JCAPS

THE FRATERNITY/SORORITY EXPERIENCE REVISITED: THE RELATIONSHIPS BETWEEN FRATERNITY/SORORITY MEMBERSHIP AND STUDENT ENGAGEMENT, LEARNING OUTCOMES, GRADES, AND SATISFACTION WITH COLLEGE.

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Fraternities and sororities are an important part of American higher education. However, some scholars question the value of fraternities and sororities. Recent research on the educational outcomes of fraternity/sorority membership is limited, with more research focused on health and safety issues. The present research addresses the gap in the literature by examining the direct and indirect relationships among fraternity/sorority membership, student engagement, and college outcomes using structural equation modeling and data from the 2017 administration of the National Survey of Student Engagement (NSSE). Results revealed fraternity/sorority membership had significant, positive direct relationships with student engagement and strong positive indirect relationships with self-reports of learning and acting through student engagement. Moreover, despite being less diverse than students in general, fraternity/sorority members reported higher levels of interaction with people different from themselves than did other students. In addition, the largest positive effects were generally found for first-year students, arguing against deferring recruitment until the second semester or second year. Membership in a fraternity or sorority was negatively related to self-reported grades, particularly for males and seniors.

Fraternities and sororities are an important part of American higher education, with more than 750,000 undergraduate members and at least 9 million living alumni in the United States (Routon & Walker, 2019). The espoused values of these organizations align closely with the goals of postsecondary education (Cogswell et al., 2020). However, concerns about alcohol and other drug use, hazing, sexual misconduct, and the contributions of fraternities and sororities to student learning and development have led some writers to question the value added by fraternities and sororities (Gregory, 2020; Kuh et al., 1996). When researching fraternities and sororities, a current review of the literature is more likely to secure studies on health and human behavior than on the positive attributes of these organizations.

While lines of research focusing on health, safety, and wellness are undoubtedly important as part of the total picture of what is happening in these organizations on today's college campus, research exploring questions on fraternity and sorority membership and engagement and outcomes in the 1990s and early 2000s is less prevalent today. Specifically, this research intends to explore the following areas of inquiry: First, we intend to address a gap in the research literature by revisiting, in the present day, the direct and indirect relationships among fraternity/sorority membership, student involvement, and engagement, and college outcomes employing a structural equation modeling. Second, we seek to understand present-day outcomes, in comparison with those of the 1990s, to determine if positive findings of the late 1990s remain consistent twenty years later and, if so, create replicable research.

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REVIEW OF THE LITERATURE

Fraternity and Sorority Affiliation and Student Engagement

The origins of student engagement can be found in the works of Pace (1980), Astin (1984), and Kuh (2001), and research has consistently found positive relationships between engagement and success in college (Astin, 1977, 1993; Kuh et al., 2006). Membership in a fraternity or sorority represents one method of encouraging student involvement and engagement in educational activities. It is important not to conflate the concepts of involvement and engagement. Wolf-Wendel and researchers (2009) differentiate between involvement and engagement, noting that involvement in campus life is noteworthy in terms of the amount of time and energy students invest in predominantly out-of-class or co-curricular (Peck et al., 2016) experiences while paying some attention to the contribution of the environment in which students find themselves. Engagement differs in that the focus includes the time and effort students may place in both in-class or curricular (Peck et al., 2016) and out-of-class activities and how colleges and universities allocate resources to encourage student participation in these activities. This study considers both involvement and engagement as students in fraternities and sororities may invest significant time and effort in this out-of-class experience (involvement), which may also impact engagement in campus life inside and outside the classroom.

Studies exploring the relationships between fraternity/sorority membership and student engagement have produced inconsistent results. Astin (1977, 1993) and Pike and Askew (1990) found that students in Greek organizations were more involved than their non-Greek counterparts. However, Kuh et al. (1996) found a negative relationship between student engagement and fraternity/sorority membership, while Pike (1996), in the same year, found fraternity/sorority membership had a positive relationship with engagement and gains in learning with effects for fraternity/sorority affiliation stronger for seniors than first-year students.

Research findings on fraternity/sorority affiliation and cocurricular/social involvement tend to reinforce stereotypes of the fraternal system. Dugan (2013) and Walker et al. (2015) found that fraternity/sorority members were highly involved in social activities, including partying. Fraternity/sorority members also reported relatively few interactions with students who differed from themselves (Asel et al., 2009; Porter, 2012). On a positive note, fraternity/sorority members were more likely to be engaged in community service and other co-curricular activities (Asel et al., 2009; Bureau et al., 2011; Walker et al., 2015).

The relationships between fraternity/sorority membership and student involvement and engagement also appear to be moderated by students' background characteristics. For example, Porter (2012) and Routon and Walker (2014) found significant differences in the relationships between fraternity or membership and student involvement and engagement by gender. Other researchers have reported differences in fraternity/sorority membership and student involvement and engagement by class level (Asel et al., 2009; Pike, 2003; Porter, 2012; Walker et al., 2015).

Fraternity and Sorority Affiliation and Student Learning Outcomes

In separate literature reviews, Biddix et al. (2014) and Martin et al. (2020) reported that studies of the relationships between fraternity/sorority membership and objective measures of learning outcomes have produced inconsistent, although somewhat negative, results. When self-reports have been used to represent learning outcomes, the results have been somewhat more positive (Ahern et al., 2014; Bureau et al., 2011). Research by Asel et al. (2009), Hayek et al. (2002), and Routon and Walker (2016) found that fraternity/sorority affiliation was positively related to students' reports of their personal/social development. In contrast, early studies by Wilder and his colleagues found that fraternity and sorority members scored significantly lower than other students on measures of personal development (Wilder et al., 1978; Wilder et al., 1986). Here again, inconsistent findings may be partly attributable to moderating effects for gender (Hevel et al., 2015; Pascarella et al., 1996; Routon & Walker, 2016) and class standing (Pascarella et al., 2001; Pike, 2003). Pike (2000) also found that fraternity/sorority membership was indirectly related to learning outcomes, acting through student engagement.

Fraternity and Sorority Affiliation and Grades in College

Research on the relationship between fraternity/sorority membership and students' grade point averages (GPA)

has, like research in other areas, produced inconsistent results. Ahern et al. (2014) and DeBard and Sacks (2010) found that fraternity/sorority affiliation was positively related to GPA. In contrast, Asel et al. (2009) and Bureau et al. (2011) found fraternity/sorority membership was negatively related to GPA. Nelson et al. (2006) and Pike and Askew (1990) found no relationship between fraternity/sorority membership and GPA. Here again, research suggests that the relationship between fraternity/sorority membership and GPA may be moderated by year in school (DeBard et al., 2006; DeBard and Sacks, 2010; Nelson et al., 2006) and gender (Routon & Walker, 2014).

Conclusions Regarding Fraternity/Sorority Affiliation, Student Involvement and Engagement, and College Outcomes

The primary conclusion from research on the relationships among membership in a fraternity or sorority, student involvement and engagement, and college outcomes is that studies have produced inconsistent results. At least some of the variance in the findings may be attributable to the types of involvement and engagement and the types of outcomes studied. For example, fraternity/sorority membership appears to be most consistently (and positively) related to collaborative learning but negatively related to interactions with diverse others. Membership in a fraternity or sorority also appears to be most strongly related to students' personal development. These findings argue for examining the effects of fraternity/sorority membership on a wide variety of types of involvement and engagement and outcomes.

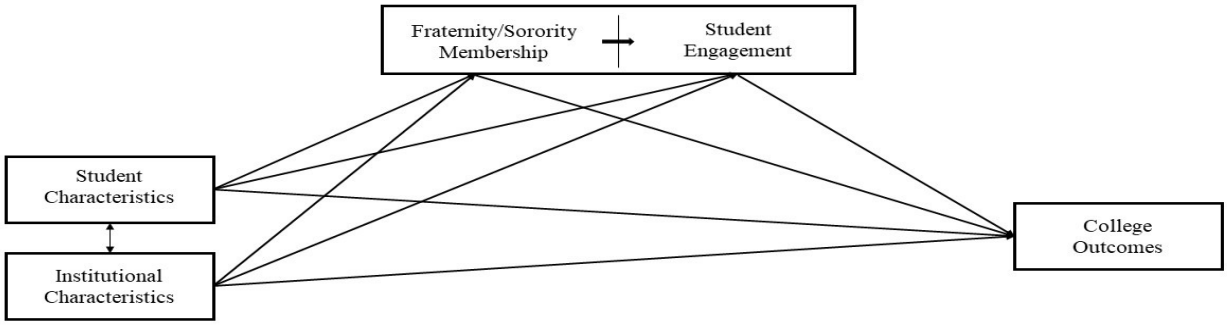
Another reason for mixed results may be the moderating effects of gender and year in school. Several studies obtained different results for females and males and first-year students and seniors. In order to adequately account for these potential moderators, research on fraternity/sorority membership should separately examine relationships for males and females and first-year and senior students. Accordingly, this study examined the effects of fraternity/sorority membership for male and female first-year and senior students. In addition, the model used in this research identified both the direct and indirect relationships among fraternity/sorority membership, student involvement and engagement, and college outcomes.

METHODS

Conceptual Model

Many of the theories and models of the effects of college on students posit that college outcomes are products of students' pre-college characteristics, institutional characteristics, and students' experiences during college (Astin, 1970a, 1970b, 1984; Kuh et al., 2006; Pace, 1980; Pascarella, 1986). The design used in this research employs the conceptual framework of Astin's (1970a, 1970b) I-E-O model. In I–E–O, individual characteristics are controlled to isolate the effect of on-campus participation in various academic and social activities on various outcomes. According to Astin (1984), "The advent of involvement theory led to the elaboration of the IEO model to include 'involvement' (also called 'intermediate outcomes') as an additional construct situated between Environment and Outcome (IEO)." In the present model, student and institutional characteristics are presumed to influence college experiences and outcomes. Within the college-experience domain, fraternity or sorority membership is presumed to influence student involvement and engagement. In turn, fraternity/sorority affiliation and involvement are presumed to influence student outcomes (see Figure 1).

Figure 1. *Conceptual Model of the Relationships among Student and Institutional Characteristics, College Experiences, and College Outcomes*



Data Source

The data for this research came from the 2017 administration of the National Survey of Student Engagement (NSSE). In 2017, slightly more than 165,000 first-year students and almost 210,000 seniors from 650 institutions participated in NSSE, with an average institutional response rate of 30% (National Survey of Student Engagement, 2017a). Complete data were available for 184,816 students attending 541 institutions. The sample included 81,143 first-year students (54,701 females and 26,442 males) and 103,673 seniors (66,644 females and 37,029 males). Table 1 presents sample means for the study participants. These sample means provide information about proportions in the population, as sample means can be used to calculate central tendency, standard deviation, and variance.

Table 1. *Sample Means for Student Participants: First-Year and Senior/Male and Female Samples*

Variable	**First-Year**		**Senior**	
	Female	***Male***	***Female***	***Male***
Carnegie Doctoral	0.37	0.42	0.37	0.44
Carnegie Master's	0.47	0.42	0.49	0.43
Carnegie Baccalaureate	0.16	0.16	0.14	0.13
Carnegie Other	0.02	0.02	0.02	0.01
Public Institution	0.63	0.64	0.67	0.69
Small Institution	0.22	0.20	0.19	0.16
Medium Institution	0.16	0.14	0.14	0.12
Large Institution	0.22	0.19	0.23	0.20
Very Large Institution	0.40	0.46	0.44	0.53
Fraternity/Sorority Member	0.10	0.09	0.12	0.12
Asian American	0.06	0.07	0.06	0.07
Black	0.09	0.08	0.08	0.06
Latinx	0.14	0.14	0.13	0.13
Multiracial	0.04	0.04	0.04	0.03
Other Race/Ethnicity	0.01	0.01	0.01	0.01
White	0.65	0.66	0.68	0.69
First-Generation	0.32	0.27	0.33	0.30
Non-Traditional Age	0.02	0.03	0.24	0.32
Full-Time Enrollment	0.97	0.97	0.88	0.87
Transfer Student	0.07	0.07	0.38	0.42
Live On Campus	0.74	0.71	0.20	0.19
Athlete	0.09	0.12	0.06	0.07
Veteran	0.01	0.02	0.02	0.08
Arts/Humanities Major	0.11	0.08	0.11	0.09
Engineering/Science Major	0.22	0.40	0.18	0.37
Social Science Major	0.17	0.11	0.19	0.13
Business Major	0.11	0.18	0.14	0.20
Education/Social Service Major	0.15	0.08	0.15	0.07
Health-Related Major	0.22	0.08	0.18	0.08
Other Major	0.03	0.06	0.05	0.07
Higher-Order Thinking	38.73	37.98	40.77	39.23
Reflective & Integrative Thinking	36.03	34.88	39.47	37.26

Quantitative Reasoning	25.54	29.93	27.61	32.72
Learning Strategies	39.51	36.70	39.02	36.40
Collaborative Learning	34.21	33.81	35.17	35.40
Discussions with Diverse Others	40.32	40.24	41.09	40.53
Student–Faculty Interaction	21.22	21.46	26.40	25.50
Effective Teaching Practices	39.09	39.22	40.31	39.37
Quality Interactions	41.78	42.68	42.04	41.65
Supportive Environment	37.99	36.28	33.96	32.39
High–Impact Practices	0.71	0.69	2.55	2.23
Academic Gains	8.58	8.44	9.39	9.11
Vocational Gains	8.04	8.20	8.86	8.94
Personal/Social Gains	11.03	10.76	11.55	11.00
Grades	6.29	6.05	6.46	6.16

An examination of the means in Table 1 revealed that most of the students in the study attended large or very large public Carnegie Doctoral or Master's institutions. Approximately 10% of the students were fraternity/sorority members. White students were, by far, the largest racial/ethnic group, followed by Latinx and Black students. About one-third of the students were first-generation, and most were enrolled full-time. Relatively few first-year students were non-traditional age or transfers, and most first-year students lived on campus.

Conversely, higher proportions of seniors were non-traditional age or transfers, but relatively few seniors lived on campus. The choice of a college major was more evenly distributed among women than men, with men being more likely to major in engineering and the sciences or business. In general, first-year students reported lower levels of engagement than seniors. The exceptions to this pattern were the Quality of Interactions and Supportive Environment engagement indicators. Self-reports of learning and grades were also slightly higher for seniors than first-year students.

Measures

The measures used in this study came from three sources. Institutional characteristics (Carnegie classification, institutional control, and enrollment size) were obtained by NSSE from the Integrated Postsecondary Education Data System (IPEDS) (National Center for Education Statistics, n.d.). Three measures of student characteristics (gender, race/ethnicity, and class standing) were obtained from institutional records submitted by participating colleges and universities as part of the NSSE survey process. All other measures were obtained from students' self-reports using NSSE's questionnaire the *College Student Report*.

There is substantial research about the adequacy and appropriateness of using self-reports in research on college students. Early studies found that students' self-reports were appropriate measures of engagement and learning (Baird, 1976; Berdie, 1971; Dumont & Troelstrup, 1980; Pace, 1985; Pholman & Beggs, 1974). More recently, some researchers have questioned the appropriateness of these measures (Bowman & Hill, 2011; Bowman & Seifert, 2018; Pascarella, 2011; Porter, 2011). Criticisms of self-reports have included the inability of students to precisely quantify their levels of engagement and social desirability.

Several studies have shown that the NSSE engagement indicators yield appropriate measures of student engagement during college (Kuh, 2001; Kuh, et al., 2001; Ouimet et al., 2004; Pascarella et al., 2009). Recent research by Rocconi et al. (2020) found that using vague quantifiers in the *College Student Report* improved the accuracy and appropriateness of self-report data. Studies examining the adequacy and appropriateness of self-reports of learning have focused on the convergence of self-reports with objective measures. Studies by Birdie (1971), Dumont and Troelstrup (1980), and Pholman and Beggs (1974) all found moderate positive correlations between self-reports and test scores. Pike (1995) used multitrait-multimethod analysis to examine the relationships between self-reported learning and standardized test scores. He found consistent, positive correlations between

self-reports and test scores. In a second set of studies, Baird (1976) and Valiga (1986) examined the relationships between self-reports and actual grades. Both studies found that self-reported and actual grades were strongly correlated. Baird's (1976) study also found that students accurately reported their grades, even when there were strong incentives to be inaccurate.

Participants' responses to the NSSE questionnaire yielded four classes of measures: the independent variable (i.e., fraternity/sorority membership), college outcomes, engagement indicators, and covariates. Membership in a fraternity or sorority was measured by the question, "Are you a member of a social fraternity or sorority?" Students' responses were scored so that fraternity/sorority membership was a dichotomous variable indicating that the student was (1) or was not (0) a fraternity/sorority member. College outcomes were represented by four variables. The first three measures, Academic Gains, Vocational Gains, and Personal/Social Gains, were modeled after scales developed by Kuh, et al. (2001). The alpha reliability coefficients for Academic, Vocational, and Personal/Social gains were 0.80, 0.73, and 0.87 for first-year students and 0.82, 0.69, and 0.87 for seniors. Grades in college were measured by the question, "What have most of your grades been up to now at this institution?" Response options ranged from "C– or lower" (1) to "A" (8). To facilitate the interpretation of effect sizes, standard (Z) scores were calculated for the four outcome measures and utilized in the data analysis.

Student engagement was represented by the 10 NSSE engagement indicators and a measure of student participation in high-impact practices. Higher-Order Learning, Reflective and Integrative Learning, Learning Strategies, and Quantitative Reasoning represented the level of academic challenge in students' college experiences. Collaborative Learning and Discussions with Diverse Others were indicators of learning with peers, and Student-Faculty Interaction and Effective Teaching Practices represented students' experiences with faculty members. The campus environment was represented by the engagement indicators Quality of Interactions and a Supportive Environment (National Survey of Student Engagement (2018). The engagement indicators were scored on a scale from 0 to 60, with 0 representing low engagement and 60 representing high levels of engagement. Alpha reliabilities for the engagement indicators ranged from 0.76 to 0.88 for first-year students and 0.77 to 0.89 for seniors (National Survey of Student Engagement, 2017b). High-Impact Practices was a count variable indicating participation in three activities for first-year students and six activities for seniors. Engagement indicator scores were standardized for use in the data analysis.

Covariates were included in the analyses to account for some of the preexisting differences between fraternity/sorority members and independent students that might bias the results. These variables represented institutional and student characteristics. Carnegie classification was represented by two dummy-coded variables: Master's institutions and baccalaureate institutions. Doctoral/research universities served as the reference group. Institutional control was a dichotomous variable indicating that an institution was a public college/university. Enrollment size was represented by three dummy-coded variables: small institutions (fewer than 2,500 students), medium institutions (2,500-4,999 students), and large institutions (5,000-9,999 students). Very large institutions (10,000 or more students) served as the reference group.

A student's race/ethnicity was represented by five dummy variables: Asian, Black, Latinx, multiracial, or another race/ethnicity (e.g., Native American or Pacific Islander). White students served as the reference group. International students were not included in the study. Other student characteristics included whether students were first-generation, non-traditional age (i.e., 24 or older), veteran status, full-time enrollment, transferring from another institution, living on campus, and academic major. Major fields were business, education/social services, engineering/science, health, social sciences, and other majors. Arts and humanities majors served as the reference group.

Data Analysis

The data analysis was conducted using the Stata16 computer program (StataCorp, 2019). Structural equation modeling was used to identify the direct relationships between fraternity/sorority membership, student engagement, and college outcome measures, net the effects of institutional and student characteristics. To accomplish this, institutional/student characteristics were included in the models as covariates. The model also identified indirect relationships between fraternity/sorority membership and college outcomes, mediated by student engage-

ment. Because the study focused on fraternity/sorority membership, direct relationships between institutional/student characteristics and fraternity/sorority membership were not calculated. Separate analyses were conducted for males and females and for first-year and senior students. Because students were nested within institutions, clustered standard errors were used to account for possible dependencies in the data (Sarzosa, 2012). Due to the large number of study participants, extremely conservative levels of statistical significance ($p < 0.001$, $p < 0.0001$).

FINDINGS

Table 2 displays the coefficients representing the direct relationships between membership in a fraternity or sorority and student engagement. Also included in the table are the direct, indirect, and total relationships between fraternity/sorority membership and the college outcome measures. (Complete results for the structural equation model are presented in Appendix A.) An examination of the results for first-year females revealed that sorority membership was positively and significantly related to all but three engagement indicators (Effective Teaching Practices, Quality of Interactions, and High-Impact Practices). The largest effects were found for Collaborative Learning and Student-Faculty Interaction. Sorority membership had modest direct relationships with both academic gains and personal/social gains, but it was not directly related to vocational gains. However, sorority membership had significant indirect relationships with all three gains measures, and the magnitudes of the indirect relationship were larger than the direct relationships. Sorority membership was not directly related to the grades of first-year females.

Table 2. *Relationships between Fraternity/Sorority Membership and Student Engagement and College Outcomes*

Engagement/Outcome	**First-Year**		**Senior**	
	Female	***Male***	***Female***	***Male***
Higher-Order Learning	0.061†	0.048	0.041	0.063†
Reflective Learning	0.058†	0.067	0.045†	0.104‡
Quantitative Reasoning	0.069†	0.080†	0.050†	0.105‡
Learning Strategies	0.061†	0.082‡	0.035	0.074‡
Collaborative Learning	0.246‡	0.300‡	0.221‡	0.245‡
Discussions Diverse Others	0.098†	0.175‡	0.095‡	0.152‡
Student-Faculty Interaction	0.192‡	0.282‡	0.163‡	0.184‡
Effective Teaching Practices	-0.019	-0.071	0.009	0.004
Quality of Interactions	0.031	-0.056	0.020	-0.041
Supportive Environment	0.100‡	0.081†	0.078‡	0.039
High-Impact Practices	0.055	0.173‡	0.210‡	0.256‡
Academic Gains (Direct)	0.043†	0.064	0.019	0.001
Academic Gains (Indirect)	0.057‡	0.045†	0.048‡	0.047†
Academic Gains (Total)	0.099‡	0.110†	0.066‡	0.047
Vocational Gains (Direct)	0.033	0.055	-0.010	-0.005
Vocational Gains (Indirect)	0.087‡	0.084‡	0.072†	0.066‡
Vocational Gains (Total)	0.120‡	0.139‡	0.062†	0.061
Personal/Social Gains (Direct)	0.044†	0.039	0.016	0.034
Personal/Social Gains (Indirect)	0.073‡	0.076‡	0.059‡	0.055‡
Personal/Social Gains (Total)	0.118‡	0.116‡	0.075‡	0.089‡
Grades (Direct)	-0.041	-0.126‡	-0.091‡	-0.149‡
Grades (Indirect)	-0.001	0.004	0.027‡	0.029‡
Grades (Total)	-0.042	-0.122‡	-0.064‡	-0.119‡
†$p < 0.001$; ‡$p < 0.0001$				

The results for first-year males were similar to those for females. Fraternity membership had strong positive relationships with Collaborative Learning and Student-Faculty Interaction, and it was not related to Effective Teaching Practices and Quality of Interactions. Unlike the results for sorority members, first-year fraternity membership had a strong positive relationship with Discussions with Diverse Others and participation in High-Impact Practices. Differences were also observed for the college outcome measures. Fraternity membership was not directly related to the three gains measures, but the indirect (and total) relationships were positive and statistically significant. In addition, the direct (and total) relationship between membership in a fraternity and grades was negative and significant.

The magnitude of the direct relationships between sorority membership and student engagement measures tended to be slightly weaker for seniors than for first-year females. Nevertheless, the magnitudes of the relationships between seniors' sorority membership and both Collaborative Learning and Student-faculty Interaction were substantial. In addition, sorority membership had a strong positive relationship to participation in high-impact practices. Senior sorority membership was unrelated to Higher-Order Learning, Learning Strategies, Effective Teaching Practices, or Quality of Interactions. The relationships between senior females' membership in a sorority and gains in learning were generally weaker than those for first-year females. Sorority membership was not directly related to any of the gains measures, although membership had positive indirect and total relationships with all three measures of learning gains. Unlike the results for first-year sorority members, seniors' membership in a sorority had a direct, negative relationship with grades that was statistically significant. Although the indirect relationship between sorority membership and grades, mediated by student engagement, was positive, it did not fully offset the substantial negative direct relationship between sorority membership and grades.

Similar to the results for senior females, the relationships between senior males' membership in a fraternity and the student engagement indicators were generally weaker than the relationships for first-year students. Here again, strong relationships were found for Collaborative Learning, Discussions with Diverse Others, Student-Faculty Interaction, and participation in High-Impact Practices. Fraternity membership was not significantly related to seniors' reports of Effective Teaching Practices, Quality of Interactions, or a Supportive Environment. The direct relationships between fraternity membership and seniors' academic, vocational, and personal/social gains were not statistically significant. However, the indirect relationships between fraternity membership and the gains measures were positive and significant. However, only the total effect for the relationship between fraternity membership and seniors' personal/social gains was statistically significant. The relationship between fraternity/sorority affiliation and grades for senior males was negative and statistically significant. In fact, the magnitude of the relationship was greater than the magnitude of the relationship for first-year males. Although the indirect relationship between fraternity membership and grades was positive and statistically significant, it was not sufficient to fully overcome the substantial negative direct relationship between seniors' grades and membership in a fraternity.

DISCUSSION

The results of this research have important implications for research and practice. A strength of this research is that the NSSE surveys provide data representative of the vast majority of students in colleges and universities across the United States. Taking into account differences between fraternity/sorority members and non-members, four major findings emerged from the present study. First and foremost, membership in a fraternity or sorority was associated with significantly higher levels of student engagement, as defined by NSSE, in educationally purposeful activities. Although previous research on fraternity/sorority membership and student engagement produced equivocal results, the findings of this research were very consistent and positive. Members of fraternities and sororities had significantly higher levels of engagement on most of the NSSE engagement measures. The positive relationships between fraternity/sorority membership and engagement were strongest for the Collaborative Learning and Student-Faculty Interaction engagement indicators. Similar results were reported by Bureau et al. (2011) and Hayek et al. (2002). The present research also found that the relationship between membership in a fraternity or sorority and engagement was moderated by class standing (i.e., being a first-year or senior student). For most engagement indicators, including Collaborative Learning and Student-Faculty Interaction, the observed relationships were stronger for first-year students than seniors. Similar results were reported by Pike (2003).

Discussions with Diverse Others

A particularly noteworthy finding of this study concerned the diversity experiences of fraternity/sorority members. Previous studies have noted that fraternities and sororities are homogeneous regarding race/ethnicity and social class (Hamilton & Cheng, 2018). These studies also found that members of fraternities and sororities have fewer interactions with students who are different from themselves (Asel et al., 2009; Porter, 2012). While students who attended more racially diverse institutions appear to have more racially diverse friends (Park & Kim, 2013), membership in a fraternity has indicated a negative net gain in the value of openness to diversity (Pascarella et al., 1996) and rates of interracial interaction and friendship (Park & Kim, 2013). It has been hypothesized that the selective and exclusive nature of fraternity and sorority membership selection process has made creating a racially diverse environment a challenge (Joyce, 2020). The current study found that members of fraternities and sororities reported significantly higher levels of Discussions with Diverse Others than did independent students, net the effects of institution and student characteristics. Moreover, the relationship was strongest for fraternity members in both the first year and senior year.

Student Learning Outcomes

The second finding to emerge from this study concerns the relationship between fraternity/sorority membership and student learning outcomes. Previous research examining these relationships produced mixed results, irrespective of whether the learning outcome measures were objective test scores or students' self-reports. Earlier research also found that membership in a fraternity or sorority was more positively related to learning outcomes for students in the second, third, or fourth year of college (Pascarella et al., 2001; Pike, 2003). This finding led Pascarella et al. (2001) to suggest that membership in a fraternity or sorority be deferred until the second semester or second year of college. The findings of the current study sharply contradict the results of previous studies. In general, fraternity/sorority membership was directly, positively, and significantly related to learning gains for first-year students but not for seniors. Significant positive indirect relationships, acting through student engagement, were found for first-year students and seniors in fraternities and sororities. Moreover, the indirect relationships between fraternity/sorority membership and learning gains were generally stronger than the direct relationships.

Fraternity/Sorority Affiliation and Grades

The third finding from the present research is the negative relationship between grades and fraternity/sorority membership. Specifically, membership in a fraternal organization was negatively related to self-reported grades in college for first-year and senior men and senior women. These findings are consistent with the findings of studies by Asel et al. (2009) and Bureau et al. (2011), and differed sharply from studies showing positive relationships between Greek affiliation and grades (Ahren et al., 2014; DeBard & Sacks, 2010) or no relationship at all (Nelson et al., 2006; Pike & Askew, 1990). One surprising finding given research showing a positive relationship between student engagement and grades (Kuh et al., 2006; Pike & Askew, 1990), was the absence of strong, positive indirect relationships between fraternity/sorority membership and grades for first-year students. A second surprising finding was that the negative relationships between fraternity or sorority membership and grades were stronger for seniors than first-year students. This result stands in sharp contrast to the findings of DeBard et al. (2006), DeBard and Sacks (2010), and Nelson et al. (2006). The negative relationships between fraternity/sorority membership and grades were also stronger for men than women.

Replicability Over Time

Last, and relevant to the replicability of data over time, these findings are consistent with results reported by Pike (2000) and demonstrate the importance of student involvement and engagement to learning in college. Social science research is often scrutinized for its lack of replicability (Camerer et al., 2015). In researching the replicability of social science research, Camerer and colleagues found that of 21 studies, only 13 could yield similar findings in reproduction, with one researcher noting "a surprising number [of studies] that fail to replicate" (Harris, 2018). The replication of this current research underscores that fraternity and sorority involvement appears to yield positive outcomes, over time, in involvement and engagement both inside and outside the classroom.

Limitations

The study findings are limited to the items on the *College Student Report*. Research has consistently supported the adequacy and appropriateness of the items used by NSSE. Nevertheless, it is possible that surveys using different item sets could produce different results. More importantly, the results of this research show that membership in a fraternity or sorority is related to a variety of types of student involvement, engagement, and college outcomes. However, this research cannot answer questions regarding why or how fraternity/sorority membership is related to involvement, engagement, and outcomes. Additionally, qualitative research may reveal how fraternities and sororities involve, engage, and affect their members.

Implications for Future Research and Practice

The findings of the current research have important implications for future research. Perhaps the most important implication is that more research is needed. While this research affirms the concepts of fraternity/sorority affiliation and involvement and engagement inside and outside the classroom, the "why" behind this has been an under-researched topic. In addition, given the strong positive relationships between fraternity/sorority membership and a broad array of engagement indicators, it is important to delve into the absence of positive relationships for two engagement indicators—Effective Teaching Practices and Quality of Interactions.

Another finding that deserves additional research is the positive relationship between membership in a fraternity or sorority and diversity experiences. Previous research has found that fraternities and sororities are less diverse and that members of fraternities and sororities interact less frequently with individuals who are different from themselves. Research is needed to better understand why the results of this study indicate fraternity/sorority members interact more frequently with individuals who are different than themselves. One possible explanation is that previous research focused on racial/ethnic diversity, whereas the definition of diversity was broader in this study (e.g., interacting with people from different race/ethnic groups, different religions, different political orientations, etc.). It is also possible that the positive relationships in the current research are an outgrowth of the strong community service orientations of fraternities and sororities. Understanding these results is critical for improving fraternity/sorority members' experiences with diversity, equity, and inclusion.

Unsurprisingly, fraternity/sorority membership is associated with higher levels of student engagement. It is less clear why membership in a fraternity or sorority is associated with lower grades. The generally negative relationship between grades and membership in a fraternity or sorority is particularly surprising, given the positive relationship between grades and student engagement (Kuh et al., 2006). Perhaps the negative effect on grades is the result of fraternity/sorority members becoming over-extended. Kuh et al. (1996) suggested that members of fraternities or sororities spend too much time in social activities and too little time in academic pursuits. This explanation does not appear to be appropriate for the findings of this study. Fraternity and sorority members reported higher levels of reflective and integrative learning, student-faculty interaction, and collaborative learning than independent students. If members of fraternities and sororities are becoming over-extended, they appear to be over-committed in academic areas.

The results of the current study also have important implications for the leadership of fraternal organizations, both on college campuses and in national organizations. First and foremost, this research indicates that fraternities and sororities are not antithetical to American higher education values. Fraternities and sororities appear to "walk their talk," encouraging students to become both academically and socially engaged and to value learning. That said, there are several opportunities to improve the fraternity/sorority experiences of college students. It is imperative that fraternal organizations, in cooperation with colleges and universities, take effective steps to address issues related to alcohol and other drug use and abuse, hazing, and sexual misconduct. These issues are not unique to fraternities and sororities. However, fraternities and sororities have become associated with these problems in the public's mind. Failure to address these issues will allow critics who advocate banning fraternities and sororities from college campuses to dominate the conversation (Biddix et al., 2014).

The results of this study also raise questions about deferring membership in a fraternity or sorority until the second semester or the second year of college. Fraternity/sorority membership had larger positive effects for first-year students on most engagement indicators, particularly Collaborative Learning and Student-Faculty Interaction. First-year students also reported greater gains in learning than seniors. These findings are particularly important given that the quality of students' first-year experiences profoundly affects college success (Hunter, 2006). Even the negative relationship between fraternity/sorority membership and grades tended to be smaller for first-year students than seniors. Along this same vein, this study has powerful implications for college and university administrators as they consider both retention and graduation of students. At a time when student enrollment is on the precipice of steep decline (Grawe, 2018), fraternities and sororities provide a proven student retention tool. Moreover, related to deferring recruitment to the second semester of a student's first year or into sophomore year, such actions appear counterintuitive to higher education interests as involvement and engagement outcomes were even stronger for first-semester, first-year students than seniors. This statement does not suggest that harmful behaviors are overlooked; rather, if facing conduct of concern, administrators have an opportunity to focus on what is working in fraternal membership and address behavioral concerns through educational means. This is underscored by work in the area of system-wide suspensions or moratoriums, which are pauses in chapter operations. While popular among administrators, many would argue this type of sanctioning is antithetical to educational outcomes and has not been demonstrated to achieve desired outcomes. One study found that moratoriums on two campuses led to unintended consequences of eliminating those things that were working well within organizations and disrupting higher-risk behaviors for only a brief period of time and, perhaps, increasing overall higher-risk behaviors (Esquenazi, 2021). In other words, this type of sanctioning simply places students into the general population of students without actually addressing behaviors of concern.

Although the findings of this study do not appear to support system-wide suspensions or deferred recruitment, they do raise concerns about fraternity/sorority membership and academic performance (i.e., grades). One possible explanation for this negative relationship is that fraternity/sorority members become over-extended due to their high levels of curricular and co-curricular engagement. It may be worthwhile for national organizations and local chapters to consider using support systems similar to those provided for college athletes. Like college athletes, members of fraternities and sororities must deal with multiple demands on their time. The support systems developed to help athletes cope with and manage demands on their time may be useful for fraternity/sorority members (Rothschild-Checroune et al., 2013). Given the positive influences of membership in a fraternity or sorority, poor academic performance must not offset those benefits.

CONCLUSION

All too often, it is taken for granted that fraternities and sororities are social organizations that do little to help their members succeed academically and thrive both in and out of class. The present research calls this conventional wisdom into question. Based on the findings of this study, fraternity, and sorority members are more involved and engaged in both curricular and co-curricular activities and report greater learning gains than students who are not members of fraternities or sororities. Although fraternity/sorority members report having lower grades than non-members, it does not appear that these lower grades are a result of a lack of effort in their academic studies. The plethora of studies about fraternities and sororities that focus on the use of alcohol and other drugs, hazing behaviors, and sexual misconduct are instructive for educators as they work with this sub-group of college students. Equally instructive are outcomes that assist educators in understanding positive outcomes related to fraternity and sorority life. Such outcomes, replicable over time and across large-scale data sets, are instructive to educators. Moving forward, colleges and universities, national organizations, and local fraternity/sorority chapters should address negative aspects of fraternity/sorority life so that students can more fully realize the many benefits of being a fraternity or sorority member.

REFERENCES

Ahren, C., Bureau, D., Ryan, H. G., & Torres, V. (2014). First to go to college and first-to "go Greek:" Engagement in academically oriented activities by senior year first generation students who are fraternity/sorority members. *Oracle: The Research Journal of the Association of Fraternity/Sorority Advisors, 9*(1), 1-18.

Asel, A. M., Seifert, T. A., & Pascarella, E. T. (2009). The effect of fraternity/sorority membership on college experiences and outcomes: A portrait of complexity. *Oracle: The Research Journal of the Association of Fraternity/Sorority Advisors, 4*(2), 1-15.

Astin, A. W. (1970a). The methodology of research on college impact (I). *Sociology of Education, 43,* 223-254.

Astin, A. W. (1970b). The methodology of research on college impact (II). *Sociology of Education, 43,* 437-450.

Astin, A. W. (1977). *Four critical years.* San Francisco: Jossey-Bass.

Astin, A. W., (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Development, 25,* 297-307.

Astin, A. W. (1993). *What matters in college? Four critical years revisited.* San Francisco: Jossey-Bass.

Baird, L. L. (1976). *Using self-reports to predict student performance.* College Entrance Examination Board Research Monograph No. 7. New York: College Entrance Examination Board (ERIC Document Reproduction Service, no. ED 126 116).

Berdie, R. F. (1971). Self-claimed and tested knowledge. *Educational and Psychological Measurement, 31,* 629–636.

Biddix, J. P., Matney, M. M., Norman, E. M., & Martin G. L. (2014). *The influence of fraternity and sorority involvement: A critical analysis of research* (1996-2013) (ASHE Higher Education Report, vol. 39, no. 6). New York: John Wiley.

Bowman, N. A., & Hill, P. L. (2011). Measuring how college affects students: Social desirability and other potential biases in college student self-reported gains. In S. Herzog & N. A. Bowman (Eds.), *Validity and limitations of college student self-report data* (New Directions for Institutional Research Series, no. 150, pp. 73–86). San Francisco: Jossey-Bass.

Bowman, N. A., & Seifert, T. A. (2011). Can college students accurately assess what affects their learning and development. *Journal of College Student Development, 52,* 270–290.

Bureau, D., Ryan, H. G., Ahern, C., Shoup, R., & Torres, V. (2011). Student learning in fraternities and sororities: using NSSE data to describe members' participation in educationally meaningful activities in college. *Oracle: The Research Journal of the Association of Fraternity/Sorority Advisors, 6*(1), 1-22.

Camerer, C., Dreber, A., Forsell, E., Ho, T., Huber, J., Johannesson, M., Kirchler, M., Almenberg, J., Altmejd, A., Chan, T., Heikensten, E., Holzmeister, F., Imai, T., Isaksson, S., Nave, G., Pfeiffer, T., Razen, M., & Wu, H. (March 2016). Evaluating replicability of laboratory experiments in economics. *Science, 351*(6280), 1433-1436.

Cogswell, C. A., Fosnacht, K., Maynen, D. M., Veldkamp, S., & Pike, G. R. (2020). Development and use of the "Fraternity and Sorority Experiences Survey." In P. A. Sasso, J. P. Biddix, & M. L. Miranda (Eds.), *Foundations, research, and assessment of fraternities and sororities: Retrospective and future considerations* (pp. 181-192). Gorham, ME: Myers Education Press.

DeBard, R., Lake, T., & Binder, R. S. (2006). Greeks and grades: The first-year experience. *Journal of Student Affairs Research and Practice, 43*(1), 56-68.

Debard, R., & Sacks, C. (2010). Fraternity/sorority membership: Good news about first-year impact. *Oracle: The Research Journal of the Association of Fraternity/Sorority Advisors, 5*(1), pp. 12-23.

Dugan, J. P. (2013). Patterns of group involvement experiences during college: Identifying a taxonomy. *Journal of College Student Development, 54,* 229-246.

Dumont, R. G., & Troelstrup, R. L. (1980). Exploring relationships between objective and subjective measures of instructional outcomes. *Research in Higher Education, 12,* 37–51.

Esquenazi, C. (2021). *An exploration of campus-wide pauses of fraternity and sorority communities: Utilizing a four-frame approach.* Electronic Theses and Dissertations. https://stars.library.ucf.edu/etd2020/67

Grawe, N. (2018). *Demographics and the demand for higher education.* Baltimore, MD: Johns Hopkins University Press.

Gregory, D. E. (2020). Forward: Looking back. In P. A. Sasso, J. P. Biddix, & M. L. Miranda (Eds.), *Foundations, research, and assessment of fraternities and sororities: Retrospective and future considerations* (pp. xv-xix). Gorham, ME: Myers Education Press.

Hamilton, L. T., & Cheng, S. (2018). Going Greek: The organization of campus life and class-based graduation gaps. *Social Forces,* 93, 977-1008.

Harris, R. (August 2018). In psychology and other social sciences, many studies fail the reproducibility test. *All Things Considered.* https://www.npr.org/sections/health-shots/2018/08/27/642218377/in-psychology-and-other-social-sciences-many-studies-fail-the-reproducibility-te.

Hayek, J. C., Carini, R. M., O'Day, P. T., & Kuh, G. D. (2002). Triumph or tragedy: Comparing student engagement levels of members of Greek-letter organizations and other students. *Journal of College Student Development, 43,* 643-663.

Hevel, M. S., Martin G. L., Weeden, D. D., & Pascarella, E. T. (2015). The effects of fraternity and sorority membership in the fourth year of college: A detrimental or value-added component of undergraduate education? J*ournal of College Student Development, 56,* 456-470.

Hunter, M. S. (2006). Fostering student learning and success through first-year programs. *Peer Review, 8*(3), 4-7.

Kuh, G. D. (2001). *The National Survey of Student Engagement: Conceptual framework and overview of psychometric properties.* Bloomington, IN: Indiana University Center for Postsecondary research. https://scholarworks.iu.edu/dspace/handle/2022/24268.

Kuh, G. D., Gonyea, R. M., & Palmer, M. (2006). *The disengaged commute student: Fact or fiction?* Bloomington, IN: Indiana University Center for Postsecondary Research. http://www.nsse.indiana.edu/pdf/commuter.pdf.

Kuh, G. D., Hayek, J. C., Carini, R. M., Ouimet, J. A., Gonyea, R. M., & Kennedy, J. (2001). *NSSE technical and norms report.* Bloomington, IN: Indiana University Center for Postsecondary Research. https://scholarworks.iu.edu/dspace/handle/2022/24158.

Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006, July). *What matters to student success: A review of the literature.* Commissioned report for the National Symposium on Postsecondary Student Success: Spearheading a Dialogue on Student Success. Washington, DC: National Postsecondary Education Cooperative. https://nces.ed.gov/npec/pdf/Kuh_Team_Report.pdf.

Kuh, G. D., Pascarella, E. T., & Wechsler, H. (1996). The questionable value of fraternities. *Chronicle of Higher Education, 42*(32), A68.

Joyce, B. (2020). New member education. In P. A. Sasso, J. P. Biddix, & M. L. Miranda (Eds.), *Foundations, research, and assessment of fraternities and sororities: Retrospective and future considerations* (pp. 1-13). Gorham, ME: Myers Education Press.

Martin G. L., Garsh, B., & Hevel, M. S. (2020). Contributing to learning and development? Exploring the impact of fraternity and sorority membership. In P. A. Sasso, J. P. Biddix, & M. L. Miranda (Eds.), *Foundations, research, and assessment of fraternities and sororities: Retrospective and future considerations* (pp. 193-203). Gorham, ME: Myers Education Press.

National Center for Education Statistics (n.d.) *About IPEDS.* Washington, DC: National Center for Education Statistics. https://nces.ed.gov/ipeds/about-ipeds.

National Survey of Student Engagement (2017a). *Engagement insights: Survey findings on the quality of undergraduate education.* Bloomington, IN: Indiana University Center for Postsecondary Research. http://nsse.indiana.edu/NSSE_2017_Results/index.cfm.

National Survey of Student Engagement (2017b). *NSSE 2017 engagement indicators: Internal consistency statistics by class level.* Bloomington, IN: Indiana University Center for Postsecondary Research. http://nsse.indiana.edu/2017_institutional_report/pdf/EI%20Intercorrelations%202017.pdf.

National Survey of Student Engagement (2018). *NSSE engagement indicators and high-impact practices.* Bloomington, IN: Indiana University Center for Postsecondary Research. http://nsse.indiana.edu/pdf/EIs_and_HIPs_2015.pdf.

Nelson, S. M., Halpern, S., Wasserman, T. H., Smith, C., & Graham, P. (2006). Effects of fraternity/sorority membership and recruitment semester on GPA and retention. *Oracle: The Research Journal of the Association of Fraternity/Sorority Advisors, 2*(1), 61-73.

Ouimet, J. A., Bunnage, J. B., Carini, R. M., Kuh, G. D., & Kennedy, J. (2004). Using focus groups to establish the validity and reliability of a college student survey. *Research in Higher Education, 45,* 233-50.

Pace, C. R. (1980). Measuring the quality of student effort. *Current Issues in Higher Education, 2,* 10–16.

Pace, C. R. (1985). *The credibility of student self-reports.* Los Angeles: UCLA Center for the Study of Evaluation. (Eric Document Reproduction Service, no. ED 266 174).

Park, J. J., & Kim, Y. K. (2013). Interracial friendship and structural diversity: Trends for Greek, religious, and ethnic student organizations. *The review of higher education, 37*(1), 1-24.

Pascarella, E. T., (1986). College environmental influences on learning and cognitive development: A critical review and synthesis. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (vol.1, pp. 1-62). New York: Agathon.

Pascarella, E. T. (2001). Using student self-reported gains to estimate college impact: A cautionary tale. *Journal of College Student Development, 42,* 488–492.

Pascarella, E. T., Edison, M. I., Whitt, E. J., Nora, A., Hagedorn, L. S., & Terenzini, P. T. (1996). Cognitive effects of Greek affiliation during the first year of college. *Journal of Student Affairs Research and Practice, 33*, 242-259.

Pascarella, E. T., Flowers, L., & Whitt, E. J. (2001). Cognitive effects of Greek affiliation in college: Additional evidence. *Journal of Student Affairs Research and Practice, 38,* 280-301.

Pascarella, E. T., Seifert, T. A., & Blaich, C. (2009). How effective are the NSSE benchmarks in predicting important educational outcomes? *Change, 42*(1), 16–22.

Peck, A., (ed.), Cramp, C., Croft, L., Cummings, T., Fehring, K., Hall, D., Hnatusko, P. & Lawhead, J. (2015). Considering the impact of participation and employment of students in campus activities and collegiate recreation on the development of the skills employers desire most: A joint whitepaper from the National Association for Campus Activities and Leaders in Collegiate Recreation: Columbia, SC and Corvallis, OR, NACA and NIRSA, publishers.

Pike, G. R. (1995). The relationship between self-reports of college experiences and achievement test scores. *Research in Higher Education, 36,* 1–21.

Pike, G. R. (2000). The influence of fraternity or sorority membership on students' college experiences and cognitive development. *Research in Higher Education, 41,* 117-139.

Pike, G. R. (2003). Membership in a fraternity or sorority, student engagement, and educational outcomes at AAU public research universities. *Journal of College Student Development, 44,* 369-382.

Pike, G. R., & Askew, J. W. (1990). The impact of fraternity or sorority membership on academic involvement and learning outcomes. *Journal of Student Affairs Research and Practice, 28*(1), 13-19.

Pohlmann, J. T., & Beggs, D. L. (1974). A study of the validity of self-reported measures of academic growth. *Journal of Educational Measurement, 11*(2), 115–119.

Porter, H. D. (2012). Interactional diversity opportunities through involvement: Fraternity and sorority student leaders' experiences. *Oracle: The Research Journal of the Association of Fraternity/Sorority Advisors, 7*(1), 54-69.

Porter, S. R. (2011). Do college student surveys have any validity? *Review of Higher Education, 35,* 45–76.

Rocconi, L. M., Dumford, A. D., & Butlet, B. (2020). Examining the meaning of vague quantifiers in higher education: How often is "Often"? *Research in Higher Education, 61,* 229-247.

Rothschild-Checroune, E., Gravelle, F., Dawson, D., & Karlis, G. (2013). Balancing academic and athletic time management: A qualitative exploration of first-year student athletes' university football experiences. *Loisir et Societe, 35,* 243-261.

Routon, P. W., & Walker, J. K. (2014). The impact of Greek organization membership on collegiate outcomes: Evidence from a national survey. *Journal of Behavioral and Experimental Economics, 49,* 63-70.

Routon, P. W., & Walker, J. K. (2016). Attitude change and self-perceived skill gains from collegiate Greek organization membership. *Social Science Quarterly, 97,* 807-822.

Routon, P. W., & Walker, J. K. (2019). Post-baccalaureate health, family, and educational outcomes of fraternity and sorority members. *Review of Higher Education, 43,* 427-455.

Sarzosa, M. (2012). *Introduction to robust and clustered standard errors.* Unpublished manuscript, University of Maryland, College Park, MD. http://econweb.umd.edu/~sarzosa/teach/2/Disc2_Cluster_handout.pdf.

StataCorp (2019). *Stata16.* College Station, TX: StataCorp.

Valiga, M. J. (1986). *The accuracy of self-reported high school course and grade information* (ACT Research Report Series 87-1). Iowa City, IA: American College Testing.

Walker, J. K., Martin, N. D., & Hussey, A. (2015). Greek organization membership and collegiate outcomes at an elite, private university. *Research in Higher Education, 56,* 203-227.

Wilder, D. H., Hoyt, A.E., Doren, D. M., Hauck, W. E., & Zettle, R. D. (1978). The impact of fraternity or sorority membership on values and attitudes. *Journal of College Student Development, 19*, 445-449.

Wilder, D. H., Hoyt, A. E., Surbeck, B. S., Wilder, J. C., & Carney, P. I. (1986). Greek affiliation and attitude change in college students. *Journal of College Student Development, 27*, 510-519.

Wolf-Wendel, L., Ward, K., & Kinzie, J. (July/August 2009). A tangled web of terms: The overlap and unique contribution of involvement, engagement and integration to understanding college student success. *Journal of College Student Development, 50*(4), 407-428.

