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Sorority Membership and Risk for Campus Sexual Assault

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Sorority Participation and Sexual Assault Risk

Abstract

This study tested the relationship between sexual assault victimization, sorority membership, and participation in a range of sorority activities, using data from a large-sample (N = 779) survey conducted at a mid-size public university. Twenty-nine percent of sorority women reported having been sexually assaulted while in college, four times the rate (7%) among non-sorority members. The difference between Greek and non-Greek women remained large even when controls were included for alcohol consumption and attendance at Greek parties where alcohol is served. Among sorority members, participation in social events not involving alcohol correlated negatively with sexual assault, indicating a possible protective effect.

Sorority Participation and Sexual Assault Risk

Numerous studies have established that the rate of sexual victimization of college women is high, regardless of how sexual victimization is defined and measured (Fisher, Cullen, & Turner, 1997; Koss, 1987; Mohler-Kuo et al., 2004; Schwartz & DeKeseredy, 1997). Previous research on college women has shown how perpetrator and victim characteristics, the social environment of college, and characteristics of social interaction affect victimization rates (see Adams-Curtis, 2004, for an overview). Examinations of perpetrator characteristics have included membership in fraternities, but there has been little study of the relationship between sorority membership and the risk of sexual victimization.

This study reports findings from a large-sample survey of female undergraduates at a single public university. It examines the relationship between sorority membership, sorority participation, and sexual victimization. We examine whether sorority membership correlates with sexual assault, and whether alcohol consumption and attendance at Greek social events where alcohol is served mediates this relationship.

Review of the Literature:

Most existing studies of sexual assault on campus that examine Greek life look at fraternities, arguing that features of fraternity membership create norms of sexual behavior and gender relations that make fraternity members more likely to commit rape. Few studies have examined the role of sorority membership in risk levels for sexual assault. Many studies have found a link between drinking and victimization, particularly

drinking in the context of fraternity and sorority parties, but few have examined the role of alcohol in the context of the full range of social activities within the Greek system.

The most thorough studies of sexual assault on campus are those by Koss (1987) and by the National Institute of Justice (Fisher, Cullen & Turner, 1997). Both studies used large, nationally stratified random samples, and achieved a high response rate. Both studies used detailed, specific questions to accurately measure sexual assault prevalence and characteristics. Fisher and colleagues found that 1.7% of college women reported being raped within the seven month period preceding the execution of the survey, and that 1.3% had been victims of attempted rape. While these reports used state of the art sampling and survey research methods and provide the best available estimates of rape prevalence, neither examined the role of sorority membership or participation in Greek social activities.

Several small-scale survey and qualitative studies have examined links between fraternity membership, pro-rape sexual attitudes, and sexual assault. Sanday (1990) and Martin and Hummer (1989) argue that fraternities perpetuate a hyper-masculine and overaggressive culture that objectifies and debases women, advocates impersonal and sometimes exploitative sex, emphasizes competition and male superiority, provides role models and support for sexually coercive behavior, and fosters brotherhood bonding through open discussion and encouragement of female subservience and sexual exploitation. Other studies found that fraternity men are more likely than non-Greeks to identify their friends as tolerant of sexual aggression, are more likely to state that friends have used drugs or alcohol as a sexual strategy, and more often express agreement with rape-supportive statements (Boeringer, 1996, 1999; Boeringer, Sheehan, & Akers, 1991;

Boswell and Spade, 1996). However, studies have either found no statistically significant relationship between fraternity membership and increased sexual aggression (Boeringer, 1996), or that this association was fully mediated by fraternity members' higher use of alcohol (Koss & Gaines, 1993).

Another constant in the research on sexual victimization of college women is the role of alcohol consumption. Alcohol consumption has widely known and understood effects that alter the physical ability and psychological perception of both the victim and perpetrator. Alcohol serves as a common tool of sexual predators due to its effects on the victim, and often reduces the perceived responsibility of violation on behalf of a perpetrator who was intoxicated at the time of the incident. Conservative findings have reported that alcohol use by men played a significant part in 53% of all sexual coercions and 73% of all acts that met the legal definition of rape, while victims reported use of alcohol in 42% of sexual coercions and 55% of rapes (Koss, 1987). A Canadian study of college women reported that 17% of completed rapes and 19% of attempted rapes occurred under circumstances where the victim was too intoxicated to defend herself in any way (Schwartz & DeKeseredy, 1997). Testa and colleagues (2003) found that alcohol use correlated with rape while the victim was too intoxicated to defend herself, but that alcohol use did not correlate with rapes conducted through physical force where the victim was capable of resistance.

While a number of studies have focused on the role of fraternities in promoting rape-supportive attitudes and behaviors, very few studies have focused on sorority membership as a risk factor for sexual assault. In a large, representative national sample of college women, Mohler-Kuo and colleagues (2004) found that residence in a sorority

greatly increased the likelihood of being sexually victimized while intoxicated. Copenhaver and Grauerholz (1991) found weak and inconsistent correlations between level of sorority activity and sexual victimization, but their study, a mail survey to a random sample of students at a single university, had a response rate of only 28%. Kalof (1993) found that sorority members were more likely than non-members to agree with survey statements measuring rape-supportive attitudes, and were more likely to be victims of sexual assault. Like Copenhaver and Grauerholz, Kalof drew a random sample of students at a single university, but her mail survey had a much better response rate of 63%. While Kalof found statistically significant differences between sorority members and non-members, her sample contained only 216 women, of whom only 21 were sorority members. A longitudinal study of a random sample of 303 students at a single university (Lottes and Kuriloff, 1994) found that sorority members were subject to peer socialization towards more openness to sexual activity, which might include risky sexual activity.

Norris, Nurius, and Dimeff (1996) examined how sorority women assess risk and plan for protective measures, using questionnaires and focus groups among a volunteer sample of sixty-six sorority women from a single university. They found that sorority members were aware of the risk of sexual assault, but tended to see this risk as applying to other women. Most thought that they themselves were perceptive enough to avoid men who might be rapists. They realized that alcohol consumption was risky, but thought that they were smart enough to fend off a rapist, even when drunk. Sorority women also thought that verbal persuasion would be adequate to dissuade a potential rapist. When presented with a hypothetical situation where physical struggle or screaming might be

required, women cited embarrassment, fear of angering the man, or not wanting to draw the attention of others as reasons not to use these strategies.

Norris and colleagues found that the "good-time" cognitive framework associated with fraternity parties was a particularly important risk factor in acquaintance sexual assault. While people possess a "broad repertoire of beliefs and coping responses," only a small subset of those beliefs and responses can be active in awareness at any given time. These "activated cognitive constructs" are usually "mood congruent." In the situation of a fraternity party or other social interaction, sorority women interpret male behaviors that might otherwise seem dangerous in a way congruent with the social situation, "as joking, as showing off, or even as seduction" (Norris et al., 1996:138).

Norris and colleagues argue that the family-like relationship between sorority women and fraternity men further reduces women's sensitivity to danger cues. Sorority women view fraternity men as friends and "brothers," less likely than other male acquaintances to be sexually dangerous. Finally, the strong acceptance of traditional gender norms in Greek culture makes it difficult for women to protect themselves. Sorority women are expected to dress and act "sexy" to attract a man, and to "smooth ruffled feelings and awkward moments between them." At the same time, they are expected to assess risk and protect themselves. "Thus, women must walk a 'cognitive tightrope' whenever they are in a dating or other social situation" (Norris et al., 1996:137).

The existing literature on campus sexual assault would predict a link between sorority membership and sexual assault, due to sorority women's socialization into traditional gender roles, their association with fraternity men, their tendency to misread

danger cues from fraternity men, and their higher rates of alcohol consumption. This study adds to our understanding of campus sexual assault by exploring the relationship between sorority membership and participation and the risk for sexual assault.

Theory and Hypotheses:

As discussed above, a number of factors would tend to place sorority women at a higher risk for sexual assault. This study tests the correlation of each of these factors with sexual victimization, and also examines whether these factors mediate or interact with one another to predict risk. We hypothesize that all three processes identified in previous literature will contribute to higher rates of sexual victimization: alcohol consumption, association with fraternity men, and socialization into subservient gender roles. On the other hand sorority membership may provide some protection against sexual assault, as sorority women's friends may look out for them at social events, and sorority women have social outlets separate from parties where alcohol is served. While there is no measure of gender roles socialization on the survey, the other factors are measured, making it possible to test several specific hypotheses.

Hypothesis 1: In the entire sample, sorority membership, alcohol consumption, and attendance at co-ed Greek events where alcohol is served will correlate positively with sexual victimization.

Hypothesis 2: For sorority members, participation in sorority activities that do not involve alcohol will either not correlate with sexual victimization, or will correlate negatively.

Hypothesis 3: For sorority members, alcohol consumption and attendance at co-ed Greek events where alcohol is served will mediate the link between sorority membership and sexual assault.

Data and Methods:

The hypotheses listed above were tested through analysis of a survey designed for this project, which was given to a random sample of 1,000 undergraduate women at a large public university. As resources were limited, we limited our questions to male on female assault, the most commonly reported type of sexual coercion. The survey contained questions designed to estimate the prevalence of sexual victimization, relationship between the victim and the perpetrator, types of force used by perpetrators, and types of resistance used by victims. For both sorority members and non-members, questions measured the relationship between drug and alcohol consumption and sexual victimization, including attendance at Greek events where alcohol was served. For sorority members, the relationship between level of activity in sorority events and Greek social events was also examined, including events where alcohol is not served.

Sample:

While in most cases a random sample using a sampling frame that consists of the entire population is the best strategy to obtain a representative sample of a population, in this case concerns about the response rate led the researchers to adopt a different strategy. The authors lacked the financial resources to contact respondents repeatedly by phone and by mail, which are usually necessary to achieve a high response rate in survey

research. Instead, the authors used personal contact and the appeal to groups of women as a strategy to increase the response rate. The first author personally handed out the survey to undergraduate women, explaining the purpose and importance of the study first-hand. This strategy succeeded, as the overall response rate was 78%. This is comparable to the 86% response rate achieved by Fisher et al. (1997), and much higher than the 28% response rate in the study of sorority members conducted by Copenhaver and Grauerholz (1991).

As a comparison between sorority members and non-members was the goal of the study, the surveys were distributed in such a way as to achieve roughly equal samples of sorority and non-sorority women. Eight sororities were chosen at random to receive the survey, and each of the eight groups received sixty surveys, for a total of 480 individuals. The remaining 520 surveys were handed out on campus at random to female undergraduates, some of whom were sorority members also, so that more than half of the surveys were given to sorority members. A purposive sample of locations was chosen to maximize the diversity and representation of the sample, and locations were chosen at each of the undergraduate colleges that make up the university. The students were given stamped envelopes along with their surveys to make response as easy as possible. In all, 438 sorority members and 341 non-members returned their surveys, for a total of 779 respondents out of 1,000 surveys given out.

Survey Design:

The questionnaire combined the survey techniques of two previous studies on the topic of collegiate sexual victimization, and added questions on sorority membership and

activities that were specifically formulated for this study. A copy of the survey questions is included as an appendix. The two previous models of survey techniques are the 1997 National Victimization of College Women Study (NVCWS) conducted by the National Institute of Justice (Fisher, Cullen, & Turner, 1997), and the 1982 Sexual Experience Survey (SES) developed by Koss (1987). The SES was used because its questions are specifically designed to record the experiences of victims who fail to report the crime or label their experiences as rape. It does so by asking respondents about a wide range of sexually coercive experiences, ranging from unwanted physical contact to aggravated rape. The SES questions use specific language and exhaustive and mutually exclusive response categories to ensure that all types of unwanted sexual activity are accurately surveyed. Our survey adopted the two-stage questioning process of the NVCWS study. This survey format gives respondents a set of precisely worded screen questions to determine whether acts of sexual coercion did occur. If respondents answer yes to one of the screening questions, they are instructed to answer a sub-set of questions about the details of the incident.

Our survey varied the methods of the NVCWS and SES studies somewhat. We used the same definition of sexual coercion as the NVCWS, but did not employ the NVCWS study's exhaustive categories of sexual victimization. Instead, the stage-two questions identified experiences as belonging to one of three categories: one that meets the legal definition of rape, one that meets the legal definition of attempted rape, and a third encompassing other forms of unwanted sexual contact. This approach uses the clear, specific language of the SES studies and the two-stage format of the NVCWS, but avoids

the potentially confusing number and complexity of the victimizations listed in the NVCWS survey.

Unlike the original SES, the chance to provide incidence report information occurred twice within the survey. This way, respondents who identified themselves as having experienced both attempted and completed rape on separate occasions could provide information on both events. In the case that a respondent reported having experienced more than one incident of either attempted or completed rape, she was asked to describe the incident she remembered most clearly. Finally, unlike previous studies that asked respondents to provide information on what they have experienced either since turning the age of sixteen or within a limited time period directly preceding the survey, this study explicitly asked respondents to recount only what they had experienced while attending the university where the study was conducted.

In addition to questions about victimization, the questionnaire included questions concerning average alcohol consumption per week, the average number of campus organizations with which one claims membership, and the number of non-Greek affiliated events attended per month for all respondents. Sorority members were asked a number of additional questions about their involvement in Greek social activities.

Dependent Variables:

The survey asked respondents to report incidents of sexual victimization, and these incidents were coded in three categories: unwanted sexual contact, attempted rape, and completed rape. Our definition of rape followed the legal definition of rape in the state in which the university is located:

> If any person has sexual intercourse with a complaining witness, whether or not his or her spouse, or causes a complaining witness, whether or not his or her spouse, to engage in sexual intercourse with any other person and such act is accomplished (i) against the complaining witness's will, by force, threat or intimidation of or against the complaining witness or another person; or (ii) through the use of the complaining witness's mental incapacity or physical helplessness; or (iii) with a child under age 13 as the victim, he or she shall be guilty of rape (Virginia Code 18.2-61).

The study defines unwanted sex play as unwanted acts of fondling, kissing, or petting, without penetration. Rape and attempted rape are defined as completed or attempted acts of penile-vaginal penetration, mouth on the respondent's genitals, respondent's mouth on someone else's genitals, penile-anal, digital-vaginal, digital-anal, object vaginal, and object-anal penetration. Where these acts occurred or were attempted against the respondent's will by use or threat of force, abuse of authority, or the respondent's mental incapacity or physical helplessness, these were coded as attempted or completed rape. Thirty-four percent of respondents reported having experienced nonconsensual sexual contact, 19% experienced completed rape, and 10% experienced attempted rape.

[Table 1 about here]

Descriptive statistics - the nature of victimization:

All of the incidents of attempted rape and 97% of the incidents of completed rape were by people the victims knew personally. None of the attempted rapes and only 3% of the completed rapes were by strangers. Thirty percent of the attempted rapes and 65% of the completed rapes were by "boyfriends or dates" (a single category on the survey), and 60% of the attempted rapes and 29% of the completed rapes were by acquaintances, The

remainder of perpetrators were authority figures or "other" individuals. Seventy-five percent of the attempted rape victims and 88% of the completed rape victims had known the perpetrator for at least a week, 18% of the attempted rape victims and 10% of the completed rape victims had known the perpetrator for less than a week, and 8% and 2% of the attempted and completed rape victims met the perpetrator the night of the incident. The most common locations in which rapes occurred were off-campus private residences (47%) and fraternity houses (32%), followed by on-campus housing (7%), cars (6%), outdoors (2%), and other locations (6%). Eighty-one percent of rape victims had consumed drugs and/or alcohol at the time of the incident, and 91% reported that the perpetrator(s) involved had also consumed drugs and/or alcohol at the time of the incident.

Seventy-four percent of the perpetrator used force during incidents of completed rape. Types of force used included pinning the victim down (53%), hitting the victim (26%), twisting the victim's arm (13%), threatening to hit the victim (6%), threatened use of a weapon (1%), and other types of force (17%). No perpetrators actually used a weapon to commit rape. The majority of women (75%) used some type of defense, such as pleading with the perpetrator to stop (53%), physically struggling (49%), screaming (14%), attempting to run away (9%), or some other defense (2%).

Out of the entire sample, 20.5% were victims of completed rape while in college. When this rate is adjusted to account for the rate among fourth-year women, and for the high proportion of sorority women in the sample, the best estimate of sexual assault for women in their fourth year at the university is 17.6%, a rate consistent with other estimates of victimization. Also consistent with earlier studies, the majority (50.9%) of

victims of actions that met the legal definition of rape did not consider the act to be rape, 20.5% did consider themselves to have been raped, and 28.7% stated they were unsure whether they had been raped.

Independent variables:

All respondents were asked about their involvement in campus activities, on a 0-4 scale from "inactive" to "very active." All respondents were asked about the number of alcoholic beverages they consume in a typical week, with response categories of 0, 1-2, 3-4, 5-6, and more than six. Sorority members were asked about their overall involvement in Greek activities on a 0-4 scale from "inactive" to "active," and how many events related to the Greek system they attend in a typical month. These events include "sisterhood" or women-only social events, co-ed events where no alcohol is present, and co-ed social events where alcohol is present. Sorority members (mean of 1.6) were slightly more active (mean of 1.4) than non-members in university activities. Sorority members were slightly more likely to report themselves as sexually active (75%) than non-members (65%), and were much more likely to drink six or more alcoholic beverages per week (55%) than non-members (20%). Sorority members reported an average attendance each month at 2.2 co-ed Greek events where alcohol was served, 1.1 co-ed Greek events where alcohol was not served, and 1.8 women-only "sisterhood" events (Table 1).

Method of analysis:

Logistic regression was used to test the relationships between the independent variables and the variables measuring unwanted sexual contact, attempted rape, and completed rape. Logistic regression is the appropriate method for a binary dependent variable, in this case whether sexual victimization did or did not occur. The results of logistic regression indicate the increase in the log of the odds ratio of the event occurring, with a value of greater than one indicating an increase in the likelihood of the event's occurrence, and a value of less than one indicating a decrease in likelihood. The log of the odds ratio also indicates the relative strength of the increase or decrease. For example, the value of 5.569 for the log of the odds ratio for sorority membership indicates that the odds of sexual assault for Greek women are 556.9% of the odds for non-Greek women, or nearly six times as large. As logistic regression uses maximum likelihood estimation, there is no multiple coefficient of explanation (Pearson's R-squared) as with ordinary least squares regression. However, the Nagelkerke pseudo-R squared value is reported (Nagelkerke 1991), which demonstrates the improvement in predictive power over a model with no independent variables on a scale from 0 to 1, a number similar in interpretation to Pearson's R-square. After testing for bivariate relationships, the independent variables were combined, adding variables in blocks to test for mediating or spurious relationships.

As the survey asked respondents about sexual coercion experiences during their time at the university studied, one would expect a positive correlation between the respondent's year in school and experience of sexual victimization. We controlled for this variable in all multivariate regression analyses. To make for a fair comparison between members and non-members, first-year students were excluded from the sample, as they

were at a lower risk for having experienced rape during their time at the university, and were not yet eligible for sorority membership. Including them would have artificially exaggerated the extent to which sorority membership increases a student's risk of sexual assault. With the first year students excluded, the average year in school of both the sorority and non-sorority members in the sample was 2.93.

Findings:

Hypothesis 1: In the entire sample, sorority membership, alcohol consumption, and attendance at co-ed Greek events where alcohol is served will correlate positively with sexual victimization. This hypothesis was supported by the data (Table 2). Sorority members were much more likely to have experienced attempted rape (14%) than non-members (6%), and were more likely to have experienced completed rape (33%) than non-members (8%). There was no statistically significant difference between rates of unwanted sexual contact for sorority members (35%) and non-members (33%). Weekly alcohol consumption and attendance at Greek events where alcohol is served correlate positively with all three types of sexual victimization. Alcohol consumption predicted both rape by physical force and rape where alcohol use had left the victim incapable of defending herself.

Hypothesis 2: For sorority members, participation in sorority activities that do not involve alcohol will either not correlate with sexual victimization, or will correlate negatively. To answer this question, we performed a logistic regression on only the sorority members in the sample. We found that general level of activity within the sorority, attendance at sisterhood events, and attendance at co-ed Greek events where no

alcohol is served all correlated negatively with the sexual victimization experiences of sorority members (Table 2).

[Table 2: Bivariate logistic regression analyses]

Hypothesis 3: For sorority members, alcohol consumption and attendance at co-ed Greek events where alcohol is served will mediate the link between sorority membership and sexual assault. To test this hypothesis, we performed a regression analysis of the full sample, and then performed a separate analyses of sorority members only. We found that this hypothesis was only partially supported. In the full sample, the risk associated with sorority membership is reduced somewhat when alcohol consumption is controlled (Table 3, Model 2), but remains very high. However, in a sample containing only sorority members, the relationship between attendance at events where alcohol is served and sexual assault becomes non-significant when alcohol consumption by the sorority members is controlled (Table 4, Model 2).

[Table 3: Logistic regression of completed rape on risk and protective factors, all 2nd-4th year students]

[Table 4: Logistic regression of completed rape on risk and protective factors, sorority members only]

Discussion:

Prevalence rates and the characteristics of sexual victimization were similar in this sample to those found in earlier surveys of college women (Koss, 1987; Fisher et al., 1997; DeKeseredy & Schwartz, 1998).

As predicted, alcohol consumption, sorority membership, and attendance at co-ed Greek social events where alcohol is served all increased college women's risk for sexual

assault (Table 3). Part of the increased risk that goes with sorority membership can be explained by sorority members' higher consumption of alcohol, but not all of it. This would imply that some other aspect of sorority membership explains the higher rate of sexual victimization among sorority members, such as association with fraternity men or socialization into subservient gender roles. The former hypothesis was tested in the multivariate regression of sorority members only, but no support was found. Attendance at Greek events where alcohol is served did correlate with the sexual victimization of sorority members, but this correlation became non-significant when the women's own alcohol consumption was added to the model (Table 4). Apparently, some aspect of sorority membership besides alcohol consumption and attendance at fraternity parties explains sorority members' higher rates of sexual victimization, but the data from our survey do not make clear what this connection might be.

On the positive side, general level of activity within one's sorority, participation in sisterhood events, and participation in co-ed events where alcohol is not served all correlated negatively with sexual victimization. The lack of data on the timing of sexual assault and participation makes these findings difficult to interpret. The negative correlation may indicate that participation in activities has a protective effect against sexual assault, as women who are active in these events may avoid risky situations, and may have friends who look out for them at parties. On the other hand, the negative correlation may simply indicate that women who have been sexually assaulted tend to withdraw from social events as part of their experience of trauma.

It is possible that both protective and withdrawal effects are at work, but some evidence indicates that the protective effect is more important than the withdrawal effect.

If the withdrawal effect were driving these correlations, then one would expect women who were raped to withdraw from activities more than women who experienced attempted rape. However, for general involvement in sorority activities, attendance at sisterhood events, and attendance at non-alcoholic co-ed social events, the opposite is true: the negative correlation is stronger for attempted rape than for completed rape. This implies that activity in sorority events that do not involve alcohol may actually play a protective role against sexual assault.

Limitations:

There are a number of aspects of this study that limit the extent to which its findings can be generalized to the entire population of women college students. The sample included only women undergraduates at a single university. The sampling method did not result in a perfectly random sample. The cross-sectional nature of the survey makes it difficult to determine causality, particularly in the finding that participation in sorority activities not involving the use of alcohol was negatively correlated with sexual victimization. We focused only on college experiences and behaviors, not on risk factors from earlier life, such as family background and previous victimization. If women already at high risk for sexual assault choose to join sororities, these background factors may explain part of the higher victimization of sorority women.

We found that sorority membership had a strong association with sexual assault even when alcohol consumption and attendance at Greek parties involving alcohol was controlled. This implies that some other aspect of sorority membership, such as association with fraternity men or socialization into subservient gender roles, puts

sorority women at a higher risk for sexual assault. Unfortunately, our survey did not measure sorority members' contact with fraternity members outside of fraternity parties, and did not ask whether the perpetrators of assaults were fraternity members. Given that Norris et al. (1996) found that sorority members' miscalculation of danger cues from fraternity "brothers," this type of contact may explain part of the elevated risk for sexual assault that sorority women experience. Kalof (1993) and Norris et al. (1996) found that sorority members were more likely than non-sorority women to adhere to subservient gender roles. Again, this variable was not measured on the survey, and may explain the higher victimization of sorority members. Future surveys should examine whether these factors explain part of sorority women's higher rate of sexual assault victimization.

Conclusion:

We found that sorority members were victims of attempted sexual assault and completed sexual assault at a much higher rate than non-sorority members. While part of this higher rate can be explained by sorority members' greater consumption of alcoholic beverages and greater attendance at co-ed Greek functions where alcohol is served, there appears to be some other aspect of sorority membership that also increases the risk for sexual assault. On the other hand, participation in sorority activities that do not involve alcohol may have a protective effect against sexual assault.

While this study documented a link between sorority membership and sexual assault, the exact nature of that link is still unclear. Earlier research has identified alcohol consumption, contact with fraternity men, socialization in favor of greater sexual activity, socialization into traditional gender roles, and misreading of danger cues from fraternity

"brothers" as possible explanations for the higher prevalence of sexual assault among sorority members. Controlling for variables measuring two of these factors, alcohol consumption and attendance at fraternity parties where alcohol is served, only partially reduced the correlation between sorority membership and sexual assault. This would imply that socialization for greater sexual activity or socialization into traditional gender roles may explain why sorority members are at higher risk. If this were the case, one would expect all sorority participation or socialization to correlate with sexual assault, but in reality sorority participation correlates negatively with sexual assault. Perhaps contact with fraternity men outside of Greek system parties and misreading of danger cues from fraternity "brothers" explain the remainder of the difference in sexual assault risk between sorority members and non-members. Further research is needed to better determine why sorority membership and participation increase college women's risk of sexual assault.

While further research is needed on this issue, particularly replication of these results at other types of schools, these findings have significant implications for prevention efforts. Given that sorority women seem to be at especially high risk for assault, prevention programs targeted specifically at fraternity men and sorority women may be justified. Furthermore, prevention programs may have to go beyond the usual administration of single class or workshop to be effective. A recent review (Sochting, Fairbrother, and Koch 2004) and two meta-analyses (Anderson and Whiston 2005; Hanson and Broom 2005) found that these single session programs had only a very slight effect on reducing the incidence of sexual assault. While education programs had more of an impact on fraternity and sorority members than on non-Greeks, the overall effect of

these programs was small. Anderson and Whiston (2005:385) conclude that "it may be unrealistic to expect a standard one-hour, one-session sexual assault education program to have a lasting impact on the attitudes and particularly the behaviors of participants."

Given the limited possible effect of prevention education programs, it is somewhat surprising that both the prevention literature and campus practice focus so strongly on these programs and give little attention to other ways of preventing sexual assault (Karjane, Fisher and Cullen 2002). This focus on the individual goes against much of the research literature on criminal activity, which has found that social context can have a decisive influence on behaviors. Evidence of the strong role of social context on behavior comes from the experiments of Stanley Milgram (1974) on obedience to authority, and the simulated prison experiment of Philip Zimbardo (2007). It also comes from real-life studies of participants in military atrocities such as the My Lai massacre in Vietnam (Kelman and Hamilton 1989) and the tortures at Abu Ghraib in Iraq (Mestrovic 2007; Zimbardo 2007). In both the experimental and real-life cases, otherwise normal, psychologically healthy individuals, with no criminal record, committed violent and criminal acts due to the strong effects of a particular social context.

The evidence from this study supports the theory that social context may influence otherwise non-violent men to commit sexual assaults. This setting is defined by heavy alcohol consumption, peer norms supporting sexual activity, and the presence of bedrooms in the same building where parties are held. While a social setting cannot by itself turn young men into rapists, it can exert an influence on behavior. By changing some elements of this social context, university administrators may be able to prevent some rapes.

For example, over one-third of the rapes reported in our study occurred in fraternity houses. This implies that administrators could prevent many rapes simply by not allowing students to live in fraternity houses, thereby removing bedrooms from the buildings where parties are held. A second intervention strategy would be to forbid house parties in student apartments, and aggressively enforce the ban. The most common location of rapes (46%) in our study was off-campus private housing. If further research finds that many rapes that occur in off-campus private housing occur during large house parties, administrators and police could prevent rapes by preventing these parties from occurring.

These prevention policies are more radical than simply holding education programs, and are likely to inspire resistance among students and others in the university community. For this reason, further research may be needed to justify these policies, particularly research that examines the role of social context in causing sexual assault to occur. Given the limited effectiveness of education programs, and the serious and widespread nature of sexual assault, a better means of prevention is needed. It is hoped that this study will encourage further research to understand the causes of sexual assault and more effective policies to prevent it.

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Table 1: Descriptive statistics

Variable:	Mean or % yes:		
Dependent variables:	Greeks: (n = 434)	Non-Greeks: (n = 267)	Total: (n = 701)
Experienced unwanted sexual contact	35.0%	33.3%	34.4
Experienced attempted rape	13.8%	6.4%	11.0
Experienced completed rape	28.9%	6.8%	20.5%
Independent variables:			
Membership in campus organizations	1.6	1.4	1.5
Consume 6+ alcoholic drinks/week	19.9%	55.3%	41.8%
Sexually active	75.1%	64.8%	71.2%
Monthly attendance at Greek events where alcohol is served	4.8	2.2	3.8
Monthly attendance at Greek events without alcohol	4.2	n/a	n/a
Attendance at sisterhood events	2.7	n/a	n/a

Table 2: Bivariate logistic regression analyses:

Variable	Unwanted sexual contact		Attempted rape		Rape	
	B (s.e.)	Exp (B)	B (s.e.)	Exp (B)	B (s.e.)	Exp (B)
Total sample (N = 701):						
Alcohol consumption	.188 (.058)	1.207***	.629 (.119)	1.875***	.694 (.095)	2.003***
Membership in campus organizations	-.348 (.116)	.706**	-.296 (.149)	.743*	-.267 (.097)	.766**
Attendance at Greek events w/ alcohol	.038 (.058)	1.038	.227 (.085)	1.254**	.241 (.067)	1.272***
Sorority members only (N = 434):						
Involvement in sorority activities	.174 (.104)	1.190^	-.352 (.140)	.704*	-.325 (.109)	.723**
Attendance at sisterhood events	-.154 (.087)	.857^	-.420 (.138)	.657**	-.236 (.095)	.790*
Attendance at Greek events, no alcohol	.055 (.098)	1.057	-.451 (.161)	.637**	-.184 (.109)	.832^

^ = Significant at p < .10 * = Significant at p < .05 ** = Significant at p < .01 *** = Significant at p < .001

Table 3: Risk and protective factors for completed rape, all 2nd-4th year students (N = 695)

Variable	Model 1		Model 2	
	B (s.e.)	Exp(B)	B (s.e.)	Exp(B)
Involvement in campus activities	-.542 (.132)	.582***	-.340 (.141)	.712*
Greek	1.838 (.293)	6.285***	1.512 (.300)	4.534***
Attendance at Greek events with alcohol	.031 (.079)	1.031	-.141 (.086)	.869
Alcohol consumption			.559 (.105)	1.750***
-2 Log Likelihood	633.0		599.4	
% Correct (Base = 79.4)	79.4		80.1	
Cox & Snell pseudo R^2	.100		.142	
Nagelkerke pseudo R^2	.157		.223	

^ = Significant at p < .10 * = Significant at p < .05 ** = Significant at p < .01 *** = Significant at p < .001

Table 4: Risk and protective factors for completed rape, sorority members only (N = 433)

Variable	Model 1		Model 2	
	B (s.e.)	Exp(B)	B (s.e.)	Exp(B)
Attendance at Greek events w/ alcohol	.230 (.093)	1.259*	.052 (.103)	1.053
Involvement in sorority activities	-.339 (.120)	.712**	-.257 (.125)	.774*
Attendance at sisterhood events	-.209 (.103)	.811*	-.120 (.105)	.887
Alcohol consumption			.537 (.124)	1.711***
-2 Log Likelihood	502.5		479.1	
% Correct (Base = 71.1)	72.7		70.4	
Cox & Snell R2	.040		.091	
Nagelkerke R2	.058		.130	

^ = Significant at p < .10 * = Significant at p < .05 ** = Significant at p < .01 *** = Significant at p < .001