



# HHS Public Access

Author manuscript

*Curr Addict Rep.* Author manuscript; available in PMC 2023 December 01.

Published in final edited form as:

*Curr Addict Rep.* 2022 December ; 9(4): 420–431. doi:10.1007/s40429-022-00455-2.

## Barriers to addressing alcohol use in college sexual assault prevention: Where we stand and future steps

Ruschelle M. Leone, PhD<sup>1</sup>, Tiffany Marcantonio, PhD<sup>2,3</sup>, Michelle Haikalis, PhD<sup>4</sup>, Anne Marie Schipani-McLaughlin, PhD, MPH<sup>1</sup>

<sup>1</sup>Department of Health Policy and Behavioral Sciences, School of Public Health, Georgia State University

<sup>2</sup>Department of Health Science, College of Human Environmental Sciences, University of Alabama

<sup>3</sup>Kinsey Institute for Research in Sex, Gender, and Reproduction, Indiana University

<sup>4</sup>Department of Behavioral and Social Sciences, Brown University School of Public Health

### Abstract

**Purpose of Review:** The aims of this paper are two-fold. First, we review the current evidence on sexual assault prevention programming that also targets alcohol. Second, we identify barriers to including alcohol use in sexual assault programs and provide recommendations to overcome these barriers.

**Recent Findings:** We identified six sexual assault programs that also include alcohol use content, four of which have yet to be rigorously evaluated. To further refine sexual assault prevention efforts, we identified four barriers that need to be overcome including: (1) alcohol and sexual assault prevention efforts are currently siloed, (2) fear of victim blaming when integrating alcohol into programs for women, (3) a lack of evidence on how alcohol impacts bystanders, and (4) uncertainty about how to include content related to alcohol and sexual consent communicated.

**Summary:** Researchers and preventionists with expertise in alcohol and/or sexual assault prevention need to work together with stakeholders and students on college campuses to overcome these barriers and address a key correlate of sexual assault.

### Keywords

sexual aggression; alcohol; college students; gender-based violence; prevention

### Introduction

“Alcohol use is an ideal candidate for interventions.” [1••]

**Corresponding Author:** Ruschelle M. Leone. rleone1@gsu.edu.

Conflicts of interests/Competing Interests

The authors do not have existing conflict of interest.

Sexual assault is a significant public health problem on college campuses with one in five college women experiencing sexual assault [2]. The prevalence of sexual assault on college campuses has yet to decrease since first documented in the mid 1980s [2, 3]. One potential reason for these stagnant rates is that current prevention efforts do not target alcohol use – a known risk factor and outcome for sexual assault [4•]. Indeed, alcohol is the most common substance used by both perpetrators and victims of sexual assault [5••], and can impair a bystander’s ability to intervene in risky sexual situations [6].

Despite strong empirical evidence that alcohol use is a predictor and consequence of sexual assault, [7, 8] alcohol use and risk reduction content has rarely been integrated into sexual assault programs (SAPs), until recently. Scholars and prevention educators have noted that SAPs that target modifiable alcohol-related risk factors for assault, environments where alcohol is consumed (e.g., parties), and challenging social norms related to alcohol use and sexual assault have the greatest potential to reduce rates of sexual assault [6, 9, 10••, 11]. Yet, few programs have met this call. The goal of this article is to provide a summary of current evidence-based individual-level SAPs that target sexual assault and alcohol use in tandem. We then identify barriers which may prevent future SAPs from including alcohol use and provide recommendations for future programming and research to drive the field forward.

## Review of Current Evidence-based SAPs that Target Alcohol

Individual-level SAPs have historically included: (a) programs for men that target social norms to decrease perpetration, (b) programs to mobilize bystanders to intervene in risky sexual situations, and (c) programs for women to increase risk recognition and provide tools to resist sexual assault [4•, 12•]. Below, we provide a brief overview of existing programming efforts that target sexual assault and alcohol in tandem for 1) men only, 2) bystanders, 3) women only, and 4) multiple behaviors (i.e., perpetration, bystanding, victimization). Our review focuses on individual-level SAPs for college populations that included alcohol use outcomes in their evaluation within the last 5 years. However, we include one program [13] beyond this timeframe because there have been no advancements since this was published. An overview of each program, the study design, participant demographics, alcohol content, and key alcohol-related findings can be found in Table 1.

### Programs for Men

The majority of sexual assault perpetrators are men [14]. Thus, SAPs that aim to reduce perpetration among men are vital if we aim to reduce the overall prevalence of sexual assault. These SAPs are effective at reducing *attitudes* associated with sexual assault perpetration but have been generally ineffective at reducing rates of perpetration, with few exceptions [15]. Moreover, some SAPs that target men have produced iatrogenic effects [16]. We are aware of only one program that has used an integrated approach to target alcohol and perpetration among men, the *Sexual Assault and Alcohol Feedback and Education (SAFE)* program. *SAFE* targets alcohol use through personalized normative feedback, as well as the pharmacological effects of alcohol, alcohol expectancies, and shared influences of alcohol use and aggression using an integrated framework. *SAFE*

yielded promising results in an open pilot trial; men reported an increase in strategies to limit drinking and fewer alcohol-related consequences at 2-month follow-up, though no pre-post differences were detected for alcohol use quantity or frequency [17]. However, the evaluation of this program was limited by the lack of a control condition. Further, given the persistence in rates of sexual assault [1•], even effective men's programs would ideally be used in conjunction with other strategies that engage all community members in assault prevention.

### **Mixed-Gender Programs for Bystanders**

Because a small minority of men are perpetrators of sexual assault [18], SAPs have increasingly focused on targeting men as bystanders, rather than perpetrators. Rooted in social psychological theory, bystander programs aim to train participants how to recognize risky situations, build bystander confidence to intervene, and teach bystanders ways to intervene (e.g., distraction) [19•]. Two meta-analyses have found that bystander programs increase bystander self-efficacy, intentions, and prosocial behavior [20, 21]. We identified two bystander training programs delivered to mix-gender groups that include content designed to target alcohol. The *Preventing and Responding to Sexual Misconduct* Program aims to reduce sexual misconduct and alcohol use/problems through psychoeducation and personalized normative feedback [22]. In an open pilot at 3-month follow up, college athletes self-reported an increase in bystander efficacy and behaviors and a decrease in alcohol use (i.e., frequency, quantity per month, maximum quantity in 24 hours, binge drinking) and alcohol-related consequences [22].

Zinzow's multifaceted campus educational program aims to increase bystander willingness and confidence to intervene in risky sexual situations; modify inaccurate beliefs about sexual assault; increase knowledge about sexual assault, mental health and available resources; and reduce risky alcohol use (defined as 5 or more drinks in two hours) [23]. Despite positive results related to bystander sexual assault and alcohol risk intentions, risky drinking scores increased at 4-month follow up, with women drinking more after the program [23]. This program did not include a control group limiting the ability to draw conclusions on the efficacy of this program.

### **Programs for Women**

Perpetrators are 100% responsible for sexual assault. Despite over three decades of program implementation targeting perpetrators [24, 25], and more recently bystanders [20, 26], rates of sexual assault remain constant [2, 3]. Since sexual assault remains a common experience, risk reduction strategies to empower those at risk of experiencing victimization are essential as part of a comprehensive approach to sexual assault prevention [27, 28]. Risk reduction programs are supported by 30 years of rigorous research [29], and one program has reduced the risk of sexual assault up to 2 years later [30, 31]. Programs for women provide information on perpetrator tactics and teach skills to avoid, interpret, and resist nonconsensual advances [12, 32–34]. We identified one SAP that targets alcohol use through teaching women about protective behavioral drinking strategies (e.g., personal strategies to stop/limit drinking, change the manner of drinking), and providing alcohol-related personalized feedback [13]. In a randomized controlled trial, women who completed

an integrated intervention who reported higher, compared to lower, sexual assault severity histories at baseline reported less incapacitated attempted or completed rape and severity of sexual assault, and less heavy episodic drinking at 3-month follow-up compared with women in a control condition [13].

### Programs Addressing Cross-Cutting Behaviors

In recent years, two SAPs have emerged that focus on cross-cutting prevention by targeting multiple behaviors and include content to decrease alcohol misuse, sexual assault perpetration and sexual assault victimization, and to increase bystander intervention. *+Change* aims to reduce rates of sexual assault perpetration and victimization, increase bystander intervention, and decrease alcohol use among heavy episodic drinking college students [35•]. Moreover, this program provides tailored content to cisgender heterosexual women, cisgender heterosexual men, and college students who identify as a sexual or gender minority. In an open pilot trial, 24 college students reported a significant decrease in descriptive alcohol norms and greater intentions to not have sex with someone who is drunk immediately post intervention [35•]. *All-In: A Culture of Respect* aims to reduce risk for perpetration and victimization, increase bystander behaviors, and decrease alcohol misuse by providing personalized normative feedback on alcohol use norms, and delineating the association between alcohol use and sexual assault through interactive content and psychoeducation [36•]. At 1-month follow up, college athlete women, but not men, reported reductions in the frequency of getting drunk and quantity of drinks [36•]. Collectively, these programs that address cross-cutting behaviors show promise and need to be rigorously evaluated prior to dissemination.

### Summary of Programs

We identified six SAPs that integrate alcohol content *and* assessed for alcohol outcomes in their evaluations. Two of the six programs were designed for college athletes [22, 36]. All programs were evaluated using samples that included a mostly White and non-Hispanic/non-Latinx students and only one program assessed participants' sexual orientation (see Table 1). The alcohol outcomes in each study were assessed at the individual level and all studies included multiple alcohol outcomes (e.g., use, consequences), although outcomes assessed varied between studies.

All programs had positive effects for sexual assault outcomes, but alcohol outcomes were more nuanced. One of the two programs that targeted bystanders [23] found increases in alcohol use at follow up and the program that targeted men [17] did not find reductions in alcohol use (e.g., frequency); though both programs found some positive effects for other alcohol outcomes (e.g., consequences). Only two programs [13, 36] demonstrated reductions in alcohol use—one only targeted women; the other found reductions for women, but not men. Both programs used personalized normative feedback, an intervention designed to correct misperceptions of social drinking norms [37, 38], in addition to other alcohol-related content. Only one program used a randomized controlled trial design [13], and the remaining programs have yet to be subjected to rigorous evaluation or long-term follow up, highlighting the infancy of this line of research.

## Barriers to Addressing Alcohol in College SAPs

The alcohol and sexual assault prevention field is growing, and our review of SAPs that included alcohol within them reflects this. Currently, several barriers exist that likely impede the inclusion of alcohol-related content into SAPs and explain why so few SAP include alcohol in them. In the following section, we discuss some of the salient barriers we perceive for why most SAPs do not include alcohol and provide potential solutions to these barriers.

### Alcohol and sexual assault prevention are currently siloed

There is a need for an interlocking web of prevention for both alcohol and sexual assault. Historically alcohol or sexual assault prevention efforts on college campuses have been implemented in isolation [25, 39]. This may be due to separate federal mandates for alcohol and sexual assault education on campuses. Additionally, instead of utilizing an integrated approach, colleges often have multiple offices that implement and respond to both sexual assault and alcohol programming (e.g., Greek Life, counseling center, student affairs) [e.g., 40, 41]. Involvement from multiple parties is beneficial because it has the potential to increase the dosage of programming students receive. However, multiple parties offering intervention related to alcohol and sexual assault may be problematic if these offices do not engage in a coordinated effort and instead present either similar or conflicting messages on alcohol and sexual assault.

Separate programming for alcohol and sexual assault may also be due to funding priorities that impact the design and evaluation of prevention efforts. There is myriad research on alcohol as a risk factor for sexual assault [7, 8, 42]. Yet, preventionists often focus on either developing SAPs or alcohol interventions, with little work focused on integrated interventions. For example, a recent review of alcohol interventions administered on college campuses found that they rarely discussed sexual assault as a consequence of problematic drinking [39] or measured if sexual assault was an outcome impacted by their intervention. Within SAPs, as reviewed, we are only recently seeing content designed to reduce alcohol misuse that is targeted towards individuals who engage in heavy episodic drinking [17, 35, 36], as well as inclusion of content on the intersection of alcohol and sexual assault. To make the greatest impact on both sexual assault and alcohol misuse, efforts are needed to ensure both alcohol prevention and sexual assault prevention include information on the other. Importantly, researchers evaluating programs should measure outcomes associated with each behavior given some evidence that SAPs may reduce rates of alcohol use despite this not being a direct aim of the program [43].

SAPs can also borrow from secondary prevention strategies used to reduce alcohol use on college campuses. For example, there are several widely used alcohol interventions for mandated students [44], but, to our knowledge, there are currently no evidence-based SAPs specifically designed for college students found responsible for sexual misconduct, though calls for such programming have been made [45]. This is surprising given that Title IX coordinators report students found responsible for sexual misconduct are most often given a sanction besides suspension or expulsion (e.g., education/training, alcohol treatment) [46]. While primary prevention of sexual assault is the ultimate goal, there is a need for programming designed to reduce sexual assault perpetration among those who have already

perpetrated, address the role of alcohol misuse in perpetration, and increase perpetrators' understanding of sexual consent. Alcohol treatment might be beneficial for some students found responsible for sexual misconduct, however this will not address the root cause of perpetration unless paired with content related to sexual assault.

### **Fear of victim blaming when integrating alcohol into women's programs**

Alcohol use is a well-established risk factor for sexual assault. Yet, the way SAPs designed for women have addressed alcohol use in the past is a contentious topic. Historically, women's alcohol use was used to blame them for experiencing sexual assault victimization and excuse men's perpetration behaviors [47–49]. Additionally, SAPs have not always discussed alcohol in a way that prevents victim-blaming. If we only tell women to control their alcohol use, but do not communicate the same message to the men who perpetrate assault, that implicitly communicates only one party is responsible for preventing sexual assault. However, SAPs should make their message abundantly clear; while alcohol use can increase victimization risk [50–52], *someone who is drinking can only be sexual assaulted if someone else perpetrates against them*. They should also discuss the role alcohol has on potential perpetrators and the risk associated with alcohol-related contexts.

While many prevention specialists contend that focusing on a potential victim's alcohol use is not effective or efficient [10], we argue that ignoring alcohol altogether, especially for women who drink heavily or in risky environments, does women a disservice. This topic should, however, be handled with care and nuance. First and foremost, more accountability for men is needed, particularly in programs targeted at men or mixed-gender audiences. Second, how programs approach alcohol use among women should take a risk reduction and empowerment approach where women, especially those who engage in heavy alcohol use, are able to make their own decisions about how to use alcohol safely (e.g., engaging in party-safety strategies [53]). Integrating content that is non-judgmental and firmly places the blame on the perpetrator regardless of women's alcohol use is of the utmost importance. This may be best illustrated in the thoughtful design of a web-based program for alcohol and sexual assault that is grounded in the best available evidence for alcohol and sexual assault prevention [54]. For example, women who completed a web-based program for alcohol and sexual assault [13] reported similar levels of comfort compared to those who completed a sexual assault risk only reduction program and more comfort than those who completed an alcohol only intervention [54].

### **Dearth of evidence on how alcohol impacts bystanders**

Bystander SAPs are increasingly popular as part of a comprehensive approach to prevent sexual assault but have yet to demonstrate reduced rates of perpetration or victimization [26, 55, 56]. A critical gap in bystander SAPs is that they neglect to train bystanders on how to intervene when consuming alcohol. Though there may be a subtext of alcohol's role in the scenarios discussed during bystander programs [e.g., 57], alcohol is typically only presented as a potential risk factor for perpetration or victimization—rather than something that has potential to inhibit bystanders' efforts to help stop sexual assault. In addition to the alcohol reduction content that has already been recently integrated into programs for bystanders [35, 36], programs including strategies for overcoming barriers when bystanders are intoxicated

are also warranted. Importantly, strategies bystanders used when intoxicated should be carefully crafted to consider how systems of power and oppression may impact bystanders of different genders, sexual identities, and racial/ethnic identities [58, 59]. Researchers cannot begin to address how systems of power and oppression relate to alcohol and bystander intervention though without first understanding how alcohol influences bystander intervention, and in what contexts alcohol has the greatest impact.

There also remains a dearth of evidence about the mechanisms by which alcohol may impact bystanders. Research on the factors which underly the relationship between alcohol and bystander behavior is critical because identification of these mechanisms can point us towards areas we should further emphasize in training, focus our assessment of program outcomes, and allow for specialization of training, if warranted, based on relevant individual differences. Additionally, identifying moderators of alcohol's impact on bystander helping (e.g., individual differences) could also aid interventionists aiming to develop or refine bystander training programs. *Without such work, bystander programs are unlikely to reach their full potential in preventing sexual assault especially alcohol-involved sexual assault or sexual assault that occurs in drinking contexts.*

## **Difficulty providing content related to alcohol and sexual consent communication**

To our knowledge, few SAPs include information related to how alcohol use can influence sexual consent communication or how people communicate their willingness to engage in sexual activity, with few exceptions [17]. There are several barriers that may prevent SAPs from including information related to alcohol and sexual consent. First, discussing how alcohol and sexual consent communication coalesce can be a contentious topic for universities to navigate. Many universities have policies that suggest consent is not valid or attainable if someone has consumed alcohol [60]. Indeed, young adults are becoming increasingly aware, likely to the credit of SAPs, that any alcohol use may suggest that someone cannot consent. However, many young adults do report engaging in perceived consensual intoxicated sexual activity and that they have their own norms and rules for when alcohol and sexual consent could co-occur [61]. Thus, a juxtaposition is posed to SAPs that would like to include sexual consent and alcohol in their initiatives. Universities and policies suggest there may be no “middle ground” with alcohol and sexual consent; young adults appear to disagree and perceive alcohol intoxication on a continuum where there are instances they can consent after drinking and instances where they cannot [61–64]. Reconciling these differences will require researchers, educators, and universities to work collaboratively to develop nuanced, clear, and repetitive conversations with young people about how or when alcohol use and sexual consent communication can co-occur. Messaging around alcohol and sexual consent that are reflective of young people's lived experiences is particularly important to increase uptake of these messages and behavioral changes. If young adults perceive messages as unrealistic (such as messages that suggest you can *never* engage in consensual alcohol-involved sex) and young people have lived experiences which contradict that (as prior work finds young people do engage in perceived consensual alcohol-

involved sexual activity), then they are likely to ignore these messages and interventions will be ineffective.

There is a paucity of research examining how people communicate sexual consent after consuming alcohol, leaving SAPs ill-informed on when and how alcohol alters consent communication. Preliminary research suggests that (1) young adults engage in perceived consensual sexual activity after consuming alcohol [65, 66], (2) alcohol-involved sexual encounters tend to be associated with decreased use of direct sexual consent communication and an increase in indirect sexual consent communication [66–68], and (3) young adults report being confident to consent to sex after consuming alcohol [61] and report that they do not perceive their alcohol intoxication level as impeding their ability to consent [62, 69]. However, most of this research is cross-sectional. Additionally, some of this work examines, broadly, how people’s typical alcohol use is associated with consent perceptions and communication rather than how alcohol use prior to sexual activity might influence sexual consent communication. Only two studies assessed how in the moment alcohol intoxication related to people’s perceptions of their ability to consent [62, 69]. Thus, more research is needed to examine how alcohol use might influence consent. Specifically, there is a need for within and between person study designs, qualitative studies, longitudinal research, ecological momentary assessments, and alcohol administration work to further elucidate how these two behaviors interact.

Finally, there is not clear agreement on when someone is too intoxicated to communicate sexual consent [69]. In fact, young adults suggest that every alcohol-involved sexual situation is different, and that each situation depends on how much alcohol they consume prior to sexual activity and how intoxicated they perceive themselves to be [61]. Thus, finding a “one size” fit for when someone may be too intoxicated to consent could be challenging. At the extreme, SAPs can (and have begun to) teach about behavioral signs of intoxication that indicate someone cannot consent, such as if someone cannot respond verbally, is lethetic, or has lost their balance. However, there is a need for more nuanced conversations and interventions with young people about how alcohol can impact people at earlier stages of intoxication, long before someone reaches a level where they have lost motor function or the ability to respond. Moving forward, SAPs may want to advocate for people interested in sexual activity while consuming alcohol to (1) ensure they and their partner drink at low levels and (2) have conversations with one another that span across an entire evening to ensure consent is ongoing and enthusiastic. SAPs should also provide education on how alcohol impacts people at various levels of intoxication. For example, information should be provided on how after consuming even two or three alcoholic drinks, people’s decision-making can be altered, and this could impact someone’s ability to communicate and interpret sexual consent.

## Conclusions

Given that alcohol plays a significant role in sexual assault [70], *targeting alcohol is essential to advance sexual assault prevention on college campuses*. Yet, in our review we only identified six SAPs programs that also included content designed to reduce alcohol use and/or related consequences, many of them in the early stages of development and testing.



We agree with scholars who posit that alcohol is an “ideal candidate” for SAPs [1] because the context in which sexual assault is most likely to occur often includes alcohol. This may be especially true among groups of college students at greater risk of both sexual assault victimization and/or perpetration and alcohol misuse (e.g., athletics, Greek life).

Conversely, we need to acknowledge that targeting alcohol will likely not be enough to move the needle downward on rates of sexual assault. There are many other contextual, multi-level risk factors, and individual differences that also warrant attention if we hope to ultimately decrease the prevalence of sexual assault. For example, both SAPs and alcohol interventions have historically focused on catering to the majority college population (e.g., white, midclass, able-bodied) without attention to how issues of race, power, and privilege contribute to risk and outcomes (for an exception, see [22]). Indeed, a critical barrier and weakness within SAPs is their tendency to approach sexual assault prevention via an “identity-neutral, power-evasive perspective” [71]. Stated differently, for years, scholars have designed SAPs using research that is focused on a numerical majority and not focused on addressing *why* some people are at greater risk to experience sexual assault over others and the environmental and contextual factors that contribute to their risk of sexual assault [71]. Sexual assault is a tool used to garner power for mostly white men [71], via white supremacy, the patriarchy, colonization, homophobia, and transphobia. Thus, if we aim to truly address rates of sexual assault then we need to address the systems of oppression and power which create environments where assault is condoned and accepted, as some programs have started to incorporate [22]. This is particularly important in the context of alcohol because the role alcohol has in increasing the risk of sexual assault occurring looks different when examining the relationship outside of white, cisgender, heterosexual, college-aged women [72]. To make meaningful change in sexual assault and alcohol outcomes across communities, we urge scholars with relevant expertise to collaborate to transcend barriers that have prevented progress in their historically siloed fields.

## Funding

Research reported in this publication was supported by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) of the National Institutes of Health (NIH) under Award Number K01AA028844 (Leone), L30AA028649 (Leone), and K08AA029181 (Haikalis). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

## References

- Of importance
  - Of major importance
1. Koss MP, Swartout KM, Lopez EC, Lamade RV, Anderson EJ, Brennan CL, et al. The scope of rape victimization and perpetration among national samples of college students across 30 years. *Journal of interpersonal violence*. 2022;37(1–2):NP25–NP47. [PubMed: 34911373] ••[Comparison of data collected in 1984–1985 and 2014–2015 on prevalence of sexual assault, including alcohol-involved sexual assault]
  2. Muehlenhard CL, Peterson ZD, Humphreys TP, Jozkowski KN. Evaluating the one-in-five statistic: Women’s risk of sexual assault while in college. *J Sex Res*. 2017;54(4–5):549–76. doi: 10.1080/00224499.2017.1295014. [PubMed: 28375675]

3. Koss MP, Gidycz CA, Wisniewski N. The scope of rape: incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *J Consult Clin Psychol.* 1987;55(2):162–70. doi: 10.1037//0022-006x.55.2.162. [PubMed: 3494755]
4. Calasso K, Thompson-Memmer C, Kruse-Diehr A, Glassman T. Sexual Assault and Alcohol Use among College Students: A Critical Review of the Literature. *American Journal of Health Studies.* 2020;34(4):162–73. doi: 10.47779/ajhs.2019.45 •[A review of 23 articles between 2000 and mid-2017 that focused on alcohol and sexual assault among college students]
5. Basile KC, Smith SG, Liu Y, Lowe A, Gilmore AK, Khatiwada S, et al. Victim and perpetrator characteristics in alcohol/drug-involved sexual violence victimization in the US. *Drug Alcohol Depend.* 2021;226:108839. [PubMed: 34216864] ••[Data from the National Intimate Partner and Sexual Violence Survey on substance use and sexual assault]
6. Leone RM, Haikalis M, Parrott DJ, DiLillo D. Bystander Intervention to Prevent Sexual Violence: The Overlooked Role of Bystander Alcohol Intoxication. *Psychol Violence.* 2018;8(5):639–47. doi: 10.1037/vio0000155. [PubMed: 30505616]
7. Crane CA, Godleski SA, Przybyla SM, Schlauch RC, Testa M. The Proximal Effects of Acute Alcohol Consumption on Male-to-Female Aggression: A Meta-Analytic Review of the Experimental Literature. *Trauma Violence Abuse.* 2016;17(5):520–31. doi: 10.1177/1524838015584374. [PubMed: 26009568]
8. Melkonian AJ, Ham LS. The effects of alcohol intoxication on young adult women’s identification of risk for sexual assault: A systematic review. *Psychol Addict Behav.* 2018;32(2):162–72. doi: 10.1037/adb0000349. [PubMed: 29431464]
9. Malamuth NM, Huppim M, Linz D. Sexual assault interventions may be doing more harm than good with high-risk males. *Aggression and Violent Behavior.* 2018;41:20–4. doi: 10.1016/j.avb.2018.05.010.
10. Klein LB, Rizzo AJ, Woofter RC, Cherry LEH. Addressing alcohol’s role in campus sexual assault: Prevention educator perspectives. *J Am Coll Health.* 2021;69(4):422–7. doi: 10.1080/07448481.2019.1679815. [PubMed: 31702451] ••[A qualitative study with college sexual assault prevention educators on how to address alcohol’s role in campus sexual assault]
11. Bonar EE, DeGue S, Abbey A, Coker AL, Lindquist CH, McCauley HL, et al. Prevention of sexual violence among college students: Current challenges and future directions. *J Am Coll Health.* 2022;70(2):575–88. doi: 10.1080/07448481.2020.1757681. [PubMed: 32407244] •[A summary of the science behind sexual assault programs and recommendations for the future]
12. Orchowski LM, Edwards KM, Hollander JA, Banyard VL, Senn CY, Gidycz CA. Integrating Sexual Assault Resistance, Bystander, and Men’s Social Norms Strategies to Prevent Sexual Violence on College Campuses: A Call to Action. *Trauma Violence Abuse.* 2020;21(4):811–27. doi: 10.1177/1524838018789153. [PubMed: 30205767] •[A commentary on current sexual assault programs and recommendations to move the field forward]
13. Gilmore AK, Lewis MA, George WH. A randomized controlled trial targeting alcohol use and sexual assault risk among college women at high risk for victimization. *Behav Res Ther.* 2015;74:38–49. doi: 10.1016/j.brat.2015.08.007. [PubMed: 26408290]
14. Martin SL, Fisher BS, Stoner MCD, Rizo CF, Wojcik ML. Sexual assault of college students: Victimization and perpetration prevalence involving cisgender men, cisgender women and gender minorities. *J Am Coll Health.* 2022;70(2):404–10. doi: 10.1080/07448481.2020.1751644. [PubMed: 32407200]
15. Newlands R A Critical Review of Sexual Violence Prevention on College Campuses. *Acta Psychopathologica.* 2016;02(02):1–13. doi: 10.4172/2469-6676.100040.
16. DeGue S Preventing sexual violence on college campuses: Lessons from research and practice. Part one: Evidence-based strategies for the primary prevention of sexual violence perpetration. 2014.
17. Orchowski LM, Barnett NP, Berkowitz A, Borsari B, Oesterle D, Zlotnick C. Sexual assault prevention for heavy drinking college men: Development and feasibility of an integrated approach. *Violence Against Women.* 2018;24(11):1369–96. doi: 10.1177/1077801218787928. [PubMed: 30078368]

18. Swartout KM, Koss MP, White JW, Thompson MP, Abbey A, Bellis AL. Trajectory Analysis of the Campus Serial Rapist Assumption. *JAMA Pediatr.* 2015;169(12):1148–54. doi: 10.1001/jamapediatrics.2015.0707. [PubMed: 26168230]
19. Mujal GN, Taylor ME, Fry JL, Gochez-Kerr TH, Weaver NL. A Systematic Review of Bystander Interventions for the Prevention of Sexual Violence. *Trauma Violence Abuse.* 2021;22(2):381–96. doi: 10.1177/1524838019849587. [PubMed: 31204606]
20. Kettrey HH, Marx RA. The Effects of Bystander Programs on the Prevention of Sexual Assault across the College Years: A Systematic Review and Meta-analysis. *J Youth Adolesc.* 2019;48(2):212–27. doi: 10.1007/s10964-018-0927-1. [PubMed: 30264210]
21. Kettrey HH, Marx RA, Tanner-Smith EE, Kettrey HH, Hall B. Effects of bystander programs on the prevention of sexual assault among adolescents and college students: a systematic review. *Campbell Systematic Reviews.* 2019;1. doi: 10.4073/csr.2019.1.
22. Morean ME, Darling N, Smit J, DeFeis J, Wergeles M, Kurzer-Yashin D, et al. Preventing and responding to sexual misconduct: preliminary efficacy of a peer-led bystander training program for preventing sexual misconduct and reducing heavy drinking among collegiate athletes. *Journal of Interpersonal Violence.* 2021;36(7–8):NP3453–NP79. doi: 10.1177/0886260518777555. [PubMed: 29884110] •[Open pilot study for program targeting bystanders and alcohol]
23. Zinzow HM, Thompson MP, Goree J, Fulmer CB, Watts HA, Greene C. Evaluation of a college sexual violence prevention program focused on education, bystander intervention, and alcohol risk reduction. *College Student Affairs Journal.* 2018;36(2):110–25. doi: 10.1353/csj.2018.0019.
24. Yeater EA, O'Donohue W. Sexual assault prevention programs Current issues, future directions, and the potential efficacy of interventions with women. *Clin Psychol Rev.* 1999;19(7):739–71. doi: 10.1016/s0272-7358(98)00075-0. [PubMed: 10520434]
25. DeGue S, Valle LA, Holt MK, Massetti GM, Matjasko JL, Tharp AT. A systematic review of primary prevention strategies for sexual violence perpetration. *Aggress Violent Behav.* 2014;19(4):346–62. doi: 10.1016/j.avb.2014.05.004. [PubMed: 29606897]
26. Jouriles EN, Krauss A, Vu NL, Banyard VL, McDonald R. Bystander programs addressing sexual violence on college campuses: A systematic review and meta-analysis of program outcomes and delivery methods. *J Am Coll Health.* 2018;66(6):457–66. doi: 10.1080/07448481.2018.1431906. [PubMed: 29405865]
27. Hollander JA. The importance of self-defense training for sexual violence prevention. *Fem Psychol.* 2016;26(2):207–26. doi: 10.1177/0959353516637393.
28. Ullman SE. Rape Resistance: A Critical Piece of all Women's Empowerment and Holistic Rape Prevention. *J Aggress Maltreat Trauma.* 2020:1–21.
29. Gidycz CA. Sexual assault risk reduction: Current state and historical underpinnings. *Sexual Assault Risk Reduction and Resistance.* Elsevier; 2018. p. 3–14.
30. Senn CY, Eliasziw M, Barata PC, Thurston WE, Newby-Clark IR, Radtke HL, et al. Efficacy of a sexual assault resistance program for university women. *N Engl J Med.* 2015;372(24):2326–35. doi: 10.1056/NEJMsa1411131. [PubMed: 26061837]
31. Senn CY, Eliasziw M, Hobden KL, Newby-Clark IR, Barata PC, Radtke HL, et al. Secondary and 2-Year Outcomes of a Sexual Assault Resistance Program for University Women. *Psychol Women Q.* 2017;41(2):147–62. doi: 10.1177/0361684317690119. [PubMed: 29503496]
32. Gidycz CA, Lynn SJ, Rich CL, Marioni NL, Loh C, Blackwell LM, et al. The evaluation of a sexual assault risk reduction program: A multisite investigation. *J Consult Clin Psychol.* 2001;69(6):1073–8. doi: 10.1037/0022-006X.69.6.1073. [PubMed: 11777112]
33. Orchowski LM, Gidycz CA, Raffle H. Evaluation of a sexual assault risk reduction and self-defense program: A prospective analysis of a revised protocol. *Psychol Women Q.* 2008;32(2):204–18. doi: 10.1111/j.1471-6402.2008.00425.x.
34. Gidycz CA, Orchowski LM, Probst DR, Edwards KM, Murphy M, Tansill E. Concurrent Administration of Sexual Assault Prevention and Risk Reduction Programming: Outcomes for Women. *Violence Against Women.* 2015;21(6):780–800. doi: 10.1177/1077801215576579. [PubMed: 25845615]
35. Gilmore AK, Leone RM, Oesterle DW, Davis KC, Orchowski LM, Ramakrishnan V, et al. Web-Based alcohol and sexual assault prevention program with tailored content based on gender

- and sexual orientation: Preliminary outcomes and usability study of Positive Change (+Change). *JMIR Form Res.* 2022;6(7):e23823. doi: 10.2196/23823. [PubMed: 35867393] •[Open pilot for a web-based program target sexual assault perpetration, victimization, bystanders, and alcohol use]
36. Thompson MP, Zinzow HM, Kingree JB, Pollard LE, Goree J, Hudson-Flege M, et al. Pilot trial of an online sexual violence prevention program for college athletes. *Psychol Violence.* 2021;11(1):92–100. doi: 10.1037/vio0000290. •[Cluster quasi-randomized pilot evaluating an program for alcohol and sexual assault among college athletes ]
  37. Dotson KB, Dunn ME, Bowers CA. Stand-Alone Personalized Normative Feedback for College Student Drinkers: A Meta-Analytic Review, 2004 to 2014. *PLoS One.* 2015;10(10):e0139518. doi: 10.1371/journal.pone.0139518. [PubMed: 26447792]
  38. Saxton J, Rodda SN, Booth N, Merkouris SS, Dowling NA. The efficacy of Personalized Normative Feedback interventions across addictions: A systematic review and meta-analysis. *PLoS One.* 2021;16(4):e0248262. doi: 10.1371/journal.pone.0248262. [PubMed: 33793583]
  39. Denhard L, Mahoney P, Kim E, Gielen A. A Review of Alcohol Use Interventions on College Campuses and Sexual Assault Outcomes. *Current Epidemiology Reports.* 2020;7(4):363–75. doi: 10.1007/s40471-020-00253-2. •[A review on whether and to what extent college alcohol interventions are associated with sexual assault outcomes]
  40. Sibley MA, Moore D. The Silos of Sexual Violence. *Violence Interrupted: Confronting Sexual Violence on University Campuses.* 2020:280.
  41. Dills J, Fowler D, Payne G. *Sexual violence on campus : strategies for prevention.* 2016.
  42. Steele B, Martin M, Yakubovich A, Humphreys DK, Nye E. Risk and protective factors for men’s sexual violence against women at higher education institutions: a systematic and meta-analytic review of the longitudinal evidence. *Trauma, Violence, & Abuse.* 2022;23(3):716–32.
  43. Estefan LF, Vivolo-Kantor AM, Niolon PH, Le VD, Tracy AJ, Little TD, et al. Effects of the Dating Matters® comprehensive prevention model on health-and delinquency-related risk behaviors in middle school youth: A cluster-randomized controlled trial. *Prevention science.* 2021;22(2):163–74. [PubMed: 32242288]
  44. Carey KB, Scott-Sheldon LA, Garey L, Elliott JC, Carey MP. Alcohol interventions for mandated college students: A meta-analytic review. *J Consult Clin Psychol.* 2016;84(7):619–32. doi: 10.1037/a0040275. [PubMed: 27100126]
  45. Lamade RV, Lopez E, Koss MP, Prentky R, Brereton A. Developing and implementing a treatment intervention for college students found responsible for sexual misconduct. *Journal of Aggression, Conflict and Peace Research.* 2017;10(2):134–44. doi: 10.1108/JACPR-06-2017-0301.
  46. Richards TN, Gillespie LK, Claxton T. Examining Incidents of Sexual Misconduct Reported to Title IX Coordinators: Results from New York’s Institutions of Higher Education. *Journal of School Violence.* 2021;20(3):374–87. doi: 10.1080/15388220.2021.1913599.
  47. Lorenz K, Kirkner A, Ullman SE. A Qualitative Study Of Sexual Assault Survivors’ Post-Assault Legal System Experiences. *J Trauma Dissociation.* 2019;20(3):263–87. doi: 10.1080/15299732.2019.1592643. [PubMed: 31072270]
  48. Romero-Sanchez M, Krahe B, Moya M, Megias JL. Alcohol-Related Victim Behavior and Rape Myth Acceptance as Predictors of Victim Blame in Sexual Assault Cases. *Violence Against Women.* 2018;24(9):1052–69. doi: 10.1177/1077801217727372. [PubMed: 29332529]
  49. Dyar C, Feinstein BA, Anderson RE. An Experimental Investigation of Victim Blaming in Sexual Assault: The Roles of Victim Sexual Orientation, Coercion Type, and Stereotypes About Bisexual Women. *J Interpers Violence.* 2021;36(21–22):10793–816. doi: 10.1177/0886260519888209. [PubMed: 31729280]
  50. Testa M, Livingston JA, Wang W. Dangerous Liaisons: The Role of Hookups and Heavy Episodic Drinking in College Sexual Victimization. *Violence Vict.* 2019;34(3):492–507. doi: 10.1891/0886-6708.VV-D-18-00075. [PubMed: 31171730]
  51. Messman-Moore TL, Ward RM, DeNardi KA. The impact of sexual enhancement alcohol expectancies and risky behavior on alcohol-involved rape among college women. *Violence Against Women.* 2013;19(4):449–64. doi: 10.1177/1077801213487058. [PubMed: 23651639]

52. Mouilso ER, Fischer S, Calhoun KS. A prospective study of sexual assault and alcohol use among first-year college women. *Violence Vict.* 2012;27(1):78–94. doi: 10.1891/0886-6708.27.1.78. [PubMed: 22455186]
53. Jouriles EN, Krauss A, Sargent KS, Nguyen J, Cascardi M, Grych JH, et al. Party frequency, party-safety strategies, and sexual victimization among first-year female college students. *J Am Coll Health.* 2022;70(6):1788–93. doi: 10.1080/07448481.2020.1821693. [PubMed: 33151839]
54. Jaffe AE, Bountress KE, Metzger IW, Maples-Keller JL, Pinsky HT, George WH, et al. Student engagement and comfort during a web-based personalized feedback intervention for alcohol and sexual assault. *Addict Behav.* 2018;82:23–7. doi: 10.1016/j.addbeh.2018.02.020. [PubMed: 29477903]
55. Mujal GN, Taylor ME, Fry JL, Gochez-Kerr TH, Weaver NL. A systematic review of bystander interventions for the prevention of sexual violence. *Trauma, Violence, & Abuse.* 2021;22(2):381–96.
56. Kettrey HH, Marx RA. Effects of bystander sexual assault prevention programs on promoting intervention skills and combatting the bystander effect: a systematic review and meta-analysis. *Journal of Experimental Criminology.* 2021;17(3):343–67. doi: 10.1007/s11292-020-09417-y.
57. Exner-Cortens D, Cummings N. Bystander-Based Sexual Violence Prevention With College Athletes: A Pilot Randomized Trial. *J Interpers Violence.* 2021;36(1–2):NP188–NP211. doi: 10.1177/0886260517733279. [PubMed: 29294930]
58. Katz J, Merrilees C, Hoxmeier JC, Motisi M. White female bystanders' responses to a black woman at risk for incapacitated sexual assault. *Psychol Women Q.* 2017;41(2):273–85.
59. Diamond-Welch BK, Hetzel-Riggin MD, Hemingway JA. The willingness of college students to intervene in sexual assault situations: Attitude and behavior differences by gender, race, age, and community of origin. *Violence and gender.* 2016;3(1):49–54.
60. Consent Affirmative and Respect: Campus Affirmative Consent Policy Maps (College Yes Means Yes/Title IX Policy) | Affirmative Consent / Stopping Campus Sexual Assault. <http://affirmativeconsent.com/consentpolicy/> (2017). Accessed August 23, 2022.
61. Marcantonio TL, Jozkowski KN. Do college students feel confident to consent to sex after consuming alcohol? *J Am Coll Health.* 2021:1–8. doi: 10.1080/07448481.2021.1943413.
62. Drouin M, Jozkowski KN, Davis J, Newsham G. How does alcohol consumption affect perceptions of one's own and a drinking partner's ability to consent to sexual activity? *The Journal of Sex Research.* 2019;56(6):740. doi: 10.1080/00224499.2018.1509290. [PubMed: 30198776]
63. Jozkowski KN, Marcantonio TL, Hunt ME. College Students' Sexual Consent Communication And Perceptions of Sexual Double Standards: A Qualitative Investigation. *Perspect Sex Reprod Health.* 2017;49(4):237–44. doi: 10.1363/psrh.12041. [PubMed: 29072826]
64. Jozkowski KN, Manning J, Hunt M. Sexual Consent In and Out of the Bedroom: Disjunctive Views of Heterosexual College Students. *Womens Studies in Communication.* 2018;41(2):117–39. doi: 10.1080/07491409.2018.1470121.
65. Herbenick D, Fu TJ, Dodge B, Fortenberry JD. The alcohol contexts of consent, wanted sex, sexual pleasure, and sexual assault: Results from a probability survey of undergraduate students. *J Am Coll Health.* 2019;67(2):144–52. doi: 10.1080/07448481.2018.1462827. [PubMed: 29652650]
66. Jozkowski KN, Wiersma JD. Does Drinking Alcohol Prior to Sexual Activity Influence College Students' Consent? *International Journal of Sexual Health.* 2015;27(2):156–74. doi: 10.1080/19317611.2014.951505.
67. Marcantonio TL, Willis M, Jozkowski KN. Effects of Typical and Binge Drinking on Sexual Consent Perceptions and Communication. *J Sex Marital Ther.* 2022;48(3):273–84. doi: 10.1080/0092623X.2021.1986445. [PubMed: 34615443]
68. Willis M, Marcantonio TL, Jozkowski KN. Internal and external sexual consent during events that involved alcohol, cannabis, or both. *Sex Health.* 2021;18(3):260–8. doi: 10.1071/SH21015. [PubMed: 34134817]
69. Jozkowski KN, Marcantonio T, Malachi W, Drouin M. Does Alcohol Consumption Influence People's Perceptions of Their Own and a Drinking Partner's Ability to Consent to Sexual Behavior in a Non-sexualized Drinking Context? *J Interpers Violence.* 2022;8862605221080149. doi: 10.1177/08862605221080149.

70. Abbey A Alcohol-related sexual assault: A common problem among college students. *J Stud Alcohol Suppl.* 2002;Supplement(14):118–28. doi: 10.15288/jsas.2002.s14.118.
71. Harris J, Linder C. *Intersections of identity and sexual violence on campus: Centering minoritized students' experiences.* Sterling, Virginia: Stylus Publishing, LLC; 2017.
72. Hirsch JS, Khan S. *Sexual citizens: A landmark study of sex, power, and assault on campus.* WW Norton & Company; 2020.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 1.

Summary of Findings

Program and Type of Intervention	Study Design, Assessment Period, and Participants	Alcohol Content	Key Alcohol Findings
<p><b>Programs for men</b></p> <p>Sexual Assault and Alcohol Feedback and Education [17]</p> <p><b>Type of Intervention</b> Three sessions: 1) 90 minute individual interview; 2) 2.5-hour group sexual assault prevention workshop; 3) 90-minute booster</p>	<p><b>Study Design</b> Open Trial</p> <p><b>Assessment</b> Pretest and 2 months follow up</p> <p><b>Participants</b> <i>Sample Size:</i> 25 undergraduate men <i>Sexual Orientation:</i> Not reported <i>Race/Ethnicity:</i> 95% identified as white; 100% Non-Hispanic/Non-Latinx</p>	<ul style="list-style-type: none"> <li>• Provided personalized normative feedback for alcohol use and its' role in sexual activity, consent, and bystander intervention</li> <li>• Target three areas of alcohol use: pharmacological effects of alcohol, alcohol expectancies, shared influences of alcohol use and aggression.</li> <li>• Areas of focus in program include alcohol myopia, alcohol's roles in misperception of sexual interest, alcohol expectancies, intoxication and consent, and influence of alcohol on drinking environments on helping.</li> </ul>	<p><b>Use</b></p> <ul style="list-style-type: none"> <li>• No change in heavy drinking days in the past month</li> </ul> <p><b>Consequences</b></p> <ul style="list-style-type: none"> <li>• Significant ↓ in alcohol related consequences</li> </ul> <p><b>Protective Behavioral Strategies</b></p> <ul style="list-style-type: none"> <li>• Significant ↑ in strategies to limit drinking</li> </ul> <p><b>Other Findings</b></p> <ul style="list-style-type: none"> <li>• Significant ↓ in perceptions of peer alcohol use</li> </ul>
<p><b>Mixed gender programs for bystanders</b></p> <p>Preventing and Responding to Sexual Misconduct Program [22]</p> <p><b>Type of Intervention</b> One 2.5 hour peer led workshop, approximately 3 hours long</p>	<p><b>Study Design</b> Open Trial</p> <p><b>Assessment</b> Pretest, post-intervention 3-month follow up</p> <p><b>Participants</b> <i>Sample Size:</i> 205 athletes completed intervention; 76 completed the follow up (80.9% of those contacted due to funding limitations) <i>Gender:</i> 54.5% men completed the intervention <i>Sexual Orientation:</i> Not reported <i>Race/Ethnicity:</i> 84.2% identified as white; Ethnicity not reported</p>	<ul style="list-style-type: none"> <li>• Provided psychoeducation on standard drink</li> <li>• Facilitated discussion on misconceptions of what constitutes a drink, what is problematic drinking, and norms about drinking on campus.</li> <li>• Provided personalized alcohol feedback (participants complete AUDIT and receive feedback)</li> <li>• Provided norms on college alcohol use</li> </ul>	<p><b>Use</b></p> <ul style="list-style-type: none"> <li>• Significant ↓ in drinking frequency</li> <li>• No change in drinking quantity</li> <li>• Significant ↓ in total drinks (past month)</li> <li>• Significant ↓ in maximum drinks (24 hours)</li> <li>• Significant ↓ in binge drinking</li> </ul> <p><b>Consequences</b></p> <ul style="list-style-type: none"> <li>• Significant ↓ in alcohol-related problems</li> </ul> <p><b>Protective Behavioral Strategies</b></p> <ul style="list-style-type: none"> <li>• Not assessed</li> </ul> <p><b>Other Findings</b></p> <ul style="list-style-type: none"> <li>• Significant ↓ in negative alcohol expectancies (i.e., stronger high-arousal negative and low-arousal negative expectancies)</li> <li>• Compared with women, men reported drinking more frequently, consuming more drinks per day, consuming a greater total number of drinks, a greater maximum number of drinks in one occasion, and binge drank more often. Men also experienced more alcohol related problems than women.</li> </ul>
<p>Sexual Violence Prevention Program [23]</p> <p><b>Type of Intervention</b> 70-minute intervention; in person peer-led session</p>	<p><b>Study Design</b> Pre/Post Design</p> <p><b>Assessment</b> Pretest, posttest and 4 month follow up</p> <p><b>Participants</b> <i>Sample Size:</i> 49   Incoming undergraduate</p>	<ul style="list-style-type: none"> <li>• Provided psychoeducation about drinking, binge drinking, alcohol poisoning, prevalence of drinking on campus, drinking and drug use consequences, and campus medical amnesty policies around alcohol (students would not be sanctioned for drinking if they contacted authorities for an alcohol-medical situation)</li> <li>• Described the relationship between sexual</li> </ul>	<p><b>Use</b></p> <ul style="list-style-type: none"> <li>• Significant ↑ risky drinking (five or more drinks at a sitting over the past two weeks) at 4-month follow up</li> </ul> <p><b>Consequences</b></p> <ul style="list-style-type: none"> <li>• Not assessed</li> </ul> <p><b>Protective Behavioral Strategies</b></p>

Program and Type of Intervention	Study Design, Assessment Period, and Participants	Alcohol Content	Key Alcohol Findings
<p><b>Web Based Personalized Feedback Intervention for High Risk Women [13]</b></p> <p><b>Type of Intervention</b> One session; web-based program</p>	<p>students</p> <p><i>Gender:</i> 54% women</p> <p><i>Sexual Orientation:</i> Not reported</p> <p><i>Race/Ethnicity:</i> 90% identified as white</p>	<p>assault and drinking with an emphasis on substance related sexual assault</p>	<p><b>Use</b></p> <ul style="list-style-type: none"> <li>• Significant ↑ in intentions to use protective behaviors to reduce risks associated with alcohol consumption immediately after intervention, not maintained at 4-month follow up</li> </ul> <p><b>Other Findings</b></p> <ul style="list-style-type: none"> <li>• Significant ↑ in intentions to call 911 for alcohol poisoning post-intervention, not maintained at 4-month follow up</li> <li>• Significant ↑ intentions to not let friends drunk drive</li> <li>• Significant ↑ intentions to intervene in risky alcohol situations</li> </ul>
<b>Programs for Women</b>			
<p><b>Study Design</b> Randomized Controlled Trial (4 Conditions: Sexual Assault Risk Reduction Only, Alcohol Only, Combined Alcohol and Sexual Assault Condition [Intervention], Assessment Only)</p> <p><b>Assessment</b> Baseline, Post-test, 3 months follow up</p> <p><b>Participants</b> <i>Sample Size:</i> 264 college women</p> <p><i>Sexual Orientation:</i> Not reported</p> <p><i>Race/Ethnicity:</i> 57.6% white; 90.5% Non-Hispanic/Non-Latinx</p>	<p>Alcohol intervention provided gender specific feedback to reduce alcohol use, rates and statistics about women who experience sexual assault while intoxicated, definitions of standard drinks, explanations of alcohol expectancies and alcohol myopia.</p> <ul style="list-style-type: none"> <li>• Personalized information and feedback about alcohol intoxication, misperceptions of drinking on campus, and associated risk</li> <li>• Provided examples of protective behavioral drinking strategies and alcohol related negative consequences</li> </ul>	<p><b>Use</b></p> <ul style="list-style-type: none"> <li>• Women with more severe adult sexual assault histories engaged in heavy episodic drinking less frequently in the combined intervention compared to the assessment only control.</li> </ul> <p><b>Consequences</b></p> <ul style="list-style-type: none"> <li>• No assessed</li> </ul> <p><b>Protective Behavioral Strategies</b></p> <ul style="list-style-type: none"> <li>• No change in protective behavioral strategies</li> </ul> <p><b>Other Findings</b></p> <ul style="list-style-type: none"> <li>• Significant ↓ in incapacitated attempted/completed rape in 3-month follow up among women in combined intervention compared to the assessment only control</li> <li>• Significant ↑ in perceived likelihood of experiencing incapacitated rape while in college among women in intervention to women in the assessment only control.</li> </ul>	<p><b>Use</b></p> <ul style="list-style-type: none"> <li>• Not assessed</li> </ul> <p><b>Consequences</b></p> <ul style="list-style-type: none"> <li>• Not assessed</li> </ul> <p><b>Protective Behavioral Strategies</b></p> <ul style="list-style-type: none"> <li>• Not assessed</li> </ul> <p><b>Other Findings</b></p> <ul style="list-style-type: none"> <li>• Significant ↓ in how often participants had drunk to get drunk in the past 30 days for female, but not male, athletes</li> <li>• Significant ↓ in largest number of drinks in 24-hours in the past 30 days for female, but not male, athletes</li> <li>• No change frequency of consuming five or more drinks in 2-hrs</li> </ul>
<b>Programs that address cross-cutting behaviors</b>			
<p>+Change [35]</p> <p><b>Type of Intervention</b> One session; ~18-minute web-based program</p>	<p><b>Study Design</b> Open Pilot</p> <p><b>Assessment</b> Baseline, Post-test</p> <p><b>Participants</b> <i>Sample Size:</i> 24 college students</p> <p><i>Gender:</i> 62% women</p> <p><i>Sexual Orientation:</i> 70% heterosexual</p> <p><i>Race/Ethnicity:</i> 59% white; 63% Non-Hispanic/Non-Latinx</p>	<p>Personalized normative feedback by identity group on alcohol use</p> <ul style="list-style-type: none"> <li>• Personalized feedback and psychoeducation on alcohol expectancies and sex-related alcohol expectancies, BAC and sexual assault risk, misperceptions of sexual interest while intoxicated</li> <li>• Protective behavioral strategies for alcohol use</li> </ul>	<p><b>Use</b></p> <ul style="list-style-type: none"> <li>• Not assessed</li> </ul> <p><b>Consequences</b></p> <ul style="list-style-type: none"> <li>• Not assessed</li> </ul> <p><b>Protective Behavioral Strategies</b></p> <ul style="list-style-type: none"> <li>• Not assessed</li> </ul> <p><b>Other Findings</b></p> <ul style="list-style-type: none"> <li>• Significant ↓ in descriptive drinking norms</li> <li>• No change in injunctive norms</li> <li>• No change in stages of change for alcohol use</li> <li>• Significant ↑ in deciding not to have sex with someone who is drunk</li> </ul>
<p>All-In: A Culture of Respect [36]</p> <p><b>Type of Intervention</b> One session; 45-minute web-based program</p>	<p><b>Study Design</b> Cluster Quasi-Randomized Pilot</p> <p><b>Assessment</b> Baseline, 1-month follow up</p>	<p>Psychoeducation and interactive activities on the association between heavy drinking and sexual assault, including bodily and behavioral responses to alcohol</p> <ul style="list-style-type: none"> <li>• Educational video on alcohol-involved assault to help identify barriers to bystander intervention</li> </ul>	<p><b>Use</b></p> <ul style="list-style-type: none"> <li>• Significant ↓ in how often participants had drunk to get drunk in the past 30 days for female, but not male, athletes</li> <li>• Significant ↓ in largest number of drinks in 24-hours in the past 30 days for female, but not male, athletes</li> <li>• No change frequency of consuming five or more drinks in 2-hrs</li> </ul>



Program and Type of Intervention	Study Design, Assessment Period, and Participants	Alcohol Content	Key Alcohol Findings
	<p><b>Participants</b>  <i>Sample Size:</i> 146 college athletes  <i>Gender:</i> 62% women  <i>Sexual Orientation:</i> Not reported  <i>Race/Ethnicity:</i> 57% white; 94% Non-Hispanic/Non-Latinx</p>	<ul style="list-style-type: none"> <li>Personalized and normative feedback for heavy drinking</li> </ul>	<p>in the past 2-weeks</p> <p><b>Consequences</b></p> <ul style="list-style-type: none"> <li>Not assessed</li> </ul> <p><b>Protective Behavioral Strategies</b></p> <ul style="list-style-type: none"> <li>Not assessed</li> </ul> <p><b>Other Findings</b></p> <ul style="list-style-type: none"> <li>None</li> </ul>

Note. Only outcomes related to alcohol use are highlighted.