# PROBLEM DRINKING AND EXTRADYADIC SEX IN YOUNG ADUIT ROMANTIC RELATIONSHIPS

STEVEN M. GRAHAM New College of Florida

SESEN NEGASH
Alliant International University

NATHANIEL M. LAMBERT University of the South Pacific

FRANK D. FINCHAM Florida State University

Extradyadic sex is prevalent in adult romantic relationships and it can have numerous negative consequences. It can negatively affect relationship functioning and makes both members of a romantic dyad more susceptible to particular health risks. The present research provides evidence for an association between problem drinking and extradyadic sex. In two studies, participants completed measures of problem drinking, extradyadic sex, relationship satisfaction, and social desirability. In Study 1 (N=353), problem drinking predicted higher rates of extradyadic sex controlling for sex, age, relationship satisfaction, and social desirability. In Study 2, this finding replicated both cross-sectionally (N=500) and prospectively (N=384), controlling for Time 1 extradyadic sex. Moreover, a majority of participants who engaged in extradyadic sex did not disclose this information to partners and a significant minority did not use a condom during the extradyadic incident.

Keywords: extradyadic sex, problem drinking, sexual risk-taking, alcohol

This research was supported by a Department of Health and Human Services Grant 90FE0022 awarded to Frank Fincham. Any opinions, conclusions, or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the funding agencies.

We thank Eli Finkel for comments on an earlier draft of this manuscript and Tarron Khemraj for discussions regarding logistic regression.

Address correspondence to Steven M. Graham, Division of Social Sciences, New College of Florida, Sarasota, FL 34243; E-mail: sgraham@ncf.edu

© 2016 Guilford Publications, Inc.

Extradyadic sex is defined as a secret sexual act or acts with a secondary partner while in a committed relationship. Not surprisingly, a sizable number of college students in self-identified monogamous relationships engage in extradyadic sex (e.g., Negash, Cui, Fincham, & Pasley, 2014). While more than an estimated 40% of students engage in some form of casual extradyadyic activity (i.e., caressing, kissing; Braithwaite, Lambert, Fincham, & Pasley, 2010), an estimated 20–27% of young adults engage in penetrative extradyadic sex (i.e., coitus, anal sex, oral sex; Vail-Smith, Whestone, & Knox, 2010). Such statistics are noteworthy in light of associations between extradyadic sex and important interpersonal consequences.

Because young and emerging adults are developing cognitive structures that will guide them in future marriages or marriagelike relationships, it is important to extend the study of extradyadic sex to people in this age range (Cherlin, 2010; Fincham & Cui, 2011; Negash et al., 2014). Although some evidence suggests that couples can actually benefit from extradyadic sex (cf., Atkins, Eldrige, Baucom, & Christensen, 2005), most appear to experience negative consequences (Schneider, Irons, & Corley, 1999). For example, extradyadic sex often results in anger, disappointment, self-doubt, and depression among partners of unfaithful individuals (Buunk, 1995; Cano & O'Leary, 2000). Intimate partner violence and even death have also been associated with extradyadic sex in dating relationships (e.g., Kaighobadi, Starratt, Shackelford, & Popp, 2008). Acts of extradyadic sex can also have important public health consequences. For example, Choi, Catania, and Dolcini (1994) found that only a minority of individuals who engage in extramarital sex use condoms regularly with extramarital partners, thus potentially exposing the individual engaging in extradyadic sex and their primary partners to sexually transmitted infections (STIs).

Despite the importance of understanding causes of extradyadic sex, McAlister, Pachana, and Jackson (2005) point out that it is under-studied. In a comprehensive review of the literature, Blow and Hartnett (2005) listed a number of demographic factors and some psychosocial (e.g., attachment style) and behavioral factors (e.g., sexual experience) that have been linked with extradyadic

sex. However, despite the health risks associated with alcohol use (i.e., reduced condom use; Sivaram et al., 2008) during sexual activity, there is still a dearth of research examining the link between alcohol use and extradyadic sex. The present research examines problem drinking as one variable that may be associated with engaging in sex outside of one's primary relationship.

# PROBLEM DRINKING AND EXTRADYADIC SEXUAL BEHAVIOR

Alcohol consumption is associated with less self-control and less impulse control across a variety of situations (e.g., Tangney, Baumeister, & Boone, 2004). Therefore, it is not surprising that ample evidence links alcohol with risk-taking behavior. For example, Fillmore, Blackburn, and Harrison (2008) found that alcohol intake is associated with riskier driving and Lesieur and colleagues (1991) demonstrated that alcohol was associated with pathological gambling behavior among university students. More directly relevant to the present research, alcohol intake is associated with sexual risk taking. Several studies show a negative correlation between young adults' early onset of alcohol use and their safer sex practices (i.e., unplanned and unprotected sex) in college (Sivaram et al., 2008; Walsh, Fielder, Carey, & Carey, 2013). Additionally, alcohol use is related to engaging in sexual activity with multiple partners (e.g., Arasteh, Des Jarlais, & Perlis, 2008). Thus, according to the extant literature, alcohol use is related to more risky sexual behavior. However, with the exception of anecdotal evidence and one recent study, there has been no empirical evidence to support or negate the link between drinking and extradyadic sexual behavior in dating relationships (Maddox Shaw, Rhoades, Allen, Stanley, & Markman, 2013).

There are many reasons why problem drinking relates to extradyadic sex. First, extradyadic sex is risky. As stated above, it can expose oneself and one's partner to STIs, it can undermine commitment in relationships (e.g., Drigotas, Safstrom, & Gentilia, 1999; Rusbult, 1983), and can lead to relationship termination (e.g., Hall & Fincham, 2006). Presumably, most people would like to avoid such outcomes. It stands to reason, then, that engaging in a behavior that opens one to these outcomes is risky. Given the broad relationship between alcohol consumption and reduced

self-control (e.g., Tangney, Baumeister, & Boone, 2004), the relationship between alcohol and risk-taking in general, and the relationship between alcohol and sexual risk taking in particular, we predict that problem drinking is associated with higher rates of extradyadic sex among dating college students. In line with others' findings, we further predict that a substantial number of individuals who engage in extradyadic sex do not use condoms during their extradyadic encounters and that a minority tell their partner about having extradyadic sex.

Despite these numerous reasons to predict that problem drinking would be related to rates of extradyadic sex, only two published data sets were directly relevant to this prediction. Hall, Fals-Stewart, and Fincham (2008) found that married men seeking alcohol treatment were more likely to have engaged in extramarital sex over the past year than were demographically matched men. Of course, there are several other ways in which men seeking alcohol treatment might be qualitatively different than the demographically matched men, which complicates the interpretation of the finding and highlights the need for data from a normative sample. In a more recent study, using a nonclinical and unmarried sample, Maddox Shaw and colleagues (2013) examined predictors of EDI from a multicontextual approach. Among other significant predictors, participants from their study who reported more problematic drinking were more likely to engage in extradydic sex than those who reported less problem drinking. The present research examines (1) the connection between problem drinking and extradyadic sex in college students and (2) the potential public health implications of extradyadic sex in this population by collecting information about condom use and disclosure to the primary partner.

#### THE PRESENT RESEARCH

In order to test our predictions, we conducted two studies. In the first, a sample of undergraduate students completed measures of problem drinking, extradyadic sex (including whether a condom was used and whether the activity was disclosed to the partner), relationship satisfaction, and social desirability.

We hypothesized that problem drinking would predict rates of extradyadic sex controlling for these other variables as well as respondent sex and age. In a second study, participants completed the same measures at baseline and then reported on their levels of extradyadic sex three months later. We hypothesized that problem drinking at Time 1 would predict extradyadic sex at Time 2, controlling for the other variables. Moreover, in both studies, we hypothesized that a majority of participants would not disclose their extradyadic activity to their primary partner and that significant minorities would not use condoms during the extradyadic incident.

#### STUDY 1

# **METHOD**

Participants. Participants were 353 students (63 men, 290 women) enrolled in an introductory class on family development processes who were involved in a current romantic relationship that was not a marriage and who completed all relevant measures. They ranged in age from 18 to 54, with a median age of 19. A majority of participants reported being Caucasian (69.1%), 13.9% reported being African American, 8.2% reported being Hispanic, and the remaining participants (8.2%) reported other ethnicities. Participants were primarily involved in heterosexual relationships (98.58%).

Measures and Procedure. Participants were recruited in class and received credit for participation. In the context of a larger study, participants completed the following measures online in addition to indicating their sex and age.

Problem Drinking Behavior. In order to assess problematic drinking, we administered the College Alcohol Problems Scale revised (CAPS-r). This eight-item scale taps how often people experience negative consequences of drinking (O'Hare, 1997). Participants indicated how often over the previous four months they had, for example, driven under the influence and had problems with appetite or sleeping as a result of alcohol use. Responses ranged

from 1 = never to 6 = 10 or more times, O'Hare (1997) provided some evidence for the validity of this measure by showing that it correlates substantially with the Quantity-Frequency Index of heavy drinking (QFI; Straus & Bacon, 1953) and a 9-item modification of the Michigan Alcoholism Screening Test (MAST; Kristenson & Trell, 1982). The item in the measure that refers to unplanned sexual behavior was not included in analyses. In the current sample, coefficient alpha was .85.

Extradyadic Sex. To assess extradyadic sex, we asked participants to indicate whether they had engaged in sexual intercourse with someone other than their primary partner (while dating that partner) over the previous two months. Those who answered yes were also asked to indicate whether they (or the other person) used a condom during the extradyadic incident and whether they had told their partner about the incident. No responses were coded as 0 and yes responses were coded as 1.

Relationship Satisfaction. Participants completed Funk and Rogge's (2007) 4-item measure of relationship satisfaction (Couple Satisfaction Index) which was developed from an Item Response Theory approach. The measure assesses satisfaction (from 1 = worse than all others/extremely bad to 6 = better than all others/extremely good), reward (from 1 = not at all to 6 = very much or extremely), warmth and comfort (from 1 = strongly disagree to 6 = strongly agree), and happiness (from 1 = extremely unhappy to 7 = perfect) components of relationship satisfaction. Sample items included "How rewarding is your relationship with your partner?" and "I have a warm and comfortable relationship with my partner." In previous research, this measure correlated substantially with the widely used Dyadic Adjustment Scale (r = .87) and with the Ineffective Arguing Inventory (r = -.79; Kurdek, 1994). Coefficient alpha in the present sample was .93.

Social Desirability. A shortened, 12-item version of the Marlowe-Crowne Social Desirability Scale (Reynolds, 1982) consisting of true and false questions was used to assess the tendency to present oneself in a socially desirable manner. Coefficient alpha in the present sample was .66.

Condom Use	Disclosure			
	Yes	No	$\chi^2$	Fisher's Exact p-value
Yes	8	17	1.48 (ns)	.38
No	4	3		

TABLE 1. Crosstabulation of Condom Use and Disclosure to Partner

#### **RESULTS**

Descriptive Statistics. Of 353 participants, 32 (9.07%) indicated that they had engaged in sexual intercourse with someone other than their partner while in an exclusive relationship. Of these, 25 (78.13%) used a condom during the incident and 7 (21.88%) did not. Twelve (37.50%) had told their partner about the extradyadic incident and 20 (62.50%) had not. See Table 1 for a crosstabulation of these numbers. People who used condoms during the incident were not systematically more or less likely to tell their partner about the extradyadic incident,  $\chi^2 = 1.48$ , p = .225.

Scores on the six-point problem drinking scale were relatively low (M = 2.38, SD = .96) although the range was substantial (1.00–5.75).

Problem Drinking and Extradyadic Intercourse. Because the outcome variable in the present study (i.e., extradyadic sex) is dichotomous, we conducted a binomial logistic regression to determine whether problem drinking predicts extradyadic sex over and above the control variables of sex, age, relationship satisfaction, and social desirability. We entered all control variables on the first step of the equation and entered problem drinking scores on the second step. The overall model predicted extradyadic sex status significantly,  $\chi^2 = 28.36$ , df = 5, p < .001 and accounted for between 7.7% and 17.8% of the variance in extradyadic sex rates, as estimated by the Cox & Snell R square and the Nagelkerke R square, respectively. For complete results of this analysis, refer to Table 2. As can be seen, only sex, age, and problem drinking were significant predictors of extradyadic sex status. The odds ratio associated with problem drinking scores was 2.41 (95% CI 1.51 to 3.85). A significant odds ratio with a value above 1 indicates that the independent variable increases the odds of the

B e <sup>B</sup>
3.03*
.68*
1 .76
.89
2.41***

TABLE 2. Summary of Logistic Regression Analysis for Variables Predicting Extradyadic Sex (N = 353)

dependent variable having a value of 1 (engaging in extradyadic sex). Thus, a one-unit increase in problem drinking scores (on a six-point scale) is associated with a 141 percent increase in the odds of engaging in extradyadic sex.

# DISCUSSION

Consistent with hypotheses, problem drinking was a significant predictor of extradyadic sex. That is, individuals who engaged in problem drinking were more likely to engage in sexual intercourse with someone other than their partner while they were dating that partner. Impressively, this association held when controlling for known predictors of extradyadic sex such as respondent sex (e.g., Glass & Wright, 1985; Hansen, 1987), age (e.g., Amato & Rogers, 1997; Atkins, Baucom, & Jacobson, 2001), and relationship satisfaction (e.g., Atkins et al., 2001; Glass & Wright, 1985). It also held when social desirability scores were controlled, despite Whisman and Snyder's (2007) suggestion that reports of extradyadic sex are influenced by social desirability concerns. This suggests that problem drinking is a robust predictor of extradyadic sex.

Also consistent with predictions, more than 20% of participants who engaged in extradyadic sexual intercourse did not use a condom at the time. Moreover, far fewer than half of the participants disclosed the incident to their primary partner. This suggests that there may be real public health implications of the association between problem drinking and extradyadic sex.

<sup>\*</sup>p < .05; \*\*\*p < .001

Because little research has demonstrated associations between problem drinking and extradyadic sex, we conducted Study 2 to replicate this association. Study 2 also extends this finding in an important way by testing for a prospective association between problem drinking and extradyadic sex, controlling for earlier extradyadic sex. Participants completed similar measures at Time 1 and then at Time 2, three months later, repeated the extradyadic sex assessment again.

#### STUDY 2

### **METHOD**

Participants. Participants at Time 1 were 500 (77 men, 423 women) students enrolled in an introductory class on family development processes, involved in a current romantic relationship that was not a marriage, and who completed all relevant measures at Time 1. They ranged in age from 18 to 40, with a median age of 19. A majority of participants reported being Caucasian (71.0%), 12.0% reported being African American, 8.8% reported being Hispanic, and the remaining participants (8.2%) reported other ethnicities. Most of the participants indicated that they were involved in a heterosexual relationship (99.00%). Of the original 500 participants 116 were excluded from prospective analyses because they either broke up with the partner they had been dating at Time 1 (N = 86) or failed to complete all measures at Time 2 (N = 30).

Measures and Procedure. Participants were recruited in class and received credit for participation. In the context of a larger study, participants completed the following measures online in addition to indicating their sex and age.

*Problem Drinking Behavior.* Participants once again completed the CAPS-r (O'Hare, 1997). In the current sample, coefficient alpha was .85.

*Extradyadic Sex.* To assess extradyadic sex, we asked participants to indicate whether they had engaged in sexual intercourse with someone other than their partner (while dating that partner) over the previous two months. No responses were coded as 0

and yes responses were coded as 1. If participants responded yes to this question, we asked them to indicate whether they (or the other person) had used a condom during the act of extradyadic sex and also whether they had told their partner about the act of extradyadic sex. Once more, no responses were coded as 0 and yes responses were coded as 1. Participants responded to these questions at Time 1 (the second week of an academic semester) and then again at Time 2 (twelve weeks later at the end of that same academic semester). Because participants received partial course credit for participation, this was the longest time period that we could use without risking serious attrition or introducing significant financial and logistical costs.

Relationship Satisfaction. Participants completed Funk and Rogge's (2007) Couple Satisfaction Index. Coefficient alpha in the present sample was .93.

Social Desirability. We used a shortened, 10-item version of the Marlowe-Crowne Social Desirability Scale (Strahan & Gerbasi, 1972) to assess the tendency to present oneself in a socially desirable manner. Coefficient alpha in the present sample was .63.

#### **RESULTS**

Descriptive Statistics. Of 500 participants at Time 1, 53 (10.60%) indicated that they had engaged in sexual intercourse with someone other than their partner while in an exclusive relationship. Of these, 40 (75.47%) used a condom during the incident and 13 (24.53%) did not. Twenty-three (37.50%) had told their partner about the extradyadic incident and 20 (62.50%) had not. At Time 2, 27 out of 384 (7.03%) indicated that they had engaged in sexual intercourse outside the romantic dyad. Of these, 15 (55.56%) indicated that they had used a condom whereas 12 (44.44%) had not. Seven (25.93%) had told their partner about the incident whereas 20 (74.07%) had not.

See Table 3 for a cross-tabulation of these numbers. People who used condoms during the incident were not systematically more or less likely to tell their partner about the extradyadic incident at Time 1,  $\chi^2$  = .171, p = .679, or Time 2,  $\chi^2$  = .964, p = .326.

Time 1				
Condom Use	Disclosure			
	Yes	No	$\chi^2$	Fisher's Exact p-value
Yes	18	22	.171 (ns)	.76
No	5	8		
Time 2				
Condom Use	Discl	osure		
	Yes	No	$\chi^2$	Fisher's Exact p-value
Yes	5	10	.964 (ns)	.41
No	2	10		

TABLE 3. Crosstabulation of Condom Use and Disclosure to Partner at Times 1 and 2

Scores on the six-point problem drinking scale were relatively low at Time 1 (M = 1.61, SD = .76) and for those participants who were retained in analyses at Time 2 (M = 1.68, SD = .83). Once again, the range was substantial (1.00–5.00), and it was identical for participants included in analyses of Time 1 data and of Time 2 data.

*Problem Drinking and Extradyadic Sex.* In order to replicate the association between problem drinking and extradyadic sex observed in Study 1, we again conducted a binomial logistic regression controlling for sex, age, relationship satisfaction, and social desirability. The overall model significantly predicted extradyadic sex,  $\chi^2 = 45.05$ , df = 5, p < .001 and accounted for between 8.6% and 17.2% of the variance in extradyadic sex rates, as estimated by the Cox & Snell R square and the Nagelkerke R square, respectively. For complete results of this analysis, refer to Table 4. As can be seen, only relationship satisfaction and problem drinking were significant predictors of extradyadic sex status. The odds ratio associated with problem drinking scores was 2.27 (95% CI 1.62 to 3.18) showing that a one-unit increase in problem drinking (on a six-point scale) scores was associated with a 127 percent increase in the odds of engaging in extradyadic sex.

To determine whether problem drinking at Time 1 was associated with extradyadic sex at Time 2, we conducted another binomial logistic regression analysis. On the first step, we entered the following control variables: sex, age, relationship satisfaction,

Variable	В	SE B	$\mathbf{e}^{\scriptscriptstyle B}$
Sex	20	.44	.82
Age	17	.11	.85
Relationship Satisfaction	53	.21	.59***
Social Desirability	12	.80	.88
Problem Drinking	.82	.17	2.27***

TABLE 4. Summary of Logistic Regression Analysis for Variables Predicting Extradyadic Sex at Time 1 (N = 500)

social desirability, and Time 1 extradyadic sex. On the second step we entered Time 1 problem drinking. The overall model significantly predicted extradyadic sex,  $\chi^2$  = 50.97, df = 6, p < .001 and accounted for between 12.4% and 32.5% of the variance in extradyadic sex rates, as estimated by the Cox & Snell R square and the Nagelkerke R square, respectively. For complete results of this analysis, refer to Table 5. As can be seen, only Time 1 extradyadic sex and problem drinking were significant predictors of Time 2 extradyadic sex status. The odds ratio associated with problem drinking scores was 2.19 (95% CI 1.27 to 3.77) showing that a one-unit increase in problem drinking scores was associated with a 119 percent increase in the odds of engaging in extradyadic sex.

Once again, consistent with predictions, many participants who engaged in extradyadic sexual intercourse did not use a condom at the time. Moreover, far fewer than half of the participants disclosed the incident to their primary partner. This again suggests that there may be public health implications of the association between problem drinking and extradyadic sex.

#### **GENERAL DISCUSSION**

The present findings contribute to scientific understanding of the relationship between problem drinking and extradyadic sex. More specifically, college students in dating relationships are significantly more likely to engage in extradyadic sex to the extent that they engage in problem drinking. This finding held even when controlling for sex, age, relationship satisfaction, and

<sup>\*\*\*</sup>p < .001

Variable	В	SE B	$\mathbf{e}^{\scriptscriptstyle B}$
Sex	47	.84	.62
Age	-04	.15	.97
Time 1 Relationship Satisfaction	.30	.261	1.35
Time 1 Social Desirability	1.83	1.38	6.22
Time 1 Extradyadic sex	3.04	.55	20.85***
Time 1 Problem Drinking	.78	.28	2.19**

TABLE 5. Summary of Logistic Regression Analysis for Variables Predicting Extradyadic Sex at Time 2 (N = 384)

social desirability. It also held prospectively controlling for all of these same variables in addition to Time 1 extradyadic sex.

These findings are particularly important given the prevalence of problem drinking on college campuses. For example, O'Malley and Johnston (2002) found that 40% of American college students who had had an alcoholic beverage in the past month, engaged in problem drinking (i.e., five or more alcoholic drinks in one drinking session during the past two weeks). Furthermore, fully 31% of college students meet the DSM criteria for alcohol abuse and 6% meet the criteria for alcohol dependence. Clearly, drinking is a problem on American college campuses and this underscores the importance of the present findings because they highlight yet another negative correlate of problem drinking.

Consistent with previous research, a majority of our participants who engaged in extradyadic sexual intercourse did not report this information to their partners (cf. Afifi, Falato, & Weiner, 2001). Importantly, a sizeable minority of them did not use a condom during the extradyadic episode of sexual intercourse. This clearly puts both the participants who engaged in this behavior as well as their partners at risk for acquiring STIs.

The present research has some implications worth noting. Findings suggest that curricula that emphasize the importance of safe sexual behavior even in committed relationships should be considered. Moreover, therapists who deal with problem drinkers should be alert to the potential risky sexual behavior

p < .05; \*\*p < .01; \*\*\*p < .001.

in which their clients may be engaged. By doing so, they can encourage safer behavior.

#### LIMITATIONS

This study has several limitations that must be acknowledged. First, the correlational nature of these data necessitates caution in making inferences about causality. That is, we cannot be certain that problem drinking is causing people to engage in extradyadic sexual intercourse. However, the prospective nature of Study 2's findings provides somewhat stronger evidence for inferring direction of effects. Also, controlling for baseline extradyadic sex in Study 2 helps to mitigate, but not eliminate, concerns about third variable explanations because many stable factors associated with engaging in extradyadic sex were likely present at both Times 1 and 2.

Second, the two samples in the present research were overwhelmingly female, and all participants were current university students. The sample was primarily female because it was conducted using students from a family studies course in which mostly female students were enrolled. Although unintended, the majority female sample size highlights important implications for women. More specifically, it shines the spotlight on the relational and sexual health risks associated with problematic alcohol use in women This is important because societal views of female extradyadic sex and female alcohol use have long been overshadowed by discussion of these issues in men (cf. Gomberg, 1988; Lyons & Willott, 2008). These findings suggest that researchers should broaden their focus and consider women in discussions about alcohol use and sexual risk-taking. That said, despite the focus in the literature on male alcohol use and male extradyadic sex, the link between the two behaviors has been understudied across genders. Thus, we recommend future studies include more male participants.

Third, because this research was conducted for a variety of purposes in addition to those reported presently, it made use of

some single-item measures and, in Study 2, did not include all measures at both times. Future research could be designed to use additional assessments at multiple time points.

Finally, the extradyadic nature of participants' behavior also warrants some caution. Participants were required to be in a dating relationship to participate in the study. Participants had limited options to categorize their relationships, however, and so it is not clear if some were in relationships characterized by a norm other than monogamy.

#### **STRENGTHS**

A primary strength of the current research is that it provides two demonstrations of an important finding. That is, problem drinking is associated with increased risk of engaging in extradyadic intercourse. Although there are numerous reasons to expect this to be the case, until recently there has been little evidence to show that the association exists. Another strength of the present research is that we used a strict definition of our dependent variable. That is, in order to be considered as having engaged in extradyadic sex, participants had to report that they had had sexual intercourse with someone other than their partner while they were dating the partner. Whereas much research on extradyadic sex has focused on emotional extradyadic behavior (e.g., Glass & Wright, 1985; Thompson, 1984) or even online extradyadic behavior (e.g., Henline, Lemke, & Howard, 2007; Mileham, 2007), we have focused on overtly sexual behavior with true public health implications. We do not intend to imply that other types of extradyadic behavior are unimportant or unworthy of attention. Clearly, these types of extradyadic behavior can be damaging to relationships. Instead, we are focusing on the public health risks imposed by engaging in extradyadic sex.

# FUTURE DIRECTIONS AND CONCLUSION

Future research should endeavor to replicate this association in diverse samples. Another task for future research will be to examine whether problematic drinking is a risk factor for all individuals. Some individual differences such as religiosity or trait self-control might mitigate this association. Additionally, some relationship-level factors might attenuate this association as well. For example, people in highly committed relationships and people in very new relationships might be less likely to engage in extradyadic sex as a result of problem drinking. These and other possibilities await future empirical investigation.

In sum, the present research demonstrates that problem drinking is associated with an increased likelihood of engaging in extradyadic sex. Moreover, substantial minorities of college students do not use condoms when engaged in extradyadic sex, and most do not tell their partner about the extradyadic sex. These findings provide important information for therapists, sex and alcohol educators, and public health providers and researchers.

#### **REFERENCES**

- Afifi, W. S., Falato, W. L., & Weiner, J. L. (2001). Identity concerns following a severe relational transgression: The role of discovery method for the relational outcomes of extradyadic sex. *Journal of Social and Personal Relationships*, 18, 291–308. doi:10.1177/0265407501182007
- Amato, P. R., & Rogers, S. J. (1997). A longitudinal study of marital problems and subsequent divorce. *Journal of Marriage & the Family*, 59, 612–624.
- Arasteh, K., Des Jarlais, D. C., & Perlis, T. E. (2008). Alcohol and HIV sexual risk behaviors among injection drug users. *Drug and Alcohol Dependence*, 95, 54–61. doi:10.1016/j.drugalcdep.2007.12.008
- Atkins, D. C., Baucom, D. H., & Jacobson, N. S. (2001). Understanding infidelity correlates in a national random sample. *Journal of Family Psychology*, 15, 735–749. doi:10.1037/0893-3200.15.4.735
- Atkins, D. C., Eldridge, K. A., Baucom, D. H., & Christensen, A. (2005). Infidelity and behavioral couple therapy: Optimism in the face of betrayal. *Journal of Consulting and Clinical Psychology*, 73, 144–150. doi:10.1037/0022-006X.73.1.144
- Blow, A. J., & Hartnett, K. (2005). Infidelity in committed relationships II: A substantive review. *Journal of Marital & Family Therapy*, 31, 217–233. doi:10.1111/j.1752-0606.2005.tb01556.x
- Braithwaite, S. R., Lambert, N. M., Fincham, F. D., & Pasley, K. (2010). *Journal of Family Psychology*, 2, 740–745. doi:10.1111/j.1752-0606.2005.tb01556.x
- Buunk, B. P. (1995). Sex, self-esteem, dependency and extradyadic sexual experience as related to jealousy responses. *Journal of Social and Personal Relationships*, 12, 147–153. doi:10.1177/0265407595121011
- Cano, A., & O'Leary, K. D. (2000). Infidelity and separations precipitate major depressive episodes and symptoms of nonspecific depression and anxiety.

- Journal of Consulting and Clinical Psychology, 68, 774–781. doi:10.1037/0022-006X.68.5.774
- Cherlin, A. J. (2010). Demographic trends in the United States: A review of research in the 2000s. *Journal of Marriage and Family*, 72, 403–419. doi:10.1111/j.1741-3737.2010.00710.x
- Choi, K., Catania, J. A., & Dolcini, M. M. (1994). Extramarital sex and HIV risk behavior among U.S. adults: Results from the national AIDS behavioral survey. American Journal of Public Health, 84, 2003–2007. doi:10.2105/AJPH.84.12.2003
- Drigotas, S. M., Safstrom, C. A., & Gentilia, T. (1999). An investment model prediction of dating extradyadic sex. *Journal of Personality and Social Psychology*, 77, 509–524. doi:10.1037/0022-3514.77.3.509
- Fillmore, M. T., Blackburn, J. S., & Harrison, E.L.R. (2008). Acute disinhibiting effects of alcohol as a factor in risky driving behavior. *Drug and Alcohol Dependence*, 95, 97–106. doi:10.1016/j.drugalcdep.2007.12.018
- Fincham, F. D., & Cui, M. (Eds.). (2011). Romantic relationships in emerging adulthood. New York: Cambridge University Press.
- Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. *Journal of Family Psychology*, 21, 572–583. doi:10.1037/0893-3200.21.4.572
- Glass, S. P., & Wright, T. L. (1985). Sex differences in type of extramarital involvement and marital dissatisfaction. *Sex Roles*, 12, 1101–1120.
- Gomberg, E. L. (1988). Alcoholic women in treatment: The question of stigma and age. *Alcohol and Alcoholism*, 23, 507–514.
- Hall, J. H., Fals-Stewart, W., & Fincham, F. D. (2008). Risky sexual behavior among married alcoholic men. *Journal of Family Psychology*, 22, 287–292. doi: 10.1037/0893-3200.22.2.287
- Hall, J. H., & Fincham, F. D. (2006). Relationship dissolution following extradyadic sex: The roles of attributions and forgiveness. *Journal of Social and Clinical Psychology*, 25, 508–522. doi:10.1521/jscp.2006.25.5.508
- Hansen, G. L. (1987). Extradyadic relations during courtship. *Journal of Sex Research*, 23, 382–390. doi:10.1080/00224498709551376
- Henline, B. H., Lamke, L. K., & Howard, M. D. (2007). Exploring perceptions of online infidelity. *Personal Relationships*, 14, 113–128. doi:10.1111/j.1475-6811.2006.00144.x
- Kaighobadi, F., Starratt, V. G., Shackelford, T. K., & Popp, D. (2008). Male mate retention mediates the relationship between female sexual infidelity and female- directed violence. *Personality and Individual Differences*, 44, 1422–1431. doi:10.1016/j.paid.2007.12.010
- Kristenson, H., & Trell, E. (1982). Indicators of alcohol consumption: Comparisons between a questionnaire (Mm-MAST), interviews and serum gamma-glutamyl transferase (GGT) in a health survey of middle-aged males. *British Journal of Addiction*, 77, 297-304.
- Kurdek, L. A. (1994). Areas of conflict for gay, lesbian, and heterosexual couples: What couples argue about influences relationship satisfaction. *Journal of Marriage & the Family*, 56, 923–934.

- Lesieur, H. R., Cross, J., Frank, M., Welch, M., White, C. M. Rubenstein, G., . . . Mark, M. (1991). Gambling and pathological gambling among university students. *Addictive Behaviors*, 16, 517–527.
- Lyons, A. C., & Willott, S. A. (2008). Alcohol consumption, gender identities and women's changing social positions. *Sex Roles*, *59*, 694–712.
- Maddox Shaw, A. M., Rhoades, G. K., Allen, E. S., Stanley, S. M., & Markman, H. J. (2013). Predictors of extradyadic sexual involvement in unmarried oppositesex relationships. *Journal of Sex Research*, 50, 598–610. doi:10.1080/00224499 .2012.666816
- McAlister, A. R., Pachana, N., & Jackson, C. J. (2005). Predictors of young dating adults' inclination to engage in extradyadic sexual activities: A multi-perspective study. British Journal of Psychology, 96, 331–350. doi:10.1348/000712605X47936
- Mileham, B.L.A. (2007). Online infidelity in internet chat rooms: An ethnographic exploration. *Computers in Human Behavior*, 23, 11–31. doi:10.1016/j. chb.2004.03.033
- Negash, S., Cui, M., Fincham, F. D., & Pasley, K. (2014). Extradyadic involvement and relationship dissolution in heterosexual women university students. *Archives of Sexual Behavior*, 43, 531–539. doi:10.1007/s10508-013-0213-y
- O'Hare, T. (1997). Measuring problem drinking in first time offenders: Development and validation of the college alcohol problem scale (CAPS). *Journal of Substance Abuse Treatment*, 14, 383–387.
- O'Malley, P. M., & Johnston, L. D. (2002). Epidemiology of alcohol and other drug use among American college students. *Journal of Studies on Alcohol and Drugs*, 14, 23–39.
- Reynolds, W. M. (1982). Development of reliable and valid short forms of the Marlowe-Crowne Social Desirability Scale. *Journal of Clinical Psychology*, 38, 119–125. doi:10.1002/1097-4679
- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology*, 45, 101–117. doi:10.1037/0022-3514.45.1.101
- Schneider, J. P., Irons, R. R., & Corley, M. D. (1999). Disclosure of extramarital sexual activities by sexually exploitative professionals and other persons with addictive or compulsive sexual disorders. *Journal of Sex Education & Therapy*, 24, 277–287. doi:10.1080/01614576.1999.11074316
- Shackelford, T. K., LeBlanc, G. J., & Drass, E. (2000). Emotional reactions to infidelity. Cognition & Emotion, 14, 643–659. doi:10.1080/02699930050117657
- Sivaram, S., Srikrishnan, A. K., Latkin, C., Iriondo-Perez, J., Go, V. F., Solomon, S., & Celentano, D. D. (2008). Male alcohol use and unprotected sex with non-regular partners: Evidence from wine shops in Chennai, India. *Drug and Alcohol Dependence*, 94, 133–141. doi:10.1016/j.drugalcdep.2007.11.016
- Strahan, R., & Gerbasi, K. C. (1972). Short, homogeneous versions of the Marlowe-Crowne social desirability scale. *Journal of Clinical Psychology*, 28, 191–193.
- Straus, R., & Bacon, S. D. (1953). *Drinking in college*. New Haven, CT: Yale University Press.

Vail-Smith, K., Whetstone, L. M., & Knox, D. (2010). The illusions of safety in "monogamous" undergraduate relationships. *American Journal of Health Behavior*, 34, 12–20. doi:10.5993/AJHB.34.1.2

- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, 72, 271–322. doi:10.1111/j.0022-3506.2004.00263.x
- Thompson, A. P. (1984). Emotional and sexual components of extramarital relations. *Journal of Marriage & the Family*, 46, 35–42.
- Walsh, J. L., Fielder, R. L., Carey, K. B., & Carey, M. P. (2013). Changes in women's condom use over the first year of college. *Journal of Sex Research*, 50, 128–138. doi:10.1080/00224499.2011.642024
- Whisman, M. A., & Snyder, D. K. (2007). Sexual infidelity in a national survey of American women: Differences in prevalence and correlates as a function of method of assessment. *Journal of Family Psychology*, 21, 147–154. doi:10.1037/0893-3200.21.2.147