

Effects of Alcohol, Condom Request Style, and State Anger on Men's Condom Use Resistance

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ABSTRACT. Objective: The purpose of this study was to examine the distal predictors (alcohol expectancies, adversarial heterosexual beliefs) and proximal predictors (alcohol intoxication, partner's condom use request style, state anger) of young men's condom use resistance (CUR). **Method:** Young, male, non-problem drinking, inconsistent condom users ($N = 297$) completed an alcohol administration experiment. After completing background measures, participants were randomly assigned to receive a control or alcoholic beverage (target peak breath alcohol concentration = .08%). They then read a randomly assigned hypothetical sexual scenario in which their female partner requested to use a condom either indirectly, directly, or insistently. Participants' desire to have condomless sex, state anger, and both coercive and noncoercive CUR intentions were assessed. **Results:** Path analyses demonstrated that

alcohol intoxication directly predicted noncoercive CUR intentions. In addition, a moderated mediation pathway was found such that, relative to sober participants, intoxicated men's sexual aggression-related alcohol expectancies were positively associated with their state anger in response to the partner's condom use request. This increased anger was related to stronger noncoercive CUR intentions. Adversarial heterosexual beliefs both directly and indirectly predicted coercive and noncoercive CUR intentions. **Conclusions:** Path analysis demonstrated that alcohol intoxication increased intentions to resist condom use through noncoercive tactics. In addition, men's misogynistic attitudes and alcohol intoxication were associated with greater feelings of anger, which predicted stronger coercive and noncoercive CUR intentions. (*J. Stud. Alcohol Drugs*, 81, 454-461, 2020)

ALTHOUGH CORRECT AND CONSISTENT condom use reduces the risk of sexually transmitted infections (STIs) and unplanned pregnancy (Centers for Disease Control, 2016), condom use resistance (CUR) is common. Compared with women, men report greater intentions to have condomless sex (Scott-Sheldon et al., 2016) and more frequent attempts to avoid condom use (Debro et al., 1994). Research indicates that alcohol intoxication, in combination with dispositional tendencies toward anger and hostility, increases men's likelihood of attempting to avoid condom use with partners who desire protected sex (Abbey et al., 2009; Stappenbeck et al., 2019). Although research indicates that emotional responses to women's condom use requests play a role in men's CUR (Davis, 2010; Otto-Salaj et al., 2010), little research has examined the influence of women's condom request style on men's emotional responses and intentions to use coercive and noncoercive CUR tactics. By further delineating these risk factors, this research can inform prevention programming aimed at reducing men's CUR behavior.

Both quantitative and qualitative research suggests that young men commonly engage in CUR (Davis et al., 2014a, 2014b). Previous research has identified a range of CUR tac-

tics from noncoercive (e.g., reassurance of low STI risk) to coercive (e.g., deceit, manipulation, or force). Coercive CUR tactics are less frequently used than noncoercive tactics and overlap conceptually with sexual aggression (Davis, 2019; Davis et al., 2018; Wegner et al., 2017).

As with other sexual risk behaviors (George, 2019; Scott-Sheldon et al., 2016), alcohol intoxication increases men's likelihood of engaging in CUR. For example, positive CUR attitudes, perceived social support for CUR, CUR self-efficacy, and CUR intentions all increase after consuming alcohol (Davis et al., 2016). Moreover, an event-level examination revealed that young men consumed more drinks on drinking days in which they engaged in CUR compared with drinking days on which CUR did not occur (Stappenbeck et al., 2019).

Alcohol may contribute to CUR through its effects on men's in-the-moment responses during sexual situations. In particular, some men report reacting with anger to their partners' requests to use a condom (Otto-Salaj et al., 2010), and alcohol-related factors (e.g., intoxication, expectancies) may predict such reactions. Indeed, Davis (2010) found that intoxicated men with stronger aggression-related alcohol expectancies reported greater negative emotions (e.g., anger) in response to a woman's refusal to have condomless sex relative to sober men and men with weaker aggression-related alcohol expectancies. Negative emotions then predicted stronger intentions to engage in coercive tactics to obtain condomless sex.

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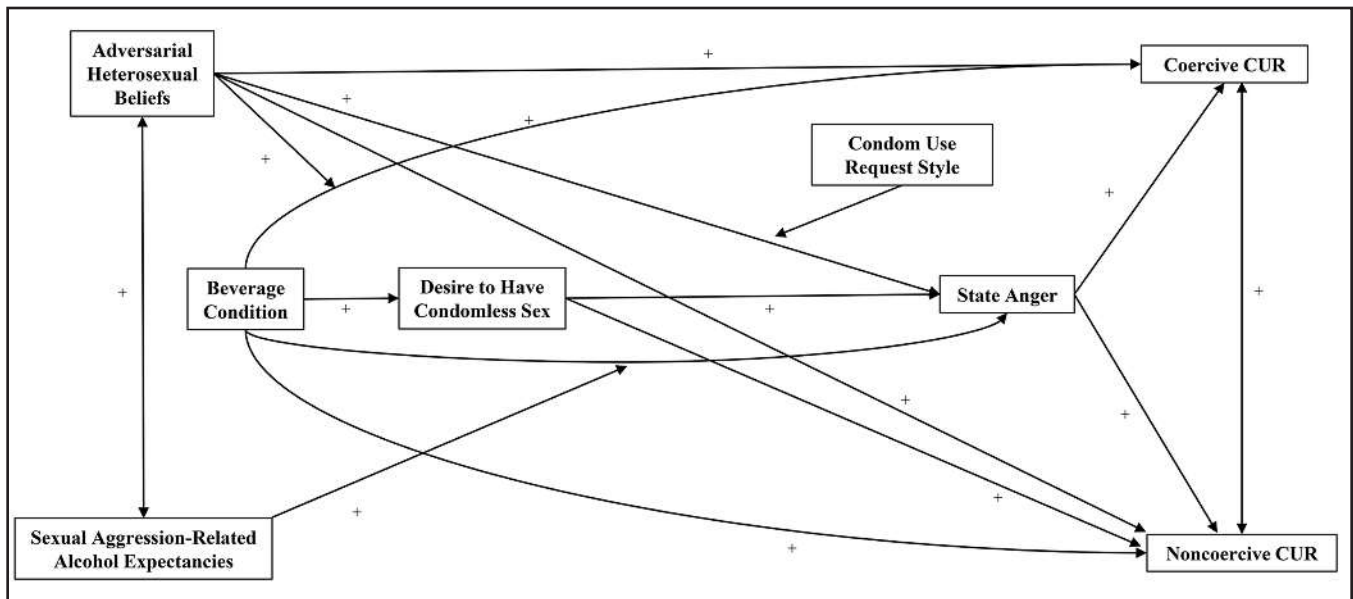


FIGURE 1. Hypothesized path model. CUR = condom use resistance.

Previous research suggests that distal measures of anger and hostility are related to men's alcohol-involved CUR. For example, compared with sober men, intoxicated men with hostile attitudes toward women report stronger intentions to have condomless sex with a woman who wants to use a condom (Abbey et al., 2009). In an event-level examination, the likelihood of CUR for men lower in trait anger increased the more alcohol they consumed above their typical consumption. However, for men higher in trait anger, deviations in drinking from their typical consumption amounts were not associated with CUR (Stappenbeck et al., 2019). Such findings indicate that alcohol consumption works in concert with pre-existing tendencies to facilitate CUR behavior; however, neither of these studies examined proximal anger responses as a possible mediator of this relationship.

Another factor that may influence men's responses to a condom use request is the way in which the request is communicated. Condom use requests can be verbal or nonverbal and vary in directness (Lam et al., 2004). Direct verbal condom use requests are more effective for negotiating condom use with a partner (Lam et al., 2004), and women who are insistent about condom use are more likely to persuade their partner to use a condom than women who are less insistent (Tschann et al., 2010). As in other research (e.g., Abbey et al., 2009), men's CUR responses to different types of condom use request styles are also influenced by alcohol intoxication and hostility toward women (Wegner et al., 2017). For men low in hostility toward women, CUR intentions did not vary by alcohol consumption or condom request style. However, for men higher in hostility, CUR intentions were strongest when men were intoxicated or when they received an indirect condom request, supporting previous research

that indirect requests are the least effective for successful condom negotiation. Although such findings demonstrate that women's condom request style and men's alcohol intoxication and attitudes about women are predictive of CUR intentions, research has yet to investigate how men's proximal emotional reactions to condom requests (e.g., anger) might mediate these responses.

In the current study, we aimed to address this knowledge gap through an alcohol administration experiment that manipulated previously identified predictors of men's CUR (e.g., alcohol intoxication, condom request style) and assessed whether their effects on CUR are mediated by proximal anger responses. We hypothesized that alcohol intoxication would directly predict increased coercive and noncoercive CUR intentions (Figure 1). We also expected that alcohol intoxication would be indirectly associated with increased CUR intentions through a greater desire to have condomless sex and greater anger in response to the female partner's condom request. We predicted that intoxicated men with stronger alcohol expectancies related to sexual aggression propensity would report greater anger after a condom use request, which would be associated with increased CUR intentions. Adversarial heterosexual beliefs were expected to predict greater CUR intentions both directly and indirectly through greater anger. We also predicted that adversarial heterosexual beliefs would interact with alcohol intoxication to predict greater coercive CUR intentions. Last, we expected that women's condom request style would interact with men's adversarial heterosexual beliefs, such that men with stronger adversarial heterosexual beliefs would respond with greater anger to indirect condom requests, which would relate to greater coercive and noncoercive CUR intentions.

Method

Participants

Participants ($N = 320$) were 21- to 30-year-old non-problem drinking men who reported at least one instance of condomless sex with a woman in the past year and who were not in a long-term monogamous relationship. Consistent with guidelines for ethical alcohol administration (National Institute on Alcohol Abuse and Alcoholism, 2005), men were excluded if they reported medical condition(s) or prescription drug use that contraindicated alcohol consumption, typically consumed fewer than 3 drinks per week, or had a history of negative reactions to alcohol or problem drinking (Brief Michigan Alcohol Screening Test [BMAST]; Pokorny et al., 1972).

Procedure

Online and print advertisements recruited “male social drinkers” for a study on “male–female interactions.” Interested individuals called for more information and to complete eligibility screening. Of 971 screened, 581 (59.8%) were ineligible; most frequent non–mutually exclusive reasons for exclusion were consistent condom use ($n = 154$), no or low alcohol use ($n = 127$), high scores on the BMAST ($n = 109$), and being in a monogamous relationship ($n = 84$).

When eligible participants arrived at the laboratory, a male experimenter verified their age and used a handheld breath alcohol analyzer (Alco-Sensor IV, Intoximeters, Inc., St. Louis, MO) to ensure that their breath alcohol concentration (BrAC) was .00%. Participants were required to have adhered to the following: not driving to the laboratory, not consuming a caloric beverage or food in the past 3 hours, and not consuming alcohol or using recreational or over-the-counter drugs in the past 24 hours. Once verified, the experimenter administered informed consent, after which participants completed measures on a computer in a private room. All procedures and measures were approved by the university’s Human Subjects Division.

Beverage administration. Following the background measures, participants were randomly assigned to either a high alcohol dose or a control condition. Participants in the alcohol condition received one part 100-proof vodka to three parts juice, designed to yield a peak BrAC of .08% (.82 ml ethanol per pound of body weight; Friel et al., 1999). Control participants received an equivalent mixture of one part water to three parts juice. Breathalyzer tests were administered every 4 minutes until alcohol participants reached a target BrAC of .05% in order for them to complete the remaining procedures while on the ascending BrAC limb. Each control participant was yoked to an alcohol participant, such that he completed the same number of Breathalyzer tests as the alcohol participant to reduce error variance related to the time

between beverage consumption and experimental manipulation (Giancola & Zeichner, 1997; Schacht et al., 2010).

Hypothetical sexual scenario. After reaching the criterion BrAC, participants read and projected themselves into a sexually explicit scenario written in the second person. The story introduced a relationship with “Erica” by briefly describing two previous consensual sexual encounters, only one of which involved condom use. In the current interaction, Erica and the protagonist engaged in explicit sexual activity. Erica made a request to use a condom (Condom Request 1) and the protagonist realized that he did not have one. The story continued with Erica looking for and finding a condom, after which she and the protagonist continued to engage in explicit sexual activities, including genital fondling but not intercourse. Erica again requested condom use (Condom Request 2). The final part of the story included more explicit, erotic sexual activity, leading up to but not including penetration, followed by a final condom request from Erica (Condom Request 3).

Participants were randomly assigned to one of three condom request conditions that described the nature of Erica’s requests: Indirect, Direct, or Insistent. In the Indirect Request condition, Erica made nonverbal gestures toward the condom and subtly suggested that she would like to use it. In the Direct Request condition, Erica made an explicit verbal request to use the condom and handed an unopened condom to the protagonist. Last, in the Insistent Request condition, Erica told the protagonist that she would not have sex with him unless they used a condom, opened the condom package, and handed it to him.

After the scenario, participants completed questions including the dependent measures and were debriefed. Sober participants were released immediately after debriefing; intoxicated participants were required to wait until their BrAC dropped to .03% or below. Participants received \$15 per hour.

Materials

Background questionnaires. Before receiving their drinks, participants completed background questionnaires that included assessments of their demographic characteristics, adversarial heterosexual beliefs, and sexual aggression–related alcohol expectancies.

Adversarial heterosexual beliefs. Participants’ adversarial heterosexual beliefs were assessed using 15 items assessed on a seven-point Likert scale, from 1 (*strongly disagree*) to 7 (*strongly agree*) (Lonsway & Fitzgerald, 1995). A sample item included “Men and women are generally out to use each other.” Items were averaged and showed adequate reliability (Cronbach’s $\alpha = .79$).

Sexual aggression–related alcohol expectancies. Participants’ sexual aggression–related alcohol expectancies were assessed using a modified six-item subscale of the Alcohol

Expectancies Questionnaire–Sex and Aggression (Abbey et al., 1999). These items (e.g., “When drinking alcohol, I am more likely to pressure a woman to have sex”) were assessed on a five-point scale, from 1 (*not at all*) to 5 (*very much*). The mean of these six items was computed and demonstrated good reliability (Cronbach’s $\alpha = .83$).

Dependent measures. While reading the scenario, participants completed the dependent measures.

(A) *DESIRE TO HAVE CONDOMLESS SEX:* After Condom Request 3, there was a break in the story during which participants rated their desire to have sex with Erica without a condom. Response options ranged from 1 (*not at all*) to 7 (*extremely*).

(B) *STATE ANGER:* Following Condom Request 3, participants rated six items indicating the extent to which they felt anger (e.g., “pissed off”) at this time. Response options ranged from 1 (*not at all*) to 7 (*extremely*). Items were averaged ($\alpha = .93$).

(C) *CONDOM USE RESISTANCE:* Participants’ CUR intentions after Condom Request 3 were assessed with 33 items (1 = *very unlikely* to 7 = *very likely*). Coercive CUR intentions were assessed with a sum of 13 items regarding intentions to use emotional consequences, deception, condom sabotage, or physical force to avoid condom use ($\alpha = .89$). This scale included such items as, “At this point in the situation, how likely are you to prevent Erica from getting up to get a condom by staying on top of her.” Noncoercive CUR intentions were assessed through a sum of 20 items assessing participants’ intentions to avoid condom use through seduction, relationship factors, reduced sensitivity, risk level reassurance, loss of arousal, or a direct request not to use a condom ($\alpha = .94$). A sample noncoercive CUR item was, “At this point in the situation, how likely are you to tell Erica you don’t want to use a condom because they are uncomfortable.”

(D) *CONDOM REQUEST MANIPULATION CHECKS:* Participants responded to three questions about how passively, assertively, or aggressively Erica requested condom use on a seven-point scale, from 1 (*not at all*) to 7 (*extremely*).

Data analysis

The hypothesized path analytic model was tested using MPlus 8.2 (Muthén & Muthén, 2018) using maximum likelihood estimation. When evaluating model fit, a nonsignificant chi-square, comparative fit index (CFI) $> .95$, and root mean square error of approximation (RMSEA) $< .06$ were used as indicators of acceptable model fit (West et al., 2012). In addition, the model was estimated using 10,000 bootstrapped resamples (Hayes, 2009) to allow for the evaluation of indirect effects using 95% confidence intervals (CIs). During path analysis, the condom request conditions were effect coded into two variables. The first effect code compared the indirect request condition against the direct and insistent conditions; the second effect code compared the direct and insistent condom requests. Significant moderation effects

were interpreted through simple slopes tests (Aiken et al., 1991), each of which were assessed in Mplus using 10,000 bootstrapped resamples (Hayes, 2009).

Results

Preliminary analyses

Manipulation checks and data cleaning. In total, 23 participants were excluded from data analysis. Two participants withdrew, and four participants became ill during alcohol administration. Twelve participants failed the condom request style manipulation check. Five participants were removed for providing unreliable data. Thus, the final sample size used in all analyses was $N = 297$. Participants were evenly distributed across experimental conditions. Participants in the alcohol condition had an average BrAC of .061% ($SD = .011\%$) at the time they started reading the experimental story. After completing all post-story questionnaires, alcohol participants had an average BrAC of .070% ($SD = .012\%$).

Demographics. Participants’ average age was 25 years ($M = 24.64$, $SD = 2.69$). A quarter (24.9%, $n = 74$) of participants were current students. Sixty-six percent self-identified as White/Caucasian, 9.4% as Black/African American, 10.7% as multiracial, 5.1% as Asian/South Asian, 1.0% as Native Hawaiian/Pacific Islander, and 1.0% as Native American/Alaskan Native, and 6.7% indicated “other” or did not reply. Across all participants, 10.4% identified as Hispanic/Latino.

Mean comparisons

In addition to the hypothesized model, the main effect of beverage condition on participants’ coercive and noncoercive CUR intentions was examined. Participants’ alcohol consumption did not affect their coercive CUR intentions, $t(295) = -1.516$, $p = .13$ ($M_{\text{intoxicated}} = 16.33$, $SD = 8.87$; $M_{\text{sober}} = 15.08$, $SD = 4.68$), or their noncoercive CUR intentions, $t(295) = -1.767$, $p = .078$ ($M_{\text{intoxicated}} = 41.57$, $SD = 23.47$; $M_{\text{sober}} = 36.90$, $SD = 22.01$). The effect of beverage condition was also assessed on state anger and desire to have unprotected sex, the mediators of the hypothesized model. Results showed that beverage condition had no effect on participants’ state anger, $t(295) = -1.393$, $p = .17$ ($M_{\text{intoxicated}} = 1.59$, $SD = 1.22$; $M_{\text{sober}} = 1.43$, $SD = 1.22$). However, sober participants reported greater desire to have condomless sex relative to intoxicated participants, $t(295) = 2.290$, $p = .023$ ($M_{\text{sober}} = 4.79$, $SD = 2.25$; $M_{\text{intoxicated}} = 4.19$, $SD = 2.26$).

Path analysis model

Bivariate correlations, means, and standard deviations of the study variables were examined (Table 1). Significant bivariate correlations were in the expected direction, with

TABLE 1. Descriptive statistics and bivariate correlations among study variables ($N = 297$)

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Adversarial sexual beliefs	–	.350 [‡]	.198 [‡]	.323 [‡]	.354 [‡]	.327 [‡]	-.009	-.015	-.059	.075
2. Alcohol expectancies: Sexual coercion		–	.195 [‡]	.158**	.279**	.203 [‡]	-.080	-.040	-.020	.060
3. Desire to have condomless sex			–	.174**	.417 [‡]	.181**	-.132*	-.081	-.066	.147*
4. State anger				–	.538 [‡]	.615 [‡]	.081	-.047	.058	-.012
5. Noncoercive CUR intentions					–	.693 [‡]	.102	-.127*	-.050	.178**
6. Coercive CUR intentions						–	.088	-.074	-.026	.101
7. Beverage condition							–	-.007	.007	.000
8. Direct request condom condition								–	-.508 [‡]	-.489 [‡]
9. Insistent request condom condition									–	-.504 [‡]
10. Indirect request condom condition										–
<i>M</i>	2.276	2.281	4.490	1.511	39.263	15.714				
<i>SD</i>	0.888	0.818	2.274	1.041	22.840	7.131				

Note: CUR = condom use resistance.

* $p < .05$; ** $p < .01$; [‡] $p < .001$.

the exception of the correlation between desire to have condomless sex and beverage condition, which indicated that intoxicated participants expressed less desire for condomless sex than sober participants. The hypothesized model did not fit the data well, $\chi^2(37) = 84.00, p < .001$ (RMSEA = .065; CFI = .905). Notable differences between the expected and actual results of the hypothesized model included that beverage condition neither directly affected coercive CUR nor interacted with adversarial heterosexual beliefs to predict coercive CUR. Furthermore, condom request style did not interact with adversarial heterosexual beliefs to predict state anger. After examining these results, nonsignificant paths were trimmed, model modification indices were examined, and pathways that were conceptually appropriate with a modification index of greater than 10 were added to the model (Muthén & Muthén, 2018). Notable changes included the addition of a direct effect of adversarial heterosexual

beliefs on desire to have condomless sex, a direct effect of direct/insistent compared to indirect condom request on both coercive and noncoercive CUR, and the removal of a direct effect of beverage condition on coercive CUR. These modifications are consistent with previous research, which shows that individuals with higher adversarial heterosexual beliefs are less likely to use a condom during sex (French et al., 2019) and that condom use is more likely to occur in situations in which the woman is more assertive about its use (Stoner et al., 2008). The final model (Figure 2) fit the data very well, $\chi^2(26) = 33.979, p = .136$ (RMSEA = .032; CFI = .984).

In the final model, adversarial heterosexual beliefs showed the expected positive relationship with state anger, coercive CUR, and noncoercive CUR, although it did not moderate the relationship between beverage condition and coercive CUR as hypothesized. However, there was an ad-

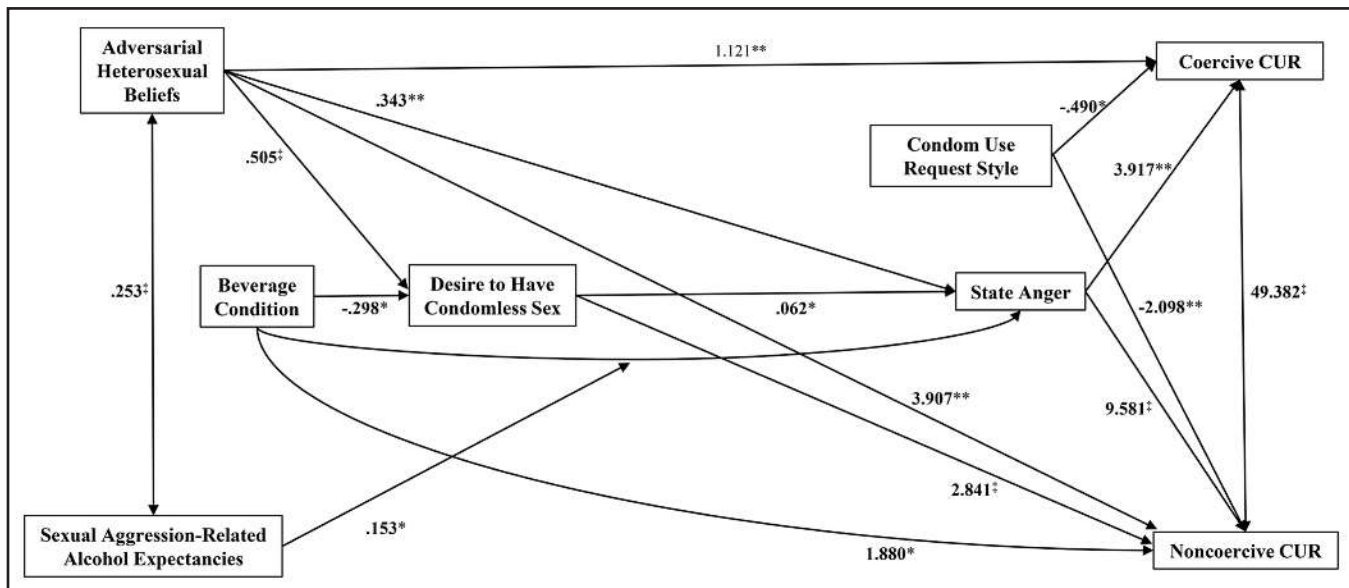


FIGURE 2. Final path model. Only significant pathways depicted. CUR = condom use resistance.

* $p < .05$; ** $p < .01$; [‡] $p < .001$.

TABLE 2. Indirect effects within the final model

Variable	Estimate	SE	[95% CI]
Adversarial Heterosexual Beliefs → Anger → Coercive CUR	1.345*	0.628	[0.454, 3.024]
Adversarial Heterosexual Beliefs → Desire to Have Condomless Sex → Anger → Coercive CUR	0.123	0.079	[0.030, 0.376]
Adversarial Heterosexual Beliefs → Anger → Noncoercive CUR	3.291**	1.128	[1.491, 5.961]
Adversarial Heterosexual Beliefs → Desire to Have Condomless Sex → Noncoercive CUR	1.434**	0.407	[0.713, 2.315]
Adversarial Heterosexual Beliefs → Desire to Have Condomless Sex → Anger → Noncoercive CUR	0.302	0.159	[0.075, 0.736]
Adversarial Heterosexual Beliefs → Desire to Have Condomless Sex → Anger	0.032	0.016	[0.007, 0.070]
Alcohol Expectancies: Propensity for Sexual Coercion × Beverage Condition → Anger → Coercive CUR	0.601	0.333	[0.138, 1.532]
Alcohol Expectancies: Propensity for Sexual Coercion × Beverage Condition → Anger → Noncoercive CUR	1.470*	0.680	[0.295, 3.001]
Beverage Condition → Desire to Have Condomless Sex → Noncoercive CUR	-0.848*	0.379	[-1.661, -0.161]
Beverage Condition → Desire to Have Condomless Sex → Anger → Coercive CUR	-0.073	0.055	[-0.263, -0.011]
Desire to Have Condomless Sex → Anger → Noncoercive CUR	0.598*	0.270	[0.136, 1.215]

Notes: CI = confidence interval; CUR = condom use resistance.
* $p < .05$; ** $p < .01$.

ditional direct, positive relationship between adversarial heterosexual beliefs and desire to have condomless sex that was not originally hypothesized. Although beverage condition had the expected positive effect on noncoercive CUR, the hypothesized direct effect of beverage condition on coercive CUR was not significant, and beverage condition had an unanticipated negative effect on desire to have condomless sex, with intoxicated men reporting less desire to have condomless sex. As hypothesized, sexual aggression-related alcohol expectancies moderated the relationship between beverage condition and state anger. Simple slopes analyses revealed that sober participants' sexual aggression-related alcohol expectancies had no association with their anger ($\beta = 0.081$, 95% CI [-0.085, 0.302], $p = .34$). However, for intoxicated participants, sexual aggression-related alcohol expectancies were positively associated with anger responses ($\beta = 0.326$, 95% CI [0.131, 0.550], $p = .002$). Desire to have condomless sex had the expected positive relationship with noncoercive CUR and with state anger, and state anger had the hypothesized positive association with both coercive and noncoercive CUR. Lastly, condom use request style did not moderate the relationship between adversarial heterosexual beliefs and state anger as expected. Instead, it showed a direct negative effect on both coercive and noncoercive CUR, with direct/insistent condom requests resulting in lower CUR intentions than indirect requests.

Indirect effects. The indirect effects of the relevant variables in the final model were also examined. The interaction between sexual aggression-related alcohol expectancies and beverage condition through anger on noncoercive CUR was significant ($\beta = 1.470$, 95% CI [0.295, 3.001], $p = .031$); however, it was not significant for coercive CUR ($\beta = 0.601$, 95% CI [0.138, 1.532], $p = .071$). There was also a signifi-

cant, indirect effect of beverage condition on noncoercive CUR through desire to have condomless sex ($\beta = -0.848$, 95% CI [-1.661, -0.161], $p = .025$). The full results of all indirect effects are presented in Table 2.

Discussion

The current study contributes to the literature by considering the proximal role of men's anger in response to different condom request styles on their CUR intentions during sober and intoxicated states. This research enhances our understanding regarding for whom (i.e., endorsing adversarial heterosexual beliefs; stronger sexual aggression-related alcohol expectancies) and under what circumstances (alcohol consumption; partner condom request style) desire to have condomless sex and state anger are related to CUR intentions. Current findings provide new insights into the proximal role of emotional responses in men's resistance of condom use.

Consistent with previous research, acute intoxication was associated with intentions to use noncoercive CUR tactics (Davis et al., 2016); however, hypotheses regarding alcohol's direct effects on coercive CUR were not supported. Instead, findings suggest that coercive CUR intentions were better predicted by men's attitudes about women and anger in response to condom negotiation. Alcohol intoxication did predict increases in state anger, which was associated with stronger noncoercive CUR intentions, but only for men with strong sexual aggression-related alcohol expectancies. Such findings are consistent with previous research (Davis, 2010) and suggest that interventions addressing alcohol use to reduce CUR behavior may be particularly effective when targeted toward men who believe that alcohol increases their sexual aggression likelihood.

Overall, these findings demonstrate that state anger is associated with men's CUR intentions, indicating that anger-related factors may be promising intervention targets for reducing men's CUR (Stappenbeck et al., 2019). Future research should work to identify potential mitigating factors that reduce the strength of the state anger and CUR relationship. For example, individual differences in anger control are associated with reduced outward expressions of anger when intoxicated (Parrott et al., 2003). As such, emotion regulation interventions that target in-the-moment anger responses may be important additions to existing sexual risk-taking interventions. Future investigations could also explore the role of trait-related factors (e.g., externalizing behaviors; Yeater et al., 2012) in relation to state anger during CUR events. Moreover, the interplay between alcohol expectancies, intoxication, hostile masculinity, and state anger demonstrated in these results also highlights potential mechanistic similarities between CUR and sexual aggression, which could be a useful avenue to explore in future research.

Given prior research, it was surprising that, in this study, intoxication decreased men's desire to have condomless sex. This may have been because condomless sex intentions were assessed after the female partner had requested condom use three separate times. Because alcohol's myopic effects typically lead individuals to focus on the most salient cues when intoxicated (Steele & Josephs, 1990), it may be that after three condom requests, the request to use a condom was more salient than men's desire to have condomless sex. This is speculative, however, and should be explored in future research.

Men reported being more likely to engage in both coercive and noncoercive CUR when their partner made an indirect condom request. Consistent with prior research (e.g., Lam et al., 2004), these findings highlight that direct condom requests may be more effective for obtaining condom use from one's partner. Sexual risk reduction interventions could educate women on different condom request styles and provide information that indirect condom request styles may result in increased resistance from their male partners. Moreover, because women's sexual assertiveness predicts their intentions to insist on condom use (Stoner et al., 2008), interventions designed to augment women's assertiveness in sexual situations could enhance these psychoeducation efforts by increasing women's capacity to directly request condom use.

Limitations and conclusions

Although these results are a valuable contribution to the literature, there are important limitations to consider. This study excluded men in long-term monogamous relationships; future work should examine men's use of CUR in such relationships. The sample was also restricted to male non-problem drinkers who have sex with women. Future

studies should examine these dynamics in abstainers, problem drinkers, and men who have sex with men. Additional research should investigate the role of individual and situational factors in women's CUR as well. The use of an experimental paradigm is an important strength as it offers the opportunity for causal inference while providing a glimpse into men's proximal cognitive and affective processes. That noted, analog studies provide information on men's intentions in a hypothetical situation and may not sufficiently predict real-world condom use behaviors.

The present investigation used experimental methods to provide novel information about the situational and individual factors predictive of men's anger responses and CUR intentions during condom negotiation processes. Such results contribute to an integrated understanding of the distal and proximal processes that increase the likelihood of condomless sex through coercive and noncoercive CUR. The development and deployment of intervention programs can follow, targeting crucial proximal factors through a tailored approach based on relevant distal factors.

References

- Abbey, A., McAuslan, P., Ross, L. T., & Zawacki, T. (1999). Alcohol expectancies regarding sex, aggression, and sexual vulnerability: Reliability and validity assessment. *Psychology of Addictive Behaviors, 13*, 174–182. doi:10.1037/0893-164X.13.3.174
- Abbey, A., Parkhill, M. R., Jacques-Tiura, A. J., & Saenz, C. (2009). Alcohol's role in men's use of coercion to obtain unprotected sex. *Substance Use & Misuse, 44*, 1329–1348. doi:10.1080/10826080902961419
- Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Atlanta, GA: Sage.
- Centers for Disease Control. (2016). Condom effectiveness. Retrieved from: <https://www.cdc.gov/condomeffectiveness/index.html>
- Davis, K. C. (2010). The influence of alcohol expectancies and intoxication on men's aggressive unprotected sexual intentions. *Experimental and Clinical Psychopharmacology, 18*, 418–428. doi:10.1037/a0020510
- Davis, K. C. (2019). "Stealth": Factors associated with young men's nonconsensual condom removal. *Health Psychology, 38*, 997–1000. doi:10.1037/hea0000779
- Davis, K. C., Jacques-Tiura, A. J., Stappenbeck, C. A., Danube, C. L., Morrison, D. M., Norris, J., & George, W. H. (2016). Men's condom use resistance: Alcohol effects on theory of planned behavior constructs. *Health Psychology, 35*, 178–186. doi:10.1037/hea0000269
- Davis, K. C., Neilson, E. C., Wegner, R., & Danube, C. L. (2018). The intersection of men's sexual violence perpetration and sexual risk behavior: A literature review. *Aggression and Violent Behavior, 40*, 83–90. doi:10.1016/j.avb.2018.04.001
- Davis, K. C., Schraufnagel, T. J., Kajumulo, K. F., Gilmore, A. K., Norris, J., & George, W. H. (2014a). A qualitative examination of men's condom use attitudes and resistance: "It's just part of the game." *Archives of Sexual Behavior, 43*, 631–643. doi:10.1007/s10508-013-0150-9
- Davis, K. C., Stappenbeck, C. A., Norris, J., George, W. H., Jacques-Tiura, A. J., Schraufnagel, T. J., & Kajumulo, K. F. (2014b). Young men's condom use resistance tactics: A latent profile analysis. *Journal of Sex Research, 51*, 454–465. doi:10.1080/00224499.2013.776660
- Debro, S. C., Campbell, S. M., & Peplau, L. A. (1994). Influencing a partner to use a condom: Characteristics of the situation are more important than characteristics of the individual. *Psychology Health and Medicine, 4*, 265–279.

- French, B. H., Teti, M., Suh, H. N., & Serafin, M. R. (2019). A path analysis of racially diverse men's sexual victimization, risk-taking, and attitudes. *Psychology of Men & Masculinities, 20*, 1–11. doi:10.1037/men0000159
- Friel, P. N., Logan, B. K., O'Malley, D., & Baer, J. S. (1999). Development of dosing guidelines for reaching selected target breath alcohol concentrations. *Journal of Studies on Alcohol, 60*, 555–565. doi:10.15288/jsa.1999.60.555
- George, W. H. (2019). Alcohol and sexual health behavior: "What we know and how we know it." *Journal of Sex Research, 56*, 409–424. doi:10.1080/00224499.2019.1588213
- Giancola, P. R., & Zeichner, A. (1997). The biphasic effects of alcohol on human physical aggression. *Journal of Abnormal Psychology, 106*, 598–607. doi:10.1037/0021-843X.106.4.598
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs, 76*, 408–420. doi:10.1080/03637750903310360
- Lam, A. G., Mak, A., Lindsay, P. D., & Russell, S. T. (2004). What really works? An exploratory study of condom negotiation strategies. *AIDS Education and Prevention, 16*, 160–171. doi:10.1521/aeap.16.2.160.29396
- Lonsway, K. A., & Fitzgerald, L. F. (1995). Attitudinal antecedents of rape myth acceptance: A theoretical and empirical reexamination. *Journal of Personality and Social Psychology, 68*, 704–711. doi:10.1037/0022-3514.68.4.704
- Muthén, L. K., & Muthén, B. (2018). *Mplus: The comprehensive modeling program for applied researchers: User's guide 5*. Los Angeles, CA: Author.
- National Institute on Alcohol Abuse and Alcoholism. (2005). *Recommended council guidelines on ethyl alcohol administration in human experimentation*. Retrieved from <http://www.niaaa.nih.gov/research/guidelines-and-resources/administering-alcohol-human-studies>
- Otto-Salaj, L. L., Traxel, N., Brondino, M. J., Reed, B., Gore-Felton, C., Kelly, J. A., & Stevenson, L. Y. (2010). Reactions of heterosexual African American men to women's condom negotiation strategies. *Journal of Sex Research, 47*, 539–551. doi:10.1080/00224490903216763
- Parrott, D. J., Zeichner, A., & Stephens, D. (2003). Effects of alcohol, personality, and provocation on the expression of anger in men: A facial coding analysis. *Alcoholism: Clinical and Experimental Research, 27*, 937–945. doi:10.1111/j.1530-0277.2003.tb04418.x
- Pokorny, A. D., Miller, B. A., & Kaplan, H. B. (1972). The brief MAST: A shortened version of the Michigan Alcoholism Screening Test. *American Journal of Psychiatry, 129*, 342–345. doi:10.1176/ajp.129.3.342
- Schacht, R. L., Stoner, S. A., George, W. H., & Norris, J. (2010). Idiographically determined versus standard absorption periods in alcohol administration studies. *Alcoholism: Clinical and Experimental Research, 34*, 925–927. doi:10.1111/j.1530-0277.2010.01165.x
- Scott-Sheldon, L. A., Carey, K. B., Cunningham, K., Johnson, B. T., & Carey, M. P., & the MASH Research Team. (2016). Alcohol use predicts sexual decision-making: A systematic review and meta-analysis of the experimental literature. *AIDS and Behavior, 20*, Supplement 1, S19–S39. doi:10.1007/s10461-015-1108-9
- Stappenbeck, C. A., Gulati, N. K., & Davis, K. C. (2019). A prospective examination of men's condom use resistance: Event-level associations with sexual aggression, alcohol consumption, and trait anger. *Journal of Sex Research, 56*, 947–956. doi:10.1080/00224499.2019.1620162
- Steele, C. M., & Josephs, R. A. (1990). Alcohol myopia. Its prized and dangerous effects. *The American Psychologist, 45*, 921–933. doi:10.1037/0003-066X.45.8.921
- Stoner, S. A., Norris, J., George, W. H., Morrison, D. M., Zawacki, T., Davis, K. C., & Hessler, D. M. (2008). Women's condom use assertiveness and sexual risk-taking: Effects of alcohol intoxication and adult victimization. *Addictive Behaviors, 33*, 1167–1176. doi:10.1016/j.addbeh.2008.04.017
- Tschann, J. M., Flores, E., de Groat, C. L., Deardorff, J., & Wibbelsman, C. J. (2010). Condom negotiation strategies and actual condom use among Latino youth. *Journal of Adolescent Health, 47*, 254–262. doi:10.1016/j.jadohealth.2010.01.018
- Wegner, R., Davis, K. C., Stappenbeck, C. A., Kajumulo, K. F., Norris, J., & George, W. H. (2017). The effects of men's hostility toward women, acute alcohol intoxication, and women's condom request style on men's condom use resistance tactics. *Psychology of Violence, 7*, 593–601. doi:10.1037/vio0000069
- West, S. G., Taylor, A. B., & Wu, W. (2012). Model fit and model selection in structural equation modeling. *Handbook of Structural Equation Modeling, 1*, 209–231.
- Yeater, E. A., Lenberg, K. L., & Bryan, A. D. (2012). Predictors of sexual aggression among male juvenile offenders. *Journal of Interpersonal Violence, 27*, 1242–1258. doi:10.1177/0886260511425243