-Generation=1)	-0.01
Sexual Orientation (All other sexual orientations=1)	0.02
Race/Ethnicity (Non-White=1)	0.01

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

Source: 2017 NSSE

Table 2 description: Table provides "Pearson's R" for bivariate correlations.

Multivariate Analysis

As shown in *Table 3*, linear regression was conducted to analyze the relationship between the dependent variable, supportive environment, and the independent variables. The ANOVA test for the model indicates that overall, there is a significant relationship between supportive environment and the independent variables (sig.=.000). Therefore, we can reject a null hypothesis that would state all B values are zero. The adjusted R squared for the model indicates that 19.8% of the variation in supportive environment can be explained by the independent variables. The analysis shows that four out of the nine independent variables presented are significant. These were: gender, student-faculty interactions, quality of interactions, and discussions with diverse others. In the analysis, three out of the four presented significance at the p<.001 level which were the three indexed independent variables: student-faculty interactions, quality of interactions, and discussions with diverse others.

Table 3. Linear Regression:

Table 3. Linear Regression

	B	Std. Error	Beta	t	Sig.
Constant	7.25	1.00		7.25	.000
Student-Faculty Interactions Index	0.18	0.05	0.11	3.52	.000***
Quality of Interactions Index	0.35	0.03	0.35	11.65	.000***
Discussions with Diverse Others Index	0.28	0.06	0.15	4.97	.000***
Institution Reported Class (Freshman=1)	0.84	0.52	0.09	1.62	.105
Living Situation (On-Campus=1)	0.03	0.51	0.00	0.07	.948
Gender (Female=1)	0.76	0.32	0.07	2.38	.017*
First-Generation Status (First-Generation=1)	0.05	0.30	0.01	0.16	.870
Sexual Orientation (All other sexual orientations=1)	-0.18	0.60	-0.01	-0.30	.768
Race/Ethnicity (Non-White=1)	0.40	0.51	0.02	0.72	.471

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

Adjusted R Square= .198

Source: 2017 NSSE

Table 3 description: Table provides Linear Regression.

Table of Hypotheses Outcomes

Hypothesis Number	Is hypothesis supported by data?
Hypothesis 1 (Student Faculty Interactions)	Data Supported: p<.001
Hypothesis 2 (Quality of Interactions)	Data Supported: P<.001
Hypothesis 3 (Discussion with Diverse Others)	Not Supported
Hypothesis 4 (Academic Class)	Not Supported
Hypothesis 5 (Living Situation)	Not Supported
Hypothesis 6 (Gender)	Data Supported: p<.05
Hypothesis 7 (First-Generation Status)	Not Supported
Hypothesis 8 (Sexual Orientation)	Not Supported
Hypothesis 9 (Race)	Not Supported

Discussion

While previous research has begun to examine factors relating to perceptions of supportive environments on college campuses, very few studies have used a supportive environment variable as a test variable rather than a control. This study specifically used a supportive environment variable comprised of 8 index questions from 2017 NSSE data to see what factors relate to a supportive environment at one comprehensive midwestern university. While not all of the IVs were significantly related to the dependent variable, there are a few notable takeaways from this study.

For student-faculty interactions, students who had more frequent interactions with faculty reported higher scores for the supportive environment index questions. This is not surprising, since it was found that when students are able to make better connections with their faculty, they feel more comfortable in the classroom and in their overall surroundings, which in turn make them feel more

comfortable and supported on campus (Umbach & Wawrzynski, 2005). Following the theory guiding this study, this suggests that when students feel a sense of belonging on campus they feel more supported. Multiple studies have confirmed these findings, stating that students who had more frequent interactions with faculty had perceptions of their college campus as more supportive and a more positive college experience overall (Belcheir, 2003; Cotten and Wilson. 2006; Umbach & Wawrzynski, 2005).

Quality of Interactions was another variable which had the research hypothesis confirmed. Specifically, the higher that students rated the quality of their interactions with others on campus, the more they perceived the campus environment to be supportive. While the research on quality of interactions is scarce, one study by Cotten & Wilson concluded that quality of interactions is just as, if not more important, than the frequency of interactions (2006). However, just because interactions are frequent, does not mean they are positive. It is important to understand how students perceive their interactions to be positive or negative because as a sense of belonging theory states, much of the sense of belonging that students feel is related to the social area of their lives. If students are feeling valued, respected, and supported in these interactions, they will in turn feel more connected to their campus and feel that their campus cares about them (Brown, Morning, & Watkins, 2005). This finding also resonates with Schlossberg's (1989) mattering and marginality theory which outlines that in their higher education environment, students need to feel like they matter in order to become involved and invested in the campus.

Discussions with diverse others was also significantly related to perceptions of a supportive campus environment. Contrary to the research hypothesis, this study found that the more that students had discussions with others from different races, backgrounds and socioeconomic class, the more they perceived the campus environment as supportive. Pike and Kuh originally found that neither the diversity of the campus nor the amount of interactions with diverse others was related to how students view the campus environment (2006). However, relating these findings to sense of belonging theory, it could be postulated that when students interact with diverse others, they feel that others from diverse backgrounds encounter some of the same experiences as them, which makes them feel more accepted. They may also feel a sense of diversity, respect, and value for other lived experiences which gives them a better feeling of belonging and community.

The last variable significantly related to a supportive environment was gender. Supporting the research hypothesis, women rated the campus environment as more supportive compared to men and all other gender identities. These findings align with previous research which has found that men see a campus environment and their relationships as less supportive compared to women (Inkelas et al, 2006; Nelson Laird & Niskodé-Dossett, 2010). It is also consistent with the findings that women feel a greater sense of belonging to the campus environment than men (Museus, Yi, & Saelua, 2017). The findings of this study could suggest that women feel a stronger sense of support and belonging on campus because they are surrounded by others like them, and that college campuses are moving in directions that further give women equal rights and opportunity. They could also point to the experiences on campus for men as well, meaning that men may experience societal pressures that inhibit them from seeking help or support, leading them to feel less supported compared to women.

Originally in the bivariate correlations, living arrangements were significantly correlated to a supportive environment, but after running a multivariate analysis, it seems that the relationship is a spurious one. One confounding variable that may mediate this relationship is academic class. Since students at the university where this data was taken from requires first-year students to live on campus, unless they have family within a thirty-mile radius, it may be that since freshmen are more than likely to be on campus, and residence halls try to foster more interaction and engagement, they receive more support since it is more accessible to them. However, when a preliminary analysis was run to compare freshmen to senior students who live on and off-campus, the sample sizes for freshmen living off-

campus and seniors living on-campus was not large enough to accurately measure any valid relationship if there was one. Had the sample sizes been bigger, the linear model could have explored the research hypothesis regarding living arrangements in the preliminary analysis to find if students who live on campus (freshmen in this case), would find the campus environment more supportive (Graham, Hurtado & Gonyea, 2018).

While there were some interesting findings from this study, there were some variables which were hypothesized to have a relationship with the dependent variable but did not. These were first-generation status, sexual orientation, living arrangements (as discussed above), and race/ethnicity. Given the wider breadth of literature findings on demographic factors like sexual orientation and race/ethnicity, it was interesting to find that these variables did not have stronger relationships with supportive environment. Like the sense of belonging theory suggests, students feel like they belong on campus when they are supported, cared for, accepted, valued and respected. Since all the test groups in the variables studied only compromised a small percentage of the samples (e.g. only 5.5% of all students identified as non-heterosexual), it was surprising to see that these variables did not have any significant effect on supportive environment in the analyses. This could mean that the campus provides adequate academic, social, and emotional support for these groups of students. However, given the research, it seems more likely that with a campus as homogenous as the one in this study, there was more likely an issue with the underrepresentation and sample size.

Even though there are important findings from this study, there are also some important limitations. First, given that the data used was only taken from one university, the findings cannot be generalized to all universities across the country. They may be used for practice at this specific university and universities similar in geographic location, size and demographics, but given the unique characteristics of this university, we cannot generalize the findings to other institutions. Second, the sample size for some of the groups (non-heterosexual students and non-white students) was just large enough to use as a comparison. With such a small sample size, it can be hard to claim any relationship between these variables and the dependent variable. Third, the NSSE was only administered to freshmen and senior students. On college campuses, particular attention is paid to how first-year students transition into college, and how senior students transition out. When excluding sophomore and junior students, we may miss important findings that demonstrate how a large portion of the student population that is in a critical midway point of their higher education experience feel they are being supported by their college/university. Lastly, the analysis techniques used for this study required recoding variables. When recoding variables as dichotomous, it can over-simplify the categories which could miss important information that could differentiate the differences between how students who identify as male, or gender queer for example may experience the supportiveness of the campus differently.

Conclusion

Taken together, these findings have important implications for the campus used in this study, as well as other campuses that are similar in size and composition. First, campuses should encourage and provide students more opportunities to meet and interact with faculty, staff, and others from diverse backgrounds given the findings. Students only answered on average that they "sometimes" had interactions with faculty in and outside the classroom, that the quality of their interactions was only slightly above average, and they "sometimes" had discussions with diverse others. This means that campuses need to put more weight into examining these areas of student interaction.

While often it can be hard to encourage more contact among students with faculty/staff and diverse others, the findings from this study make it clear that universities need to institute more policies, practices, and/or activities that allow for more positive and productive interactions for students with different groups around campus. If campuses can work to encourage and facilitate more of these

interactions, they could foster a more supportive environment for students, which would make students less likely to withdraw from university (Johnson et al, 2014).

How colleges and universities implement strategies for greater, more positive contact among students and faculty and students with diverse others does not have to be complex to make an impact. For example, one study done by Fuentes, Ruiz Alvarado, Berdan and DeAngelo found that first-year students who had interactions with faculty had more meaningful interactions with faculty throughout their college career and received greater faculty mentorship (2014). In practice, this could mean that colleges/universities require first-year students to meet with faculty and/or other staff on campus multiple times throughout their first year to help them through their transition into university. Interactions with faculty and staff are particularly important because they can also provide forms of capital from Yosso's (2005) theory on Community Cultural Wealth, such as navigational, social or even linguistic capital. This capital from faculty and staff can help not only first-year students but also first-generation students, students of color, students from low income backgrounds, students with disabilities and historically marginalized and oppressed groups of students in obtaining knowledge about their environment, such as how to utilize campus resources or what resources may even be available to them to help them feel more comfortable and familiar with their environment.

As in the case on the campus where this data was collected from, students are not required to meet with any faculty, only academic advisors when a student is undeclared. If they are undeclared, they meet with a general academic advisor. In this instance, it would be useful for faculty and staff to be required to ask students questions beyond class sign-up such as asking about their general well-being, if they are having any sort of problems/conflicts, or if they can get them connected with other staff on campus regarding changing/declaring majors, participating in an internship, or maybe a study abroad experience. While some faculty and staff may already take it upon themselves to ask these questions from students, it is not required. Therefore, requiring this quality of interaction could greatly benefit students' well-being and sense of belonging.

The findings and implications of this study suggest that there is still more research needed in this area of higher education. There is very little research that looks specifically at how a supportive environment is a specific outcome of interactions with other variables on a college campus. From this study we see that there are clear relationships that describe how various interactions and demographics affect how students rate the campus environment as supportive. If colleges and universities wish to increase their retention and graduation rates, examining how students feel supported will be an important variable to consider. When students feel like they are being supported, valued, and cared for, they feel like they belong to the environment which is important not only for student academic outcomes, but also for students' well-being and intentions to continue with their higher education (Brown, Morning, & Watkins 2005).

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