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## Bystander Intervention to Prevent Sexual Violence: The Overlooked Role of Bystander Alcohol Intoxication

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### Abstract

**Objectives**—Bystander training is a promising form of sexual violence (SV) prevention that has proliferated in recent years. Though alcohol commonly accompanies SV, there has been little consideration of the potential impact of *bystander* alcohol intoxication on SV prevention. The aims of this commentary are to provide an integrative framework for understanding the proximal effect of alcohol on SV intervention, provide recommendations to spark novel research, and guide the application of research to bystander programming efforts.

**Method**—This commentary begins with a review of existing bystander training programs and the need to target alcohol use and misuse in these programming efforts. Next, pertinent alcohol and bystander theories and research are drawn from to develop a framework for the proximal effect of alcohol on SV intervention.

**Results**—The well-established decision-making model of bystander behavior (Latané & Darley, 1970) and Alcohol Myopia Theory (Josephs & Steele, 1990) are used to identify potential barriers to SV intervention that may be created or exacerbated by alcohol use. Additionally, the ways in which alcohol may facilitate intervention are discussed.

**Conclusions**—Specific recommendations are made for elucidating the relationship between alcohol and bystander behavior and testing the impact of alcohol at each level of the presented framework. Methodological and analytic concerns are discussed, including the need for more multi-method studies. Recommendations to guide the application of the present framework to SV prevention programming efforts are provided and consider how the proximal effects of alcohol impact intervention.

### Keywords

alcohol myopia; bystander effect; prevention; sexual aggression; sexual assault

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“Through the myopia it causes, alcohol may tie us to a roller-coaster ride of immediate impulses arising from whatever cues are salient.”

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(Steele & Josephs, 1990, p. 923)

“...situational factors, specifically factors involving the immediate social environment, may be of greater importance in determining an individual’s reaction to an emergency than such broad motivational concepts as ‘apathy’...”

(Latané & Darley, 1970, p. 127)

Bystander training is a promising form of sexual violence (SV) prevention that has gained widespread favor in recent years (DeGue et al., 2014). These programs train witnesses to intervene in risky sexual situations, which often involve alcohol (Abbey, 2002; Testa, 2002). Though bystanders, if also intoxicated in these situations, are undoubtedly susceptible to alcohol’s cognitive and attentional influences, there is little empirical data to inform whether intoxication on the part of bystanders interferes with their ability to respond effectively to sexual risk situations. As such, the principal aims of this paper are to: 1) propose an integrative framework for the proximal effect of alcohol intoxication on bystander intervention when witnessing SV behavior (hereafter referred to as SV intervention), 2) provide recommendations to stimulate new lines of research, and 3) guide the application of research to bystander programming efforts. This article begins by reviewing bystander training programs and discussing the need to target alcohol use and misuse in these programming efforts. We then provide a framework to understand how the proximal effects of alcohol may influence SV intervention by integrating pertinent alcohol and bystander theories. This framework is the basis for specific recommendations for future research and is used to guide potential applications of findings to prevention programming efforts.

## Review of Bystander Training Programming

Bystander training programs have proliferated on college campuses in recent years as a key approach to SV prevention. In contrast to traditional prevention approaches that seek to educate about SV and shift rape-supportive attitudes (e.g., Banyard, Plante, Moynihan, 2004; DeGue et al., 2014; Söchting, Fairbrother, & Koch, 2004), these programs focus on activating individuals to intervene in a range of SV behaviors (Bennett, Banyard, & Garnhart, 2014). Bystander programs serve two main functions: (1) to prevent specific instances of SV from occurring by encouraging bystanders to engage in intervention when witnessing risky sexual scenarios, and (2) to lead a cultural shift by establishing healthy social norms and dispelling rape-supportive attitudes that contribute to SV (Fabiano, Perkins, Berkowitz, Linkenbach, & Stark, 2003). By targeting individual, peer, and community-level risk factors for SV, bystander programs answer the numerous calls made for a multi-level, ecological approach to strengthen prevention efforts (e.g., Banyard, 2011; DeGue et al., 2014). Evaluations indicate that bystander training can attenuate attitudinal barriers to action (e.g., rape-myth acceptance) and increase bystanders’ desire to intervene in risky sexual situations (e.g., bystander intentions; for review, see Katz & Moore, 2013). Though reducing rape-supportive attitudes is desirable, examination of attitudinal outcomes in isolation stops short of the main outcomes of interest, namely fostering bystander intervention *behaviors* and reducing the occurrence of SV. A focus on attitudes alone is concerning given a recent review of SV training programs that target attitudinal or knowledge outcomes are ineffective in producing behavior change (DeGue et al., 2014).

Moreover, only a few studies have: (1) examined whether bystander training leads to increases in self-reported prosocial bystander behavior, and (2) demonstrated positive increases in prosocial bystander behavior following training (e.g., Coker et al., 2015; Moynihan et al., 2015).

In-person training is the most common method of enlisting bystanders to intervene and is typically conducted through presentations or small group workshops, with audiences most often consisting of U.S. college students. Online trainings have also been developed, which ease the burden of dissemination and have the potential to reach more individuals, more often (Jouriles, McDonald, & Rosenfield, 2016; Salazar, Vivolo-Kantor, Hardin & Berkowitz, 2014). Though details vary, trainings share many common components, including SV awareness education, specific techniques to identify sexual risk markers, education about bystanders' responsibility when they witness risk, and discussion about or practice engaging in strategies to intervene in risky situations (for a review, see Storer, Casey, & Herrenkohl, 2016). Trainings often include some consideration of the well-established finding that alcohol is a contributing factor of SV (Abbey et al., 2002), and focus on encouraging students to recognize risk when in alcohol-related contexts. This focus is particularly important given that perpetrator or victim alcohol intoxication is a factor in over half of sexual assaults (Abbey, 2002; Testa, 2002) and that bystanders report perceiving more barriers to intervention when a potential victim is intoxicated (Pugh, Ningard, Vander Ven, & Butler, 2016).

Though training bystanders to attend to alcohol-related risk is helpful, programing efforts to date have not adequately addressed how alcohol use could influence bystanders themselves. Thus, key questions remain. Are intoxicated individuals less likely to recognize SV risk, less able to engage in bystander behavior, or less effective at intervening? Relatedly, what are the mechanisms by which alcohol might influence bystander witnessing or behavior? Surprisingly, no study has directly examined the effects of alcohol use on bystander behavior in the moment, and only three studies have examined general links between bystander alcohol use and bystander behavior. These latter findings demonstrate that men who drink more heavily are less willing to intervene in SV than non-heavy drinking men (Orchowski, Berkowitz, Boggis, & Oesterle, 2015), heavy alcohol use is associated with a lower likelihood of SV intervention among men, but not women (Fleming & Wiersma-Mosley, 2015), and bystanders fail to intervene in the vast majority of bystander opportunities in bar settings (Graham et al., 2014). Though these findings suggest possible associations between alcohol use and bystander behaviors, the field lacks evidence to inform our understanding of the impact of acute intoxication on bystander behavior and the putative mechanisms for this effect.

## **An Integrative Framework for the Proximal Effect of Alcohol on SV Intervention**

The most well-established model of bystander behavior (e.g., Bennett et al., 2014; Burn, 2009), the decision-making model, posits that bystanders must make a series of decisions to intervene: they must: (1) notice the event, (2) identify the situation as intervention-

appropriate, (3) take responsibility to intervene, (4) decide how to help, and (5) take action (Latané & Darley, 1970). Progressing through these decision-making steps is important for bystanders to engage in prosocial behavior; however, barriers at each step may hinder intervention. As the number of perceived barriers increases, the likelihood that a bystander will engage in SV intervention decreases (Burn, 2009). Moreover, bystanders' decision making does not necessarily follow a linear path wherein each step is subsequently achieved (e.g., Banyard, 2015). Depending on the development of the witnessed situation, bystanders may take in new information and regress back to prior steps. Further, while decision-making is an internal process, bystanders are influenced by contextual variables and prior experiences with witnessing and intervening in SV, which impact current behavior (Banyard, 2015). The present paper will utilize the structure of the internal decision-making process outlined by Latané & Darley (1970), while considering how context and prior experiences impact this process at each step. We argue that alcohol intoxication inhibits bystander behavior because it creates barriers at multiple steps of the decision-making model. Prior to reviewing data in support of this view, it is important first to establish how acute alcohol intoxication is theorized to influence decision making and behavior.

### **Alcohol Myopia Theory**

Alcohol Myopia Theory (AMT; Steele & Josephs, 1990) is one of the most well-accepted explanations of the effects of alcohol intoxication on behavior. AMT purports that the pharmacological properties of alcohol impair attentional capacity and processes. Specifically, this alcohol-related impairment has a narrowing effect on attention, also known as "alcohol myopia," which restricts the range of internal and external cues individuals perceive and process. By impairing attentional capacity, intoxication causes individuals to allocate or shift their limited attentional focus to the more salient, immediate, and easier to process cues in the environment. As a consequence, the full meaning of less salient cues is never fully processed, or possibly even perceived. Importantly, the content of the cues that are processed is posited to influence subsequent behavior.

To help illustrate AMT, attention may be thought of as a spotlight. When individuals are sober, the spotlight is wide and focuses on both salient and less salient cues. However, when an individual is intoxicated, the spotlight is narrow and focuses only on the most immediate and salient cues in the environment, to the exclusion of less salient cues. For example, in SV situations, alcohol would inhibit intervention in cases where myopia narrows attention onto peers who condone forceful sexual behavior (e.g., salient and immediate cue) rather than onto the sexual disinterest or discomfort of the female (e.g., less salient and less immediate cue). In other words, alcohol's effect on behavior is mediated by narrowed attentional capacity. Research in support of the AMT is well documented, most pertinently in risky sexual behavior and aggression (for a review, see Giancola, Josephs, Parrott, & Duke, 2011).

### **Bystander Decision Making: Alcohol as a Barrier to Intervention**

At each step of the decision-making model, common barriers are reviewed, followed by a discussion of how alcohol intoxication may facilitate additional barriers at each step (see Table 1).

**Step 1**—The first step towards bystander intervention is noticing an event. Bystanders may fail to notice SV behaviors for several reasons, such as not looking in the direction of sexual risk behaviors or due to self-focus or sensory distractions (Burn, 2009; Latané & Darley, 1970). Alcohol increases susceptibility to distraction or mind-wandering, lessening one's ability to attend to information, particularly when it is not especially salient, and simultaneously mitigates the ability to notice one's mind-wandering (Sayette, Reichle, & Schooler, 2009). In other words, inebriated individuals are more likely to “zone out,” and not realize it, compared to their sober counterparts. This likelihood that intoxicated bystanders will be distracted from noticing a risky event is particularly concerning given that indicators of an unwanted sexual advance are often subtle (e.g., averted eye contact, paralyzed reactions, polite resistance).

Next, inattentional blindness, a phenomenon in which individuals fail to detect salient unexpected objects in the field of vision (Mack & Rock, 1998; Simons & Chabris, 1999), helps explain why some individuals do not notice risk cues for nearby SV. For example, experimental research that examines this phenomenon has demonstrated approximately half of participants failed to notice a woman in a gorilla suit walking across a basketball game they were tasked with monitoring (Simons & Chabris, 1999). SV, particularly less severe forms, may similarly go unnoticed by bystanders whose focus is narrowed due to alcohol intoxication. Recent laboratory-based research suggests alcohol intoxication increases the likelihood of inattentional blindness due to its myopic effects, which makes it difficult for individuals to allocate their attention to information outside a directed goal (Clifasefi, Takarangi, & Bergman, 2006). In most drinking environments, these goals (e.g., focusing on one's own conversation) may not routinely encompass risk factors for SV experienced by others. Such findings suggest that alcohol-facilitated inattentional blindness decreases the likelihood that intoxicated bystanders notice seemingly obvious SV behavior.

**Step 2**—The second step towards intervention is identifying the situation as intervention-appropriate, or high in SV risk (Burn, 2009). Bystanders can fail to identify a situation as intervention appropriate due to ambiguity or ignorance. Here, it is important to recognize that SV exists on a continuum that ranges from heinous behaviors (e.g., rape) to actions much more commonly accepted in society (e.g., unwanted sexual comments; Stout & McPhail, 1998), which can escalate into more severe behaviors. Not surprisingly, bystanders are more likely to intervene in “dangerous emergencies” because they are less ambiguous and induce higher levels of arousal than lower level transgressions (Fischer et al., 2011). Situations with greater ambiguity impede bystanders' ability to recognize risk. This is concerning because bystanders are more likely to witness pre-assault SV behaviors (e.g., inappropriate sexual conversations), which are more likely to be viewed as ambiguous and thus less likely to be identified as intervention-appropriate, than they are to witness ongoing acts of SV (Burn, 2009).

Interpreting complex situational and interpersonal cues is not an easy task, and alcohol intoxication further compromises this process. Indeed, intoxication distorts men's ability to interpret a woman's affective cues by increasing their likelihood of interpreting her behavior as sexually suggestive (Abbey, Zawacki, & Buck, 2005; Farris, Treat, & Viken, 2010). Similarly, intoxicated, relative to sober men, take longer to identify a male's inappropriate

sexual behavior toward a female (Gross, Bennett, Sloan, Marx, & Juergens, 2001; Marx, Gross, & Juergens, 1997), because its ambiguity does not attract the drinker's myopic or narrowed attention. In other words, alcohol can distort or delay bystanders' understanding of SV risk. Alcohol-induced myopia can also impair women's abilities to recognize danger cues that may subsequently lead to SV (Testa, Livingston, & Collins, 2000; Parks, Levonyan-Radloff, Dearing, Hequembourg, & Testa, 2016). Though a key goal of bystander training programs is to increase awareness that less severe forms of SV can escalate to more severe violence, the influence of alcohol exacerbates ambiguity in sexual risk situations, thereby impeding intervention.

**Step 3**—Assuming that a bystander recognizes risk and sees the situation as meriting intervention, the third step towards intervention is taking responsibility to intervene. This step is often obstructed by diffusion of responsibility, or the belief that the onus of helping is shared among all bystanders. Extant literature unequivocally demonstrates that the presence of others is a robust situational cue which prevents bystanders from intervening in non-dangerous emergencies (for a review, see Fischer et al., 2011). Failure to take responsibility is also affected by beliefs about a victim's "worthiness" (Burn, 2009). Some men report that women are responsible for their own safety, and thus do not feel responsible for intervening in SV (Koelsch, Brown, & Boisen, 2012). Further, greater victim blame is often placed on women dressed provocatively (e.g., Workman & Freeburn, 1999; Whatley, 2005) or who have consumed alcohol (for a review, see Grubb & Turner, 2012).

Intoxication can exacerbate the diffusion of responsibility for intervening by narrowing bystanders' attentional focus towards the presence of others who conceivably could help, thereby thwarting intervention. Alcohol can also facilitate attention toward perceived norms regarding sexual behavior (a salient cue), such as the victim's "worthiness," rather than toward risk for SV. For example, if a victim is drinking alcohol, intoxicated bystanders are likely to focus on the victim's "responsibility" for the situation thereby inhibiting intervention behavior. Conversely, if pro-intervention contextual cues are more salient than others' mere presence or negative perceptions of victim's "worthiness", alcohol will facilitate prosocial bystander behaviors via this attentional mechanism. For example, if the victim is a friend, the relationship to the bystander may be more salient than the presence of others. Thus, alcohol intoxication can conceivably *increase* the likelihood of prosocial intervention behavior.

**Step 4**—The fourth step towards intervention is deciding how to help, which may be impaired by a bystander's a skills deficit or uncertainty about what strategy to use (Burn, 2009). This barrier has been identified as one of the most prevalent in SV intervention (Bennett et al., 2014). While training programs aim to prepare bystanders to intervene by building behavioral skills (e.g., using distraction) and increasing confidence necessary to intervene (e.g., Potter, Stapleton, & Moynihan, 2008), alcohol intoxication presumably undermines bystanders' ability to execute decision-making skills. It is well established that acute alcohol intoxication impairs high order cognitive functioning, including working memory, problem solving, planning, set shifting, psychomotor speed, and response inhibition (Curtin & Fairchild, 2003; Giancola, 2000). As such, intoxicated bystanders who

would otherwise have the skills and confidence to intervene are less able to effectively implement a plan of action due to cognitive impairments induced by alcohol. For example, individuals may not be able to implement a complex plan to help due to impairments in working memory that prevent them from holding parts of their plan in working memory long enough to implement them. Moreover, intoxication may make it difficult for bystanders to shift intervention strategies in response to changes in or escalation of a perpetrator's tactics.

**Step 5**—At the final step, choosing to act, the main factor that may stymie intervention behavior is audience inhibition, or the fear of negative evaluation from others (Burn, 2009; Latané & Nida, 1981). This barrier is likely more common among men due to gender norms that prevent men from intruding in another man's "sexual conquest" (Burn, 2009; Carlson, 2008; Fabiano et al., 2003), or the fear of losing respect from male peers if they intervene (Carlson, 2008). Further, men exposed to male confederates who promoted misogynistic, relative to ambiguous, peer norms were significantly less likely to intervene in SV (Leone, Parrott, & Swartout, 2017). Though the power of peer influence is often identified as a barrier to intervention, social context can be harnessed to increase engagement in prosocial behavior. In cases of interpersonal violence that require multiple interveners, individuals are more likely to engage in prosocial behavior when they first see others intervene (Christy & Voigt, 1994).

We believe that these social context effects are exacerbated by the myopic effects of alcohol, which focus a bystander's attention onto highly salient norms and/or the presence of others rather than SV or its consequences. Although the combined effects of alcohol and audience inhibition have yet to be studied, research that examines general aggression indicates intoxicated, compared to sober, participants administered higher levels of electric shocks to an ostensible opponent within an experimental task when they were observed by peer-confederates who applied social pressure (Taylor & Sears, 1988). In this study, the myopic effects of alcohol likely facilitated participants' attention to aggression-promoting peer norms and, as a result, facilitated aggressive behavior.

Alternatively, in a situation in which peer norms that condemn SV are most salient, or others engage in helping behavior first, the narrowed attentional capacity of the inebriate will be focused more so on those pro-intervention cues, leaving little working memory space to focus on less salient, and potentially intervention-inhibiting, cues. As a result, intoxicated bystanders should be more likely to intervene than non-intoxicated bystanders in SV situations. Thus, this barrier may be attenuated by prosocial peers, particularly for intoxicated persons who are likely to be myopically focused on that norm.

## **Limitations and Recommendations of Current Research and Programming Efforts**

### **Measurement of opportunities and behavior**

Although bystander programs are informed by basic research about helping behavior, little is known about how often bystanders have an opportunity to intervene. Victims of SV have reported that someone "saw what happened to (them)" in 18% of sexual assaults (Hamby,

Weber, Grych, & Banyard, 2016). However, this rate is likely higher after accounting for those who witness pre-assault behaviors (Burn, 2009). It is also unknown whether bystanders' likelihood of witnessing opportunities to intervene in pre-assault or assault behaviors is influenced by the presence of alcohol (e.g., setting involving drinking, bystander intoxication). Though much SV occurs in private settings without bystander witnesses, heavy drinkers may be more likely to witness SV because they are often present in the public places SV is likely to occur (e.g., bars, parties; Thompson & Cracco, 2008). Relatedly, bystander presence, alone, does not equate to bystander opportunity to intervene. For example, some situations involve high risk for potential backlash effects of bystander behavior (e.g., physical harm to bystander; "ruining the party"), which would make it difficult or dangerous for bystanders to intervene when they witness sexual risk cues. Given that alcohol use is a contributing cause of aggression (Parrott & Eckhardt, 2017), it is likely that the potential for backlash effects is greater when bystanders and those with whom they are intervening are intoxicated.

It is essential that future efforts to examine the effect of alcohol on bystander behavior move beyond attitudes and intent to examine bystander behaviors. Further, it is not known whether skills learned in bystander training programs are effectively implemented by intoxicated bystanders. As such, behavioral outcomes should be assessed in a way that allows researchers to parse out training effects among intoxicated versus sober bystanders as well as within alcohol versus non-alcohol contexts.

### Measurement method

When bystander behaviors *are* assessed, studies have relied largely on self-report methods to measure primary outcomes (i.e., efforts to intervene). Perhaps this is because no validated measure of bystander behavior existed until recently (see Banyard, Moynihan, Cares, & Warner, 2014). However, responses to these questions are likely susceptible to over-reporting of bystander behaviors by participants who want to appear to have "done the right thing." Biased reporting may be especially common among individuals who underwent bystander training and therefore know the "right" answers to bystander questions. Moreover, simply participating in bystander training can increase individuals' awareness of the behaviors that they already perform, potentially inflating differences between those who have and have not completed training. Additionally, because respondents cannot report about opportunities to intervene that they did not notice, these measures cannot assess the total number of opportunities an individual has to intervene in SV. Measures are needed to elucidate whether low rates of bystander behavior are a result of a lack of opportunity or barriers in intervention.

Multiple methods should be employed to assess the proximal effects of alcohol on SV intervention to combat the aforementioned limitations of existing research, as well as to examine the full range of bystander decision-making. There is an urgent need for researchers to modify self-report measures (e.g., Banyard et al., 2014; Burn, 2009) to examine intoxicated SV intervention. Specifically, new instruments or adaptations of current instruments are needed to capture the effects of distal and proximal alcohol use on opportunity to intervene, and effectiveness of those interventions. For example, intensive



longitudinal methods, such as daily diary and ecological momentary assessment (EMA), would be fruitful in identifying how often intoxicated bystanders notice SV, whether they intervene, and what barriers may have prevented them from engaging in prosocial behavior. Daily diary designs are more appropriate when assessing behavior (e.g., alcohol use, SV intervention); whereas, EMA, which aims to minimize recall bias and maximize ecological validity by repeatedly sampling participants in real time (Shiffman, Stone, & Hufford, 2008), is advantageous to assess intrapersonal experiences (e.g., mood states). This approach would be especially useful in examining perceptions of in-the-moment barriers to intervention while bystanders are consuming alcohol.

The limitations of self-report could be addressed via complementary laboratory-based methods that are less susceptible to reporting biases and afford experimental control over situational predictors of SV intervention. Bystander analogue tasks (Leone et al., 2017; Parrott et al., 2012) and virtual reality paradigms (Jouriles et al., 2016) allow researchers to observe and quantify bystander behaviors directly. Another benefit of these techniques, as well as written vignettes for assessing bystander behaviors (e.g., Davis et al., 2012), is the ability to manipulate various aspects of a given sexual risk situation (e.g., victim characteristics) and to examine the unique and interactive effects of intoxication and bystander training on observable behavior. Because each laboratory paradigm has distinct advantages and disadvantages, the strongest conclusions will be possible when lab-based proxies are implemented in conjunction with self-report measures.

### **Analytic approach**

Given the low base rates of SV intervention (e.g., Hamby et al., 2016), it is critical that researchers utilize appropriate analytic techniques to model these data accurately. Experimental and survey-based research indicate approximately 72–75% of bystanders do not engage in SV intervention (e.g., Leone et al., 2017; Moschella, Bennett, & Banyard, 2016), resulting in zero-inflated outcome data. Techniques to normalize skewed data (e.g., square root transformation) are often ineffective because a large proportion of the sample does not intervene. Count-based analytic methods based on the Poisson family are recommended, in line with recent calls to apply these methods to SV perpetration data (for a review, see Swartout et al., 2015).

### **Proposed Research Agenda**

Research examining SV intervention has grown considerably in the past 15 years despite the absence of a theoretical framework for understanding the proximal effects of alcohol on bystander behavior. Our integrative framework directly addresses this need and provides a blueprint for future research to address the identified gaps in the extant literature. Below, we review the most critical gaps to consider in this work.

#### **Examine alcohol as a barrier to intervention**

Research is needed to elucidate the extent to which intoxicated bystanders witness behaviors along the SV continuum. Studies should focus on capturing both the distal effects of heavy drinking patterns and the proximal effects of acute alcohol use on bystanders' opportunity to

intervene, identification of SV behavior as high risk, and prosocial behavior. In this work, it is critical to employ methods that can overcome the limitations of self-report, which include potential inaccuracy in bystanders' identification and interpretation of SV.

Research is also needed to understand the social-ecological context in which the pharmacological effects of alcohol impair bystander behavior. A variety of factors, including peer groups, cultures and subcultures, fraternity or athletic team norms, social status, or neighborhoods may all impact this relation, and these factors need to be considered to better understand the complexity of bystander decision-making. For example, research indicates alcohol outlet density is related to assault rates in unstable, poor, minority, and rural middle-income areas (Gruenewald, Freisthler, Remer, LaScala, & Treno, 2006). Yet nothing is known about how alcohol outlet density, or other social-ecological factors, influence bystander decision-making. Similarly, environmental factors common in social drinking contexts (e.g., dark lighting, loud music) may thwart one's ability to notice or intervene in SV, and studies are needed to understand how bystander intoxication exacerbates these effects.

It is crucial to determine if and how diffusion of responsibility is exacerbated under alcohol intoxication. A variety of contextual factors need to be considered when determining how diffusion of responsibility may come to fruition. For example, bystanders report more responsibility to help if the victim is a friend, rather than a stranger (Katz, Paziienza, Olin, & Rick, 2015). Thus, intoxicated, compared to sober individuals, conceivably focus attention towards their friends in distress, rather than other potential interveners. Research is also needed to determine if alcohol narrows intoxicated bystanders' attention on a victim worthiness, and if this is influenced by individual-level characteristics (e.g., hostile sexism).

Little is known about the proximal effects of alcohol on the execution of behavioral skills to prevent SV. It is particularly important to identify whether some skills (e.g., distraction) are more susceptible to the impairing effects of alcohol than others (e.g., enlisting a friend's help). Methods of intervention that require multiple or complex skills would be difficult for intoxicated bystanders to implement. Findings that alcohol is also associated with increased physical aggression (Giancola et al., 2010), suggest that bystanders who are intoxicated could become overzealous in their attempts to intervene, potentially leading to aggressive altercations.

Empirical evidence is needed to identify how audience inhibition serves as a barrier across various situational contexts. Risky environments (e.g., fraternity parties) and social networks (e.g., athletic teams), which have higher rates of alcohol-related SV (e.g., Foubert, Newberry, & Tatum, 2007), should be examined to determine how the myopic effects of alcohol focus bystander's attention onto salient SV risk cues or peer group norms minimizing SV risk in these contexts. Relatedly, understanding the interactive effects of individual- and situational-level factors on intoxicated bystander's decision-making is needed.

Work is also needed to identify the specific components of bystander training programs that are most responsible for change. Dismantling studies would allow for investigation into the

unique effects of alcohol-specific training related to each step of Latané & Darley's (1970) decision-making model (e.g., noticing risk in party settings). Further, the outcomes measured in training programs' efficacy studies should be specific; rather than examining increases in bystander behavior broadly, it will be important to examine intervention in drinking settings and while intoxicated to determine if the effects of training are maintained under these conditions.

It is vital that researchers examine gender differences across the decision-making model. Research suggests men are more likely to exhibit helping behaviors than women (Eagly & Steffen, 1986); however, this work may not apply to SV intervention (e.g., Brown et al., 2014). Indeed, barriers to intervention and mechanisms may vary by gender (Brown et al., 2014). For example, men report more barriers than women (Burn, 2009) and fewer bystander behaviors (Banyard & Moynihan, 2011). It is crucial to identify how barriers and intervention behaviors differ between men and women, and whether alcohol use explains any differences. Given these gaps in the literature, it is not surprising that research on SV intervention among non-gender conforming individuals is non-existent and merits investigation.

The intersection of social identities such as race/ethnicity, gender, socioeconomic status, and sexuality (see Cole, 2009, for review) of the victim, perpetrator, and bystander should be considered to examine how privilege and oppression impact intervention. For example, students of color could not feel safe intervening in SV on predominantly White campuses without peer support (Brown et al., 2014). Alcohol could impact this effect in a variety of ways depending on the salience of cues in the environment. For example, alcohol could lead to either mitigated safety concerns and increased "liquid courage," or increased anxiety about safety or peers' reactions to helping behavior and decreased likelihood of intervening. The effects of acute alcohol intoxication on anxiety depend upon the temporal relationship between alcohol consumption and exposure to anxiogenic cues (Sayette, 1993). For example, if an individual has safety concerns before attending a party and consuming alcohol, these concerns are likely exacerbated and inhibit intervention. However, if safety concerns arise following intoxication, they may be overlooked. Research aimed at increasing SV intervention should investigate if, and under what conditions (e.g., minority status in a situation), alcohol intoxication leads to increased "liquid courage" or "liquid fear" in the face of bystander opportunity. Similarly, the combined effects of racism and sexism may influence attributions of "victim worthiness." Given evidence that exposure to alcohol cues primes racial bias (Stepanova, Bartholow, Sauls, & Friedman, 2012), it is possible that alcohol intoxication and/or contexts inhibit intervention by eliciting biased attributions of victim worthiness.

SV intervention research has overwhelmingly focused on college undergraduates (e.g., Carlson, 2008) or students in their first semester (e.g., Bennett et al., 2014). Thus, research is needed across all years in college, as well as with high school and young adult community samples. Indeed, the majority of youth have consumed alcohol by grade nine and one third of high school students report consuming alcohol in the previous thirty days (Centers for Disease Control and Prevention, 2016), and research indicates comparable rates of SV (Finkelhor, Shattuck, Turner, & Hamby, 2014).

### Can proximal alcohol use promote intervention?

Although we argue that alcohol predominately inhibits SV intervention, as noted earlier, AMT makes the counterintuitive prediction that alcohol can also increase prosocial behavior in situations where pro-intervention cues (e.g., support of peers) are more salient than barrier-related cues. In this way, it is possible to harness alcohol's myopic effects to promote prosocial bystander behaviors. Thus, interventions aimed at enhancing the salience and immediacy of pro-intervention cues could prompt intoxicated persons to intervene. Research indicates intoxicated individuals were faster, but not more likely, to come to the aid of an experimenter who dropped items (van Bommel, van Prooijen, Elffers, & Van Lange, 2016), likely because individuals have less attentional capacity to focus on both the benefits and costs of helping than sober individuals. Research is needed to determine how alcohol can help attenuate the bystander effect, and what cues (e.g., consequences of not intervening) are most effective to increase SV intervention.

### Recommendations for Bystander Training Programming

As reviewed, few findings address the role of alcohol consumption in SV intervention, and thus our goal is to provide recommendations that should be considered in developing theory-informed prevention strategies before evidence exists. Until an evidence base exists that can support this framework, any modifications to current efforts should be implemented with caution and ongoing evaluation.

First, bystander training programs should attend to how alcohol-intoxication impacts bystanders themselves, rather than just victims and perpetrators of SV. Specifically, efforts are needed to: (a) reduce heavy drinking, (b) educate bystanders on the potential impairing effects of alcohol on intervention, and (c) train bystanders how to be effective interveners when drinking. Training programs should promote awareness of the influence of alcohol and encourage problem solving strategies to compensate for potential alcohol-specific barriers and maximize the likelihood that proximal alcohol use can actually promote SV intervention.

Reflecting the notion that bystander training should target outer levels of the social ecology (Banyard, 2011), social marketing campaigns have also emerged as a means of disseminating the bystander message more widely (e.g., Potter & Stapleton, 2012; Borsky, McDonnell, Turner, & Rimal, 2016). Exposure to these campaigns is associated with more positive attitudes towards bystander behavior and self-reported increases in SV intervention (Potter & Stapleton, 2012). These campaigns allow for easy incorporation of information about alcohol's potential impact on bystander behavior. For example, a campaign depicting a split-screen sexual risk scenario with an intoxicated and a sober bystander on each side of the screen could raise awareness about the potential for alcohol to inhibit one's ability to effectively intervene to help a friend.

Next, laws and policies at the community level should be closely examined and altered to reduce heavy drinking and encourage bystander behavior. If in fact sober individuals encounter fewer barriers to intervention than intoxicated individuals, evidence-based efforts to reduce heavy alcohol use—including college bans or limits on alcohol or restricting

alcohol outlet density (for a review, see Toomey, Lenik, & Wagenaar, 2008)—may in turn increase SV intervention. Similarly, laws that encourage and promote SV intervention should be considered, including those that require witnesses to inform law enforcement of crimes (see Swan, 2015) and those that protect reporters of crimes from punishment for underage alcohol use.

The next wave of prevention programming should move beyond college campuses and consider other “hotspots” for sexual violence where bystanders are often present (e.g., alcohol-serving establishments, house parties, military bases). For example, bars and clubs play an important role in bystander decision-making by creating a safe environment for patrons to engage in intervention behavior. Environmental antecedents of SV such as misogynistic music or sexual décor (Graham, 2009) may set SV norms that become salient among intoxicated patrons and thwart intervention. Amending such contextual cues will help to transform local SV norms and, if replaced with prosocial or feminist messages, will help to ultimately promote SV intervention. Moreover, because bars and parties are not the only places SV is likely to be witnessed, interventions could also target peer groups that are a greater risk for witnessing SV (e.g., fraternities, student-athletes, attendees at music festivals). These groups could be targeted in various ways, including through social media via targeted messages that aim to change norms and behaviors. Ultimately, addressing the role of alcohol use on SV intervention at multiple levels of the social-ecology will have the greatest likelihood of increasing bystander behavior and helping to reduce rates of SV.

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**Table 1**

## Proximal Effects of Alcohol on Bystander Decision-Making

Step	Barrier	Influences	Effects of Acute Alcohol Intoxication
1. Notice an event	Failure to notice	<ul style="list-style-type: none"> <li>• Self-focus</li> <li>• Sensory distractions</li> <li>• Inattentive blindness</li> </ul>	<ul style="list-style-type: none"> <li>• Increases susceptibility to distractions or mind-wandering (Sayette et al., 2009)</li> <li>• Exacerbates inattentive blindness (Clifasefi et al., 2006)</li> </ul>
2. Interpret as intervention appropriate	Failure to identify situation as a risk	<ul style="list-style-type: none"> <li>• Ambiguity</li> <li>• Ignorance</li> </ul>	<ul style="list-style-type: none"> <li>• Cue misinterpretation (Abbey et al., 2005; Farris et al., 2010)</li> <li>• Failure to identify danger cues (Testa &amp; Livingston, 1999)</li> <li>• Delay in identifying inappropriate sexual behavior (Gross et al., 2001; Marx et al., 1997)</li> </ul>
3. Take responsibility	Failure to take responsibility	<ul style="list-style-type: none"> <li>• Diffusion of responsibility</li> <li>• Attributions of victims' worthiness</li> </ul>	<ul style="list-style-type: none"> <li>• Narrow bystanders' attentional focus towards other potential intervenors</li> <li>• Narrow bystanders' attentional focus towards victim's "worthiness" and "responsibility"</li> </ul>
4. Decide how to help	Failure to intervene due to uncertainty or skills deficit	<ul style="list-style-type: none"> <li>• Lack of skills</li> </ul>	<ul style="list-style-type: none"> <li>• Impairs high order cognitive functioning, including working memory, problem solving, planning, set shifting, psychomotor speed, and response inhibition (Curtin &amp; Fairchild, 2003; Giancola, 2000) needed to execute skills</li> </ul>
5. Choose to act	Failure to act due to audience inhibition	<ul style="list-style-type: none"> <li>• Social Norms</li> </ul>	<ul style="list-style-type: none"> <li>• Narrow bystander's attention on salient peer norms</li> </ul>