

STUDENT LEARNING IN FRATERNITIES AND SORORITIES: USING NSSE DATA TO DESCRIBE MEMBERS' PARTICIPATION IN EDUCATIONALLY MEANINGFUL ACTIVITIES IN COLLEGE

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The benefits and challenges for college students involved in social fraternities and sororities have long been sources of heated discussion among higher education constituents. A liberal education is meant to incorporate elements of critical thinking, diverse experiences, and challenging and enriching interactions with peers and educators. Past research indicates that involvement in a fraternity or sorority has had some positive effect in these areas, especially as students persist at their chosen institutions. This study uses data from the National Survey of Student Engagement (NSSE) to explore indicators of student learning among senior members of social fraternities and sororities. Regression analyses controlling for conditional variables indicated that students in these groups report higher involvement in critical developmental practices and larger gains in important educational areas than their unaffiliated counterparts. Limitations and implications of the study are discussed.

Higher education constituents are concerned with how learning occurs within complex campus environments (Association of American Colleges and Universities [AAC&U], 2007; Keeling, 2004; Kuh, 2001a; Strange & Banning, 2001). Therefore, increased attention has been given to measuring aspects of college that influence student learning (Carini, Kuh, & Klein, 2006; Kuh, 2001a, 2003; Palomba & Banta, 1999; Strange & Banning, 2001). The National Survey of Student Engagement (NSSE) is one assessment tool that examines how institutions promote engagement in educational practices that contribute to student learning and the extent of participation in these activities (Kuh, 2001b; NSSE, 2010b).

Student affairs professionals must consider strongly their responsibility to advance student learning (Dungy, 2009; Keeling, 2004; Sandeen, 2006; Sandeen & Barr, 2006). One way professionals can consider their responsibility is by emphasizing assessment of student learning in order to create and support positive student learning conditions (Green, Jones, & Aloi, 2008; Schuh & Upcraft, 2001; Upcraft, 2003). The variety of interpretations made about the influences of being in a fraternity or sorority requires that professionals share in this responsibility; specifically documenting how learning occurs in the organizations for which they provide oversight (Perlow, 2007; Schuh & Upcraft, 2001; Strayhorn & Colvin, 2006; Vestal, 2007; Whipple & Sullivan, 1998).

The literature on fraternities and sororities varies on its interpretation of the educational benefits of membership in these organizations (Asel, Seifert, & Pascarella, 2009; Hayek, Carini, O'Day, & Kuh, 2002; Nelson, Halperin, Wasserman, Smith, & Graham, 2006; Pascarella, Flowers, & Whitt, 2001; Pike, 2000, 2003). Student affairs professionals are often asked to defend how fraternity/sorority membership supports the mission of higher education, particularly helping students learn (Strayhorn & Colvin, 2007; Whipple & Sullivan, 1998; Winston & Saunders,

1987). To respond to and educate participants about such discussions, fraternity/sorority professionals should be familiar with data that demonstrate fraternity/sorority member engagement in the learning process. NSSE is one instrument that provides a snapshot of the engagement necessary to promote learning (Bureau & Ryan, 2008; Hayek et al., 2002; Pike, 2003).

During 2006, 2007, and 2008, NSSE was administered on almost 1,000 different campuses (NSSE, 2010a), many hosting fraternity/sorority communities. Previous articles used NSSE data to describe characteristics of fraternity/sorority members and explained how the tool can provide helpful insight into this population of students (Bureau & Ryan, 2008; Hayek et al., 2002; Pike, 2003). This article adds to this research base by further explaining how fraternity/sorority members compare to non-members in reports of engagement during the senior year.

Review of Literature

This section is an overview of relevant literature in two areas: the assessment of student affairs' contributions to learning and fraternities and sororities as learning environments. Examples of assessment of the fraternity/sorority experience are also provided. The literature reflects varying views as to how fraternity/sorority membership supports student learning.

Assessing Student Learning through Student Affairs

Student learning has been explained as the primary outcome of participation in higher education (AAC&U, 2007; Kuh, 2001a, 2003). One means to support student learning is to increase the extent to which students are engaged. Engagement as a construct examines student participation in learning-oriented activities (Carini et al., 2006; Kuh, 2001a, 2003; Wolf-Wendel, Ward, & Kinzie, 2009). According to Wolf-Wendel et al.:

The concept of student engagement represents two key components. The first is the amount of time and effort students put into their studies and other activities that lead to the experiences and outcomes that constitute student success. The second is how institutions of higher education allocate their human and other resources and organize learning opportunities and services to encourage students to participate in and benefit from such activities (2009, pp. 412-413).

Basically, the more students engage in meaningful learning experiences, the more likely they are to be successful in college and eventually graduate (AAC&U, 2007; Astin, 1993; Carini et al., 2006; Zhao & Kuh, 2004). Engagement builds on involvement theory (Astin, 1993) and places a larger emphasis on *how* desired educational processes and outcomes occur. Institutions are viewed as pivotal in influencing the type of experiences students have versus simply leaving students' experiences to chance (Wolf-Wendel et al., 2009).

Learning experiences occur both in and out of the classroom. Engaging students in out-of-classroom activities that complement in-class learning has been the role of student affairs practitioners for over 100 years (American Council on Education, 1994a, 1994b; Evans & Reason, 2001; Nuss, 2003). As a result, student affairs professionals have demonstrated support for holistic student development (Nuss, 2003). Recently, there has been increased attention on how student development encompasses learning (Bloland, Stamatakos, & Rogers, 1996; Dungy,

2009; Keeling, 2004; Malaney, 2002). Student affairs functions can become more aligned with objectives of higher education with an emphasis on learning in the co-curriculum (Dungy, 2009; Keeling, 2004).

Not only should student affairs practitioners focus on supporting student learning, they should be concerned with its assessment (Dungy, 2009; Green et al., 2008; Keeling, 2004; Sandeen & Barr, 2006; Schuh & Upcraft, 2001; Upcraft, 2003). Assessment practices should be holistic and based on specific attributes of student affairs that support student learning (Green et al., 2008; Upcraft, 2003). A proposed model includes developing student-learning outcomes, developing assessment measures, identifying participants, conducting assessment, analyzing results, sharing results, and then using them to enhance future learning (Green et al., 2008). One instrument used in student affairs to assess learning is NSSE (Kinzie, 2006; Schuh, Kuh, Kinzie, & Manning, 2006; Wolf-Wendel et al., 2009; Whitt, 2005).

As NSSE has become a valuable tool to assess important conditions for student success (Kuh, 2003; LaNasa, Cabrera, & Transgrud, 2009; Wolf-Wendel et al., 2009), data should be widely disseminated to student affairs professionals in order to better guide their practice. As part of a holistic assessment process, NSSE results can explain how out-of-classroom activities administered by student affairs professionals contribute to student learning (Kinzie, 2006; Schuh, et al., 2006; Whitt, 2005). Such evidence could enhance the perception of student affairs professionals as valued contributors to the educational enterprise (Sandeen & Barr, 2006; Whitt, 2005). Fraternity/sorority membership is one out-of-classroom experience that can influence student learning. Professionals who serve these organizations have an important role in enacting learning environments (Whipple & Sullivan, 1998).

Fraternity/Sorority Life and Assessing Student Learning

The literature certainly portrays fraternity/sorority members as a complex subpopulation of higher education (Asel et al., 2009; Jelke & Kuh, 2006; Mauk, 2006). Factors that negatively influence student learning such as alcohol misuse and abuse (Wechsler, Kuh, & Davenport, 1996), homogeneity and a lack of consideration for diversity (Asel et al., 2009), and issues of self-esteem and mental illness stemming from inappropriate activities such as hazing (Allan & Madden, 2008; Ellsworth, 2006; Owen, Burke, & Vichesky, 2008) appear to be more prevalent in fraternity/sorority communities than in other aspects of campus life. Hayek et al. (2002) identified that while relationships during the first year of college may be more homogeneous for members, by the senior year, fraternity/sorority members were as likely as non-members to have experiences with diverse others. This finding makes the senior or final year an important point to consider in the development of fraternity/sorority members.

Fraternity/sorority membership appears to contribute positively when it comes to involvement in campus life (Astin, 1993; Hayek et al., 2002), allegiance to alma mater (Kelley, 2008), and participation in activities related to community service and leadership development (Harms, Woods, Roberts, Bureau, & Green, 2006; Hayek et al., 2002; Kelley, 2008; Kimbrough & Hutchinson, 1998). Studies indicate fraternity/sorority members may be collectively as engaged if not more so than non-members (Asel et al., 2009; Blackburn & Janosik, 2009; Hayek et al., 2002; Pike, 2003). Predictors of fraternity/sorority engagement included high school experiences (Asel et al., 2009), reinforcing that entering characteristics likely influence the overall college

experience (Astin, 1993; Strange & Banning, 2001). While Hayek et al. (2002) indicated members reported higher levels of gains than non-members, Asel et al. (2009) found when controlling for high school experiences the impact was less profound. Research on educational gains as a result of engagement during college suggests the fraternity/sorority experience cannot be explained monolithically, and previous findings that denote members as anti-intellectual may be unfounded and heavily dependent on contextual influences (Asel et al., 2009; Hayek et al., 2002; Pascarella et al., 2001; Pike, 2000, 2003).

Examining how members of fraternities and sororities are engaged in learning experiences brings forth additional complexities. The academic pursuits of members have mainly been explained as inferior to non-members. Research indicates student cognitive development may be impeded by membership in fraternities and sororities; however, impact often diminished over the course of the college experience, and members and non-members report similar development by the senior year (Hayek et al., 2002; Pascarella et al., 2001; Pike, 2003). Pike and Askew (1990) found members to demonstrate higher levels of academic effort considering cognitive tests scores; however, members underperformed against non-affiliated peers. McCabe and Bowers (1996) concluded fraternity/sorority members were more likely than non-members to be academically dishonest and engage in cheating. Other studies indicate membership may positively impact retention (Astin, 1993; Nelson et al., 2006).

Environmental factors and institutional culture may influence student learning in the fraternity/sorority context (Blackburn & Janosik, 2009; Hayek et al., 2002; Jelke & Kuh, 2003; Pike, 2003). In a study conducted at one institution, Blackburn and Janosik (2009) surveyed members about perceptions of fraternity/sorority housing as a “learning community.” Using the *Learning Communities Assessment* (Turrentine, 2001), which considers four scales assessing Active Engagement, Learning, Sense of Community, and Identity Development, Blackburn and Janosik (2009) found that while students identified learning as an outcome of participation, the fraternity/sorority facility in which they lived was not perceived as sharing characteristics commonly found in a learning community. Men more often than women identified the facility as possessing learning community traits, which include outcomes such as conversations about learning and the development of critical thinking skills. Of course, the cultural significance of the facility can have a confounding effect on broad examination of learning in a fraternity/sorority, due to wide variation in facility arrangements and usage. In addition to the facility, messages of academic success must be fostered throughout the fraternity/sorority community. Jelke and Kuh (2003) explained that high-performing fraternity/sorority communities express high academic standards as a criterion for chapters: High expectations for academic success start with the university administration and are shared by student leaders in the fraternity/sorority community.

Other studies have brought forth considerations about the extent to which fraternities and sororities promote learning as a result of membership. Pascarella et al. (2001) used data from the National Study of Student Learning (NSSL), following the same fraternity/sorority members over three years, and analyzed the resulting data in three stages. The first stage compared these data against control variables that emphasized characteristics of students prior to college, including academic motivation. The second stage sought to estimate the direct cognitive effects of the experience of being in a fraternity/sorority, considering control variables that emphasized aspects of the college experience such as residence and credit hours taken. In the third stage, the

researchers considered factors that emerged as different across students who happened to be members of fraternities and sororities. This was done to examine if the “magnitude of the impact of Greek affiliation was different for students with different characteristics, or in different institutional contexts” (Pascarella et al., 2001, p. 290). Additional analyses were conducted to examine the scores of students who joined during the first-year of college versus those who joined later.

Examining the results against year in school, Pascarella et al. (2001) found negative effects of fraternity/sorority membership lessened during the second and third year of college. While standard measures of cognitive development continued to be somewhat negative, they were significantly smaller after the first-year and could not be determined to be a result of membership. Pascarella et al. (2001) assert joining during the first-year may be most likely to negatively influence cognitive development and may decrease the likelihood of graduation; however, their findings point to membership as not likely hindering cognitive development at any other point in a student’s college career.

Pike (2000) also used NSSL data from one institution to identify whether differences in reported cognitive development was a direct result of fraternity/sorority membership, an indirect result of involvement, or a result of differences in the students’ background. Fraternity/sorority members scored lower, while not significantly, on cognitive development-related variables such as use of the library but higher on areas in integrating new knowledge or gaining specific skills such as critical thinking. Pike (2000) found members’ higher levels of social involvement directly related to membership in a fraternity or sorority, and higher levels of gains in general cognitive abilities were indirectly related. The influence of membership on cognitive variables could be explained either as a direct, indirect, or random result of membership in the fraternity or sorority depending on diverse control variables. Pike (2000) wrote:

When college experiences were viewed as a consequence of Greek affiliation, membership in a fraternity or sorority had a significant indirect impact on the dimension of cognitive development associated with general learned abilities.... [However] findings of this research indicated fraternity or sorority membership need not have a negative effect on students’ cognitive development during college. Consistent with theory and previous research, membership in a Greek organization was associated with higher levels of involvement, particularly social involvement. Greater involvement, in turn, was associated with greater gains in general cognitive abilities. Although the effects of being in a Greek organization were greater for social involvement, the negative effects of fraternity or sorority membership... were not found in this study. (pp. 135-136)

Pike (2000) explained that results were more strongly oriented to sororities due to an overrepresentation of women in the sample. He also addressed how the study was conducted at one large research institution with over 3,000 students participating in the fraternity/sorority community.

NSSE results may be used to explain student characteristics (Bureau & Ryan, 2008; Hayek et al., 2002; Pike, 2003). The use of NSSE data for examining fraternity/sorority members has been considered in previous research (Hayek et al, 2002; Pike, 2003). Hayek et al. (2002) compared members to non-members to consider views on the college environment, reported gains, and experiences based on academic year, facility, and across different institutional characteristics.

The sample consisted of over 42,000 first-year and senior students, evenly distributed. Women were overrepresented in the sample (68%). Holistically, members were found to be more engaged than non-members on most measures including gains in diversity, practical competence, general education, involvement in classroom-related activities, and overall engagement in the college environment. Non-members reported more time spent preparing for class than members. This was consistent across gender and class standing. Residence in the fraternity/sorority facility was not found to negatively impact member engagement in learning experiences and to some extent encouraged engagement in learning-oriented activities. Such findings counter previous research that indicates members may be less engaged in academically oriented activities (Pascarella et al., 2001) and supports Pike (2000, 2003) who concluded fraternity/sorority membership appears to have at least a minimal positive benefit on engagement in curricular and co-curricular activities.

Using NSSE data, Pike (2003) described fraternity/sorority member engagement in the context of public research universities to explain the connection between membership in a fraternity or sorority, student engagement, and educational outcomes. He found fraternity/sorority membership had a weak positive relationship with engagement and gains in learning, but demonstrated higher means across the survey's five educational benchmarks and gains scales during the senior year (NSSE Benchmarks and Scales are explained in the methodology section below). The effects were stronger for seniors than first-year students. Contrary to previous research (Pascarella et al., 2001), the differences between men and women were less distinctive; however first-year sorority members reported lower levels of active and collaborative learning than fraternity members, and senior-year sorority members had greater mean scores than senior-year fraternity men in the areas of Level of Academic Challenge and Gains in Personal Development benchmarks (Pike, 2003).

These few studies stand out because it has been difficult to truly assess student learning in fraternities and sororities. Reasons include students' entering perceptions of the environment and predispositions about what it means to experience college (Astin, 1993; Schuh & Upcraft, 2001). Additionally, the nature of these organizations is such that students have varied levels of involvement and investment in their functions and experience the fraternity or sorority as one part of their overall college experience. While not a direct measure, student characteristics can inform how higher education constituents view environments, such as those found in fraternities and sororities, as influencing student learning (Astin, 1993; Kuh, 2003; Kuh & Whitt, 1988; Strange & Banning, 2001). Bearing this in mind, NSSE results provide insight into fraternity/sorority member engagement in learning-oriented activities.

Methods

Overview of the Instrument

This study used the National Survey of Student Engagement to describe engagement in learning-oriented activities by fraternity/sorority members. NSSE is a tool for college/university administrators to examine conditions that contribute to learning and student success. The survey measures students' participation in educational activities that prior research determined is positively related to desired educational outcomes (Astin, 1993; Chickering & Gamson, 1987; Kuh, 2001a; 2001b, 2003; Pascarella & Terenzini, 2005). NSSE is specifically designed to assess

the level of engagement in and perceived gains from students' experiences in college (Kuh, 2001b). While an indirect measure, engagement data has often been used as a "proxy" for learning (Carini et al., 2006).

The NSSE questionnaire, *The College Student Report*, focuses on student participation in effective educational practices. For example, students are asked to identify how often they make class presentations, participate in a community-based project as a part of a course, and work with faculty members on activities other than coursework. In addition, students identify the degree to which their courses emphasize such different mental processes as memorizing, evaluating, and synthesizing; how many hours per week they spend studying, working, or participating in co-curricular activities; as well as how they characterize the nature and quality of their relationships with other students, faculty, and administrators. The survey is available at the NSSE website, www.nsse.iub.edu.

The survey is administered annually each spring using Web-based and paper modes to random samples of first-year and senior-year students enrolled at institutions during the fall and spring semesters. Therefore, all survey participants have had enough experience with the institution to provide an informed judgment. In general, equal numbers of first-year and senior students are sampled for each institution during the spring semester. The survey is not anonymous, and individualized links are distributed to students via the Center for Survey Research at Indiana University (NSSE, 2010b).

NSSE has been administered at almost 1,500 different institutions since 2000 (NSSE, 2010a). Results are supplied to institutions in a raw data form as well as through several reports. For many of these institutions, NSSE has informed institutional practice and improvement relative to students' curricular and co-curricular pursuits and the accomplishment of widely held learning outcomes (AAC&U, 2007; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2007; NSSE, 2010a).

NSSE examines engagement in activities that have been deemed educationally enriching in previous research (Chickering & Gamson, 1987; Pascarella & Terenzinni, 2005). However, it does not assess specific learning outcomes. Kuh (2003) writes, "Although NSSE does not directly assess learning outcomes, the results from the survey point to areas where colleges are performing well in enhancing learning, as well as to aspects of the undergraduate experience that could be improved" (p. 26). While not a direct measure of student learning, student self-perceptions provide insight into the college experience and can be viewed as valid when meeting five conditions: (a) respondents have the information to answer questions, (b) questions are phrased clearly, (c) questions refer to activities in which the respondent recently participated, (d) respondents believe questions merit a serious and thoughtful response, and (e) answering the questions does not jeopardize the privacy and safety of the respondent or encourage them to respond in what they believe to be socially desirable answers (Hayek et al., 2002; Pike, 2003). NSSE was created to meet these conditions (Carini, Hayek, Kuh, Kennedy, & Ouimet, 2003; Hayek et al., 2002) and has been examined for reliability and validity (Carini et al., 2006; LaNasa et al., 2009; Pascarella, Seifert, & Blaich, 2010). The data for this study came from the 2006, 2007, and 2008 NSSE administrations.

Selection of Data and Variables

This study used one survey item to identify groups: Are you a member of a social fraternity or sorority? (Yes/No). Data was based on self-reports, and no effort was made to confirm membership. It is important to note that NSSE asks strictly about membership in a “social” fraternity or sorority. As the typology of fraternal organizations is much more complex (e.g., service, cultural, professional), there may have been students who did not identify as members, yet there is confidence that students involved with traditional fraternity and sororities would have interpreted this in the affirmative. Because most campuses have different schedules for intake and recruitment of new members, the authors wanted to explain engagement levels of members at a time during which they were likely to have been members for at least a year, therefore only seniors were selected. Because the authors wanted to compare members to non-members within the same general contexts, non-members at institutions at which there was not a population of at least 10 self-reported fraternity/sorority members were excluded from the sample. 26,103 senior respondents self-identified as members, while 153,068 students did not. There are 543 different institutions in the sample representing a range of Carnegie Classifications. Because this article sought to explain senior year members broadly, we did not analyze at the institutional variable.

Two categories of outcome measures were used: scores on student engagement scales and self-reported gains in different desired areas. Because some of these measures combine items that have different response sets and value ranges, the authors converted each item into a scale of 0 to 100. Afterward, scale scores were computed by taking the mean of the component items as long as the student had answered at least three-fifths of the items.

The student engagement scales included all five of NSSE’s benchmarks of effective educational practice and three deep learning subscales. As reported by Shoup, Gonyea, and Kuh (2009), benchmarks include:

1. Academic Challenge: An eleven-item measure ($\alpha = 0.72$) of the challenge of the institution’s intellectual and creative work;
2. Active and Collaborative Learning: A seven-item measure ($\alpha = 0.66$) of the degree to which students are actively involved in their learning, individually and working with others;
3. Student-Faculty Interaction: A six-item measure ($\alpha = 0.73$) of the degree to which students work with faculty members inside and outside the classroom;
4. Enriching Educational Experiences: A twelve-item measure ($\alpha = 0.63$) of the degree to which students participate in complementary learning opportunities;
5. Supportive Campus Environment: A six-item measure ($\alpha = 0.77$) of students’ feeling that their college is committed to their success.

Scales, categorized as “Deep Approaches to Learning” (NSSE, 2010f) include:

1. Higher-Order Learning: A four-item measure ($\alpha = 0.83$) of the extent to which a student feels their courses emphasize advanced thinking skills;
2. Integrative Learning: A five-item measure ($\alpha = 0.71$) that centers around the amount students participate in activities that require integrating ideas from various sources;
3. Reflective Learning: A three-item measure ($\alpha = 0.81$) of students’ investigating their own thinking process.

As reported by Shoup, Gonyea, & Kuh (2009), self-reported gains areas include:

1. Practical Competence: A five-item measure ($\alpha = 0.81$) of students' ability to be economically independent in today's post-college job market;
2. Personal and Social Development: Seven items ($\alpha = 0.87$) representing outcomes that characterize interpersonally effective, ethically grounded, socially responsible, and civic-minded individuals;
3. General Education: Four items ($\alpha = 0.84$) that are earmarks of a well-educated person;
4. Grades: A single, self-reported item that ranges from C- or lower to A.
5. Satisfaction: A two-item measure of students' satisfaction with their collegiate experience ($\alpha = 0.79$) represented by students' rating of their entire educational experience at their institution and the likelihood that they would attend the same institution if they were to start over again.

NSSE Benchmarks and Scales convey overall performance in identified categories of engagement. Scales are widely understood to be psychometrically sound (NSSE, 2010d; Pike, 2006) and are useful for NSSE clients (Kuh et al., 2007; NSSE, 2010d, 2010e). There are varying perceptions regarding the utility and statistical properties of the benchmarks; however, most agree the benchmarks are good constructs on which to examine institutional effectiveness in determining learning-oriented activities (Kuh et al., 2007; Pascarella et al., 2010; NSSE, 2010c; Pike, 2006). An overview of items included in the NSSE Benchmarks and Scales can be found at http://nsse.iub.edu/_/?cid=368.

Analysis and Results

Means were calculated for each group on the self-reported gains and engagement scales. To test the significance of differences between fraternity/sorority members and non-members and gauge how meaningful those differences were, effect sizes were calculated for the mean difference both with and without the addition of control variables. Numerous student characteristics were controlled in the analyses including gender, race, and first-generation college student status. The fraternity/sorority group was selected as the comparison group. Regression analyses were performed first without and then with controls on each item to estimate if effects of the covariates influenced the basic relationships between group type and the dependent measures. In the regression models, all non-dichotomous variables were standardized prior to entry. As a result, in each model, the unstandardized coefficient was an estimate of the effect size. Results are provided in Tables 1 (NSSE Benchmarks), 2 (Deep Learning Scales), and 3 (Self-Reported Gains).

Table 1
Scores on NSSE Benchmarks Comparing Non-Members to Fraternity/Sorority Members

Scale	Group	Descriptive Statistics				No Controls		Controls	
		N	Mean	S.D.	Std. Error	p	Effect Size	p	Effect Size
Academic Challenge	Non-Member	153,067	56.1	13.91	0.04				
	Member	26,102	58.3	13.75	0.09	***	.153	***	.122
Active and Collaborative Learning	Non-Member	152,205	50.5	16.77	0.04				
	Member	25,949	54.2	16.73	0.10	***	.217	***	.174
Student-Faculty Interaction	Non-Member	153,068	42.3	20.84	0.05				
	Member	26,103	48.0	21.47	0.13	***	.272	***	.191
Enriching Educational Experiences	Non-Member	152,932	40.6	17.59	0.04				
	Member	26,082	50.1	16.70	0.10	***	.531	***	.350
Supportive Campus Environment	Non-Member	153,068	57.1	18.85	0.05				
	Member	26,103	61.3	18.45	0.11	***	.224	***	.160

In all five benchmarks, mean scores were significantly higher ($p < .05$) for members than non-members. This was consistent with and without controls, though when controls were applied the effect size, which is the strength of the relationship between two variables, in this case members and non-members, went down. Even when effect size lessened, there was still a finding of significant differences favoring members over non-member.

Effect size was “small” for each benchmark with and without controls, except for Enriching Educational Experiences, which has a “medium” effect size with and without controls. While the “size” of effect must be contextualized in studies, Cohen’s D is often used. Cohen’s D explains small as .2, medium as .5, and large as .8. Administrators of the NSSE have examined the utility of Cohen’s D given the large sample size of the survey and has determined effect size might be referenced as .1 for small, .3 for medium, .5 for large, and .7 for very large. NSSE’s recommendations for effect size yield some difference given the results of this research. For reference view www.nsse.iub.edu/pdf/effect_size_guide.pdf.

Table 2
Scores on NSSE Deep Learning Scales Comparing Non-Members to Fraternity/Sorority Members

Scale	Group	Descriptive Statistics				No Controls		Controls	
		N	Mean	S.D.	Std. Error	<i>p</i>	Effect Size	<i>p</i>	Effect Size
Deep Learning – Higher-Order Thinking	Non-Member	153,068	70.4	22.04	0.06				
	Member	26,103	73.1	21.31	0.13	***	.123	***	.095
Deep Learning - Integrative Learning	Non-Member	153,068	59.8	19.14	0.05				
	Member	26,103	61.7	19.11	0.12	***	.099	***	.085
Deep Learning - Reflective Learning	Non-Member	153,068	59.6	24.03	0.06				
	Member	26,103	60.8	23.51	0.15	***	.051	***	.043

Table 2 reflects the scores of members and non-members across three Deep-Learning scales: Higher Order Thinking, Integrative Learning, and Reflective Learning. For Higher Order Thinking, members had an aggregate mean of 73.1 and non-members scored a 70.4. In Integrative Learning, members' mean was 61.7 while non-members' aggregate mean was 59.8. Members' aggregate mean for Reflective Learning was 60.8 while non-members had an aggregate mean of 59.6. In each scale, scores were significantly higher ($p < .05$) for members than non-members. Effect size was small for each scale. When applied, controls resulted in effect sizes diminishing somewhat; however, significant differences between the member and non-member variable remained.

Table 3
Scores on Self-Reported Gains Comparing Non-Members to Fraternity/Sorority Members

Scale	Group	Descriptive Statistics				No Controls		Controls	
		N	Mean	S.D.	Std. Error	p	Effect Size	p	Effect Size
Gains in Practical Competence	Non-Member	153068	68.3	22.38	0.06				
	Member	26103	71.2	21.61	0.13	***	.134	***	.101
Gains in Personal and Social Development	Non-Member	153068	49.3	24.97	0.06				
	Member	26103	54.5	24.21	0.15	***	.208	***	.145
Gains in General Education	Non-Member	153068	72.2	22.54	0.06				
	Member	26103	75.4	21.59	0.13	***	.143	***	.092
Estimated Numeric GPA	Non-Member	153068	3.4	0.52	0.00				
	Member	26103	3.3	0.49	0.00	***	-.053	***	-.079
Overall Satisfaction	Non-Member	153068	73.0	24.18	0.06				
	Member	26103	77.6	22.93	0.14	***	.191	***	.123

Table 3 reflects the scores of members and non-members across five self-reported gains categories: Gains in Practical Competence, Gains in Personal and Social Development, Gains in General Education, Estimated Numeric GPA, and Overall Satisfaction. For Gains in Practical Competence, members had an aggregate mean of 71.2 and non-members scored a 68.3 mean. In Gains in Personal and Social Development, members' mean was 54.5 while non-members' aggregate was 49.3. Members' aggregate mean for Gains in General Education was 75.4 while non-members had an aggregate mean of 72.2. Members reported lower GPA than non-members (3.3 vs. 3.4). The overall satisfaction of members appears to be higher than non-members (77.6 vs. 73.0). In each scale, there were significant differences between variables. Effect size was small for each scale. When controls were applied, effect sizes decreased but significant differences between the member and non-member variable remained.

Implications and Future Research

Given that engagement influences student learning (Carini et al., 2006; Kuh, 2001a, 2003; Zhao & Kuh, 2004) and fraternity/sorority members in this study self-report higher levels of engagement than non-members, fraternity/sorority members are potentially highly engaged in learning. Across all self-reported items, except for Estimated Numeric GPA, the aggregated self-reported means of members were higher than those reported by non-members'. These differences were significant, yet the results should be considered with the understanding that the effect sizes were small overall except for the Enriching Educational Experiences Benchmark.

The study at hand reinforced aspects of the literature and brought forth new information to explain members' levels of engagement and potentially their involvement in learning centered activities. Findings are consistent with that of Pike (2003) and Hayek et al. (2002). This research expands Pike's (2003) in that it explains fraternity/sorority member self-reported levels of engagement across diverse institutions; however, unlike Pike (2003), the results of this study describe the members and do not explain relationships between membership, engagement, and outcomes. The research built upon that of Hayek et al. (2002), though the sample size was smaller (~26,000 compared to ~42,000) but with more institutions across more years. Even considering that Hayek et al. (2002) used first-year students as well, the difference is quite large given the authors of this study used three years of data versus one year for Hayek et al (2002). It is unclear from this research why this number is so drastically different. This said, this study adds to the small base of research that uses NSSE data to explain characteristics of fraternities and sororities, something fraternity/sorority professionals have been challenged to do in recent years (Bureau & Ryan, 2008).

A surprising significant difference between members and non-members occurred in Academic Challenge. Pike (2003) used NSSE to describe fraternity/sorority members and did not find Academic Challenge to be of significant difference between members and non-members, though the slight difference did favor fraternity/sorority members. His sample examined only a population of public institutions, while this study considered a cross section of 543 public and private institutions. The finding in the research at hand provides evidence that across multiple institutional contexts, fraternity/sorority members report higher levels of academic challenge than non-members.

A less surprising but important finding that there is a medium effect in the area of Enriching Educational Experiences emerged in the study. Results demonstrate that fraternity/sorority members collectively are highly engaged in activities valuable to their learning. Items in this benchmark include levels of involvement in co-curricular activities and community service work. Given the literature on fraternity/sorority member involvement in campus life (Asel et al., 2009; Astin, 1993; Hayek et al., 2002) this is not a surprising difference. It is important to note that conversations with diverse others is emphasized in this benchmark. Though the literature indicates members have less interaction with diverse populations, which decreases opportunities to learn from those different than them (Asel et al., 2009), many inter/national organizations have been making deliberate efforts to promote more opportunities to engage with others across differences. Future research on this population may further explore the Enriching Educational Experiences benchmark to indicate if there are differences between members and non-members

in all items or if the difference in some is so significant that the overall mean of the benchmark could be inflated by some aspects.

Future research using NSSE to explain the experiences of fraternity/sorority members presents additional opportunities. Effect sizes dropped once controls were introduced; this means that demographic variables figure prominently into self-reported measures of engagement in this study. The emphasis in the study was to explain members broadly. Future research on the influence of demographic variables can help inform approaches for attending to the needs of fraternity/ sorority members in diverse contexts. Also, the exclusion of first-year students from this study reflects another difference between this and prior research. Again, the decision to exclude this population was due to the inability to determine when the members joined. This study sought to understand these students' experiences after an extensive period of membership; we chose to select only seniors to participate because we felt this population better reflected the potential influences of fraternity/sororities on learning. Future research may explain first-year levels of engagement, compare both first-year and seniors, and/or examine members longitudinally from the first-year to senior year.

It is vital to examine the predisposition to certain indicators of learning among some students versus others. Therefore, overlaying these and similar data with information on which students might be more likely to join fraternities or sororities could further bear out whether it is the type of student or the fraternity/sorority experience that is chiefly responsible for these greater engagement levels. Using data derived from the Beginning College Student Survey of Engagement (BCSSE, 2011) might support this area of future study.

There are practical implications to consider as a result of these findings. The issues of delayed or deferred recruitment continue to be a hot topic within student affairs. This is often discussed due to perceptions, somewhat based on research, that fraternity/sorority membership may have negative influences on academic performance (DeBard, Lake, & Binder, 2006; Pascarella et al., 2001). Results from this study do not necessarily provide evidence that informs discussion about the timing of recruitment and intake activities (DeBard et al.; 2006; Nelson et al., 2006); however, evidence from this study might be viewed as complementary to earlier findings that as students progress in college, the negative impact of membership diminishes (Asel, et al., 2009; Nelson et al., 2006; Pascarella et al., 2001) and that students in fraternities and sororities tend to be highly engaged throughout the college experience (Hayek et al., 2002; Pike, 2003). For those who are committed to fostering a positive fraternal experience, given students' high engagement and the diminishing negative impact of membership post students' first-year, there is clearly a significant unanswered question that begs a rigorous response. Using data such as these from the NSSE and others found in similar studies cited here as foundation, there should be a suitable methodology for getting at the question of optimal recruitment timing and practice. This question should of course be approached not in terms of benefits accruing to colleges/universities or national fraternities or sororities but to the students involved in these processes.

Another practical implication is the extent of learning that is fostered as a result of the fraternity/sorority experience. It is clear that fraternity/sorority membership is an activity in which students spend significant amounts of time (Astin, 1993; Pascarella et al., 2001; Asel et al., 2009). Time spent on task is likely to have an impact on the student experience (Strange &

Banning, 2001). This is consistent with the literature on campus culture (Kuh & Whitt, 1988), involvement (Astin, 1993), and engagement (Wolf-Wendel et al., 2009). Because time spent on task influences students' experiences, we perceive that being in a fraternity or sorority is going to influence students' overall college experience and levels of engagement, which in turn influences the extent to which students learn. However, an important practical implication is that engagement data is only one part of the learning question. Fraternity/sorority professionals might examine their NSSE data as part of a broader data collection effort to provide evidence that learning does or does not occur in the context of these organizations. When professionals picture their support of members as educational versus only advising, they may prioritize learning as a primary part of their fraternity/sorority advising program and position the function as aligned with broad educational priorities of higher education (Council for the Advancement of Standards, 2009). Of course, it follows that student affairs professionals in all advisory capacities should endeavor to identify where learning is taking place and augment that learning whenever possible.

Limitations

Because we included senior members who were likely to have been engaged for some extended period, we can infer that aspects of the experience in a fraternity or sorority influenced levels of engagement in learning-oriented activities. That is in part why we chose to examine only seniors. That said, these data describe self-reported characteristics about engagement in learning-oriented activities by students who are members of fraternities and sororities. They do not speak to the conditions within a fraternity or sorority that might be beneficial or detrimental to the student learning experience. Persons concerned with the fraternity/sorority experience may use this research to infer environmental conditions, but likely the utility of this research is to serve as a foundation for future research about how the experiences within a fraternity or sorority may directly influence student learning.

Based on other literature, characteristics of seniors are likely to be different than other students (Hayek et al., 2002; Pascarella et al., 2001; Pike, 2000, 2003). It is important to note that due to differing schedules of when students join and the duration for which they have been members when they take the NSSE, we believe NSSE data is likely to be more descriptive of how fraternities and sororities influence engagement levels of seniors than first-year students; however, for institutions who permit first-year students to join during the fall semester, it may be helpful to examine NSSE respondents who are first-year students.

Additionally, the fraternity/sorority experience is not one dimensional. There are various types of fraternities and sororities (Kimbrough, 2003), and the campus culture differs between campuses. NSSE asks one question and specifically inquires about social fraternities and sororities. While there is a population of these organizations that identifies as socially based (e.g., members of the North-American Interfraternity Conference and National Panhellenic Conference), students' perceptions of "social" vary. While we believe most students who responded affirmatively to this question are members of what professionals by and large may identify as the "fraternity/sorority community," some students may have identified themselves as members who are actually members of an academic honor society or a professional organization that is not historically tied to what many perceive as fraternity/sorority life on a college campus (e.g., Phi Beta Kappa).

The data in this study was not examined by institutional type, which may bring forth differences in how institutions create standards which students are expected to achieve (Jelke & Kuh, 2003; Pike, 2000, 2003). Hayek et al. (2002) indicate that NSSE data should be examined with attention to the institutional context in which the fraternity/sorority community exists. Bureau and Ryan (2008) explain how persons with oversight for fraternity/sorority communities may work with institutional partners to examine NSSE data and apply findings in their work. NSSE data is generalizable, but it also must be considered with respect to institutional diversity and a host of environmental factors (Schuh et al., 2006).

Finally, from the literature, we understand fraternity/sorority members to be some of the most engaged students on campus (Astin, 1993; Hayek et al., 2002); however since involvement is likely considered beyond the fraternity/sorority context (e.g., student government, honorary societies, cultural organizations) it is impossible to compartmentalize the fraternity/sorority experience in such a way that explains its positive or negative contributions to student engagement in learning experiences. From this research, we can infer that members, who likely due to the nature of involvement in these organizations have spent a significant amount of time acting in the context of the fraternity or sorority (Pascarella et al., 1996), are more engaged than non-members, but the forums used to promulgate such engagement are still in question. Findings cannot be taken as a declarative statement that the fraternity/sorority experience caused increased engagement; however, this and other research has brought forth evidence to that end (Hayek et al., 2002; Pike, 2000, 2003).

Conclusion

This study sought to describe senior fraternity/sorority members' engagement levels as self-reported. The research at hand built on prior studies that used NSSE data to describe fraternity/sorority members' engagement. Results indicate members are more engaged than non-members. This was consistent across 12 of 13 NSSE scales at significant levels.

It is the hope of the authors that this research begets further research. Additionally, the use of this research by practitioners is particularly important. Fraternity/sorority professionals need to do more than distribute this research and continue to advocate for fraternity/sorority effectiveness in fulfilling the charge of higher education. They should work even more closely with student populations and observe what aspects of their experience are boosting these scores on campuses, and help them use these substantive aspects to increase interest in their worthwhile pursuits. Further, professionals may be able to inform colleagues in other areas of student affairs and beyond of transferable practices within these dynamic student organizations. Doing so could transform the student experience in other clubs, teams, and societies such that the entire institution feels the positive force of the fraternity/sorority community.

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