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Alcohol Consumption, Dating Relationships, and Preliminary Sexual Outcomes in Collegiate Natural Drinking Groups

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Abstract

This study tested the effects of committed relationships and presence of dates on alcohol consumption and preliminary sexual outcomes in natural drinking groups (NDGs). Undergraduate drinkers ($N = 302$) answered an online questionnaire on their most recent participation in a NDG. The interaction between relationship commitment and presence of a date on alcohol consumption was significant. Among students not in committed relationships, those dating within their NDG reported heavier drinking than those not dating. Students in committed relationships drank less than those who were not committed only when their partners were present. The positive correlation between drinking and sexual contact was significant only for those who were not in committed relationships. Implications for future research and interventions are discussed.

Keywords

college students; alcohol use; drinking groups; dating; sexual behavior

Students go through important changes during their college years. In their transition from adolescence to adulthood, many start living away from their parents. Students develop new social groups, friendships and close relationships. This time also coincides with alcohol experimentation. Statistics show that alcohol use and abuse rise and peak between ages 18 and 25 and prevail more among college students than their non-student peers (SAMHSA, 2008).

Drinking groups

Drinking for most young people and perhaps particularly for college students, is a social and group activity (Harford, 1994; Harford, Wechsler, & Rohman, 1983; Lange & Voas, 2000). Early observational research on drinking groups focused on gross, visual characteristics and ignored relational processes at play within these groups. Group drinking in bars and nightclubs were studied from a number of perspectives (Clark, 1981; Single, 1993). Most notably, the size and gender composition of the group, the overt and covert pressure group members place on each other, and a role model's impact were examined. These earlier

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studies found that the larger the group, the more alcohol consumed (Aitken, 1985; Carman, 1977). Van de Goor, Knibbe, & Drop (1990) found single-sex groups of young men drank faster than men in mixed-sex groups, though in mixed-sex groups, young women drank faster than in single-sex female groups. Hennessy and Saltz (1993) found that women in a group seemed to attenuate the drinking of men.

One explanation for group effects on drinking is that they provide individuals with potential models for behavior. In a series of studies, Marlatt and colleagues demonstrated that a role model's drinking rate and quantity affected the drinking of the subject when the interaction of the role model and the subject was positive (Caudill & Marlatt, 1975; Collins, Parks, & Marlatt, 1985; Lied & Marlatt, 1979; see also Cooper, Waterhouse, & Sobell, 1979; Watson & Sobell, 1982). But if groups are usually made up of one's friends, then the idea that they provide role models becomes less clear, since these relationships are more likely to be reciprocal.

Most of the aforementioned observational research has been conducted within bars, which is not the major venue for drinking by American collegiate youth, especially those under the legal drinking age (Clapp, Reed, Holmes, Lange, & Voas, 2006). Thus, there has been little research that substantively describes the nature of the drinking groups for young adults. Also, because researchers have focused either on strictly visually observable variables or artificially constructed situations, we do not know how interpersonal relationships within drinking groups may be associated with the drinking behavior of the individuals that they contain.

Using mixed methods, we have begun the systematic examination of what we have coined collegiate Natural Drinking Groups or NDGs (Lange, Johnson, & Reed, 2006). We define a NDG as a collection of two or more people organized to share a social activity centered on drinking who are bonded by friendship or other interpersonal relationships (Lange, Devos-Comby, Moore, Daniel, & Homer, 2011). Unlike artificially constructed groups in most laboratory studies, NDG members almost always have preexisting social bonds. Some members may be in an intimate relationship or may harbor unexpressed desires for such a relationship. The interplay of relationships may have profound effects on the differential influence of various group members which may impact the group members' drinking and sexual outcomes in this context.

Dating relationships and drinking

Little is known about the implications of dating relationships on college students' drinking. Pedersen and colleagues (Pedersen, Lee, Larimer, & Neighbors, 2009) found that students who were dating at the time reported drinking more alcohol (typical quantity and frequency combined) than single, non-dating students or those in a steady relationship. In that study, drinking was assessed by summing the numbers of drinks students reported typically consuming on each night of a typical week in the past month. By focusing on last events, Clapp and Shillington (2001) found that heavy drinking was *less* frequent when students participated in dates as opposed to other group drinking events. However, they did not control for the number of individuals present during the event and it may be that larger

drinking groups elicited more drinking than dating events. The variable (dates vs. group drinking) also precluded examining the role of dates in larger drinking groups. By modeling the interdependence between dating partners' drinking, Mushquash and colleagues were able to isolate the influence that a partner's heavy episodic drinking may have, over time, on an individual (Mushquash, Stewart, Sherry, Mackinnon, Antony, & Sherry, 2011). While this is an important finding, it does not address how such influence could come in play during specific drinking events.

Drinking and in-group relationships may have reciprocal effects. Though we know that the gender composition of a group affects the alcohol consumption by its members (Aitken, 1985; Hennessy & Saltz, 1993; Van de Goor et al., 1990), we do not know whether individuals form groups with the intention of facilitating a drinking motivation, or whether the group make-up causes the drinking behaviors.

Drinking and sexual outcomes

Although the association between drinking and sexual behavior is complex, drinking does seem to increase the likelihood of casual sex (Parks, Hsieh, Collins, & Levonyan-Radloff, 2011) and riskier sexual outcomes (Cook & Clark, 2005; Cooper, 2002). According to the theory of alcohol myopia (Steele & Josephs, 1990), drinking reduces the influence of distal cues (e.g., risk associated with sex), thereby removing the inhibition of sexual activity. Another hypothesis suggests that people have learned expectations about alcohol and sexual behavior and that motivate risky sexual behavior (Dermen, Cooper, & Agocha, 1998). Other aspects of NDGs may also increase sexual risk. For example, greater familiarity with other group members may reduce the perceptions that they could be infected with sexually transmitted diseases (Swann, Silvera, & Proske, 1995) and increase the probability of engaging in risky sex (unprotected sex with a partner with unknown sexual history; Zawacki, Norris, Hessler et al., 2009). NDGs also provide social access to casual sexual encounters.

Our study aimed to begin investigating the associations that dating and relationship commitment may have with drinking and sexual outcomes among students who participated in a NDG during their last drinking event. Some members may be in an intimate, committed relationship with someone in the NDG. Other members may be dating a group member without any serious commitment. Relationships may have profound effects on drinking behavior within the group. Our operationalization of relationships was unique in that we assessed dating/seeing someone in the group and relationship commitment as two separate, potentially independent, dimensions. Lastly, we assessed whether members of NDGs had sexual contact the night of the event with someone in the NDG. The goal was to explore sexual outcomes of participation in NDGs and their association with drinking.

Hypotheses

The following hypotheses were tested in this study:

- H1** We predicted a main effect of relationship commitment on drinking. Overall, we hypothesized that committed relationships would have a protective effect on

risky drinking such that participants in a committed relationship would drink less than those not in a committed relationship (Goldstein, Barnett, Pedlow, & Murphy, 2007).

- H2** We predicted an interaction effect between dating and relationship commitment such that dating/seeing someone in the NDG without any relationship commitment would be associated with heavier drinking than when participants were in a committed relationship with someone in the group. Indeed, the literature suggests a positive association between alcohol consumption and non-committed relationships (Pedersen et al., 2009; Grello, Welsh, & Harper, 2006).
- H3** We expected the relationship variables (commitment and dating) to be directly associated with drinking outcomes. To rule out the possibility that these effects would result from group differences, we tested for the effects of the relationship variables (dating and commitment) on group sizes, percentage of drinkers in the group, identification and bond to the group.
- H4** We expected a positive association between drinking and the likelihood of *casual* (non-committed) sexual contact with someone in the NDGs, an effect consistent with the literature (Cooper, 2002; Parks et al., 2011). We did not predict alcohol consumption to play much of a role in the likelihood of sexual contact for those in a committed relationship. In other words, there would be a positive correlation between the number of drinks consumed in the NDG and the likelihood of sexual contact only for those who were not in a committed relationship.

Method

Participants

Analyses presented here were conducted on 302 drinkers who were all undergraduate students from a large, public university in the Southwestern United States. This sample was 63.6% ($n = 192$) female and the mean age equaled 21.74 ($SD = 2.48$). The majority of participants self-identified as White ($n = 205$; 67.9%), followed by Hispanic 22%, Asian 19.5%, Pacific Islander 17.6%, African American 3.6%, and Native American 2.6% (multiple answers were allowed). Senior class standing (37.4%) was the largest group of students followed by junior (31.5%), freshman (16.2%), and sophomore (14.9%). Among participants, 15.9% reported being a member of a Greek organization. About 52% ($n = 157$) reported being in a committed relationship and about 36.1% ($n = 109$) reported that they were seeing or dating someone in the NDG. Independence between these two factors was not obtained, as it often happens when looking at natural categories. Among those in a committed relationship, 59.2% dated someone in the NDG. Among those not in a committed relationship, only 11.0% dated in the NDG, $\chi^2(1, N = 302) = 75.929, p < .001$.

Procedure

A sample of 746 undergraduate students was presented online with the survey items described below. This self-selected sample responded to a campus-wide invitation from the registrar's office to participate in an online survey on alcohol and drug use conducted in the

spring of 2008. As incentives, participants were entered in a raffle for a chance to win one of the various cash prizes offered. Among the respondents, 10.7% ($n = 80$) did not complete the survey, 20.4% ($n = 152$) did not drink in the past year, and 13.4% ($n = 100$) were current drinkers but their last drinking event was not with a group of friends or acquaintances (not in a NDG). These students were excluded from the analyses. Among the remaining 414 students eligible for the study, 8.9% did not answer the relationship commitment ($n = 25$) or the dating ($n = 12$) items, and 16% ($n = 68$) did not provide a valid number of drinks consumed in the NDG. As a result, 309 valid participants remained in the sample. The distribution of responses on the total number of drinks consumed in the NDG was submitted to an outlier analysis ($[Q_1 - k(Q_3 - Q_1), Q_3 + k(Q_3 - Q_1)]$ where Q_1 and Q_3 are the lower and upper quartiles respectively, and $k = 3$). Seven severe outliers were identified and excluded from the final sample. The final sample of 302 drinkers represented 40% of the original sample (Figure 1).

We ran a set of analyses to compare, among the 414 eligible participants, those who were valid participants ($n = 302$) to those who were excluded from the sample due to missing data and/or outlier data ($n = 112$). Significant differences were observed in age and ethnicity: Valid participants ($M = 21.74$, $SD = 2.48$) were 1.13 years younger than non-valid participants ($M = 22.87$, $SD = 4.89$), $t(385) = 2.98$, $p < .004$; and the valid group contained a greater proportion of Latinos than the non-valid group, $\chi^2(1, N = 412) = .06$, ns . For all other variables tested, there were no significant differences due to participant status. Indeed, these two groups did not differ in gender, $\chi^2(1, N = 413) = .07$, ns . There were equal proportions of Whites, $\chi^2(1, N = 414) = 1.09$, ns , Asians, $\chi^2(1, N = 414) = .21$, ns , Pacific Islanders, $\chi^2(1, N = 413) = .13$, ns , African Americans, $\chi^2(1, N = 413) = 2.19$, ns , and Native Americans $\chi^2(1, N = 414) = .25$, ns , in the two groups. Also the class standing distribution, $\chi^2(3, N = 414) = 1.81$, ns , and the proportion of Greeks, $\chi^2(1, N = 414) = .48$, ns , were similar in both groups. Moreover, participant status was independent of relationship commitment, $\chi^2(1, N = 389) = 3.04$, $p > .08$, dating someone in the group, $\chi^2(1, N = 398) = .06$, ns , or having sexual contact with someone in the group, $\chi^2(1, N = 398) = .61$, ns . Lastly, when excluding outliers on the number of drinks reported for the night and comparing those with missing data on the relationship variables and/or the number of drinks, there were no differences in the number of drinks among both the valid and non-valid participants, $t(346) = .44$, ns . In sum, the differences between valid and non-valid participants seemed minimal; thus we chose to simply remove the non-valid participants from the analyses (as opposed to imputing missing data and/or transforming data to accommodate outliers).

Measures

Relationship commitment—Immediately after providing their marital status in the demographic section at the beginning of the survey, participants were asked: “Are you in a committed relationship?” (yes, no).

Dating/seeing someone in the NDG—Participants who reported participation in a NDG during their last drinking event, were asked: “Was there someone in the group that you were currently seeing or dating?” (yes, no).

Number of drinks consumed in the NDG—Participants reported the number of drinks that they consumed for each location that they visited with the NDG. A standard drink was defined as 12 ounces of beer (5% alcohol), 12 ounces of wine cooler (5% alcohol), 5 ounces of wine (12% alcohol), or 1.5 ounces of liquor (80-proof liquor). Drinking quantity in the NDG was computed by summing the number of drinks reported for each location. The values for this index ranged from 0 to 24 drinks ($M = 6.41$, $SD = 4.74$).

Group characteristics—Participants were asked “As best you as you can remember, how many friends or acquaintances were part of the group you went with (excluding you)?”, and “how many of these friends/acquaintances were drinking?” which allowed us to compute the proportion of drinkers in each group. Participants’ identification and bond to the group were assessed by the following items: “How important is this group to your sense of who you are / your self-identity?” (7-point Likert scale ranging from 1 = Not important to 7 = Very important), and “To what extent do you feel a strong bond to that group?” (7-point Likert scale ranging from 1 = No strong bond to 7 = Very strong bond).

Sexual contacts—Participants were asked to report whether they had some form of sexual contact with someone from the group during or right after the event (yes, no). Those answering yes were asked: (1) “Before the event, did you have any desire to have a sexual relationship with a particular friend/acquaintance present in the group?” (7-point Likert scale ranging from 1 = No desire to 7 = Very strong desire), and (2) “Did you use any form of contraception, birth control or condoms (yes, no)” and if yes, what kind (open-ended).

Results

Data analysis plan

Because gender differences in college students’ drinking quantities are well documented (Maddock, Laforge, Rossi, & O’Hare, 2001; Murphy, Barnett, & Colby, 2006; O’Hare & Tran, 1997; Park & Grant, 2005), we first tested for a gender difference on the number of drinks consumed in the NDG (main outcome) using a 2-sided t-test. Men reported drinking significantly more ($M = 7.61$, $SD = 5.02$) than women ($M = 5.71$, $SD = 4.43$), $t(300) = 3.42$, $p < .002$. To control for this gender difference, gender was entered as a covariate in an analysis of covariance (ANCOVA) on the total number of drinks consumed in the NDG with relationship commitment (yes, no) and dating in the NDG (yes, no) as independent variables. This ANCOVA provided the test of Hypotheses 1 and 2. To test the third hypothesis, we ran the same ANCOVA model on a series of variables pertaining to the NDGs in order to rule out the possibility that these effects could be accounted by differences in NDGs and in participants’ relations to the NDGs. Finally, to test the hypothesis that alcohol consumption would increase the likelihood of sexual contact only for those not in a committed relationship (H4), we calculated the correlation between the number of drinks consumed in the NDG and sexual contact (yes, no) separately for two subgroups of participants: those not in a committed relationship and those in a committed relationship.

Number of drinks consumed in the NDG

As expected, gender was a significant covariate of the number of drinks consumed in the NDG, with male participants reporting more drinks than female participants, $F(1, 297) = 12.48, p < .001$. The main effects of relationship commitment and dating in the NDG were significant as well (Table 1). Students who were in a committed relationship ($M = 5.75, SE = .37$) drank significantly less than those who were not in a committed relationship ($M = 8.63, SE = .60$), $F(1, 297) = 16.65, p < .001$. Thus, the first hypothesis was confirmed. Students who were dating/seeing someone in the NDG ($M = 7.96, SE = .61$) reported more drinks than those who were not dating in the NDG ($M = 6.42, SE = .35$), $F(1, 297) = 4.72, p < .04$.

These main effects were qualified by an interaction between dating and relationship commitment consistent with our second hypothesis, $F(1, 297) = 9.42, p < .002$ (Figure 2). Pairwise comparisons were conducted and tests were adjusted for multiple comparisons (Bonferroni). Among students not in a committed relationship, those who were dating in the group reported heavier drinking than those who were not dating in the group, $F(1, 297) = 9.48, p < .003$. Among those in committed relationships, seeing someone in the NDG did not affect their drinking $F(1, 297) = .73, ns$. Also, participants who were dating/seeing someone in the NDG, reported heavier drinking when they had no commitment to the relationship than when they felt committed, $F(1, 297) = 16.89, p < .05$. This effect was not significant for those who were not dating/seeing someone in the NDG, $F(1, 297) = 1.04, ns$.

Group characteristics

As predicted in Hypothesis 3, dating and relationship commitment had no significant effects on group size, proportion of drinkers in the group, participants' identification or bond to the group (Table 1). Thus, those who were in a committed relationship *versus* not, and those who were dating/seeing someone in the NDG *versus* not, reported on drinking groups that were similar in sizes, proportions of drinkers in the NDG, and levels of identification and bond among members.

Sexual contact

Of the 302 participants in the sample, 63 participants (20.9%) reported sexual contacts during or right after the drinking event. Gender was not associated with sexual contact, $\chi^2(1, N = 300) = .84, ns$. As predicted in Hypothesis 4, participants not in a committed relationship, were more likely to have sexual contact with someone in the group as drinking increased, $r(145) = .226, p = .006$. For those in a committed relationship, alcohol consumption did not have an effect on the likelihood of sexual contact, $r(155) = .040, ns$. One should note that no one in the sample reported sexual contact with someone in the NDG while being in a committed relationship with someone not present in the NDG. Also, a majority (76.2%, $n = 48$) of participants who had sexual contact were in a committed relationship with a partner present in the NDG.

In addition, of those who reported sexual contact, 15.9% ($n = 10$) declared dating someone casually (no commitment) within the NDGs and another 7.9% ($n = 5$) reported sexual contact with someone from the NDG whom they were not dating/seeing and had no

relationship commitment with (casual encounter). In sum, 5% ($n = 15$) of the valid sample of 302 participants reported casual sexual contact during or right after participation in the NDGs with someone from the group. Because the question specifically asked about sexual contact with someone in the group, the percentage of participants who had casual sexual contact might be higher if it included contact with someone outside the group (e.g., a stranger, someone met at a party, etc.). For the five casual sexual encounters, participants reported little or no prior desire to have a sexual relationship ($M = 1.60$, $SD = .89$) which was significantly lower than the mean for all the other participants reporting sexual contact ($M = 6.32$, $SD = 1.50$), $t(60) = -6.88$, $p < .001$. For these casual sexual encounters, two participants reported using condoms, two reporting using no form of sexual protection (one participant declined to answer). Of the 63 participants who reported sexual contacts, 11 (18%) reported no form of sexual protection. Although the numbers were too small to statistically test the independence between the use of sexual protection and dating or relationship commitment, it appeared that dating (83.6%) and commitment (88.9%) tended both to be associated with greater use of protection than not dating (50%) or no commitment (57.1%).

Discussion

Most research on college students' alcohol use relies on global measures averaging behavioral occurrences and outcomes over various time periods (typically ranging from one month to one year). The event-specific approach (measuring variables as they may occur for a specific event, the method used in the present study) and the event-level approach (measuring variables as they may occur in a series of events as in diary studies) are both emerging in the field of alcohol research as new methods that may reduce recall biases (memory burden) and averaging across experiences inherent to global measures (Brown & Vanable, 2007; Labrie & Pedersen, 2008; Neal & Carey, 2007; Neal & Fromme, 2007; Wells, Mihic, Tremblay, Graham, & Demers, 2008). Because we asked students about the last drinking event specifically, we can expect more accurate responses than typically achieved with global measures. In addition, the variable co-occurrences pertain to the same event rather than to global associations averaged over a time period.

In order to examine the impact of dating relationships on alcohol consumption in NDGs, we dissociated the fact of dating/seeing someone in this context and participants' involvement in a committed relationship. Participants were free to decide what qualified as a committed relationship based on the subjective value they placed on the relationship. This method is novel compared to previous studies that have defined relationship commitment based on the duration of the relationship (e.g., Scott-Sheldon, Carey, & Carey, 2010). Our method accounts for the facts that: (1) a relationship may have recently developed and partners may feel very committed to it; (2), commitment may be less an intrinsic feature of a relationship than an experience lived by each partner in various degrees. In the present study, the lack of independence between dating in the NDG and relationship commitment requires caution when trying to interpret the main effect of a single factor such as relationship commitment. This should be less of a problem when interpreting the interaction, in particular when examining the significance of dating in NDGs for those not in a committed relationship.

Alcohol consumption

Overall self-reported drinking in the NDGs exceeded safe levels. In all conditions participants reported drinking levels that, on average, corresponded to heavy drinking. Relationship commitment and dating affected this outcome in significant ways. For students who were not in committed relationships but were dating in NDGs, drinking reached about twice the average for those in committed relationships. Our findings are consistent with previous research suggesting that college students may be more likely to drink in conjunction with new and less-committed sexual partners (Goldstein et al., 2007).

Typically, cross-sectional studies prohibit testing causal relationships among variables assessed. Yet, in this study, dating/seeing someone present in the NDG implies a relationship pre-existing to the gathering in which the drinking took place. This temporal sequence between dating/seeing someone and later drinking in the NDG in the presence of that person suggests that casual dating could lead to heavier drinking (rather than the opposite direction). This result illustrates the greater risk for excessive drinking associated with casual dating in a NDG. Separating non-committed dating and committed relationships revealed the opposite associations between these types of relationships and heavy drinking, and may explain why a prior study that did not make this distinction failed to observe a relationship between the presence of a partner in the group and alcohol consumption (Murphy et al., 2006).

In the present study we were able to rule out alternative interpretations of the increased consumption among casual daters in NDGs. Dating in the NDG or being in a committed relationship did not affect the size of the NDGs, the proportion of drinkers in the NDGs, or the identification and bond to those groups. In other words, the group nature and the participants' rapport to the groups did not differ on those characteristics, suggesting that the interplay of dating and relationship commitment affects alcohol consumption levels in direct ways, putting the casual daters at the greatest risk for excessive drinking.

Sexual contacts

A unique feature of this study consisted in cuing participation in a natural drinking group and then assessing two outcomes of such participation, alcohol consumption and sexual contacts, as well as their association. When researchers have used event-specific or event-level methods to examine the association between alcohol and sexual contacts, typically they have cued events in which sexual contacts occurred and then asked questions assessing the circumstances of these events, including alcohol use and partner types (Brown & Venable, 2007; Goldstein et al., 2007; Scott-Sheldon et al., 2010). Our approach evidenced that a significant fraction of the sample had sexual contacts with a NDG member during or right after the gathering. Participants who were unattached (no relationship commitment) were more likely to have sexual contact with someone in the NDG as their alcohol consumption increased. For those in committed relationships, the likelihood of having sexual contact was independent of their level of alcohol consumption.

When sexual contact occurred with a partner without a dating relationship, no or little prior desire to have a sexual relationship characterized these encounters, corroborating their

casual nature; this perhaps attests that intoxication, more than prior desire, may trigger these sexual contacts. Based on the small number of casual sexual encounters reported in our study, we cannot establish whether these encounters resulted in risky sexual behavior such as unprotected sex, regretted sex, or sexual assault / coercion (out of five participants, two reported unprotected sex and two reported using condoms). Although we cannot generalize this finding to other student populations participating in drinking groups, the fact that about 18% of our participants who had sexual contact reported unprotected sex is not trivial and, if replicated in other studies on NDGs, could be of real concern.

Several limitations characterize this first investigation of dating relationships within NDGs and their outcomes. This study relied on self-reported data and it is possible that the method we used to estimate the number of alcoholic drinks consumed within the NDG resulted in inflated values. Having to list all the locations visited with the NDG and then listing the number of drinks consumed in each location may have created a task demand to report one or even multiple drinks for each location. This method was deliberately chosen as a way to avoid participants averaging across locations. Research is needed that compares this method to a global measure asking participants for the total number of drinks during the gathering.

More research is necessary to understand why casual dating could possibly motivate heavier drinking than committed or non-dating situations within a NDG. For example, does the heightened uncertainty of the dating relationship increase the social expectancies of drinking, thus prompting more drinking? This could be a very important question and would advance the understanding of drinking expectancies.

The focus of this study was more on relationships within NDGs and their implications on alcohol consumption than on sexual outcomes; therefore, the results obtained on sexual contacts are very exploratory and limited. Unfortunately, we did not have enough statistical power to differentiate between types of sexual contacts, or whether protection against pregnancy or sexually transmitted infections was used. Future research could explore the role of dating, relationship commitment and alcohol on more specific sexual outcomes in the context of NDGs. Studies could explore these aspects and examine perceptions of sexual risks within and outside the NDG. One could expect students to perceive less risk in having sex with a person in the group than outside the group. Implications for safer sex practices warrant further examination.

The present study did not test personality factors that may account for greater risk taking, both in term of alcohol use and sexual behavior. Personality traits such as extraversion, shyness, conscientiousness, or sensation seeking have been proposed as potential predictors of risky alcohol use and sexual behaviors. Findings indicate that these associations are more complex than anticipated, varying as a function of gender, personality dimensions tested, and risky behavioral outcomes (Gute & Eshbaugh, 2008; Martsh & Miller, 1997; Nelson, Padilla-Walker, Badger et al., 2008; Raynor & Levine, 2009; Smith & Brown, 1998; Turchik Garske, Probst, & Irvin, 2010). Thus, it may be unlikely that a single trait could account for the complex relationships between heavy alcohol use and sexual contacts, as well as for the moderating role of dating and relationship commitment exhibited in the present study. New studies could try to replicate the pattern of results and test the role of

traits such as extraversion and sensation seeking. Another approach to address personality factors would be to use event-level data rather than a specific-event approach. Having participants describe multiple events allows for individuals to serve as their own controls, making comparisons for each participant's risky sexual behavior concurrent with drinking and not drinking, while controlling for individual differences (Scott-Sheldon et al., 2010).

Prevention efforts on campuses would benefit from addressing the implications that the presence of one's casual date in the NDG has for one's drinking, and the implication that excessive drinking has for one's involvement in casual sexual contact (with someone in the group or outside the group, without the existence of any dating or committed relationship). Interventions could address sex-related alcohol expectancies, in particular among those *not* in committed relationships as these beliefs may lead to increased consumption for these students (Pedersen et al., 2009) as well as the disinhibiting effect of alcohol (Cooper, 2002). Prevention stakeholders could reinforce the role of partners in committed relationships as agents of safer drinking. For instance, interventions could be offered to young couples to discuss alcohol-related expectancies, the regulation of each other's consumption, and the impact of alcohol on the couple.

Interventions could also target single students, teaching them healthier methods to be successful in social situations, building an expectation that one can interact in desirable ways, without drinking to intoxication. For example, increasing confidence in one's communication and social skills could reduce drinking brought on by not knowing what to do in the situation to keep a possible partner interested. Previous research has shown that college students overestimate the amounts of alcohol that dating partners and sexual partners may expect and desire from them (Labrie, Cail, Hummer, Lac, & Neighbors, 2009).

The other side of the coin should be explored for possible intervention as well. What is it that makes people in committed relationships drink less? More research is necessary to explore how the committed couple influences group drinking. For example, if the committed group member is not drinking, does that free other group members from the responsibility of driving, thus increasing their own drinking? Or do groups with committed members engage in less risky drinking as a whole? These are also questions that, if answered, could provide valuable insights into how and why students drink to excess and provide points of attack for interventions.

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Figure 1. Participant Flow Chart

Note. This figure shows the selection process of participants for analysis: Total participants entering the study, number of eligible and disqualified participants, invalid cases, and final sample used for analysis.

Figure 2.
Interaction Between Relationship Commitment and Dating on Alcohol Consumption in the NDG, Controlling for Gender.

Table 1
Estimated Means (Standard Errors) for Relationship Commitment by Dating, Controlling for Gender.

Dependent Variables	Committed		Not Committed		1. Covariate (gender) 2. Commitment 3. Dating 4. Dating × Commitment
	Dating	Not dating	Dating	Not dating	
Number of drinks	5.43 (.47)	6.07 (.57)	10.48 (1.14)	6.78 (.40)	1. F(1,297) = 12.48, p = .000 2. F(1,297) = 16.65, p = .000 3. F(1,297) = 4.72, p = .03 4. F(1,297) = 9.42, p = .002
Group size	6.88 (.92)	6.96 (1.11)	8.06 (2.21)	5.34 (.78)	1. F(1,297) = .11, p = .74 2. F(1,297) = .03, p = .87 3. F(1,297) = .92, p = .34 4. F(1,297) = 1.03, p = .31
Proportion of drinkers	.84 (.02)	.88 (.03)	.92 (.06)	.92 (.02)	1. F(1,294) = 2.22, p = .14 2. F(1,294) = 2.22, p = .14 3. F(1,294) = 1.06, p = .30 4. F(1,294) = .07, p = .80
Group identification	4.74 (.21)	4.17 (.25)	4.38 (.49)	4.37 (.17)	1. F(1,295) = 4.52, p = .03 2. F(1,295) = .074, p = .79 3. F(1,295) = .929, p = .34 4. F(1,295) = .833, p = .36
Group bond	5.79 (.17)	5.38 (.21)	5.32 (.42)	5.31 (.15)	1. F(1,297) = 4.43, p = .04 2. F(1,297) = 1.09, p = .30 3. F(1,297) = .641, p = .42 4. F(1,297) = .573, p = .45