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EFFECTS OF FRATERNITY/SORORITY MEMBERSHIP AND RECRUITMENT SEMESTER ON GPA AND RETENTION

Suzy M. Nelson, Silas Halperin, Timothy H. Wasserman, Corinne Smith, and Peter Graham

The researchers assess the relationship of fraternity/sorority membership and semester of recruitment on grade point average (GPA) and student retention, adjusting for covariates through sub classification by propensity score. The findings suggest a consistent positive relationship between fraternity/sorority membership and retention and a varying relationship between fraternity/sorority membership and GPA. Fraternity/sorority membership has a negligible effect on GPA over time, with the exception of the recruitment and pledging semester.

Since their founding in the early 1800s, social fraternities and sororities have been a vibrant but often controversial component of the landscape of higher education. According to Helen Horowitz (1987), “the fraternity had great appeal. For those undergraduates with the wealth, inclination, and leisure to join, the new Greek-letter [sic] organizations gave an arena of privacy away from college eyes” (p. 36). Fraternities and sororities are student-centered organizations, often separate from the academic community and disliked by faculty, while drawing support from alumni and parents. “Public opinion strongly favored these new associations. The early fraternities bore much resemblance to Masonic lodges, and retain elements of this in their ritual and symbolism” (Horowitz, p. 38). As more institutions examine ways to connect faculty with students outside of the classroom and enhance student learning, the debate continues over the relevance of fraternities and sororities on today’s campuses. Are these organizations merely an anachronism, propping up outdated notions of class, gender, and racial segregation or can they offer students a rich learning experience?

From the onset, the fraternity/sorority experience has provided students with a welcomed social outlet from the rigors of academic life. Involvement in a fraternity or sorority has long been linked to college satisfaction and retention (Astin, 1977; Pennington, Zvonkovic, & Wilson, 1989; Tinto, 1993). Alexander Astin (1977) found that membership in a fraternity or sorority “has a substantial positive effect on persistence, overall satisfaction with college, and satisfaction with instruction and social life” (p. 222). Despite these positive attributes, fraternities and sororities have been criticized as promoting values that are antithetical to the overall mission of the university and academic agenda (Kuh, Pascarella, & Wechsler, 1996; McCabe & Bowers, 1996; Pascarella, et al., 1996).

Often, the focus of this criticism is the negative influence that fraternity/sorority membership is presumed to have on academic performance (Kuh, et al., 1996). However, research on the academic achievement of fraternity/sorority members is inconsistent. In terms of grade point average (GPA), several early studies found that fraternity/sorority membership does not have a negative impact on academic performance (Baird, 1969; Crookston, 1960; Kaludis, & Zarkin, 1966; Pike & Askew, 1990; Porta, 1991; Prusok & Walsh, 1964; Willingham, 1962). Further, a chapter’s academic success, especially for sororities, is highly related to selectivity in membership recruitment (Shaffer, 1983).

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Recognizing learning as not singularly defined by GPA, other studies have examined the impact of fraternity/sorority affiliation on the development of intellectual values. Again, the findings are inconsistent. Research indicates that fraternity/sorority membership is not consistent with the academic agenda of personal and intellectual development (Baier & Whipple, 1990; Kuh, Pascarella, & Wechsler, 1996; Pascarella, et al., 1996; Wechsler, Kuh, & Davenport, 1996). In contrast, there is evidence to suggest that membership in a fraternity or sorority has a positive influence on members within its community, and if the values, mission, and goals of fraternities and sororities are aligned with those of the institution, then the fraternity/sorority communities can foster valuable out-of-class learning (Jakobsen, 1986; Kuh & Lyons, 1990; Pike & Askew, 1990; Strange, 1986).

These equivocal findings represent the contradictions inherent in the fraternity/sorority experience, and therein lies the enigma. Fraternities and sororities can embody anti-intellectualism, elitism, and inappropriate behavior such as hazing and substance abuse. Consequently, faculty and administrators struggle with a course of action related to fraternities and sororities on their campuses. Several institutions have implemented “self-studies” in an effort to evaluate their fraternity and sorority communities and realign organizations with academic values (e.g., Colby College, 1984; Franklin and Marshall College, 1988; Colgate University, 1990; Cornell University, 1994; Syracuse University, 1995; University of Maryland at College Park, 1995). In a few cases (e.g., Colby College and Franklin & Marshall College), the outcome of such evaluations was to ban or withdraw recognition of fraternities and sororities on campuses. However, in most cases, these reviews have resulted in sweeping organizational reforms of the fraternity and sorority community in the areas of facility and financial management, residential living environments, social policy, new member recruitment and education, and membership education and programming.

The latter approach, enhancing the physical, organizational, and cultural aspects of the fraternity/sorority environment, plays a key role in improving the individual member’s learning experience (Jakobsen, 1986; Kuh & Arnold, 1993; Kuh & Lyons, 1990; Strange, 1986). Robert Shaffer (1983) attributed differences in fraternity and sorority communities to environmental factors: “As there are enormous differences among colleges and universities, so are there enormous differences within the Greek [sic] system not only from campus to campus but also from chapter to chapter on any one campus” (Shaffer, 1983, p. 6). Shaffer further claimed that the quality of the fraternity and sorority experience is most influenced by local factors and conditions such as housing, academic selectivity, organizational strength, and student leadership. One institutional practice implemented to minimize problems associated with recruitment and joining a fraternity or sorority is deferring recruitment until the second semester of the first year or to the sophomore year. It is assumed that deferred recruitment permits students to become academically successful and better acclimated to the campus, particularly to academic life, before being diverted by membership in a fraternity or sorority.

As institutions grapple with policy reform related to fraternity and sorority communities, it is prudent to examine the effects of fraternity/sorority membership and the semester of recruitment on GPA and retention. Admittedly, GPA and retention are not the only outcome measures that should be considered, but they are two important considerations. One might expect differences between students who join fraternities and sororities and those who do not; these differences could positively influence persistence of fraternity and sorority members, assuming joiners have better financial means (membership is costly) and a higher GPA prior to joining (recruitment is academically selective). A limitation of previous studies on the effects of fraternity/sorority membership on

academic achievement is the methodology used to control for confounding variables (Baird, 1969; Crookston, 1960; Kaludis & Zatzkin, 1966; Porta, 1991; Prusok & Walsh, 1964; Willingham, 1962;). Our study controls for confounding factors, specifically academic preparedness for college, college major, and financial need.

The focus of this study was guided by two research questions:

1. Does fraternity/sorority membership affect GPA and retention after controlling for admission ratings, SAT scores, financial need, and college choice?
2. Does the time of recruitment, first or second semester of the first year, have an effect on GPA and retention, after controlling for admission rating, SAT scores, financial need, and college choice?

Method

Using several criteria, we chose participants from institutional data at a large, private university in the northeastern region of the United States. First, to ensure that comparable longitudinal data regarding GPA, retention, and graduation existed for all students studied, the population was restricted to first-time, full-time students. The selection of this restricted group offered the benefit of comparable study of similarly restricted groups at other institutions, relative to the student population as a whole. A second criterion was the semester of recruitment into the fraternity and sorority community, specifically the fall semester in the first year (traditional recruitment) as opposed to the spring semester of the first year (deferred recruitment). Therefore, we selected two separate cohort groups: one prior to the implementation of the deferred recruitment policy (fall 1991) and one after deferred recruitment was implemented (fall 1993).

The study population was restricted to U.S. citizens and students who self-identified as Caucasian. Initially, students of all racial and ethnic groups were considered for the study, with the provision that minority and non-minority students were analyzed separately to ensure that between-group differences would not confound the findings. However, due to the relatively small number of fraternity and sorority members of color at the sample institution, and due to the use of statistical techniques that required large group sizes, a proper comparison of fraternity and sorority members of color and non-affiliated students of color was not feasible. The overall study group thus consisted of Caucasians who entered the university in either fall 1991 or fall 1993 as first time, full-time students.

The research design was an observational study. William Cochran (1983) defined an observational study as,

one for which (1) the objective is to study the causal effects of certain agents, procedures, treatments, or programs; and (2) for one reason or another, the investigator cannot use controlled experimentation; that is, the investigator cannot impose on a subject, or withhold from the subject, a procedure or treatment whose effects he/she desires to discover, or cannot assign subjects at random to different procedures" (p. 1).

We did not perform significance testing because there was no random assignment of students for treatment, or random selection of students from a larger sampling. The greatest threat to validity of an observational study is bias due to uncontrolled covariates. Several methods of statistical analysis were suggested to reduce potential bias in observational studies, such as the analysis of covariance and blocking on covariates. The disadvantages of using this method were that it was based on a

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complex model, required stringent assumptions (linearity, homogeneity of slope), and, because it was developed for randomized experiments, provided no means for verifying its success on reducing the bias due to the covariates. In regards to blocking on covariates, if one covariate was identified, subclasses could be formed and incorporated into the statistical analysis. For example, if SAT Mathematics was found to be an important covariate, that variable could be sub classified into a number of different levels. As a result, fraternity/sorority and non-affiliated students could be compared within each of these sub classification levels. This could ensure that fraternity/sorority and non-affiliated differences could not be attributed to differences in SAT Mathematics.

Often, in studies of this type, there is more than one covariate. In the current study, 43 potential covariates were identified. By examining descriptive statistics, we found that SAT Mathematics, SAT Verbal, Financial Need, Admission Rating, and College of Admission were important covariates. To block on these covariates, $8 \times 8 \times 4 \times 4 \times 9 = 9,216$ sub classification levels would be required. Clearly, this would be impossible even with a large sample.

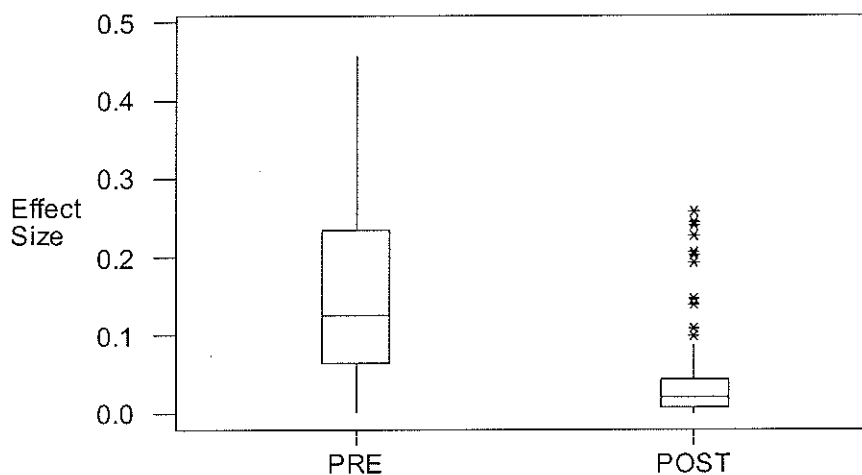
Sub classification by propensity score, a technique for observational studies, was developed to provide protection against bias from many covariates. The method of sub classification by propensity score was demonstrated in the work of Paul Rosenbaum and Donald Rubin (1984) who found that the propensity score is the conditional probability that a unit with vector x of observed covariates will be assigned to treatment 1. They demonstrated that sub classification on the propensity score would balance the covariates in the sense that, within subclasses that were homogeneous in the propensity score, the distribution of each covariate was the same for treated and control units.

Propensity scores can be estimated by a regression model where a binary treatment (e.g., fraternity/sorority = 1 and non-affiliated = 0) is regressed on the covariates. A logistic model was recommended for the regression because treatment was binary. Propensity scores were estimated as the predicted values from the logistic regression. The estimated propensity scores were then sub classified into intervals and used as a blocking variable in the statistical analysis. Rosenbaum and Rubin (1984) showed approximately 90 percent of the bias due to covariates could be removed by sub classifying at the quintiles of the distribution of the propensity score for the total group (fraternity/sorority and non-affiliated combined).

There are many desirable features to sub classifying into five levels on the propensity score. First, sub classifying on the propensity score allowed a simple presentation of results; there is no need to explain complex models laden with assumptions. All that was required was a simple table with two treatments (e.g., fraternity/sorority, non-affiliated) and five subclasses. Each cell contained a statistic summarizing an outcome variable (i.e., average GPA, or retention percent). Second, interactions between the treatments (fraternity/sorority compared to non-affiliated) and the subclasses (i.e., how treatment differences vary from one subclass to another) were estimated. If interactions were negligible, parsimony could be served by calculating the weighted average of the five-subclass entries in each row (fraternity/sorority, non-affiliated) of the summary table. To avoid bias, averaging was standardized by using the same weights for fraternity/sorority members and non-affiliated students. This procedure is known as direct standardization (Mosteller & Tukey, 1977). In this study, interactions were negligible, so the fraternity/sorority and non-affiliated summary statistics were averaged across subclasses. We used equal weights because the five subclasses were of equal size (quintiles).

The next feature is that sub classification on the propensity score, which makes it possible to assess how much the bias had been reduced. The expression “bias” indicates that fraternity/sorority members and non-affiliated students have different averages for some covariates. Effect sizes (Cohen, 1988) provided a means to standardize the covariate differences between fraternity/sorority members and non-affiliated students. Box-and-whisker plots (Mosteller & Tukey, 1977) allowed us to compare the effect sizes prior to sub classification to those after sub classification. The box-and-whisker plot depicted the distribution of the effect sizes for all covariates combined. The middle 50 percent of the distribution extended from the lower portion of the box (first quartile) to the upper portion of the box (third quartile). The box-and-whisker plots in the figure below indicated that the effect sizes were much smaller after adjusting for sub classification. The stars indicated outlying effects that occurred where there was an empty cell (i.e., no females were represented in the School of Architecture). Finally, sub classification on the propensity score did not require the stringent assumption of competing strategies (e.g., analysis of covariance).

Box-and-Whisker Plot of
 Covariate Effect Size Before (PRE) and After (POST)
 Adjustment from Sub classification on the Propensity Score



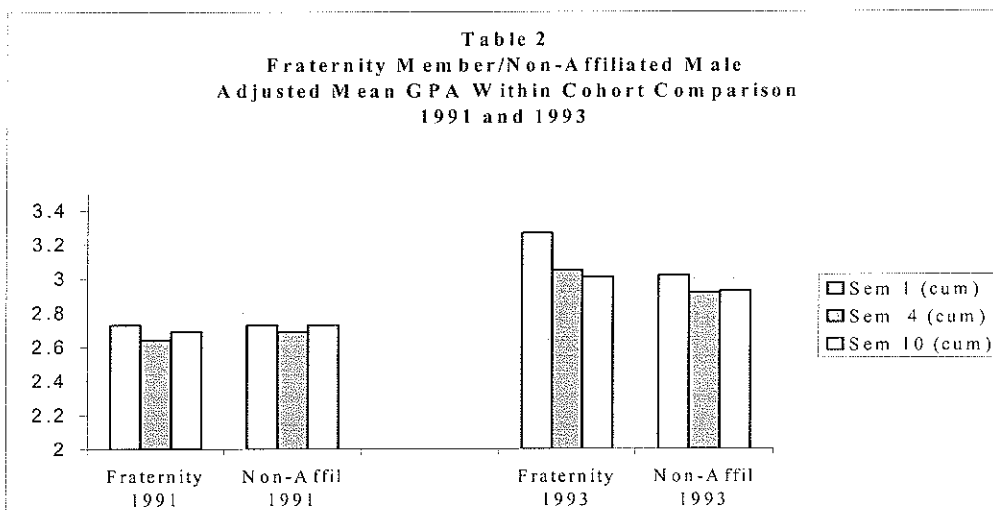
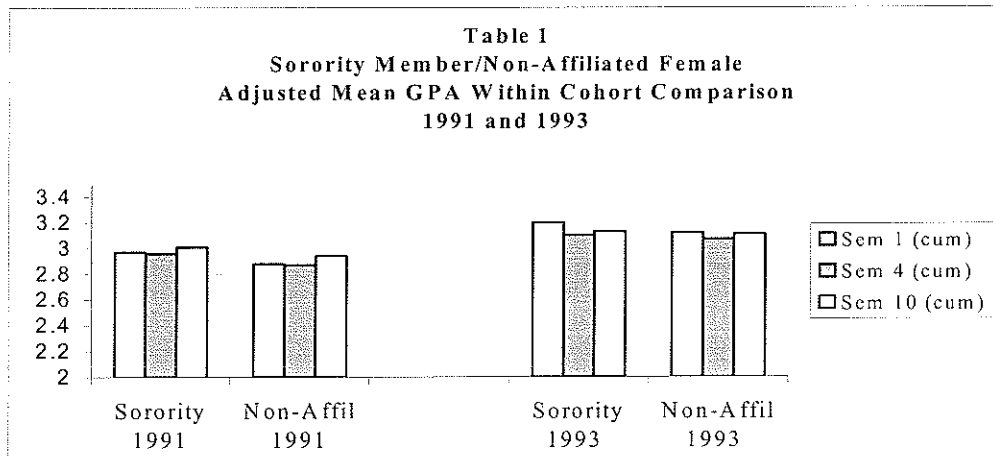
Results

As stated above, our study focused on two questions regarding the impact of fraternity/sorority membership on GPA and retention.

Does fraternity/sorority membership have an impact on GPA?

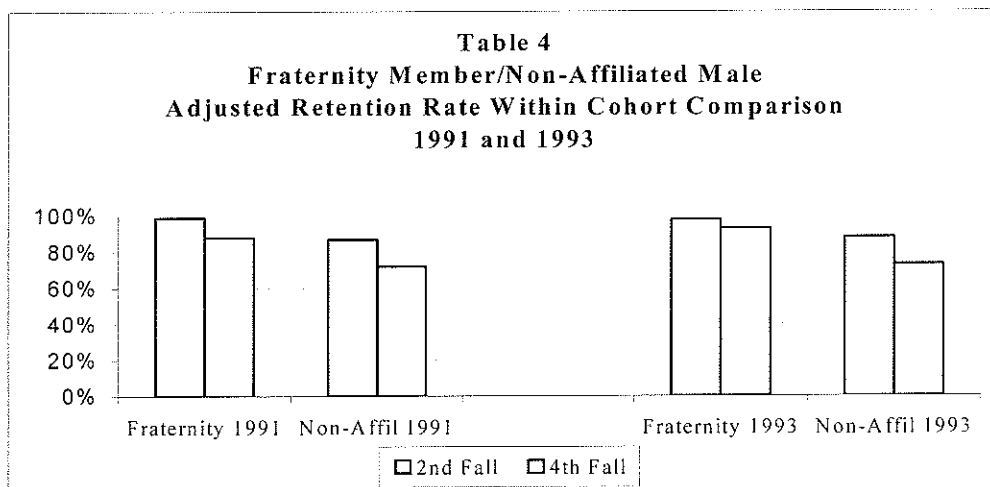
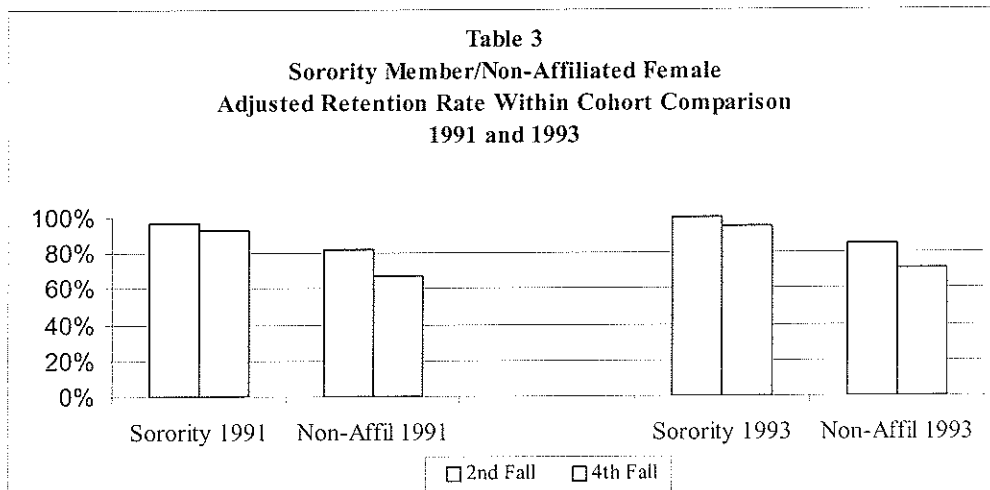
Tables 1 through 4 are comparisons within the 1991 and 1993 cohort groups between fraternity and sorority affiliated members and non-affiliated students. Tables 1 and 2 indicate that, after adjusting for the covariates, there are no noticeable differences in GPA when fraternity/sorority cohorts and non-affiliated cohorts were compared in semesters 1, 4, and 10. While the fraternity/sorority members may begin their first semesters with a slightly higher GPA than the non-affiliated students, the gap in GPA narrowed by semester 10, with the fraternity/sorority members retaining a slight advantage. Sorority women had a higher GPA than fraternity men, non-affiliated men, and non-affiliated women, with the exception of the 1993 semester 1 GPA for fraternity men (Table 2).

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Does membership have an impact on retention?

Tables 3 and 4 indicate that after adjustment for the covariates, fraternity and sorority members in both the 1991 and 1993 cohorts had far greater retention rates through their second and fourth fall semesters than their non-affiliated counterparts. Sorority member persistence into the senior year was 93 percent for the 1991 cohort, compared to 67 percent for the non-affiliated female cohort. The sorority and non-affiliated female senior retention rate figures for 1993 were 95 percent and 71 percent respectively. Men showed a similar retention advantage when joining a fraternity. In their fourth fall semester, 88 percent of fraternity members in the 1991 cohort persisted at the institution, in contrast to 72 percent of non-affiliated men. The same comparison for the 1993 cohort was 93 percent for fraternity men and 73 percent retention for non-affiliated men.

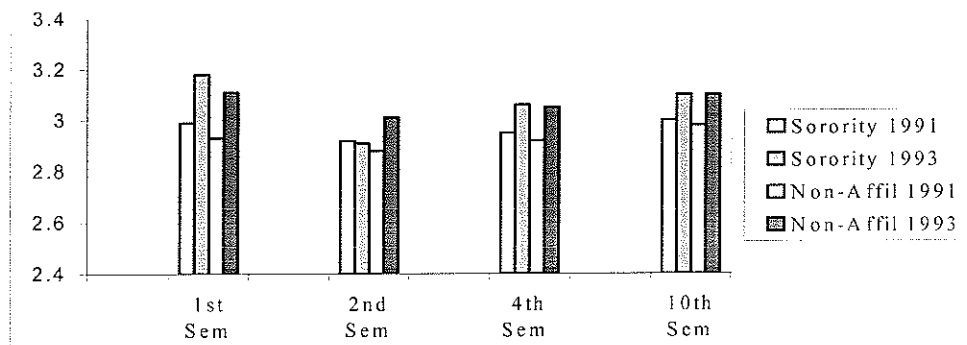


Does the time of recruitment (fall or spring) have an effect on GPA?

Tables 5 through 8 illustrate comparisons between the 1991 and 1993 cohorts. The time of recruitment for the 1991 cohort was the fall semester and the spring semester for the 1993 cohort. Tables 5 and 6 indicate that, after adjustment for the covariates, GPAs for the fraternity/sorority and non-affiliated 1993 cohorts were generally higher than they were the 1991 cohorts. The one exception occurred among the sorority women during Semester 2, where the difference slightly favored the 1991 cohort (2.92 vs. 2.91). In Table 5, 1991 sorority women who joined in the first semester compared with 1993 sorority women who joined in the second semester had a slightly higher GPA (2.99 vs. 2.91). However, when recruitment did not occur during the first semester, the 1993 female cohort performed better than did the 1991 cohort (3.18 vs. 2.99). Following new member education for the 1993 cohort, during the second semester, GPA declined dramatically from 3.18 (Semester 1) to 2.91 (Semester 2).

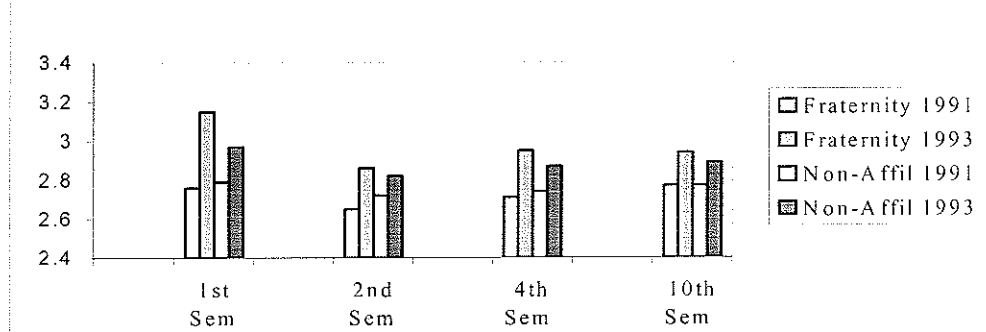
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Table 5
Sorority Member/Non-Affiliated Female
Adjusted Mean GPA Between Cohort Analysis
1991 and 1993



For male students (Table 6), the cohort differences were more variable. The largest 1993 cohort advantage of .39 occurred among fraternity men for Semester 1. During that semester, the 1993 cohort of fraternity men had a GPA of 3.15 and their 1991 counterparts had a GPA of 2.76, which was the recruitment semester for the 1991 cohort. During the 1993 recruitment semester (Semester 2), the 1993 male cohort had a higher GPA (2.86) than the GPA for 1991 fraternity men (2.76), during their recruitment semester (Semester 1).

Table 6
Fraternity Member/Non-Affiliated Male
Adjusted Mean GPA Between Cohort Analysis
1991 and 1993



Does the time of recruitment (fall or spring) have an effect on retention?

Tables 7 and 8 indicate no substantial cohort effect for retention. By the fourth fall semester, fraternity/sorority members in the 1991 and 1993 cohorts were as likely to persist at the university (93 percent and 90 percent, respectively). Similarly, for non-affiliated students, there was a negligible difference between the 1991 and 1993 cohorts and their persistence to the fourth fall semester (67 percent and 70 percent, respectively).

Table 7
Female Adjusted Retention Rate
Between Cohort Analysis
1991 and 1993

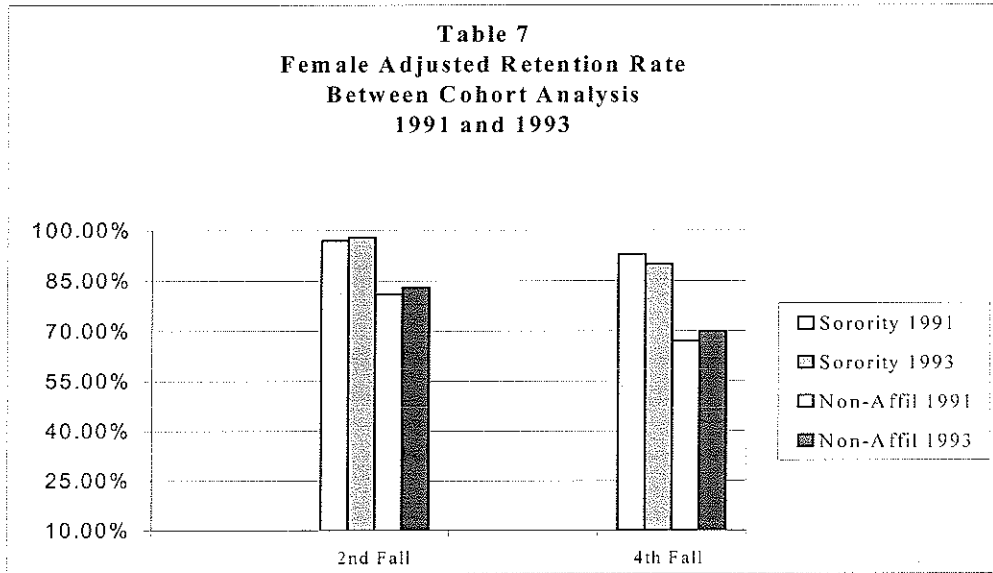
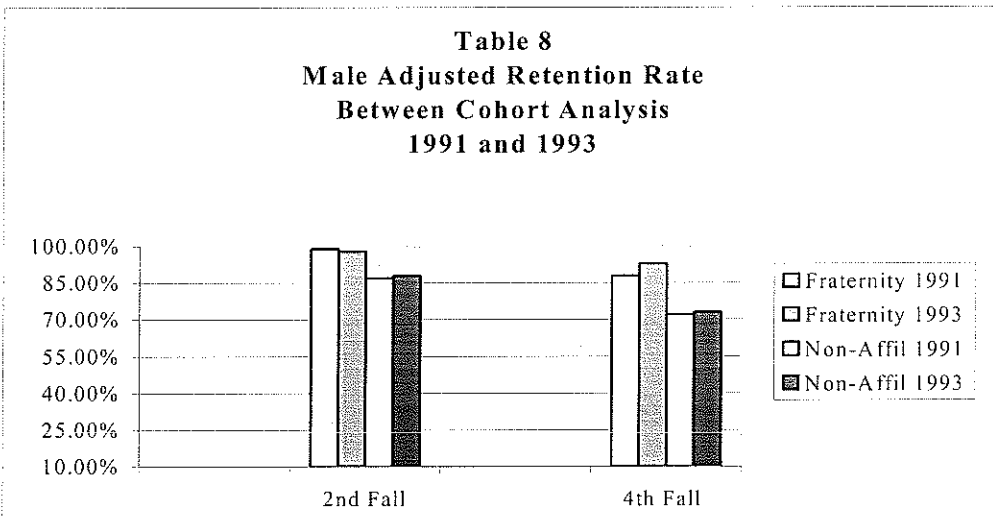


Table 8
Male Adjusted Retention Rate
Between Cohort Analysis
1991 and 1993



Discussion

One limitation of this study is the unavailability of data on fraternity and sorority members of color and it would be advantageous to examine the same questions in a separate study. Further, our findings indicate that membership in a fraternity or sorority has a dramatic effect on persistence and a negligible effect on mean GPA over time, with the exception of the pledging semester. There seemed to be a modest drop between Semesters 1 and 2 for all groups (Table 5 and 6); however, there was a noticeable drop for the 1993 fraternity and sorority cohorts that joined in Semester 2. The 1993 cohort of sorority women that joined during Semester 2 had a more noticeable decline in average GPA from Semester 1 to Semester 2 (.27 point decrease from 3.18 to 2.91) than the 1991 group (.07 point decrease from 2.99 to 2.92). Likewise, the fraternity men in the 1993 cohort had a high average GPA of 3.15 coming prior to recruitment, but their average GPA dropped noticeably during the semester they joined (Semester 2), by .29 points to 2.86. Although the male GPA

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dropped sharply when recruitment occurred in the spring semester, the absence of fall recruitment may give male students an opportunity to become more academically successful before joining fraternities, as fraternity men in 1993 had the highest GPA of all groups. We speculate fall recruitment would work for women because the fall 1991 semester GPA for female new members was slightly higher (2.99) than the spring 1993 semester new member GPA (2.91). However, this did not account for the value of deferring recruitment to allow new students time to acclimate to college life prior to membership in a fraternity or sorority. The more troubling finding was that the recruitment semester appeared to have a negative impact on GPA, especially for the 1993 female cohort and for both the 1991 and 1993 male cohorts.

While fraternity/sorority affiliation may have a negative effect on GPA during the recruitment semester, we found that fraternity/sorority membership had a dramatically positive effect on persistence to graduation: 90 percent of fraternity/sorority members compared to 70 percent of non-affiliated students were enrolled during their senior year. This is further evidence that, as a co-curricular experience, membership in a fraternity or sorority promotes involvement and student retention but does not necessarily support student learning. Substance abuse and hazing flourish in some chapter environments and belie the achievements of fraternity and sorority communities. Vincent Tinto (1993) acknowledged that subcultures in which students become involved during the college years may enhance retention, yet the likelihood that members of the subculture persist and benefit academically from their college experience often hinges on how consistent the subculture is with the mainstream of institutional life:

Other things being equal, the closer one is to the mainstream of the academic and social life of the college, the more likely is one to perceive oneself as being congruent with the institution generally. That perception impacts in turn upon one's institutional commitment (Tinto, 1993, p. 60).

If fraternities and sororities are true to their missions and are high performing, they are optimal environments for student growth and development. What students find most appealing about fraternities and sororities is that they are student-centered and self-governing organizations. Students' direct involvement in chapter management and leadership opportunities allows for practical experience that complements classroom instruction. The challenge to faculty and staff is to examine the fraternity and sorority subculture and to support that which benefits student development, while curbing behavior that thwarts learning. If properly directed, fraternities and sororities can positively influence peer behavior, promote loyalty to an alma mater, and increase student involvement and persistence to graduation.

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Peter Graham was University Librarian at Syracuse University. Sadly, he passed away before this article was published.