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Men's Intentions to Have Sex With a New Partner: Sexual and Emotional Responding, Alcohol, and Condoms

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Abstract

Findings regarding the relation between alcohol and intentions to have sex have been mixed, and little research has examined the role of condom availability on intentions to have sex. Sexual and emotional responding may influence subsequent sexual decisions. Thus, a better understanding of sexual and emotional responding combined with situational factors such as condom presence could help explain the discrepancies in findings regarding alcohol's effect on intentions to have sex. The effects of alcohol and condom presence on men's intentions to have sex were examined using an experimental paradigm involving an alcohol administration study and a second-person eroticized scenario. The effects of sexual and emotional responding were also examined in relation to intentions to have sex. It was found that alcohol increased positive mood, which was associated with higher intentions to have sex. In addition, condom presence was directly associated with higher intentions to have sex. More sexual desire was related to increased likelihood of sexual intentions. These findings increase understanding of mechanisms underlying the relation between alcohol and intentions to have sex.

Risky sexual behavior, defined as behavior that increases risk for negative sexual outcomes, can include having unprotected sex, engaging in sex with partners having an unknown sexually transmitted infection (STI) status, and having a large number of sexual partners. Negative outcomes, including unwanted pregnancy and STIs, are more likely to occur when condoms are not used than when they are. Of those who live with HIV infections in the United States, 75% are men and approximately 25% of these infections are in heterosexual men (Centers for Disease Control and Prevention, 2011). Condoms are the best method to prevent fluid transmission and associated consequences. Although both male and female condoms are available, the male condom is much more commonly used (although still at relatively low rates) than the female condom (Mantell et al., 2006). Therefore, understanding factors influencing men's sexual decision making is essential.

Condom Presence

Sexual decision making does not occur in a vacuum; rather, contextual or situational factors are likely to exert important effects on intentions and behavior. One contextual factor that is important to examine is the presence of condoms within the sexual situation. There is a dearth of experimental research examining the effect of condom presence on sexual decision making (Conner & Flesch, 2001; Gilmore et al., 2013). Yet, a core assumption of STI risk reduction programs is that the presence of a condom decreases the likelihood of unprotected intercourse (De Rosa et al., 2012), and some survey findings support this idea (Wretzel, Visintainer, & Pinkston Koenigs, 2011). To better inform STI risk reduction program development, experimental research is needed to determine whether condom presence (and/or other contextual factors) contributes to intentions to have sex.

Sexual and Emotional Responding

Recent studies suggest that sexual and emotional responding may be mechanisms through which contextual factors in sexual situations affect intentions to have sex (George et al., 2013; Norris et al., 2009; Schacht, George, et al., 2010). Previously examined sexual and emotional responding factors are mood, sexual arousal, and sexual desire. Sexual arousal can include genital (for men, changes in penile circumference) and self-reported sexual arousal. Sexual desire is an urge or a motivation to engage in sexual behavior (Bancroft & Graham, 2011; Hardy, 1964; Janssen, 2011; Whalen, 1966). The majority of research studies examining the role of sexual and emotional responding in sexual decision making examined women (George et al., 2013; Norris et al., 2009; Schacht, George et al., 2010); more research is needed to develop a comprehensive understanding of men's intentions to have sex.

Acute Alcohol Intoxication

It is well known that acute alcohol intoxication can impair decision making in general (Steele & Josephs, 1990): however, its effects on sexual decision making are mixed. Some studies have found that alcohol can impair sexual decision making (see reviews by Cooper, 2002; George & Stoner, 2000; Hendershot & George, 2007; Kaly, Heesacker, & Frost, 2002; Rehm, Shield, Joharchi, & Shuper, 2012), whereas others have not (e.g., Calsyn, Baldwin,

Niu, Crits-Christoph, & Hatch-Mailette, 2011). This suggests that although general decision making practices are associated with sexual decision making, intentions to have sex are more complicated than being solely predicted by one contextual factor such as alcohol. Moreover, the mechanisms by which alcohol increases risky sexual behavior are unclear. Studies suggest that factors such as positive mood (Grant, Stewart, & Birch, 2007; Knowles & Duka, 2004; Steptoe & Wardle, 1999; Townshend, 2004), sexual desire (Gilmore et al., 2013; Turchik, 2011), and sexual arousal (self-reported and genital; Crowe & George, 1989; Ebel-Lam, MacDonald, Zanna, & Fong, 2009; George et al., 2009; MacDonald et al., 2000; Prause, Staley, & Finn, 2011) may change while intoxicated and it is possible that these factors when heightened may increase risk of unprotected sex (Ebel-Lam et al., 2009; George et al., 2009, 2014; Schacht et al., 2010). More recent research suggests that alcohol's effects on men's genital responding are not universal—even at high dosages, they may be confined to limited aspects of arousal topography, and vary with contextual factors such as motivational set and blood alcohol level (George et al., 2006, 2008, 2009; Prause et al., 2011); therefore, more research examining other contextual factors (e.g., condom presence) is needed. Some research has begun to explore the relation between sexual arousal and intentions to have sex, but the relation between positive mood and intentions to have sex as well as sexual desire and intentions to have sex are not yet understood.

Condom Presence and Acute Alcohol Intoxication

We are aware of only one study that examined both condom presence and acute alcohol intoxication as contextual factors affecting men's intentions to engage in sex using a casual sex scenario (Conner & Flesch, 2001). Heterosexual male and female college students were recruited at a bar in the United Kingdom including participants who were intoxicated and those who had little or no alcohol before participating in the experiment. Participants read and responded to a casual sex scenario that varied condom availability and alcohol presence in the scenario. It was found that acute alcohol intoxication, alcohol in the scenario, and condom presence in the scenario were related to greater intentions to have sex. Alcohol was not administered, blood alcohol level was not assessed, and it was conducted in a bar; therefore, a more controlled study examining condom presence and alcohol is warranted.

Taken together, sexual and emotional responding, including positive mood, self-reported sexual arousal, genital arousal, and sexual desire, are related to intentions to have sex. However, research is necessary to understand how contextual factors such as condom presence and alcohol are related to sexual and emotional responding in ways that affect intentions to have sex. In addition, it is unclear whether contextual factors (i.e., alcohol and condom presence) interact with each other or if they impact intentions to have sex independently. A few studies have begun to explore the separate relationships of contextual factors (alcohol and condom presence) on sexual and emotional responding, and the association between sexual and emotional responding and intentions to have sex in women. However, it is essential to understand how men's intentions to have sex are affected by contextual factors such as condom presence and alcohol consumption.

Present Study

Using an experimental paradigm with young adult men involving alcohol administration and a second-person eroticized scenario, we examined the effects of alcohol and condom presence on intentions to have sex with a new sexual partner and the effects of sexual and emotional responding on intentions to have sex. Specifically, we examined the following sexual and emotional responses: positive mood, sexual desire, self-reported sexual arousal, and genital arousal. We hypothesized that alcohol would be associated with higher sexual and emotional responses than when sober, which would, in turn, be associated with a higher intention of having sex in the scenario (see Figure 1). It was also hypothesized that there would be an interaction between alcohol and condom presence on sexual and emotional responding and on intention to have sex.

METHOD

Participants

Male participants ($n = 118$) between the ages of 21 and 35 years were recruited from the community through newspaper advertisements and fliers for a study on social drinking and decision making. Eligibility for the study included self-defining as men who have sex with women; being single; typically consuming at least one drink per week and reporting at least one heavy episodic drinking episode (i.e., consuming five or more drinks in less than 2 hr) in the past year. Overall, participants reported average daily drinking as consuming a mean of 2.33 ($SD = 1.77$) drinks per day and drinking for an average of 1.77 ($SD = 1.15$) hr per day. Participants were excluded from the study if they were problem drinkers¹ or indicated that they were taking a medication that contraindicated consuming alcohol. The mean age for participants was 25.44 years ($SD = 3.86$). Racial composition was as follows: 72% Caucasian, 6.8% multiracial, 6.8% Black/African American, 2.5% Native America, 1.7% Asian, and 1.7% Native Hawaiian. The majority of participants (70.3%) reported that they were not currently students.

Measures

Positive Mood—Positive mood was assessed using a modified (see Schacht et al., 2010) Positive and Negative Affect Scale (Watson, Clark, & Tellegan, 1988). Ten positive mood descriptors were assessed, including *happy*, *excited*, and *horny*. Participants rated the extent to which they felt each emotion on a 5-point scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). The mean was computed (see Table 1), and $\alpha = .90$.

Sexual Desire—Sexual desire was assessed by the question: “At this point, how much do you desire to have sex with [female story character] (regardless of whether or not you actually will)?” (Gilmore et al., 2013). Responses were reported on a 5-point scale ranging from 1 (*not at all*) to 5 (*very much*).

¹Potential participants were excluded if they reported having been (a) told by a professional that they had a problem with alcohol, (b) ever seriously concerned about their own drinking, or (c) treated or advised to seek treatment for drinking. They were also excluded if they had ever experienced any of the following after drinking alcohol: (a) fainting or seizure, (b) highly unusual flushing of the skin, or (c) severe or unusual psychological reaction. Those who reported a positive family history for alcoholism were excluded if combined with another alcohol problem or consumed more than 40 drinks weekly.

Self-Reported Sexual Arousal—Four questions used in previous research (Schacht et al., 2010) assessed self-reported sexual arousal: overall arousal, sensation in genitals, sexual warmth, and sexual absorption. Response options were reported on a 7-point scale ranging from 1 (*no sexual arousal/sensation/sexual warmth/absorption at all*) to 7 (*extremely sexually aroused/extreme genital sensation/sexual warmth/absorption*). The mean was computed (see Table 1), and $\alpha = .96$.

Genital Arousal—Genital arousal was assessed using penile plethysmography (BioPac Systems, Inc., Santa Barbara, California; model MP 150) and a mercury-in-rubber strain gauge (D. M. Davis Inc., Hackensack, New Jersey). AcqKnowledge software (version 3.7.2) enabled data to be collected at a rate of 62.5 samples per second then further reduced to 25 samples per second. The strain gauge was calibrated before each use to ensure accurate assessment. Each strain gauge was disinfected with Cidex OPA solution (Advanced Sterilization Products, Irvine, CA) following each session. All data were digitally transferred.

Genital arousal was measured by percent increase in penile circumference. Penile circumference percentage increase was computed by subtracting the minimum penile circumference during a neutral film shown to participants before reading the story from the maximum penile circumference during the scenario. The result was divided by the minimum penile circumference during the neutral film stimuli to account for individual differences in initial size.

Sexual Intentions—Two questions assessed sexual intentions: “At this point, how likely are you to have sex with [female story character]?” and “. . . have vaginal sex with [female story character]?” (Schacht et al., 2010). Responses were reported on a 5-point scale ranging from 1 (*not at all likely*) to 5 (*very likely*). These two items were chosen to have an inclusive definition of sex and they were significantly correlated, $r = .82, p < .001$. The mean was computed (see Table 1), and $\alpha = .89$.

Materials and Procedure

Participants were breathalyzed (Intoxilyzer 5000, CMI Inc., Owensboro, KY) upon arrival to establish that they did not have a positive blood alcohol level. While in a private room, participants completed computerized questionnaires and were instructed by a male research assistant on how to attach the penile plethysmograph. Participants were randomly assigned to either the alcohol (target blood alcohol level of 0.10%) or no alcohol condition and beverages were prepared in a separate room. Juice and 190-proof ethanol were mixed in a 6:1 ratio at 0.988 grams alcohol per kilogram body weight and were poured into three cups to be consumed in 9 min. Participants were given an equal amount of juice and were yoked to a participant in the alcohol condition (Schacht, Stoner, George, & Norris, 2010). They were then breathalyzed every 3 min until their blood alcohol level reached a criterion of 0.065% to ensure they would be on the ascending limb during the scenario.

After beverage administration, participants attached the plethysmograph and viewed three film clips: one neutral video (2.5-min documentary about birds; BBC-TV) to establish a baseline level of genital sexual arousal and two 3-min erotic video clips (New Era

Productions and VCA Productions) to induce sexual arousal. The clips displayed explicit consensual sexual activities (kissing, oral sex, and vaginal intercourse) between an adult man and woman.

Participants then read a second person eroticized scenario on the computer. The man's beverage consumption in the scenario matched the participant's assigned alcohol condition. The woman in the scenario was depicted as consuming at least two alcoholic drinks in all conditions. The scenario included a progression of scenes leading to the man making a decision about intercourse. These scenes included (a) going to a party and talking to a former coworker, Michelle; (b) spending time with her at the party; (c) going to her house; and (d) engaging in foreplay activities. Participants were randomly assigned to read either a scenario in which a condom was available or a scenario in which a condom was not available. In the condom-present condition, the story concluded with the woman stating, "I need you. I'm so wet, I really want you inside me . . . I have a condom." In the no condom condition, the story concluded with Michelle stating, "I need you. I'm so wet, I really want you inside me . . . but I don't have a condom." Participants then answered questions about mood, sexual arousal, sexual desire, and likelihood of engaging in sex. Participants indicated that the scenario portrayed an experience that could realistically happen to them ($M = 4.03$, $SD = 1.21$; responses were reported on a 5-point scale ranging from 1 [*I found it not at all possible*] to 5 [*I found it very possible*]).

After the study, participants in the no alcohol condition were then debriefed and paid; participants in the alcohol condition were debriefed, paid (US\$15 per hour), and released when their blood alcohol level fell below 0.03%.

Data Analysis

We examined the descriptive statistics of all variables for missingness and distributional concerns. Because of statistical power concerns about including an interaction term in the path model, we examined the interaction effects of alcohol and condom presence first with analysis of variance (Figure 1). We next examined the correlation matrix. We used LISREL 8.8 (Jöreskog & Sörbom, 2006) to test the model (see Figure 2). We analyzed the covariance matrix using maximum likelihood estimation. Model fit was evaluated with multiple criteria. Good fit is typically evidenced by a nonsignificant chi-square, a root mean square error of estimation and standardized root mean square residual of less than .08, and comparative fit index of greater than .95 (Hu & Bentler, 1999).

RESULTS

Preliminary Analyses

A total of 118 men were included in the current analyses. One hundred forty-three men participated, but data from 25 participants were excluded because of computer, equipment, or manipulation failures. There were 33 men in the condom-present no-alcohol condition; 28 men in the condom-present alcohol condition; 28 men in the no-condom-present no-alcohol condition; and 29 men in the no-condom-present alcohol condition. Table 1 presents the means, standard deviations, and correlations for all study variables. All variables except

sexual desire were normally distributed; sexual desire was negatively skewed and positively kurtotic. Bivariate correlations are also included in Table 1. There were two missing scores (one each on sexual desire and intentions to have sex). We thus used multiple imputation on the missing scores.

Preliminary analyses of variance assessed the interaction of alcohol consumption and condom presence. There were no interaction effects on positive mood ($F[3, 114] = 0.23, p = 0.63$), sexual desire ($F[3, 114] = 0.11, p = 0.74$), self-reported arousal ($F[3, 114] = 0.02, p = 0.90$), genital arousal ($F[3, 114] = 0.01, p = 0.98$), or intentions to have sex ($F[3, 114] = 0.14, p = 0.71$). Interactions were, therefore, excluded from the tested path model. The tested model is shown in Figure 2.

Bivariate Correlations

The majority of the variables were associated in the hypothesized directions (see Table 1). Alcohol and positive mood were significantly correlated; men who consumed alcohol reported higher positive mood. Condom presence was significantly associated with intentions to have sex; when a condom was present, men reported greater intentions to have sex. Positive mood, sexual desire, self-reported arousal, and intentions to have sex were significantly positively and moderately-to-highly correlated. Genital arousal was not significantly related to positive mood, sexual desire, or intentions to have sex although it was significantly positively related to self-reported arousal.

Path Analysis

The tested model is shown in Figure 2, and parameter information is shown in Table 2. All hypothesized paths were retained, and the direct effect of condom presence on intentions to have sex was modeled. This model provided excellent fit to the data, $\chi^2(6, N = 118) = 3.89, p = 0.69$, root mean square error of estimation = 0.000, standardized root mean square residual = 0.036, comparative fit index = 1.00. As hypothesized, condom presence was associated with greater intentions to have sex in the scenario. In addition, alcohol intoxication was associated with higher positive mood, which was then associated with greater intentions to have sex in the scenario. Sexual desire was associated with greater intentions to have sex in the scenario. There were no significant relations between alcohol condition and sexual desire, self-reported sexual arousal, or genital arousal. There were also no significant relations between self-reported or genital arousal and intentions to have sex. Overall, the model accounted for 30% of the variance in sexual intentions.

DISCUSSION

Using an experimental paradigm with alcohol administration and an eroticized scenario, this study investigated the effects of alcohol and condom presence or absence on sexual and emotional responding and intentions to have sex. Overall, we found that positive mood is a factor through which alcohol affects intentions to have sex and that sexual desire and condom presence increase intentions to have sex. Some of the hypotheses were not supported including the association between alcohol and sexual arousal as well as interactions between alcohol and condom conditions. The findings suggest that the relation

between alcohol and men's sexual intentions is not fully explained by sexual arousal; thus, other sexual and emotional responses such as positive mood and desire can increase one's intention to have sex with a new partner. Further research is needed to understand under what circumstances alcohol might interact with condom presence/absence in affecting mood, sexual desire, and sexual intentions.

Condom Presence Findings

The mere presence of a condom in the scenario raised intentions to have sex with a new partner, which is consistent with the limited extant findings (Conner & Flesch, 2001) and suggests that condom presence may alleviate sexual risk and pregnancy concerns, thereby increasing the likelihood of sexual activity. It is important to note, however, that we did not assess whether participants would actually use the available condom. Future research should examine if the presence of a condom behaviorally influences the likelihood of using the condom because risk reduction programs assume that if a condom is present in a situation it will be used (De Rosa et al., 2012).

Positive Mood Findings

Consistent with previous research (Knowles & Duka, 2004; Schacht et al., 2007), acute alcohol intoxication increased positive mood, which in turn predicted intention to have sex. To our knowledge, this is the first study to demonstrate this using an experimental alcohol administration study in men. These findings further current knowledge by suggesting that positive mood is a mechanism through which alcohol intoxication leads to intentions to have sex in men. This relation can be understood using alcohol myopia theory (Steele & Josephs, 1990). Salient factors when intoxicated, such as positive mood, are more likely to influence behavior than distal cues such as potential sexual risk. Future research should examine if mood state could be one way to increase the effectiveness of STI risk reduction programs. For example, if men are more likely to engage in risky sexual behavior while in a positive mood, it may be possible to use methodology from experimental procedures to induce positive mood states (i.e., writing about a positive memory, listening to positive music) before participating in an STI risk reduction program to ensure mood-congruent learning and practicing.

Sexual Desire and Sexual Arousal Findings

Both emotional and motivational states influence behavior, thus it would be expected that sexual arousal (an emotional state; Janssen, 2011) and desire (a motivational state; Janssen, 2011) in addition to positive mood would increase sexual intentions. Sexual desire was associated with more intentions to have sex in this study. Perhaps the importance of sexual desire could be included as an education component in sexual risk reduction programs.

It is a notable finding that acute alcohol intoxication did not have a significant effect on sexual desire despite the relation found in women (e.g., Gilmore et al., 2013). To our knowledge, this is the first study experimentally examining alcohol's effect on sexual desire in men. It is also surprising that alcohol and self-reported sexual arousal were not related given previous research (Ebel-Lam et al., 2009; George et al., 2009; MacDonald, MacDonald, Zanna, & Fong, 2000; Prause et al., 2011). It is possible if sexual arousal had

been assessed earlier in the scenario, that we would have found significant relationships (e.g., Norris et al., 2009); however, this is only speculative and future research should examine this possibility.

When examining the correlations of the current study, there was a positive association between intentions to have sex and self-reported sexual arousal and a positive association between self-reported sexual arousal and genital arousal. However, when considering other sexual and emotional factors as well as situational factors, such as condom presence, the relation between sexual arousal and intention to have sex was not significant. Future research should further examine situational factors that may impact the previously found mediating relation of sexual arousal on alcohol and intentions to have sex.

Limitations and Implications

Several limitations to this study should be considered when interpreting the results. The first is that this study used a sample of young heavy episodic drinking men who volunteered for research with genital measures; therefore, these findings may not be generalizable to the larger population (Strassberg & Lowe, 1995). Problematic drinkers and men who do not drink heavily were also excluded, thus these findings may not extend to problematic drinkers. The age range in this study may limit generalizability because age impacts sexual functioning (Blanchard & Barbaree, 2005). Sexual functioning was not examined in this study and it is possible that sexual functioning impacts sexual responses and intentions to have sex. Most men indicated a strong desire to engage in sex with the woman in the scenario, which may have limited the ability to detect differences based on alcohol condition.

This study has several implications for STI risk reduction programs. First, it emphasizes the importance of including information about alcohol's effects on intentions to have sex, which could inform STI risk reduction programs. Second, it suggests that sexual and emotional responding, including sexual desire and mood, play a role in intentions to have sex; thus, they should be addressed in STI risk reduction programs. Third, it suggests that men hold stronger intentions to have sex with a new partner when a condom is present compared with when a condom is not present. Future research could further explore the group of men who still strongly intend to have sex when a condom is not present to further inform STI risk reduction programs.

Conclusions and Future Directions

This study suggests that alcohol and condom presence each affected intentions to have sex. Sexual and emotional responding, especially positive mood and sexual desire, play an important role in explaining the relation between alcohol and intentions to have sex. Future research examining potential alcohol expectancy effects could add to the understanding of these findings because for women, expectancies have been found to be related to alcohol's effects on sexual and emotional responding including sexual desire and arousal (e.g., Gilmore et al., 2013). The role of sexual desire using a more diverse sample could add a more thorough understanding of the role of sexual desire in intentions to have sex. Overall,

this study suggests that sexual and emotional factors such as sexual desire and positive mood should be considered when examining intentions to engage in sex.

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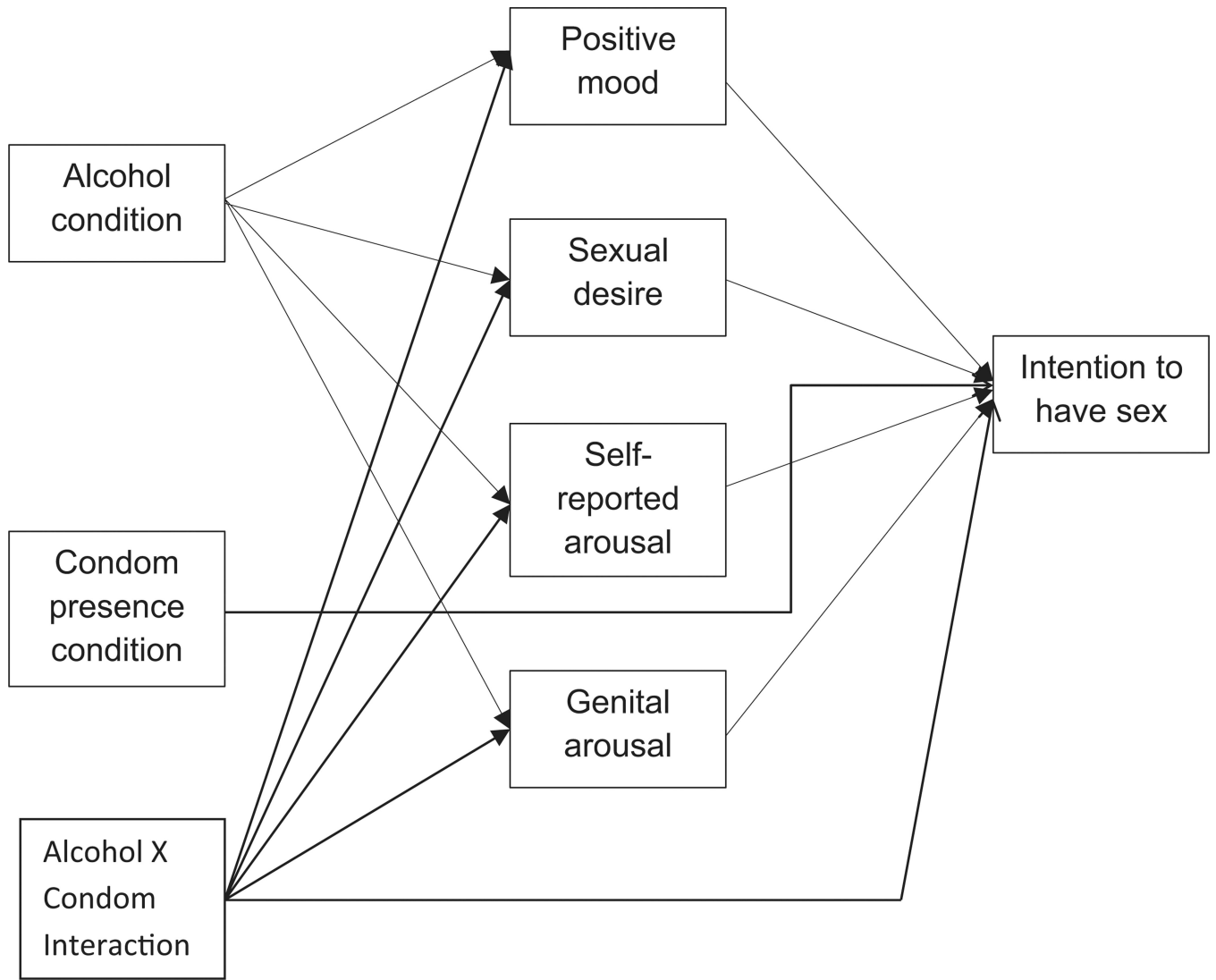


FIGURE 1.
Hypothesized model.

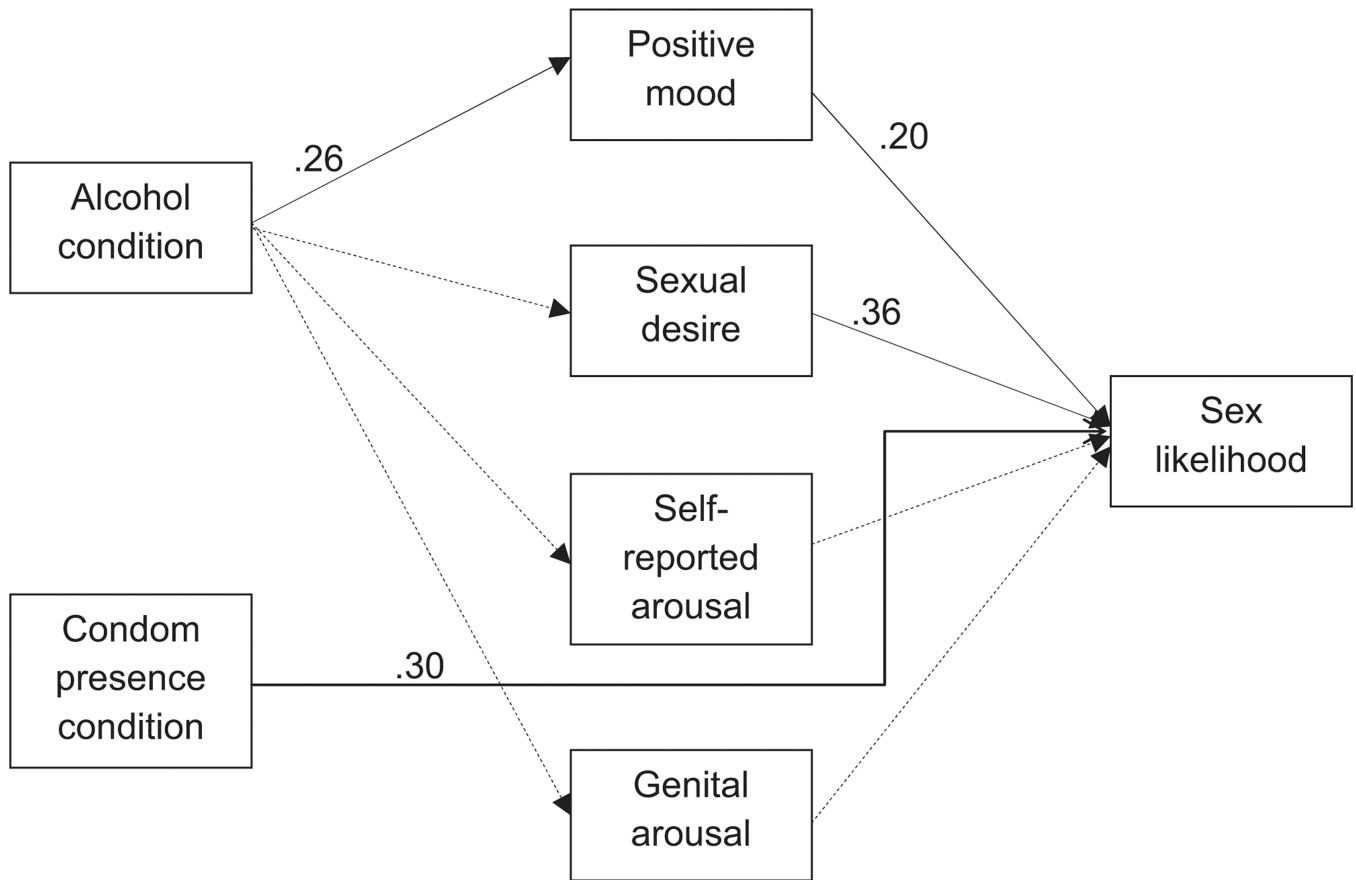


FIGURE 2. Final model. Positive mood, sexual desire, self-reported sexual arousal, and genital arousal were all permitted to correlate. Significant paths ($p < .05$) are solid lines and include the standardized beta weights; nonsignificant paths are dotted lines.

TABLE 1

Intercorrelations and Descriptive Statistics for Variables (*N* = 118)

Variable	1	2	3	4	5	6	7
1. Alcohol condition	1						
2. Condom presence condition	-0.050	1					
3. Positive mood	0.264**	0.007	1				
4. Sexual desire	-0.122	0.146	0.199*	1			
5. Self-reported arousal	0.131	-0.022	0.596***	0.244**	1		
6. Genital arousal	-0.110	0.067	0.177	0.087	0.410***	1	
7. Sex likelihood	-0.010	0.354***	0.276**	0.439***	0.209*	0.137	1
<i>M</i>	NA	NA	2.376	4.752	4.087	0.211	4.176
<i>SD</i>			0.906	0.719	1.597	0.147	1.264

Notes. Alcohol condition was coded as 0 = no alcohol, 1 = alcohol consumed; condom presence condition was coded as 0 = condom absent, 1 = condom present.

* *p* < .05.

** *p* < .01.

*** *p* < .001.

TABLE 2

Parameter Estimates for Final Model

Effects	Unstandardized estimate	Unstandardized standard error	Standardized estimate
Positive mood on alcohol	0.26	0.09	0.26**
Sexual desire on alcohol	-0.12	0.09	-0.12
Subjective sexual arousal on alcohol	0.13	0.09	0.13
Genital arousal on alcohol	-0.11	0.09	-0.11
Sex likelihood on . . .			
Positive mood	0.20	0.10	0.20*
Sexual desire	0.36	0.08	0.36***
Subjective sexual arousal	-0.01	0.11	-0.01
Genital arousal	0.05	0.08	0.05
Condom presence	0.30	0.08	0.30***

Notes. Positive mood, sexual desire, subjective sexual arousal, and physiological arousal were permitted to intercorrelate. All such parameters were statistically significant, except for the sexual desire–physiological arousal link.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

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