

Effect of Alcohol Intoxication on Bystander Intervention in a Vignette Depiction of Sexual Assault

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ABSTRACT. Objective: Alcohol-related sexual violence remains a public health problem. Despite the popularity of sexual assault bystander intervention programs, these may be limited in addressing bystander intoxication because the effects of intoxication on intervening in a sexual assault are unknown. Therefore, we tested the effects of alcohol intoxication on the five steps of bystander intervention in a sexual assault vignette. **Method:** Young adults ($N = 128$; 50% women) were randomly assigned to consume alcohol (target blood alcohol concentration = 0.08%; $n = 64$) or a nonalcoholic control beverage ($n = 64$) in a bar-laboratory. Next, participants were presented with a vignette describing events occurring in a convivial drinking context that ends with nonconsensual sexual behavior. Latané and Darley's bystander intervention model steps were assessed in a semistructured interview. **Results:**

Participants in the control condition recalled the story more accurately (Step 1: notice the event) and reported greater risk/need for intervention (Step 2), but they did not differ on the latter three steps of bystander intervention compared with alcohol-condition participants. Intoxication effects were similar for men and women. Furthermore, risk/need for intervention (Step 2) partially mediated the effect of alcohol condition on personal responsibility (Step 3) and relative benefits versus costs from intervening (Step 4). **Conclusions:** Prevention programs should consider the effects of alcohol on detecting a sexual assault and the need to intervene. If intoxicated bystanders do not detect a sexual assault, then bystanders will not reach the crucial steps (i.e., taking responsibility for intervening; willingness and ability to intervene) required to intervene successfully. (*J. Stud. Alcohol Drugs*, 80, 252–260, 2019)

ALCOHOL-RELATED SEXUAL VIOLENCE remains a pervasive public health problem. Sexual assault (i.e., nonconsensual sexual activity obtained through force, threat, intoxication, or intimidation; Koss et al., 2007) is consistently linked with alcohol use by perpetrators and victims (e.g., Armstrong et al., 2006; Testa & Livingston, 2009). Young adults are at risk for experiencing alcohol-related sexual violence, demonstrating the highest rates of alcohol use and alcohol-related problems (National Institute on Alcohol Abuse and Alcoholism, 2006), with young women evincing the highest rates of sexual assault victimization (Daigle et al., 2008; Fisher et al., 2000). Young adults are at high risk for experiencing alcohol-involved sexual assault, typically with the presence of third-party “bystanders” who are also consuming alcohol (Haikalas et al., 2018). Bystanders play a crucial role in sexual assault prevention (Banyard et al., 2009). Thus, it is surprising that researchers have not investigated the influence of bystander intoxication on intervention in sexual assault situations (Leone et al., 2018). The current

study addressed this gap by clarifying the role of alcohol in the steps of bystander intervention.

According to routine activities theory (Cass, 2007), sexual assault requires a potential victim, a motivated perpetrator, and an absence of bystanders (i.e., individuals witnessing part or all of an emergency situation; McMahan & Banyard, 2012) who are willing and able to intervene. Research suggests that mobilizing bystanders to intervene in a prosocial way is an effective sexual assault prevention strategy (Banyard et al., 2004). Latané and Darley (1970) proposed a situational model of bystander intervention, which Burn (2009) directly applied to sexual assault bystander behavior. According to the model, five sequential things must occur for a bystander to intervene effectively: The bystander must (a) notice the situation; (b) appraise the situation as dangerous and requiring intervention; (c) determine that he or she has some responsibility for intervening; (d) decide what type of intervention behavior would be appropriate; and (e) choose, be willing, and be able to intervene. Bystanders will not intervene if any of these steps is not completed.

Several identified factors could influence bystander behaviors. For example, gender and the familiarity with the potential victim and perpetrator are associated with intervening in a sexual assault (Bennett et al., 2017; Holland et al., 2016; Katz & Nguyen, 2016). Sexual assault intervention may also be influenced by bystander intoxication. Convivial settings such as house parties and bars are common contexts for sexual assault (Armstrong et al.,

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2006), as these settings share characteristics of alcohol use and expectations for men and women to interact (Cass, 2007). Because many sexual assaults occur in convivial drinking contexts (Abbey, 2002), bystanders are often present (Planty, 2002). However, bystanders may also be consuming alcohol. Research examining bystander attitudes found that men who drink heavily report lower willingness to intervene in several sexually coercive contexts compared with less heavily drinking men (Fleming & Wiersma-Mosley, 2015; Orchowski et al., 2016). Using observational methodology in drinking establishments, Graham and colleagues (2014) found that most bystanders did not intervene in most sexually aggressive incidents. Unfortunately, no study has directly tested how alcohol influences bystanders in sexual assaults. If alcohol impedes any step in the bystander intervention model, then bystander intoxication could greatly limit the utility of alcohol-related sexual violence prevention efforts directed at bystanders.

Alcohol intoxication could impede bystander intervention at any of the five bystander intervention model steps (see Leone et al., 2018). According to alcohol myopia theory (Steele & Josephs, 1990), intoxication narrows the intoxicated bystander's attention such that fewer environmental cues are processed. The intoxicated bystander then focuses on his or her own experiences rather than attending to the experience of others, reducing the likelihood of an intervention response. Alcohol may also interfere with information processing related to sexual risk among potential victims (Melkonian & Ham, 2018) and potential perpetrators (Abbey et al., 2014) as well as with a bystander's ability to notice and accurately interpret risk for sexual assault. In examining bystander intervention for alcohol-involved sexual assaults using qualitative interviews, Pugh and colleagues (2016) found that failing to identify that the victim was in danger was the primary barrier to intervention. Thus, we expect that the negative impact of alcohol on appraisal of a sexual assault would in turn negatively affect later steps in the model. However, if bystanders perceive the situation as dangerous (Step 2), the disinhibiting effects of alcohol could make bystanders more willing to help (van Bommel et al., 2016). Although these intoxicated bystanders may take responsibility for action (Step 3), they may also choose poorer quality options (Step 4) and/or face difficulty implementing an effective intervention strategy (Step 5) because of the impairing effects of alcohol on executive functions such as planning and judgment (Oscar-Berman & Marinković, 2007).

Current study

Although alcohol-related sexual violence is prevalent and bystander intervention programming has risen in popularity, no known published work has examined bystander intoxication and intervention in a sexual assault using an experimen-

tal design. Thus, the primary aim of the current study was to isolate the effects of alcohol on each bystander intervention step among young adults using a sexual assault vignette. We hypothesized that intoxicated participants, compared with control participants, would be less likely to recall key elements of the assaultive event (Hypothesis 1 [H1]), interpret the event as dangerous and requiring intervention (H2), take responsibility for intervening (H3), perceive more benefits than costs from intervening (H4), and report confidence in their ability to enact an intervention (H5). We also explored whether gender moderated the effect of alcohol on bystander intervention steps. Last, we hypothesized that appraisal of risk and need for intervention (Step 2) would mediate the effects of alcohol on Steps 3 through 5 (H6–8).

Method

Participants and procedures

Participants were 128 young adults (50% women) ages 21–29 years ($M_{age} = 23.27$, $SD = 2.41$) recruited from a mid-southern U.S. area. Preliminary eligibility was assessed via telephone screenings, after which an afternoon laboratory session was scheduled. An in-person interview further assessed eligibility and compliance with pre-experiment instructions. Participants were told that the study involved completing questionnaires, consuming an alcoholic or non-alcoholic beverage, listening to a story describing a social situation, and answering questions about that story. Exclusion criteria included contraindicated medical conditions or medications, problematic experience with the alcohol dosage, self-identifying as an alcoholic, an Alcohol Use Disorders Identification Test (Babor et al., 2001) score greater than 15, suicidality, psychosis, posttraumatic stress disorder diagnosis with sexual violence as the criterion trauma, and insufficient English language comprehension. As shown in Table 1, the majority of participants identified as White and non-Hispanic and college students.

Participants were instructed to refrain from alcohol and other drug use (for 24 hours) and to fast (for 3 hours) before their laboratory session. The session began with a breath alcohol concentration (BrAC) test to confirm sobriety (measured with the AlcoSensor FST; Intoximeters, Inc., St. Louis, MO), followed by informed consent, eligibility interview, and urine pregnancy screening for women. Next, participants completed questionnaires and were informed of their randomly assigned beverage condition (alcohol vs. control). Alcohol-condition participants ($n = 64$) knowingly received a dose of 100-proof vodka (men: 0.82 g/kg; women: 0.68 g/kg) mixed with soda at a 1:4 ratio to achieve a peak blood alcohol concentration (BAC) of .08% (Davis, 2010; Norris et al., 2009). Control participants ($n = 64$) knowingly consumed a nonalcoholic soda mix in an amount equivalent to what participants consumed in the alcohol

TABLE 1. Demographic variables and differences across conditions

Variable	Control (<i>n</i> = 64)	Alcohol (<i>n</i> = 64)	<i>t</i> or χ^2
Gender, <i>n</i> (%)			
Women	32 (50.0%)	32 (50.0%)	
Men	32 (50.0%)	32 (50.0%)	
Age, <i>M</i> (<i>SD</i>)	23.06 (2.27)	23.48 (2.54)	<i>t</i> (126) = -0.99, <i>p</i> = .324
Race/Ethnicity, <i>n</i> (%)			$\chi^2(5) = 2.73, p = .741$
White, non-Hispanic	52 (81.3%)	48 (75.0%)	
Black or African American	2 (3.1%)	2 (3.1%)	
Latino or Hispanic	5 (7.8%)	3 (4.7%)	
Asian or Asian American	3 (4.7%)	2 (3.1%)	
American Indian/Native American	0 (0.0%)	1 (1.6%)	
Biracial or multiracial	1 (1.6%)	3 (4.7%)	
Not reported	1 (1.6%)	5 (7.8%)	
Current student, <i>n</i> (%)			$\chi^2(1) = .20, p = .653$
Yes	51 (79.7%)	52 (81.3%)	
No	11 (17.2%)	9 (14.1%)	
Not reported	2 (3.1%)	3 (4.6%)	
Sexual victimization history, <i>n</i> (%)			$\chi^2(1) = 1.61, p = .205$
Any since age 14	24 (37.5%)	18 (28.1%)	
None since age 14	37 (57.8%)	45 (70.3%)	
Not reported	3 (4.7%)	1 (1.6%)	
AUDIT, <i>M</i> (<i>SD</i>)	6.05 (2.49)	6.19 (2.73)	<i>t</i> (126) = -0.30, <i>p</i> = .761
Breath alcohol concentration			
Before vignette	.070 (.014)	.00 (.00)	<i>t</i> (124) = -40.19, <i>p</i> < .001
At end of interview	.086 (.014)	.00 (.00)	<i>t</i> (125) = -48.31, <i>p</i> < .001

Note: AUDIT = Alcohol Use Disorders Identification Test.

condition.¹ For both conditions, the mixture was divided into three servings consumed within a 10-minute period. A trained research assistant acting as a “bartender” served the participant beverages in the bar lab. Participants then rinsed their mouths with water to ensure accurate BrAC readings. Alcohol participants completed breath tests every 4 minutes until reaching the .06% criterion to maximize the likelihood that participants would complete the vignette and interview portion while intoxicated and during the ascending limb of the BAC curve. We used a yoked-control absorption period (Giancola & Zeichner, 1997), as it has shown greater experimental control over BrAC variability than standard absorption periods (Schact et al., 2010). Each control participant had an absorption period and number of breath tests matching that of an alcohol participant.

Next, participants were presented visually (printed on paper) and auditorily (through headphones) (Jozkowski, 2015) with a 94-second vignette depicting a sexual assault. Participants then completed a semistructured interview (described below), during which BrAC was measured at 10-minute intervals. To ensure that participants in the alcohol condition would be intoxicated throughout this portion of the study, we developed the interview so that dependent variables would

be assessed within 45 minutes, and we required a minimum BrAC of .08% during the interview for inclusion in the present sample. Upon study completion, participants were debriefed and given treatment referral, crisis hotline, and sexual violence resource handouts. Intoxicated participants remained in the laboratory for detoxification until they met criteria to leave (BrAC < .04%), consistent with alcohol administration guidelines (National Institute on Alcohol Abuse and Alcoholism, 2005). Participants received \$15.00/hour as compensation. The protocol was approved by the primary investigator’s institutional review board.

Measures and stimuli

Background questionnaires. Participants completed demographic items and established self-report measures of general drinking behaviors (Alcohol Use Disorders Identification Test) and sexual victimization history (Sexual Experiences Survey Short Form Victimization; Koss et al., 2007).

Sexual assault vignette and interview. Participants were presented with a vignette in which nonconsensual sexual activity occurred between two friends of the participant (see the Appendix at the end of this article). The vignette describes how the participant (bystander) introduces the man (perpetrator) and woman (victim) to one another at a party they were attending. The man and woman appear to get along and later engage in sexual activity that starts consensually but becomes nonconsensual. The man is described as sober, and the woman is described as intoxicated, using explicit statements about the woman’s drinking and behavioral

¹We chose a nonalcoholic control condition over a placebo because (a) knowingly consuming alcoholic or nonalcoholic drinks better reflects what happens in real-world drinking contexts; (b) of low credibility typical of placebos at the 0.08% BAC level; and (c) placebo responses may not accurately capture expectancy effects in women—particularly in relation to sexual assault—because of compensatory effects such as hypervigilance (Testa et al., 2006).

signs of intoxication.² We developed the vignette and the interview to address the study hypotheses, drawing from recommendations in previous work using sexual assault vignette methodology. For example, we included circumstances that commonly precede sexual assaults (e.g., a convivial setting with an acquaintance) and clear risk cues (e.g., continued unwanted sexual advances; Davis et al., 2009). After the vignette, participants completed a semistructured interview that assessed Latané and Darley's (1970) steps of bystander intervention.

Step 1 ("Story Recall," Notice the event). Interviewers asked participants to "Please tell the story back to me as you heard it." Two independent trained raters coded responses using a 15-item form assessing recall of key story elements (e.g., "You are the witness to sexual activity"). Participant recall scores represent memory of key elements related to bystander behavior (e.g., level of familiarity with and perceived intoxication of the victim and perpetrator, witnessing nonconsensual sexual activity). Items were scored 0 (*not recalled*), 1 (*recalled inaccurately, or response inferred*), or 2 (*recalled fully*), with a possible scale range of 0 to 30. (Contact the first author to obtain the coding scheme used for Step 1.) A high degree of reliability was found between the two raters. The average measure intraclass correlation coefficient was .904 with a 95% confidence interval (CI) from .861 to .933, $F(127, 127) = 10.91, p < .001$. Therefore, we computed a total recall score by averaging the sum of scores for each rater.

Step 2 (Interpret the event as dangerous and requiring intervention). Participants were asked to respond to three questions using a response scale of 1 (*not at all*) to 10 (*extremely*): "How dangerous is this situation?" ($M = 8.05, SD = 1.75$), "How uncomfortable is this situation?" ($M = 8.71, SD = 1.86$), and "To what extent does someone need to get involved in this situation?" ($M = 8.98, SD = 1.87$). The three items were highly intercorrelated ($r_{\text{danger,involve}} = .60, r_{\text{danger,uncomfortable}} = .44, r_{\text{uncomfortable,involve}} = .65; ps < .001$). We computed an average score for these items ($\alpha = .798$), with higher composite scores indicating that the situation was appraised as riskier and required intervention.

Step 3 (Take responsibility for acting). Participants were asked, "To what extent is it your responsibility to get involved in this situation?" on a scale of 1 (*not at all your responsibility*) to 10 (*entirely your responsibility*).

Step 4 (Decide how to act). Participants were asked to generate possible intervention strategies they would implement in the situation and to select which of their chosen

methods was the best. Participants were then presented with five images of a scale depicting the relative weight of the pros versus cons of intervening using their best method, from 1 (*pros greatly outweigh cons*) to 5 (*cons greatly outweigh pros*), and they were asked to select the image that applied most to their intervention method.

Step 5 (Act to intervene and be willing and able to act). Using a rating scale of 1 (*not at all confident*) to 10 (*completely confident*), participants were asked to rate how confident they were that they could perform their chosen intervention in this situation.

Data analysis

After ensuring that there were no violations of the assumptions for our planned analyses, we examined whether participants differed in background variables between conditions (no differences, as shown in Table 1), and we ran correlations among all study variables (Table 2). We tested the effects of condition (alcohol vs. control), gender (male vs. female), and Condition \times Gender interaction on each of the five bystander intervention steps using 2×2 between-groups analyses of variance (ANOVAs). Last, we estimated a structural equation model (SEM) using AMOS 24.0 to test whether Step 2 (as a latent variable with three indicators) mediated the influence of alcohol condition on subsequent steps. We used bootstrapping (5000 replicates) and MacKinnon's (2008) asymmetric distribution of products to test mediation. We used the Bollen–Stine chi-square (nonsignificant p value), root mean square error of approximation (RMSEA; $< .08$), p value for close fit (nonsignificant p value), and the comparative fit index (CFI; $> .95$) as indicators of model fit (Brown, 2015). Consistent with recommendations that researchers test hypothesized mediators even when there is not a significant effect of the independent variable (X) on the outcome variable (Y) (Hayes, 2009; O'Rourke & MacKinnon, 2018), we did not require a significant X–Y effect to proceed with mediation testing.

Results

For Step 1 (Notice the event), 2×2 ANOVA results demonstrated a significant main effect of alcohol condition on participant story recall, $F(1, 124) = 24.99, p < .001, \eta_p^2 = .17$. Consistent with H1, participants in the control condition recalled key elements of the story more accurately than participants in the alcohol condition. No significant effects were observed for gender, $F(1, 124) = .11, p = .74, \eta_p^2 < .01$, or Condition \times Gender, $F(1, 124) = 9.85, p = .38, \eta_p^2 = .01$. The ANOVA at Step 2 (interpret the event as dangerous and requiring intervention) revealed a significant effect of alcohol condition, $F(1, 123) = 7.17, p = .008, \eta_p^2 = .06$, but no significant main effect of gender, $F(1, 123) = 0.73, p = .39, \eta_p^2 < .01$, or Condition \times Gender, $F(1, 123) = 1.40,$

²Although we considered a within-groups design crossing perpetrator and victim intoxication factors or whether the participant introduced the perpetrator and victim, the risk of contamination across conditions, combined with participant intoxication time limitations, led us to opt for one condition containing factors likely to increase bystander perceptions of responsibility to intervene (e.g., Pugh et al., 2016).

TABLE 2. Correlation matrix of study variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Story recall (Step 1)	–										
2. Interpret risk (Step 2)	.14	–									
3. Responsibility (Step 3)	.08	.60***	–								
4. Pros vs. cons (Step 4)	-.17	-.28**	-.19*	–							
5. Confidence (Step 5)	.06	.12	.11	-.22*	–						
6. Alcohol condition	-.41***	-.23**	-.11	.01	.06	–					
7. AUDIT	-.02	-.10	-.19*	-.10	.00	.03	–				
8. Sexual victimization history	.10	.01	.05	-.17	-.04	-.11	.05	–			
9. Age	.08	.03	.13	-.02	.04	.09	-.04	.00	–		
10. Gender	-.03	-.07	-.09	-.03	.13	.00	-.25**	.21*	-.04	–	
11. Student status	-.03	.05	.08	.01	.02	.04	-.11	.20*	-.23**	.09	–

Notes: Story recall = total score for recall of key story elements. Interpret risk = averaged score reflecting appraisal of risk and need for intervention in the situation. Responsibility = rating for need to get involved in the situation. Pros vs. cons = relative balance of pros and cons of enacting identified intervention. Confidence = confidence of implementing stated strategy. Alcohol condition: coded 0 = control, 1 = alcohol. AUDIT = Alcohol Use Disorders Identification Test. Sexual victimization history: coded 0 = no unwanted sexual contact since age 14, 1 = reported experience of any unwanted sexual contact since age 14). Gender: coded 0 = woman, 1 = man. Student status: coded 0 = no, 1 = yes). **p* < .05; ***p* < .01; ****p* < .001.

p = .24, η_p^2 = .01. Consistent with H2, participants in the control condition reported greater risk and need to intervene in the situation compared with participants in the alcohol condition. Contrary to H3–H5, there were no significant main effects of alcohol condition, gender, or the Condition \times Gender interaction for Steps 3, 4, or 5 (η_p^2 ranged from <.001 to .02). See Table 3 for means and standard deviations.

Last, we examined whether Step 2 (interpreting risk/ requiring intervention) mediated the association between condition and subsequent bystander intervention steps. Two cases with a missing data point were excluded from the SEM analysis. Fit indices suggest that the model had acceptable to good fit, Bollen–Stine χ^2 *p* = .299; $\chi^2(11)$ = 18.568, *p* = .69; RMSEA = .074; *p* value for test of close fit = .222; CFI = .964. The standardized parameter estimates in Figure 1 indicate that condition had a negative direct association with Step 2, and Step 2 was related positively to Step 3 and negatively to Step 4. Furthermore, consistent with H6–7, condition had a significant negative indirect effect on Step 3 (β = -.126, bias-corrected 95% CI [-.267, -.011], *p* = .031) and a significant positive indirect effect on Step 4 (β = .070, bias-corrected 95% CI [.008, .175], *p* = .025) through Step

2, consistent with partial mediation. Indirect effects suggest that those in the alcohol condition perceived less risk and need for intervention, which in turn was related to taking less responsibility and perceiving fewer pros relative to cons of intervening. Contrary to H8, paths to Step 5 (confidence to enact intervention) were nonsignificant.

Discussion

Results suggest that alcohol intoxication could hinder the bystander’s progression through the bystander intervention steps. We found that the intoxication condition affected responses to the vignette depicting a sexual assault that were related to early stages (Steps 1 and 2) of Latané and Darley’s (1970) bystander intervention model more so than to later stages (Steps 3–5), and it did so similarly for men and women. In the first two model steps, bystanders become aware of a dangerous situation and that there is a victim who needs help. If intoxicated bystanders are impaired in detecting a sexual assault and identifying the need to intervene, they will not reach the crucial intervention points of selecting and implementing an action. Mediation analysis

TABLE 3. The five-step bystander model dependent variable means, by alcohol condition, gender, and the total sample

Variable	Step 1 Story recall	Step 2 Interpret risk/ need for intervention	Step 3 Your responsibility	Step 4 Pros vs. cons	Step 5 Confidence
Condition, <i>M</i> (<i>SD</i>)					
Control	22.55 ^a (3.32)	8.95 ^b (1.19)	8.91 (1.65)	1.41 (0.77)	8.67 (1.70)
Alcohol	19.40 ^a (3.76)	8.24 ^b (1.76)	8.54 (1.75)	1.43 (0.84)	8.88 (1.71)
Gender, <i>M</i> (<i>SD</i>)					
Men	20.87 (3.77)	8.48 (1.60)	8.58 (1.77)	1.39 (0.81)	9.00 (1.47)
Women	21.08 (3.99)	8.71 (1.47)	8.87 (1.64)	1.44 (0.80)	8.55 (1.89)
Overall <i>M</i>	20.97 (3.87)	8.59 (1.54)	8.72 (1.71)	1.41 (0.80)	8.77 (1.70)
Range	9.0–27.5	3.0–10.0	2.0–10.0	1.0–4.0	2.0–10.0

Notes: Matching superscripts indicate significant differences within groups at *p* < .05.

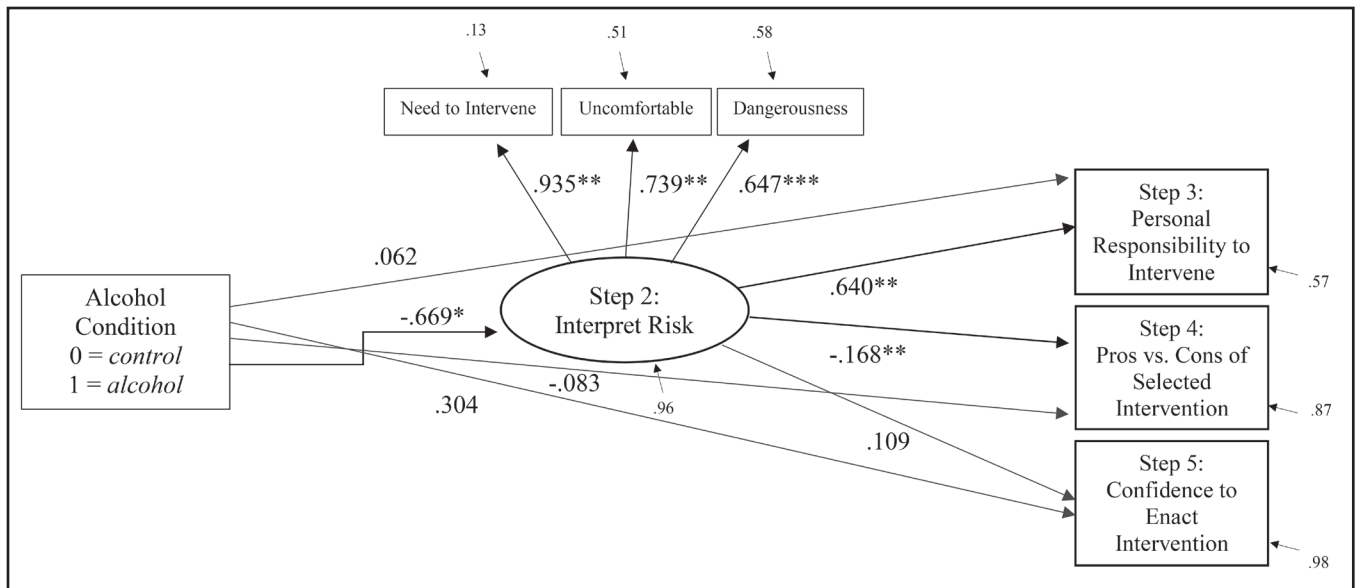


FIGURE 1. Model testing Step 2 as a mediator of the effects of alcohol condition on later steps of bystander intervention. *Note:* Depicts standardized bootstrapped coefficients in the mediation model ($N = 126$). “Need to Intervene” item was the marker variable for the Step 2 latent variable. * $p < .05$; ** $p < .01$; *** $p < .001$.

provides initial support for the importance of the second bystander intervention model step, as Step 2 (Interpreting the event as dangerous/requiring intervention) partially mediated the association between condition (alcohol vs. control) and Steps 3 (Take responsibility for acting) and 4 (Pros vs. cons of intervening). Thus, bystander intoxication may impede intervention because alcohol reduces the degree to which bystanders perceive danger while witnessing a sexual assault.

These findings are consistent with alcohol myopia theory (Steele & Josephs, 1990) and Leone and colleagues’ (2018) integrative framework regarding alcohol effects on the first two steps of bystander intervention. Although most participants appraised the situation as being relatively high risk and requiring intervention, participants in the alcohol condition reported significantly lower risk in the situation and less recall of key story elements relevant to risk compared with control participants. This suggests that alcohol may reduce attention to cues indicating sexual assault risk, as these may be less salient and more difficult to process compared with other environmental cues. Of note, participants were instructed to attend to the sexual assault vignette in both audio and written formats, thereby directing their attention to the event. Furthermore, the vignette included many components thought to increase perceived responsibility for bystander intervention, such as introducing the victim and the perpetrator to one another, so that we could better isolate the effect of alcohol on bystander intervention. When in ecologically valid settings in which individuals are free to attend to a wider variety of cues and more barriers to bystander intervention steps may be present, the likelihood of detecting risk and feeling responsible for intervention when intoxicated

compared with when sober may result in larger effects than we observed.

Consistent with Pugh and colleagues’ (2016) conclusions that the largest barrier to enacting bystander behaviors in alcohol-involved sexual assaults is failure to interpret the event as being dangerous, we found that intoxicated bystanders detected less risk and less need for intervention. This reduced risk detection, in turn, was associated with reductions in personal responsibility for intervening in the assault and in the degree to which one perceived more advantages to intervening relative to disadvantages.

Current bystander intervention programs focus on reducing rape-supportive norms, increasing sexual violence awareness, and teaching intervention strategies when sexual violence is recognized (Banyard, 2013; Banyard et al., 2007, 2009). Some of these programs target specific populations (e.g., student leaders, fourth-year students) to empower them as bystanders and to disseminate bystander intervention messages to the college student body (Banyard et al., 2009; White House Task Force, 2014). Such bystander interventions are found to reduce rape-supportive beliefs and to increase self-efficacy, positivity toward intervening, and intentions to intervene (Banyard et al., 2009, 2010; White House Task Force, 2014). Bystander intervention programs may be effective at providing people with tools to use when they face potential sexual assault situations, but they may give less attention to completing early steps that may be impaired by bystander intoxication. Prevention educators could incorporate the present findings into sexual violence bystander intervention programs by including education about the negative effects of alcohol on risk detection in

bystanders, combined with interventions that aim to reduce heavy alcohol use and to identify strategies to compensate for the impairing effects of alcohol (Leone et al., 2018). If alcohol negatively influences risk detection, increasing the presence of trained bystanders who are not intoxicated could facilitate the likelihood of effective bystander intervention. This may be accomplished by encouraging identification of designated “sober” friends when planning a night out, or by training individuals employed in settings in which alcohol-related sexual violence is common to be effective bystanders (e.g., bartenders; Powers & Leili, 2018).

Limitations and future directions

Our findings should be considered within the context of their limitations. For example, our study did not include a placebo condition. As such, we cannot conclude that the observed effects are due to alcohol as opposed to the expectation of having consumed alcohol. We used vignette methodology and self-report interview methods to assess bystander intervention steps in a sexual assault situation. These strategies could result in biased responding due to demand characteristics or social desirability, and responses may not reflect what occurs in real-world situations. Examining the effects of alcohol on bystander intervention in scenarios that better approximate situations encountered by young adults and allow for the bystander intervention steps to unfold in real time is needed. Given that exposing participants to a sexual assault rightly presents ethical concerns, laboratory researchers must consider ways to measure bystander behaviors in realistic scenarios. For example, the use of virtual environments (Jouriles et al., 2016; Kozlov & Johansen, 2010) and behavioral analogue tasks (Parrott et al., 2012) as well as focusing on behaviors that are on the “lower risk” end of the sexual violence continuum (e.g., misogynistic comments, discussing plans of intoxicating a woman for the purpose of having sex; McMahan & Banyard, 2012) hold promise as methods to better simulate real-world sexual assault bystander behavior.

Another limitation is the failure to assess intentions to intervene, which could influence the enactment and efficacy of intervention strategies and may be affected by alcohol intoxication. There was also an absence of gender differences in this study, despite previous work suggesting that women report greater willingness and personal responsibility to intervene in a sexual assault (e.g., Katz & Nguyen, 2016). In addition, given our weak effect sizes for the Alcohol Condition \times Gender analyses, we were not sufficiently powered to detect gender moderation effects. Work is needed to determine whether the null findings are the result of low power, reflect a lack of gender variation in bystander responses to a sexual assault, and/or reflect that, regardless of gender, young adults respond similarly under the circumstances of the vignette used and the way bystander intervention steps

were measured. Participants rated the relative balance of pros versus cons and confidence for intervening; it is possible that men and women would differ in the intervention strategies selected or intentions to implement these strategies. Researchers should examine gender and bystander intoxication with larger samples that vary the characteristics of the depicted sexual assault and with more nuanced measurement of bystander responses.

Future research should also address how bystander intoxication interacts with individual (e.g., endorsement of rape myths, alcohol outcome expectancies, sexual victimization history), situational (e.g., bystander’s relationship with the victim/perpetrator, victim/perpetrator histories, setting of the event), and broader sociocultural factors (e.g., norms, laws) in bystander intervention (e.g., Leone et al., 2018). A better understanding of who is most affected by alcohol and under what conditions as a bystander in alcohol-related sexual assault situations will help improve sexual assault prevention programs.

Conclusions

We found that bystander intoxication negatively affected early steps in Latané and Darley’s (1970) bystander intervention model, which may then hinder a bystander’s progression through later steps that would lead to effective intervention in a sexual assault situation. Surprisingly, we found no gender differences. Prevention programs might therefore benefit from addressing the negative effects of bystander intoxication on sexual assault risk detection among students broadly. The current study represents progress toward answering Banyard’s (2014) call for research and prevention efforts that integrate the sexual violence and alcohol fields to most effectively address college sexual violence.

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Appendix

Sexual assault vignette

You are at a house party with your friend, Vicki. Music is playing and people are having a good time. From across the room, you spot your friend, Pete, and decide to introduce Vicki to Pete. You think the two of them might get along well, since both are into similar sports, both have similar views on politics, and both are from similar family backgrounds. After introductions, it is clear Vicki and Pete are getting along well, so you leave the two of them to mingle with other people at the party. You begin talking with a group of people who are discussing your favorite band. An

hour later, you notice Vicki drinking several shots of liquor as part of a drinking contest while Pete cheers her on. You ask Pete if he plans to join in the contest, but Pete replies he is just going to stick to his one beer tonight. Later in the evening, you see Pete and Vicki heading to a separate room away from the party. You notice that Vicki is stumbling and having a very hard time walking. As you and a group of people walk by the open door on your way to the back porch, you see Pete and Vicki kissing and making out on the bed. Next, you notice that Pete is unzipping his pants and getting on top of Vicki. Vicki pushes him away, but Pete continues to climb on top of her. You hear Pete say to Vicki, “Come on, stop being such a tease.”