

Research Article

An Experimental Examination of Risk Factors for Alcohol-related Sexual Coercion in Men

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Abstract

Sexual assault continues to occur at alarmingly high rates in the U.S. The current study examined female alcohol consumption and timing of sexual disinterest cues as situational risk factors for sexual coercion using a novel vignette task and compared groups of sexually coercive and non-coercive men on risk factors for alcohol-related sexual assault. Male participants (N=551) completed online study procedures that included providing responses to a hypothetical scenario involving an interaction with a female acquaintance at a party. The woman was described as consuming alcohol or soft drink and cues of her sexual disinterest were presented early, in the middle of, or later during the interaction, resulting in six study conditions. Participants rated their likelihood of engaging in a variety of behaviors, including sexually coercive acts, at predetermined points throughout the vignette and completed questionnaires on demographics, sexual history, and sex-related alcohol beliefs. Men with histories of sexual coercion perpetration reported significantly greater likelihoods of sexual coercion on the vignette task compared to men without such histories. Both groups of men reported greater likelihoods of sexually coercing when the woman was consuming alcohol, though variables associated with alcohol-related sexual assault, such as sex-related alcohol expectancies, were higher among sexually coercive men in our sample. Timing of sexual disinterest cues did not significantly impact sexual coercion likelihood. Findings extend existing research on alcohol-involved sexual assault by experimentally examining the impact of a woman's sexual refusal when she has been consuming alcohol on men's sexual coercion likelihood.

INTRODUCTION

Sexual assault continues to be reported at alarmingly high rates in the U.S., with women most frequently being the victims of these acts and men making up the overwhelming majority of perpetrators [1]. Annual rates of sexual violence perpetration among samples of college men range from 7% [2] to 28% [3]. High rates of sexual victimization have led researchers to examine risk factors for perpetration in the hopes of developing more effective methods for prevention. Reliance on community samples of men for research on sexual coercion risk offers several advantages over the use of convicted samples. Because over two-thirds of rape victimizations are not reported to authorities [4], convicted offenders may not be representative of the majority of sexually coercive men. Moreover, less extreme forms of sexual violence, such as verbal coercion or threats, are far more common than forcible rape and have lasting detrimental psychological effects for victims. Finally, research aiming to inform prevention program development may best serve translational efforts by assessing risk factors and behaviors relevant to the populations typically targeted by these interventions.

Alcohol has received increasing recognition as a risk factor for sexual assault perpetration in recent years. Alcohol consumption, on the part of the perpetrator, their victim, or

both, is involved in over half of all sexual assault incidents [5,6]. While many studies have examined male participants' likelihood of coercing while intoxicated [5,7,8], relatively less attention has been given to sexual coercion likelihood when only the victim, and not the perpetrator, of sexually coercive acts is consuming alcohol. However, existing research suggests that a woman's alcohol consumption may lead to increased likelihood of sexual coercion even when the perpetrator is not drinking. In two alcohol administration studies, undergraduate male participants presented erotic images to a female confederate for a longer duration and rated her as being more sexually aroused if they believed she was consuming alcohol, regardless of whether participants were assigned to receive tonic or alcohol [9,10]. Moreover, when asked to rate a woman believed to be drinking alcohol or tonic, male participants rated alcohol-consuming women as being more interested in sexual activity, and these effects were moderated by sex-related alcohol beliefs [11].

Inflated appraisals of women's sexual interest when they are consuming alcohol may lead to increased sexual coercion likelihood particularly when non-consent is expressed later in sexual interactions. In their qualitative investigation of men's reported sexual assault perpetrations, Abbey & McAuslan (2004) found that past perpetrators often reported engaging in some forms of consensual sexual behavior prior to coerced sex [12]. It

may be the case that some sexually coercive men fail to recognize shifts in partner feedback from sexually interested to sexually disinterested. This possibility is supported by extensive research demonstrating a relationship between misperceptions of sexual interest and sexually coercive behavior [13-16]. Engaging in some consensual sexual acts may influence the perception of later sexual refusals within the same interaction and increase the likelihood of sexually coercive behavior, particularly if the victim has been consuming alcohol. Alternatively, some men may persist in their efforts to obtain sex even when they recognize a woman's sexual refusal [17]. For example, they may view non-consent as "token resistance" and expect that the woman will eventually agree to have sex once she is sure she will not appear "easy," resulting in persistent attempts at sex [18]. If the woman has been consuming alcohol, some men may believe that she will be more easily persuaded to have sex or acquiesce in response to sexually coercive tactics, particularly if she has already consented to some sexual acts. It is possible that for some men, a woman's alcohol consumption activates a set of sexual expectancies associated with alcohol, which may make them more likely to perpetrate sexual coercion even if they are not consuming alcohol themselves.

The primary aim of the present study was to assess the impact of specific situational factors—timing of a woman's sexual disinterest cues and her consumption of alcohol—on men's self-reported sexual coercion likelihood and to determine if participants' histories of sexual coercion perpetration interacted with situational risk factors to predict hypothetical coercion. Secondly, we aimed to identify differences between men with and without histories of sexual coercion perpetration on variables relevant to explanations of alcohol-involved sexual assault in order to gain a more comprehensive understanding of involved risk factors. To accomplish these objectives, we developed and utilized a novel sexual coercion likelihood vignette task that included systematic manipulations of the woman's alcohol consumption and her level of sexual interest. Scenario manipulations, such as the one developed for the current study, allows for the systematic manipulation of variables of interest and the ethical assessment of hypothetical decisions to sexually coerce as well as participant reactions in near real time. Compared to correlational studies, experimental designs allow for stronger conclusions regarding the impact of subtly manipulated variables on intentions to sexually coerce. Further, deploying the sexual coercion likelihood task online enabled us to reach a large community sample of men, allowing for more generalizable results compared to studies relying exclusively on college students or incarcerated sexual offenders. We tested the following hypotheses:

- (1) Sexual coercion likelihood would be greater when the woman was described as consuming alcohol compared to when she was consuming soft drink.
- (2) The woman's alcohol consumption and timing of sexual disinterest cues would interact such that sexual coercion likelihood would be greatest when she was consuming alcohol and expressed sexual disinterest later, after some consensual sexual acts had occurred.
- (3) Men classified as sexually coercive would report greater

sexual coercion likelihood than non-coercive men regardless of condition.

- (4) Consistent with previous research, men with histories of sexual coercion perpetration would report higher weekly alcohol consumption, more sexual partners, be more likely to consume alcohol prior to sexual activity, and have stronger sex-related alcohol expectancies compared to non-coercive men.

MATERIAL AND METHODS

Participants

We recruited N = 600 men using the online crowdsourcing platform Prolific Academic. Prolific Academic provides extensive, customizable participant screener tools and data quality assurance checks to minimize the likelihood of bot activity or users completing the same study more than once. Such measures include tracking of IP and ISP addresses, prohibiting one payment account from being linked to multiple user accounts, and verification of accounts through phone and/or social media login. Further, the identities of Prolific Academic users are protected from researchers by connecting study responses only to their user identification number. Users may create a free account by completing prescreen questionnaires provided by Prolific Academic and linking their user account to a personal payment system (e.g. PayPal). User responses to prescreen questions are used by researchers to filter pools of potential participants based on study eligibility criteria. In December 2019, Prolific Academic reported a total pool of over 80,000 users from across the United States and United Kingdom, with approximately 30% of those users residing in the U.S. Nearly half of all users report being employed full-time, approximately 40% are male, and the vast majority of users are Caucasian, English speaking, and under 40 years old. A more detailed description of the advantages offered by the Prolific Academic platform may be found in Palan and Schitter [19]. More information regarding Prolific Academic user demographics can be found at <https://www.prolific.co/demographics>.

Only Prolific Academic users meeting study inclusion criteria were granted the ability to view the study listing on the Prolific Academic study listings page. Because we wanted to maximize the realism of the sexual coercion likelihood task, we restricted the study to participants sexually interested in women and who were within an age range where activities described in the vignette (e.g., attending a party, remembering the woman from school) would likely be relevant. Due to the possibility of participants being randomized to conditions in which the woman was described as consuming alcohol, participation was restricted to Prolific Academic users who did not select "zero" in response to the prescreen question regarding weekly alcohol consumption. We also decided to restrict participation to individuals residing in the U.S. in consideration of social norms described in the vignette that may differ cross-culturally. Thus, study inclusion criteria included identifying as male, selecting "straight" or "bisexual" for their sexual orientation on the Prolific Academic prescreen questionnaire, being between 18-30 years of age, report consuming 1 or more alcoholic beverages per week, and residing within the U.S.

Materials

Sexual Strategies Scale. The Sexual Strategies Scale (SSS) [20] was used to classify participants as sexually coercive or non-coercive by gathering self-reported histories of a variety of sexually coercive behaviors. The SSS contains 23 behaviorally-specific items measuring the use of a variety of sexually coercive strategies, which include use of enticement, verbal coercion, use of older age/authority, exploitation or inducement of intoxication, and use of threats or force to obtain non-consensual oral, anal, or vaginal intercourse from an unwilling female partner. Participants were asked to indicate whether or not they have ever engaged in any of the listed behaviors by selecting “yes” or “no” for each item.

Obvious limitations are present in the report of one’s own behavior, particularly when that behavior is socially undesirable or taboo. Potential issues include, but are not limited to, the risk of socially desirable responding (e.g., not reporting engaging in the behavior due to embarrassment, secrecy, etc.), inaccurate recall of past behavior (e.g., forgetting about instances in which the participant engaged in the listed behavior), and inaccurate labeling of past behavior (e.g., not recognizing a past behavior as being similar to the one being asked about). Therefore, the primary concern about self-reported sexual coercion perpetration is one of underreporting. The SSS has been shown to result in higher rates of reported sexual coercion (i.e. milder forms of sexually aggressive behavior) when compared with other measures of sexual aggression [21]. This is likely due to the fact that SSS uses less legalistic language than other measures and thus may be less likely to invoke socially desirable responding. However, it is still possible that participants in our sample who self-reported past perpetration of sexual coercion are under-representative of men with histories of sexual coercion, and that the actual percentage of men with such histories is much higher, even in the current sample of participants.

Sexual coercion likelihood task – Vignette. The present study utilized a novel sexual coercion likelihood task consisting of a written vignette describing a hypothetical interaction between the participant and a female acquaintance that begins at a party and progresses back to the participant’s residence. As the vignette progresses, the woman provides predetermined positive (reciprocating sexual advances) or negative (expressing sexual disinterest) feedback following descriptions of the participant attempting sexual contact. Participants rated their emotional reactions, appraisals of the woman, and likelihood of engaging in various behaviors at four time points.

In order to inform the development of the sexual coercion likelihood task, detailed feedback on the vignette was obtained from male and female undergraduate and graduate students between the ages of 21 to 30 years old. Feedback was collected in the form of anonymous written feedback following completion of task demos as well as through focus groups with the research team. Individuals provided feedback in the domains of vignette realism, clarity, and eroticism and general suggestions for areas in need of improvement. Immediately prior to formal pilot testing, the vignette was rated highly on each domain. During formal pilot testing, participants were invited to provide feedback on the task by responding to open-ended items at the end of the pilot study.

Suggestions for improvement were incorporated for the current study.

In order to manipulate the timing of sexual disinterest cues, three “feedback conditions” were created: the clear disinterest (CD) condition, the mixed messages (MM) condition, and the abrupt stop (AS) condition. Feedback from the hypothetical female partner was provided to the participant at three predetermined stop points within the vignette. Stop points were placed at naturally occurring transitions within the vignette, during which the woman indicated interest or disinterest in reciprocating escalating sexual advances described in the story (e.g., after attempting to kiss the woman, after attempting to initiate foreplay, and after attempting to initiate sexual intercourse). In the CD condition, the woman expresses disinterest in engaging in sexual activity with the participant at all three time points. In the MM condition, the partner expresses disinterest in sexual activity at the first time point, expresses interest at the second time point, and, ultimately, is disinterested in engaging in sexual activity at time point three. In the “abrupt stop” condition, the partner expresses interest in sexual activity at the first two time points with delayed expression of sexual disinterest at time point 3 after foreplay has ensued. An overview of feedback conditions is provided in Table 1.

Additionally, the drinking behavior of the woman in the vignette varied. She was described as either sober (“...with a soft drink in her hand,” “...hasn’t been drinking tonight”) or as consuming alcohol (“...with a mixed drink in her hand,” “...has had a few drinks tonight”). The exact intoxication level of the woman was not explicitly stated, as such level of specificity may not generalize to real-world scenarios. Female alcohol consumption was manipulated for each feedback condition, resulting in a total of six possible conditions to which participants could be assigned. Vignettes were written identically with the exception of descriptions of intoxication and the type of partner feedback provided at each time point, which consisted of 1-2 sentences describing her verbal and non-verbal responses to sexual advances within the vignette.

Sexual coercion likelihood task – Self-report. At each of the three time points within the vignette, participants were asked to report their likelihood of engaging in 13 different behaviors as if they were in the situation described. The list of potential behavioral responses included romantic interactions (e.g., flirting with her, kissing her), neutral interactions (e.g., asking her more about herself), as well as sexually coercive behaviors (see below). Additionally, participants were always presented with the option to “do nothing” or “call her a cab/Uber.” Items were rated on a scale from 1 (not at all likely) to 7 (extremely likely).

Table 1: Overview of feedback timing conditions.

Time Point	Clear Disinterest	Mixed Messages	Abrupt Stop
1	X	X	✓
2	X	✓	✓
3	X	X	X

Note: “X” represents times at which participants received sexually disinterested feedback from the woman, whereas “✓” represents times at which they received sexually interested feedback.

The selection of sexually coercive behaviors was adapted from the Sexual Strategies Scale [22]. The present study assessed participants' likelihoods of engaging in several forms of sexually coercive behavior. Sexually coercive behaviors presented as behavioral options within the vignette included the following: Make her feel bad for not having sex (e.g., call her a tease), make a move on her physically (e.g. try to kiss her), threaten to blackmail or embarrass her socially, try to get her drunk or high in the hopes that she will give into sex, threaten to hurt her physically, and block her from leaving. Participants rated their likelihood of engaging in each of these behaviors on a 7-point Likert scale ranging from extremely unlikely (1) to extremely likely (7) at each time point. In addition to these ratings, participants were asked to report on their perceived likelihood of sexual activity occurring, their perceptions of the woman's sexual interest, as well as the sincerity of her feedback. At the end of the vignette, participants were asked to rate how intoxicated they perceived Mariah to be.

Sex-related Alcohol Expectancies. The Sex-Related Alcohol Expectancies questionnaire [23] consists of 13 items measuring three sets of beliefs related to alcohol consumption and sexual behavior, including beliefs about enhanced sexual pleasure while consuming alcohol (e.g., "I enjoy sex more than usual."), likelihood of sexual risk taking (e.g., "I am less likely to use a condom."), and increased disinhibition while drinking (e.g., "I am more likely to do sexual things that I wouldn't do when sober."). Alphas for the three subscales are .83 for enhancement, .70 for sexual risk taking, and .79 for disinhibition. All items are rated on a 6-point scale ranging from strongly disagree (1) to strongly agree (6).

At the end of the study, participants provided information on demographics variables, their sexual history, and completed free-response items about their reactions to the vignette. Additionally, participants completed measures which are not included in the current analyses, including measures of state affect and emotion regulation ability.

Procedure

Only users meeting inclusion criteria based on their Prolific Academic prescreen responses were able to view the study listing, which included a brief description of the study's purpose, procedure, and risks and benefits. Individuals interested in participating enrolled in the study by clicking on the study participation link, which directed them to the informed consent statement on the study webpage housed on Qualtrics. After reviewing and electronically signing the online informed consent statement, participants were presented with a detailed description of the study procedure before continuing on to the sexual coercion likelihood vignette task.

Participants were randomly assigned to one of six potential conditions (CD, MM, or AS with woman described as intoxicated or sober), with a maximum of 100 participants assigned to one condition. Each vignette was divided into four parts, with participants being prompted to answer questions related to their affective and likely behavioral reactions between each section. While reading the vignette and providing their responses to the sexual coercion likelihood task, participants were instructed to imagine being single if they were currently in a relationship.

As an additional safeguard for data quality, after the scenario, participants were required to provide a brief description of events that took place within the vignette as an attentional check. They also then completed additional questionnaires, including measures of sexual coercion history, emotion regulation, sex-related alcohol beliefs, a sexual history questionnaire, and demographics.

Study tasks took approximately 15 minutes to complete. Participants were paid \$1.75 for their time, which was slightly higher than the minimum hourly rate of payment required by Prolific Academic at the time of data collection. Participants were free to discontinue the study at any time by simply closing their browser. All study procedures were reviewed and approved by the Indiana University Institutional Review Board.

RESULTS

A total of 49 participants were excluded for a variety of reasons, determined a priori: incomplete data ($n = 32$), failed attentional checks ($n = 7$), taking less than 3 minutes to complete the study ($n = 6$), or providing nonsensical or repetitive responses ($n = 4$). The final sample consisted of 551 male participants.

Demographics and Group Comparisons on Selected Variables of Interest

The mean age of our sample was 24.39 years old, $SD = 3.81$, and the majority of participants reported having at least some college education (79.4%). Approximately half of the sample reported being "single" or "single, casually dating" (51.6%), while the other half reported being "in a relationship, not living together" (18.4%), "in a relationship, living together" (14%), or "married" (13.1%).

Participants were categorized as "coercive" if they reported ever using verbal coercion, drugs or alcohol, authority, threats, or force to obtain sex from a person after that person indicated they did not want to have sex and "non-coercive" if they denied ever engaging in any of the behaviors listed or reported exclusively using enticement strategies. Overall, approximately 25% of the sample ($n = 141$) endorsed the use of sexually coercive behaviors. The remainder of the sample ($n = 410$) was classified as non-coercive. Of the men placed into the coercive group, 35% reported using one of the listed sexually coercive behaviors, 25.8% reported using two of the behaviors, and 39.2% reported using three or more coercive behaviors. The frequency with which each behavior was endorsed by the coercive group can be found in Table 2.

We tested Hypotheses 1-3 using a 3x2x2 factorial analysis of variance comparing main effects of timing condition (early, mixed, late), alcohol condition (soft drink, alcohol), and coercion group (history of sexual coercion perpetration, no history) as well as their interactions on the outcome variable, sexual coercion likelihood. Sexual coercion likelihood was obtained by summing participants' likelihood ratings for each of six possible sexually coercive behaviors at Time Point 3, at which point participants in all conditions received sexually disinterested feedback and the vignette task concluded. Therefore, the minimum sexual coercion likelihood score possible was 6 and the maximum was 42. Actual self-reported sexual coercion likelihood at Time Point 3 ranged from 6 to 41, $M = 9.83$, $SD = 5.23$.

Table 2: Reported frequencies of past sexually coercive behaviors.

Behavior on Sexual Strategies Scale	Frequency
Telling lies	43
Saying she was leading you on	53
Asking repeatedly to have sex	52
Threatening blackmail	3
Threatening to end the relationship	3
Questioning commitment to relationship	15
Removing her clothes	43
Removing your clothes	52
Threatening to harm self	2
Using older age/status	10
Using authority	1
Getting her drunk/high	21
Taking advantage of intoxication	16
Slipping her drugs	1
Using physical restraint	2
Preventing her from leaving room	3
Frightening with weapon	1
Threatening physical harm	1
Using physical harm	3

Note: Frequencies for each behavior are not mutually exclusive.

Consistent with Hypothesis 1, a significant main effect for alcohol condition emerged, $F(1, 546) = 4.24, p = .040, \eta^2 = .008$. Results were in the expected direction. Self-reported sexual coercion likelihood was slightly but significantly elevated in the alcohol conditions ($M = 10.12, SD = 5.45$) compared to the water conditions ($M = 9.67, SD = 5.28$). Hypothesis 2 was not supported, as a significant interaction between alcohol and timing condition did not emerge. Consistent with Hypothesis 3, we found a main effect of coercion group, $F(1, 546) = 107.34, p < .001, \eta^2 = 0.164$. Men with histories of sexually coercive behavior reported overall

significantly higher likelihoods of coercion on the vignette task compared to men classified as non-coercive ($M = 13.52, SD = 7.27$ vs. $M = 8.63, SD = 3.79$, respectively). No other significant main effects or interactions were found. See Table 3 for a description of self-reported sexual coercion likelihood by condition and coercion group and Table 4 for a breakdown of main effects.

We conducted independent t-tests comparing coercive and non-coercive men on select demographics variables and variables relevant to Hypothesis 4. A summary of comparisons can be found in Table 5. Consistent with Hypothesis 4, several statistically significant group differences were found. Compared to non-coercive men, participants classified as coercive were older, reported having more lifetime sexual partners, consumed more alcoholic beverages in an average week, and were more likely to consume alcohol prior to sexual encounters. Coercive men also endorsed more sex-related alcohol expectancies than non-coercive men, including holding stronger beliefs about alcohol's ability to enhance sexual pleasure, increase sexual risk taking, and decrease sexual inhibition.

DISCUSSION

This study used a novel vignette task to assess young men's decisions to engage in sexual coercion in a hypothetical scenario. Our sexual coercion likelihood task reliably differentiated between groups of men with and without histories of sexual coercion perpetration and results were sensitive to subtle manipulations in the woman's drinking behavior within the vignette. As expected, men with histories of sexual coercion perpetration, compared to men without histories of perpetration, reported overall greater likelihoods of engaging in hypothetical sexual coercion to obtain sex from the unwilling acquaintance in the sexual coercion likelihood task. This findings highlights the utility of study designs employing hypothetical decision making tasks to distinguish between groups of sexually coercive and non-coercive men and identify factors that may differentially influence their actions. Further, it suggests that participants' judgments about how they would be likely to act in the hypothetical scenario are not dissimilar from their history of real-world

Table 3: Sexual Coercion Likelihood at Time Point 3.

Condition	Coercion Group	N	Mean	Std. Deviation	Std. Error Mean
Clear Disinterest, Alcohol	Non-coercive	46	8.6957	4.85739	.71618
	Coercive	16	15.0000	9.17242	2.29311
Clear Disinterest, Soft drink	Non-coercive	83	7.7470	2.21328	.24294
	Coercive	21	13.4286	7.76899	1.69533
Mixed Messages, Alcohol	Non-coercive	76	8.8947	4.12982	.47372
	Coercive	25	13.8400	6.61866	1.32373
Mixed Messages, Soft drink	Non-coercive	68	8.6912	3.77445	.45772
	Coercive	28	12.8214	6.47533	1.22372
Abrupt Stop, Alcohol	Non-coercive	81	8.8765	3.44377	.38264
	Coercive	18	15.0000	6.22141	1.46640
Abrupt Stop, Soft drink	Non-coercive	61	9.0492	4.49973	.57613
	Coercive	35	12.4857	7.79280	1.31722

Note: Mean sexual coercion likelihood scores were obtained by averaging the sexual coercion likelihood ratings for coercive and non-coercive men within each condition. Possible scores ranged from a minimum of 6 and maximum of 42.

Table 4: Main effect of Alcohol Condition and Coercion Group.

Main effects		Mean	Std. Deviation	p-value	Effect Size (η^2)
Alcohol Condition	Alcohol	10.12	5.45	0.04	0.008
	Soft drink	9.67	5.28	--	--
Coercion Group	Non-coercive	8.63	3.79	< .001	0.164
	Coercive	13.52	7.27	--	--

Note: Sexual coercion likelihood was significantly greater when the woman was consuming alcohol and among men with histories of sexual coercion perpetration.

Table 5: Comparison of group means on demographics and select study variables.

Variable	M	SD	t	p	Cohen's d
<i>Age</i>					
Coercive	25.16	3.85	-2.83	.005	0.273
Non-coercive	24.12	3.77			
<i>Sexual partners</i>					
Coercive	6.15	7.22	-3.78	< .001	0.354
Non-coercive	3.84	5.75			
<i>Drinks per week</i>					
Coercive	5.06	10.56	-2.63	.009	0.297
Non-coercive	2.67	4.28			
<i>Alcohol + sex %</i>					
Coercive	30.00	25.77	-3.95	< .001	0.395
Non-coercive	20.49	22.31			
<i>Condom use %</i>					
Coercive	59.20	35.04	0.90	.368	0.093
Non-coercive	62.67	39.22			
<i>SRAE score</i>					
Coercive	13.38	3.31	-5.82	< .001	0.586
Non-coercive	11.39	3.48			

Note: "Alcohol + sex %" refers to percentage of time participants consumed alcohol prior to sexual activity. "Condom use %" refers to the percentage of time participants used a condom during penile-vaginal or anal sex. "SRAE" refers to scores on the Sex Related Alcohol Expectancies questionnaire, with higher scores reflecting stronger beliefs about alcohol's ability to alter sexual experiences and behavior.

behavior. No significant interactions emerged between coercion group and female alcohol consumption or sexual disinterest cue timing, suggesting that these situational factors did not disproportionately impact men who have already perpetrated sexual coercion. Rather, the woman's alcohol consumption acted as a general risk factor for perpetration, leading to increases in self-reported sexual coercion likelihood for both groups of men. Contrary to hypotheses, timing of sexual disinterest cues did not significantly predict likelihood of sexual coercion. Ultimately, the manipulated scenarios used provided valuable information about men's responses to a woman's sexual refusals when she has been consuming alcohol.

Sexually coercive and non-coercive men in our sample reported significant differences on alcohol-related variables. Compared to non-coercive men, men with histories of sexual coercion reported stronger sex-related alcohol expectations, consumed more alcoholic drinks per week, and were more likely to consume alcohol prior to sexual activity. Previous research has also shown that men with histories of sexual coercion perpetration tend to report more frequent alcohol consumption than non-coercive men and are more likely to have sex under the influence of alcohol [12,24]. The frequent pairing of alcohol and sexual activity may partially explain stronger sex-related alcohol beliefs among sexually coercive men. Beliefs about alcohol's ability to increase the likelihood of sex-related outcomes have been found

to fully mediate the relationship between problematic alcohol use and sexual coercion history [23]. Our results support those of Tuliao and McCargue (2014). Compared to non-coercive men, sexually coercive men in our sample had stronger expectations of alcohol enhancing sexual pleasure, increasing sexual risk taking, and decreasing sexual inhibition.

Our findings provide valuable insight into specific situational risk factors for sexual coercion perpetration. By obtaining reports of participants' past sexual coercion perpetration, we were able to examine the relative impact of the woman's alcohol consumption on men's sexual coercion likelihood based on their history of perpetration. We expected that the woman's alcohol consumption would differentially impact risk of sexually coercing between the two groups of men due to the assumption that non-coercive men's risk of perpetrating would be fairly low in all circumstances. Consumption of alcohol by the woman in the vignette similarly impacted the hypothetical behavioral decisions of individuals at differing levels of risk for perpetration. Like men with histories of perpetrating sexual coercion, men who denied ever having engaged in sexually coercive behavior also reported slightly elevated likelihoods of using sexual coercion when the woman had been consuming alcohol. Thus, while men with histories of sexual coercion perpetration were overall more likely to endorse engaging in sexual coercion in the scenario, their risk of sexually coercing when the woman was consuming

alcohol was in the same direction as the non-coercive group. This unexpected finding suggests that a woman's alcohol consumption may activate more widespread beliefs about the appropriateness or effectiveness of engaging in sexual coercion to obtain sexual gratification, leading to increased likelihood of using sexually coercive tactics. Based on the data obtained in the present study, we conclude that a person's (in this case men's) assumptions about the relationship between alcohol and sex, including sex-related beliefs about individuals (in this case women) consuming alcohol, may be a general risk factor for sexually coercive behavior. Further, our findings support the worthwhileness of investigating longitudinally whether sex-related alcohol beliefs are indeed predictive of real-world sexual coercion perpetration among men.

Beliefs about the likelihood of sexual outcomes, in both drinking and non-drinking contexts, may be malleable enough to be effectively targeted by prevention programs. Generally, prevention programs have been shown to be fairly effective at decreasing beliefs associated with sexual coercion perpetration, such as rape myth acceptance [25-28]. Beliefs about an intoxicated woman's openness to sexual activity may not only influence the likelihood of sexual coercion perpetration, but also the likelihood of victim-blaming behavior and willingness to engage in bystander prevention efforts if the bystander believes that an intoxicated woman is interested in sex. We urge prevention program developers to consider the utility of specifically addressing myths and beliefs about the relationship between alcohol and sex in their interventions.

Contrary to Hypothesis 2, the timing of sexual disinterest cues did not significantly affect men's sexual coercion likelihood. It is possible that the woman's expression of non-consent was not emotionally provoking enough to increase participants' likelihoods of aggressive responding. For instance, if participants had been told that they had a prior sexual relationship with the woman, some men may have been more bothered by her sexual refusals and become more likely to continue pursuing sex using coercive strategies. Additionally, if the woman was more aggressive in her communication, some participants may have endorsed greater sexual coercion likelihood in retaliation. An interesting and promising avenue for future research could be to explore how factors such as relationship to the victim and characteristics of non-consent cues interact with the timing of sexual refusal to predict sexually coercive behavior.

The present study had several limitations. The reliance on self-report measures means that data are subject to social desirability demands among other biases inherent in self-report, such as memory fallacies (e.g. in the reporting of past coercion perpetration) and inaccurate interpretation of study questions. It was our intent and hope that the anonymity provided by Prolific Academic could minimize these concerns. However, we cannot be certain that all responses provided by participants were truthful or accurately reflect real-world behavioral tendencies. Another consideration regards the effectiveness of the alcohol condition manipulation. While we did find a statistically significant difference in sexual coercion likelihood between the alcohol and soft drink conditions, participants' ratings of the woman's level of intoxication did not differ between conditions. Participants' self-

reported behavioral likelihoods may have differed depending on whether or not they perceived the woman to still be intoxicated at the final time point versus having sobered since consuming alcohol at the party. A more explicit and perhaps more impactful manipulation might include cues of the woman's intoxication or soberness later in the vignette (e.g. remarking on motor- or appearance-related indicators of intoxication, statements about her inability to drive home). The study's design was also affected by technological limitations. It is possible that a more interactive, immersive environment would enhance investigations of complex social processes relevant to sexual coercion perpetration that were of interest in the current study.

This study was one of the first to investigate interactions between female alcohol consumption, timing of non-consent, and histories of sexual coercion perpetration on men's likelihood of sexually coercing during a hypothetical sexual interaction. Additional research pursuing how these key variables interact would be helpful to understanding different patterns of sexual coercion likelihood in men. This study adds to a growing literature supporting the utility of addressing sex-related alcohol beliefs within sexual assault prevention programs. It also demonstrates researchers' abilities to detect distinct differences between non-coercive men and sexually coercive men even with relatively mild perpetration histories, as our sample of sexually coercive men primarily reported engaging in coercive behaviors which would not meet legal definitions of rape or sexual assault. Our findings underscore an ongoing need for continued investigation of alcohol-related risk factors for sexual coercion perpetration and support the exploration of perpetration risk factors based on the severity of participants' past sexually coercive behavior.

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