

Students' Interpersonal Connections to Peers and Staff at the Start of Higher Education

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ABSTRACT: Establishing positive social relationships is important for students' success and retention in higher education (HE). This can be especially challenging during the transition into HE since students often move to a larger educational setting and need to build relationships with new peers and staff. Research is needed to better understand social connections during this critical time, including the role of demographics, curricular and extracurricular participation, and how peer and staff connections predict academic achievement. Surveys of 290 first-year students at a large US public university assessed with whom students were interacting, how often, for what reasons, and with what modes of communication. Results include a detailed description of students' interpersonal connections at the transition into HE, differences by demographics, curricular, and extracurricular participation, and the associations between students' patterns of relationships and their academic achievement.

1. Introduction

Establishing relationships is important to having a successful first year in higher education (HE); some students flourish while others struggle to adjust socially (Shim & Ryan, 2012). Students' social development is a valuable outcome itself, but also intertwined with their academic adjustment, satisfaction with HE, and HE retention (Tinto, 1997). Unfortunately, establishing relationships with peers and staff may be difficult for some students. When students transition from high school to a residential HE institution, their social networks transition as well; they often move to a larger educational setting, must adapt to living with peers, and have to navigate relationships with many new peers and instructors, while also adjusting to less contact with their social supports from home. Students' relationships (or lack thereof) during the first year of HE can hinder or support students' academic adjustment (Yazedjian et al., 2007). The current study aims to gain a better understanding of peer and staff relationships at the start of HE, how these relationships may differ based on students' backgrounds, and how peer and staff relationships relate to academic success in HE.

1.1 Background

Many students struggle to succeed in HE, as indicated by high rates of depression (e.g., Eisenberg et al., 2007) and drop out (e.g., Tinto, 1988). The US Department of Education (2014) reported that the 2012 graduation rate was only 59% for full-time undergraduates who began their pursuit of a bachelor's degree six years prior. Clearly supports are needed for students. Astin (1975, 1984) has shown that student involvement predicts academic

success and has identified factors that protect against drop out. These include living in a residence hall, participating in extracurricular activities, participation in sports, enrollment in honors programs, and having a part-time job on campus. Mounting evidence over the last several decades has also shown the importance of peer and faculty support as key predictors of retention (e.g., Astin, 1975; Millem & Berger, 1997; Pascarella & Terenzini, 1980). However, social adjustment may be just as difficult for some students as academic adjustment, and establishing relationships with peers and staff may be particularly challenging at the start of HE (Shim & Ryan, 2012) when students are navigating new relationships with a wide range of peers and staff.

Students' social connections with peers and faculty in HE are important for their adjustment by providing social support and sense of belonging (e.g., Freeman et al., 2007) as well as academic support through avenues such as formal and informal academic help seeking (e.g., Knapp & Karabenick, 1988). The type and quality of peer relationships relate to students' self-reported adjustment in HE, and less alienation from peers predicts higher academic, social, and emotional adjustment, as well as institutional attachment (Swenson et al., 2008). Pascarella and Terenzini (1980) found that students' self-reported beliefs about their peer group interactions, interactions with faculty, faculty concern for students, academic development, and institutional and goal commitments were all good predictors of whether students persist or drop out of HE. In their study, student-faculty relationships had a particularly strong contribution to first-year students' decisions to persist or not. While the literature clearly demonstrates the importance of relationships with peers and staff, the nature of these relationships is still not well understood, such as the peers and staff with whom students are interacting, how many, how frequently, and for what purposes. A better understanding of the specifics of students' relationships with peers and staff, as well as how these indices of social connections relate to students' academic achievement over the first year, will help HE institutions to better adapt to their social lives and address areas where new students may need more support during this critical period.

As institutions of HE are becoming purportedly more attuned to supporting diversity, there is also a need to examine individual differences in students' relationships with peers and staff. Potential key demographic variables include students' gender, race or ethnicity, first-generation college status, and family income. In the US, 62% of White students had a bachelor's degree six years after starting, compared to only 51% for Hispanic students and 40% for Black students (US Dept. of Education, 2014). Further, only 11% of students from low-income homes (\$25k or less) and first generation status attained a bachelor's degree, compared to 54% for those who were neither low-income nor first-generation (Engle & Tinto, 2008). First-generation college students tend to have a more difficult transition to HE, lower achievement, and they are more likely to drop out after the first year (Pascarella et al., 2004). Not only are these retention rates low, the racial and socioeconomic disparities are alarming. Thus it is crucial to explore whether social aspects of the first year of HE also differ by student demographics, perhaps providing further insight into these disparities. Millem and Berger (1997) found, for instance, that female students had higher levels of involvement with peers and lower levels of involvement with faculty compared to males; White students were more likely to be involved in traditional social activities than Black students although Black students were more involved in activism; and students from families with higher income engaged in more traditional social activities but had lower institutional commitment.

HE institutions are not only rapidly changing in terms of their demographics, but they are also undergoing a technological transformation as new modes of communication alter how students interact with others. Students have "24/7" access to peers, instructors, and family through computer-supported technologies, web-based applications for teaching and learning, social networking sites, and mobile phones. Students' communication with others via mobile phone technology, especially smart phones, is also substantial. US teens exchange text messages more than phone calls, face-to-face socializing outside of school, social network messaging, and emailing (Lenhart, 2012). Since much of today's interaction with peers and instructors occurs via technology, it raises the question of how current students are using a range of technologies for their social and academic interactions in the

first year of HE. Therefore, in addition to exploring who students are interacting with at the start of HE, we also examined what modes of communication are used.

1.2 Current Study

In summary, this research builds upon previous literature to provide a contemporary and expanded assessment of students' interactions with peers and staff at the start of HE. Information about how students' social connections differ during the transition into HE and how different forms of social interaction lead to academic achievement is needed in order to help HE educators and student support services in institutions of HE promote students' access to intellectual and social capital. The study is guided by three research questions:

RQ1: Who are students interacting with at the start of HE? More specifically, how many peers and staff are they interacting with, how often are they interacting with peers and staff, for what reasons, and what modes of communication are they using?

RQ2: How do students' connections to peers and staff at the start of HE differ based on their demographics (gender, race, family income, first generation college status) and curricular/extracurricular participation (academic major and number of extracurriculars)?

RQ3: How do the different aspects of peer and staff relationships at the start of HE relate to students' academic achievement (cumulative GPA) over their first year in HE?

2. Methods

2.1 Participants

The study was conducted at a large US Midwestern public research university with approximately 28,000 undergraduates. After consulting with university administrators, we targeted a large representative co-ed residence hall containing approximately 1,200 students and includes its own dining hall services and community spaces. This dormitory housed primarily first-year students (78%) with the remaining students in their sophomore-senior years. 12.8% of students in the dorm were enrolled in learning communities, which are common across the campus. The ones in this dorm focused on STEM education, arts, and a program that assisted students transitioning into HE; therefore the dorm has a slightly higher proportion of engineering and arts students compared to other dorms on campus.

Table 1. *Demographics of Survey Participants*

| Race/ Ethnicity | % | Major | % | Family Income | % |
|------------------------|----------|----------------------|----------|-------------------------|----------|
| White | 57.6 | Languages & Sciences | 45.9 | 200k or higher | 20.0 |
| Asian | 11.7 | Engineering | 35.9 | 100-200k | 33.8 |
| Hispanic | 7.2 | Music | 8.3 | 50-100k | 20.0 |
| Black | 6.6 | Nursing | 4.1 | 25-50k | 10.3 |
| Multi-ethnic | 4.1 | Art | 3.1 | 25k or under | 4.8 |
| NI/Other | 12.8 | Other | 2.7 | NI | 11.1 |
| Citizenship | % | Gender | % | First Generation | % |
| U.S. Citizen | 95.5 | Female | 53.1 | Yes | 13.4 |
| Perm. Res. | 2.4 | Male | 46.9 | No | 76.2 |
| Non-Resident | 2.1 | | | Unknown | 10.3 |

Note. First Generation = first generation college student status, defined as neither parent having received a four-year college degree. Perm. Res. = Permanent resident. Family income is listed in USD. NI = not indicated.

All the students in this dormitory were invited to participate, and we received 375 completed surveys, which was a 30% response rate across the dorm. This response rate is higher than typical response rates for online surveys offered at institutions of HE, which is

traditionally low due to the overabundance of survey requests. We filtered out 23% of respondents who were in their second year or higher, resulting in a final sample size of $n = 290$ first year students. The sample was highly representative of the full dorm population in terms of student demographics. The demographics of the sample by race/ethnicity, gender, major, citizenship, family income, and first generation college status are shown in Table 1.

2.2 Procedure

Students were invited to participate in an online survey administered via Qualtrics in October, 2013, approximately 7-10 weeks after the beginning of the school year. Participation was encouraged through raffles, a pizza party, fliers, and email reminders. The project was approved by the University's Institutional Review Board. On the consent forms, students were also asked to provide permission for us to access their university data on demographics and grades. The survey data and university data were merged and identifying information was replaced with IDs.

2.3 Measures

The survey was designed based on a review of previous measures assessing social networks and through piloting. In order to assess students' connections with peers and staff, they were asked to list up 10 students (peers) at the university "that you interact with the most during a typical week in college, in no particular order." They were then asked to list up to three staff members at the university "that you interact with the most during a typical week in college." They were reminded that they did not have to fill in all of the blanks and that the data would be kept confidential. For each peer and staff member listed, a new set of questions emerged that was automatically labeled by the software with the name typed by the survey participant. For example, if a student typed "Mary Smith" as a peer that they interact with the most during a typical week, then a new survey page would be shown that included questions such as "Please select all the ways you would categorize Mary Smith."

For each peer listed, students were asked to indicate all the ways that they would categorize the individual, from the following: roommate, lives in my dorm, residential advisor, in one of my courses, in my same club or organization, in my academic major, co-worker, friend from high school, friend from the university, and other. Second, they indicated whether they never, sometimes, or often used the following modes of communication for interacting with the person: in person, phone call, text messages or online chat (private), social network sites (public), email, and video chat. Third, they indicated how frequently they interacted with the peer, keeping in mind communication via technology, on the following scale: multiple times a day, about once a day, about 2-3 times a week, about once a week, about one a month. Finally, they selected the topic(s) they discuss from personal/social issues or topic, academic issues or topics, and/or other. For each staff member listed, students were asked to indicate all the ways that they would categorize the individual: academic advisor, professor or instructor, coach, boss/supervisor, residential staff, and other. Then the same items used to assess modes of communication, frequency of interaction, and topics typically discussed were also provided for each staff member.

Finally, students indicated how often they interact with family members, friends outside of the university, and non-relative adults outside of the university on the following scale: never, once a month or less, about once a week, 2-3 times a week, about once a day, multiple times a day. They were also asked to list their extracurricular activities at the university and in what academic field they plan to major. Students' demographic data and cumulative GPA (0 - 4.0 scale) were provided by university records.

3. Results

Author note: There was not enough space to provide tables for all of the correlations,

descriptive statistics across demographics groups, and tests for significant differences. Contact Kara Makara at kara.makarafuller@glasgow.ac.uk for a copy of the full analysis.

3.1 Peer and Staff Interactions (RQ1)

The first set of results focuses on the numbers of peers and staff that students regularly interact with, how their connections are categorized, how often they interact and for what purposes, and what modes of communication they use. As shown in Table 2, students listed an average of 6-7 peers and 1 staff that they regularly interacted with during a typical week. 5% of students reported not regularly interacting with any peers at the university, although many within this group indicated that they interacted regularly with family and friends outside of school. 47% of students reported not regularly interacting with any staff at the university. In terms of frequency of interaction with peers, on average students rated 4.13 out of 5 ($SD = .59$), which equates to a little over once a day, and for interaction with staff, they rated 2.96 out of 5 ($SD = .69$), which equates to 2-3 times a week.

Table 2. *Students' Reported Number of Peers and Staff with Whom They Regularly Interact*

| Category | Range | Mean | SD |
|-------------------|---------------|-------------------|---------------|
| Peers | 0-10 | 6.52 | 3.07 |
| Staff | 0-3 | .98 | 1.11 |
| # of Peers Listed | % of Students | # of Staff Listed | % of Students |
| 0 | 5.2 | 0 | 47.2 |
| 1-3 | 14.9 | 1 | 22.4 |
| 4-7 | 36.1 | 2 | 15.2 |
| 8-10 | 43.8 | 3 | 15.2 |

Students spend social time with peers from their dorm the most (74% listed their roommate; and 57% of all peers listed, on average, were from the same dorm), then with students from their courses (30% of peers listed), friends from high school (18%) and peers from the same club or organization on campus (17%). Regarding staff connections, we focused on the overall percentage of all students in the sample who listed at least one of each category. 43% of first-year HE students listed at least one professor or instructor, 11% listed an academic advisor, and only 1% listed a residential staff member.

Table 3. *Categories of Peers and Staff Reported by Students*

| Peers | | Staff | |
|---|----------|-------------------------------|------|
| % of students who listed a... | % | % of students who listed a... | % |
| Roommate | 74.48 | Professor or instructor | 43.1 |
| Average % of peers listed who are... | % | Academic advisor | 11.0 |
| From the same dorm | 57.01 | A residential staff member | 1.4 |
| From the same course | 29.67 | | |
| Friends from high school | 17.56 | | |
| From the same club or organization | 16.59 | | |

Note. Average % of peers listed is the average of the proportion of students' reported peer connections that are categorized in a particular manner (e.g., from the same dorm).

Students talk about different topics with their peers versus staff, as expected. On average, students talked with 87% of the peers they listed about personal issues and 78% of their peers about academic issues. Some students selected "other" topics and filled in topics such as games, technology, and politics. On average, students interacted with 78% of staff they listed for personal reasons and with 97% of staff for academic issues. A dependent samples t-test, which is limited to only those students who listed peers and staff, shows that personal

topics were significantly more likely than academic topics when interacting with peers ($t = 4.77, p < .001$) and personal topics were marginally significantly less likely than academic topics when talking to instructors ($t = -1.95, p = .06$).

Students use different communication methods when interacting with peers and staff (see Figure 1). As a reminder, the scale was 1 = never, 2 = sometimes, and 3 = often. On average, students talked in person the most to the peers and staff that they interact with during a typical week in college, which is typical for a residential HE institution. The major differences were in use of technology. On average, students used text messaging and chat regularly with peers ($M = 2.16, SD = .47$) and rarely with instructors ($M = 1.15, SD = .45$), and vice versa, students sometimes used email with instructors ($M = 2.10, SD = .54$) and rarely with peers ($M = 1.22, SD = .35$).

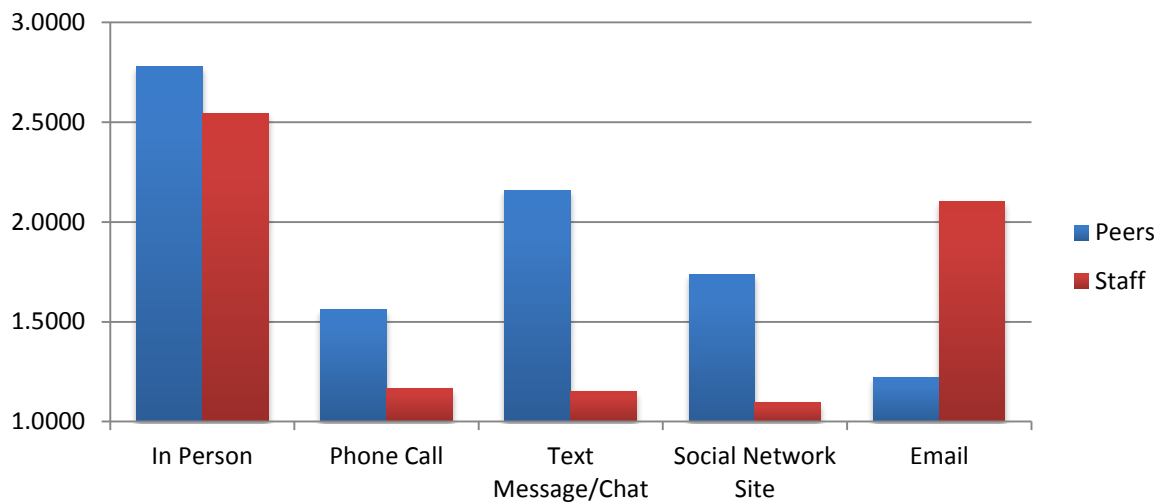


Figure 1. Frequency of Using Various Modes of Communication for Interacting with Peers and Staff

Finally, students also frequently interacted with family members and friends outside of the university. As a reminder, they were instructed to consider interaction via technology (e.g., phone, internet). On average, they rated 4.23 ($SD = 1.08$) for frequency with family members and 4.23 ($SD = 1.38$) for frequency with friends outside of the university, which equates to a little more than 2-3 times a week on average. Surprisingly, 13% of students reported interacting with their family members multiple times a day.

3.2 Differences by Student Demographics (RQ2)

We compared students based on their gender, race, first generation status, family income, academic major, and extracurricular participation in terms of a) the number of peers and staff listed, b) frequency of interacting with peers and staff, c) percentage of peers and staff listed by category (e.g., roommate, course instructor), d) academic or personal purposes for interacting, e) communication methods for interacting with peers and staff, and f) frequency of interacting with people outside of the university. Only significant differences are reported.

Gender – Independent t-tests determined the extent to which female and male students differed significantly in their interactions with peers and staff. Women more frequently talked to peers about personal issues, used the phone, text messaging or chat, and social network sites to talk to peers, and they more frequently communicated with family members and friends outside of the university, as compared to men.

Race – ANOVAs determined the extent to which there were statistically significant differences on the social variables between students in the four largest groups of race (Asian, Black, Hispanic, White). Students differed in the likelihood of interacting with their roommate, in their proportion of staff they interact with who are professors or instructors and academic advisors, in their communication with peers via email, and in their frequency of

interaction with non-relative adults outside of university. In general, Black and Hispanic students were less likely to interact with their roommate, use email to communicate with their peers, and were less likely to talk with professors or instructors compared to White students, although they were more likely to interact with their academic advisors. Hispanic and white students more regularly interacted with non-relative adults outside of the university.

First Generation Status – Independent t-tests were run to determine the extent to which students with first generation college status differed from their peers. First generation college students had significantly less frequency of interacting with peers, were less likely to be friends with their roommate, and had a lower proportion of peers who were from their dorm. Compared to their peers, first generation students had a greater frequency of interacting with staff and in the proportion of staff they talk to about personal issues, were more likely to use phone call, text messaging, and social network sites for communicating with staff, and more frequently interacted with family members outside of the university.

Family Income – Students were categorized into five groups based on family income: \$0-\$50K, \$51-\$100K, \$101-\$150K, \$151-\$200K, and \$201K or more, and ANOVAs were run to determine the extent to which students differed significantly by family income on the social interaction variables. Generally, students did not differ greatly. There was only one significant difference showing that students who come from families with \$0-\$50K and \$100-150\$K talked to peers the most about academic issues.

Major – Students were categorized by their intended academic major: social sciences, natural sciences, engineering and math, liberal arts, music & arts, and undecided and ANOVAs were run to determine the extent to which students differed on the social interaction variables. Students differed in their reported number of staff connections; liberal arts and music and arts had around two staff connections on average compared to less than one staff connection for students in engineering, natural sciences, and undecided. Music and arts students and engineering and math students were most likely to hang out with more peers who are within their courses (53% and 35% of their peer connections, respectively), compared to only 14% of peer connections being with their same course for students in the social sciences. Students also differed by major in their use of technology for interacting with peers and instructors, although not in their amount of face-to-face interactions. Students in the social sciences and liberal arts were much more likely to use phones, text messaging, and social networking sites for interacting with both peers and staff.

Number of Extracurriculars – Pearson correlation coefficients between the number of extracurriculars listed and the variables of interest indicated that students who were involved in more extracurriculars also listed a greater number of peer connections ($r = .21, p < .001$), a greater number of staff connections ($r = .15, p < .05$), and reported a higher proportion of friends listed who were from their club or organization ($r = .21, p < .01$).

3.3 Academic Achievement (RQ3)

We examined how students' overall academic achievement for the year (operationalized as cumulative grade point average) was predicted by their beginning of the year interactions with peers and staff. Specifically, we examined the correlations between students' GPA and a) the number of peers and staff listed, b) frequency of interacting with peers and staff, c) percentage of peers and staff listed by category (e.g., roommate, course instructor), d) academic or personal purposes for interacting, e) communication methods for interacting with peers and staff, and f) frequency of interacting with people outside of the university.

Only significant results are reported. Students who had higher overall GPA regularly interacted with a higher number of staff ($r = .19, p < .01$), interacted with staff more frequently ($r = .17, p < .05$), a higher proportion of the peers they regularly hang out with were from their dorm ($r = .13, p < .05$), professors or instructors were a higher proportion of the overall staff they regularly interacted with ($r = .21, p < .01$), and they were more likely to communicate with staff in person ($r = .18, p < .05$). Students who had lower overall GPA reported that a higher proportion of the staff they interacted with were academic advisors ($r = -.23, p < .01$), were more likely to interact with staff for personal reasons ($r = -.46, p < .01$),

were more likely to use phone calls to communicate with peers ($r = -.13, p < .05$), and were more likely to use email to communicate with staff ($r = -.16, p < .05$).

4. Discussion

Students' relationships with peers and staff during the first year of HE impact their academic adjustment and retention (Pascarella & Terenzini, 1980; Yazedjian et al., 2007). Institutions of HE should therefore be interested in gaining a deeper understanding of first-year students' relationships with peers and staff, including which sectors of the student population may need more support, and understanding what aspects of peer and staff interactions relate to student achievement. This study thus examined students' interactions with peers and staff during the first year of HE and the results uncovered interesting patterns in students' relationships with peers and staff that may help educators to better understand students' transition into HE and have implications for intervention.

4.1. Summary and Implications

On average, students listed approximately six peers, most from their dormitory, and one staff member, usually an instructor or professor. They were more likely to discuss personal issues with peers and academic issues with staff, and there was a clear difference in the technologies used for interacting with staff and peers. A strength of the study was including both on-campus and off-campus relationships to provide a more complete picture of students' social life during the transition into HE. As expected, there were differences based on students' background. The demographic variables played different roles in terms of their associations with different aspects of students' social lives. The differences across student gender were limited to interactions with peers and friends and family, with no differences in interactions with staff. Male and female students did not differ in their number of connections or in their frequency of interaction, rather they evidenced more qualitative differences in their topics and modes of communication. Students differed by race in a variety of areas, both with peers and staff. First-year college students seemed to face difficulties mainly in terms of relationships with peers, which may illuminate why this group is at risk for dropping out after their first year (Pascarella et al., 2004). Finally, students' academic major impacted their staff relationships. One of the most notable differences across majors was in mode of communication. Social sciences and liberal arts students were more likely to use technology for communication, compared to natural sciences and engineering students. This was surprising and interesting, as researchers rarely examine disciplinary differences in students' communication patterns, and should be explored further.

The study also explored the association between interactions with peers and staff and students' academic achievement. The findings indicate that interactions with staff are related to higher first year GPA, in line with Pascarella and Terenzini's (1980) finding about the importance of staff. We discovered that students' academic success was related to talking to more staff, more frequently, and focusing on staff who are professors and instructors. Form of communication matters as well, as talking in person to staff was positively associated with GPA whereas using email was negatively associated with GPA. It is critical to note that these are correlations and not causal relationships. It could be that students with lower GPA are too intimidated to talk to staff in person and therefore prefer use of email, rather than necessarily talking in person leading to higher achievement. It is important to note that students with low GPA may be more likely to be assigned an academic advisor that they are required to regularly visit, thus explaining the negative correlation that was found between GPA and students being more likely to interact with academic advisors. Regardless, this study indicates that connections to staff may be more critical for students' GPA than connections to peers and that student-faculty relationships should be encouraged at the start of HE.

The findings suggest some likely areas of disparity on HE campuses that need to be

tackled and possible interventions. It was concerning that 5% of students did not list any peers and 47% did not list any staff, especially if these numbers are representative of first-year students at a large university. Institutions of HE may want to consider increased use of text messaging and chat rather than email to reach students. Several student subgroups may need more social support and the findings highlight which areas to target. For example, Black and Hispanic students may need support with connections to staff who are professors, rather than just academic advisors, since only 45-50% of their staff connections were with faculty compared to 80% for White students. As another example, first-generation college students may need more support for building peer relationships within their dorms. Finally, the study discovered that staff relationships are especially important for academic achievement, suggesting the need to better foster all first-year students' relationships with staff, although that may be difficult when considering the size of many first-year classes.

4.2 Limitations and Future Work

We recognize that the present study is based on a relatively small sample size from one university. Furthermore, the correlational nature of the data prevents causal interpretation. Although we took a unique approach to assessing several elements of peers and staff relationships compared to using more traditional adjustment scales (e.g., Millem & Berger, 1997), our measures such as numbers of connections and what topics are discussed were broad. It may be just as important to have one close friend who is academically-oriented or one meaningful interaction with an instructor rather than many friends and staff connections, thus future studies may want to consider the quality of the relationships (e.g., Swenson et al., 2008). Additionally, social climate (e.g., friendly students and staff, safe environment) may play an important role in students' social and academic adjustment. Finally, we averaged students' peer and faculty interactions, which neglects some potentially interesting within-student variance across their connections with peers and staff.

We intend to follow up with our sample at the end of their undergraduate career to determine how their first-year social connections impact their trajectories of academic achievement and university retention. Future research is also needed to explore interactions between the demographic and social variables on achievement. For example, we found that first generation students interacted with staff more frequently and also discussed more personal issues with staff. It would be interesting to examine whether interactions with staff are more important for first generation students' achievement compared to their peers. This point was also raised by Pascarella and Terenzini (1980), who stated that their dimensions of HE that predict student retention may depend upon the kind of students being considered.

4.3 Conclusion

Many students struggle to succeed in HE, leading to high drop out rates (e.g., Tinto, 1988; US Department of Education, 2014). Forming relationships with peers and staff is an important part of adapting to HE and eventually succeeding within HE. However, establishing these relationships can be difficult during the transition into HE. This study explored the characterization of first-year students' reports of their peer and staff connections at the start of their transition into HE, including how many peers and staff they regularly interact with, how frequently they interact, what topics they discuss, and what modes of communication they use. Next, we explored how these different indices of students' social connections with peers and staff differed based on student demographics and curricular and extracurricular participation. Finally, we examined how peer and staff connections related to students' cumulative GPA during their first year of HE. The results uncovered some interesting patterns and differences across students that have implications for institutions of HE regarding how to better support students transitioning into HE.

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