Published in final edited form as:

J Interpers Violence. 2018 September ; 33(17): 2664–2681. doi:10.1177/0886260516628808.

Is the Use of Protective Behavioral Strategies Associated With College Sexual Assault Victimization? A Prospective Examination

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Abstract

Sexual assault protective behavioral strategies (PBS) may be negatively associated with sexual assault victimization. However, no studies to date have prospectively examined whether the use of sexual assault PBS is negatively associated with subsequent sexual assault experiences. The current study examined the association between the use of sexual assault PBS and subsequent sexual assault victimization severity. College women who reported engaging in heavy episodic drinking (n = 77) were assessed online for their use of sexual assault PBS and history of sexual assault victimization. In addition, a 3-month follow-up survey was given assessing sexual assault victimization severity in the past 3 months. The use of sexual assault PBS was negatively associated with sexual assault severity in the 3-month follow-up period. Future research should further examine these PBS to create more college-specific PBS and to determine whether they are useful as risk-reduction strategies.

Keywords

sexual assault; college women; protective behavioral strategies

Sexual assault is a nonconsensual experience ranging from sexual touching to rape. It can be perpetrated by verbal coercion, incapacitation, or force. Sexual assault on college campuses is problematic with approximately 20% to 75% of college women being assaulted (Abbey, Parkhill, & Koss, 2005; Kilpatrick, Resnick, Ruggerio, Conoscenti, & McCauley, 2007). The White House Task Force to Protect Students from Sexual Assault report (2014) has begun addressing this issue with the goal of preventing and responding to sexual assault on college campuses. Given evidence that community norms are a significant cause of sexual violence (e.g., DeKeseredy & Schwartz, 2013), community-level interventions including bystander

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Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

approaches have recently garnered increased empirical attention, and demonstrate promise in reducing the prevalence of sexual assault on college campuses (Banyard, Moynihan, & Plante, 2007; Salazar, Vivolo-Kantor, Hardin, & Berkowitz, 2014). Although these innovative interventions will eventually be disseminated broadly to increase primary prevention of sexual assault, a review of sexual assault prevention programs suggested that prevention programs account for only 8% of sexual assault intervention programs and that many demonstrate only modest success in changing rape-related attitudes (Morrison et al., 2004). Specifically, 14% of studies on prevention programs reported positive intervention effects at post-intervention or follow-up, and 80% reported mixed results (Morrison et al., 2004).

As such, it appears that multiple strategies toward reducing sexual assault on college campuses are currently needed. Another approach to reducing sexual violence that has been often used is individual-level prevention and risk-reduction programs. These approaches are controversial, as many note that prevention efforts beyond the individual level are needed to prompt community-level change (e.g., Gidycz, Orchowski, & Edwards, 2011). In addition, the perpetrator is always at fault for the sexual assault, not the victim, so intervening at the individual level to reduce risk of potential victims as opposed to reducing perpetration is a controversial approach. Although true prevention of sexual violence via intervening at the community level and with perpetrators is vital, despite current prevention efforts, sexual assault rates have remained high (Kilpatrick et al., 2007; Rozee & Koss, 2001). As noted in a review of rape avoidance strategies (Ullman, 2007), given the high physical and mental health cost to individual women and society due to the to high incidence of sexual assault, any efforts to reduce rape incidence is important in addition to concurrent prevention efforts targeting perpetrators. While acknowledging the potential valid concern of victim blaming, this review also highlights that women and girls need information and training in how to effectively protect themselves and notes the similarity with society helping people protect themselves from other public health threats (Ullman, 2007). As such, multiple strategies toward reducing sexual assault on college campuses are needed. In addition to developing and disseminating sexual assault perpetration prevention programs on college campuses, sexual assault risk-reduction programs may be effective. The perpetrator is always at fault for sexual assault, not the victim; however, there are possibly protective strategies that women can engage in to reduce their likelihood of being targeted for victimization.

Sexual Assault Protective Behavioral Strategies (PBS)

Specific PBS related to sexual assault victimization have been noted that may reduce the risk of being targeted for perpetration. Several researchers have developed protective strategies for reducing the risk of sexual assault (e.g., Hanson & Gidycz, 1993; Moore & Waterman, 1999), and these sexual assault PBS have been used as a targeted outcome for sexual assault risk-reduction intervention efforts (e.g., Orchowski, Gidycz, & Raffle, 2008). Examples of sexual assault PBS include meeting a date or acquaintance in a public place and planning for what resistance strategies to use if a situation progressed aggressively. Much of the research on sexual assault risk reduction has focused on sexual assault resistance strategies, which are ways women can resist a sexual assault experience once the experience has begun (Masters, Norris, Stone, & George, 2006; Norris et al., 2006; Norris, Nurius, & Dimeff, 1996; Stoner

et al., 2007). Alternatively, sexual assault PBS are behaviors that intend to reduce the likelihood that a woman would be targeted for sexual assault victimization by a perpetrator. This is an inherently difficult challenge to accomplish when victims are not in control of the initiation and enactment of a sexual assault. However, there are several factors that increase the likelihood of being targeted for sexual assault victimization and these sexual assault PBS were developed to address several of these factors (e.g., being alone on a date compared with being in a public place).

Currently, there is scant research supporting sexual assault risk-reduction programs targeting women (for reviews, see Anderson & Whiston, 2005; Vladutiu, Martin, & Macy, 2011). Sexual assault PBS are included as a component in some existing sexual assault risk-reduction programs. There is preliminary evidence that sexual assault PBS are negatively related to sexual victimization (e.g., Breitenbecher, 2008); however, these findings are cross-sectional in nature. In addition, extant findings are inconsistent, as other studies have found a significant association (Moore & Waterman, 1999), whereas others have not found a significant association between sexual assault history and use of sexual assault PBS (Hickman & Muehlenhard, 1997). Despite the preliminary nature of evidence between sexual assault PBS in predicting risk of sexual assault, they are presumed to be an effective target in reducing risk as increasing the level of these behaviors has previously been used as an outcome in risk-reduction programs for college women (Orchowski, Gidycz, & Raffle, 2008). This could possibly be due to the perceived face validity of these PBS; however, because sexual assault PBS have not been thoroughly investigated, it is unclear whether they actually mitigate risk of experiencing sexual assault.

Targeting sexual assault by teaching women protective strategies without an underpinning scientific understanding is potentially problematic. This is especially problematic because if these are not prospectively associated with sexual assault, teaching them could potentially have a deleterious effect on women. However, even if there is an association, women are not in control of being targeted for victimization. Prospective designs are essential to determine whether the use of sexual assault PBS are associated with later sexual assault victimization severity given that sexual assault perpetration is not under the victim's control. As such, the current study examines the relation between sexual assault PBS and sexual assault prospectively in a sample of college women. These protective strategies could be further developed and taught in sexual assault risk-reduction programs to supplement effective sexual assault perpetration prevention efforts on college campuses. In addition, extant research has not investigated what factors may affect if women engage in sexual assault PBS. Sexual assault history is associated with lower self-efficacy (e.g., Bryant, 2001), as such women who have experienced prior sexual assault may be less likely to engage in sexual assault PBS. Previous studies have found that women who have experienced sexual assault previously are more likely to engage in nonforceful verbal resistance as opposed to active forceful resistance (Norris et al., 1996). To our knowledge, no prior study has investigated the association between sexual assault history and use of sexual assault PBS prior to a sexual assault occurring. If sexual assault PBS do significantly prospectively predict sexual assault severity, it is important to understand what factors influence their engagement to effectively incorporate them into risk-reduction programs.

The Present Study

There is a high prevalence of sexual assault on college campuses (Abbey et al., 2005; Kilpatrick et al., 2007). In addition, heavy alcohol consumption is a risk factor for sexual assault on college campuses, for instance, a previous study found that the odds of experiencing sexual aggression were 9 times higher on heavy drinking days compared with days with no alcohol consumption (Parks & Fals-Stewart, 2004). As such, the present study will use a sample of undergraduate women who engage in heavy episodic drinking to investigate the impact of sexual assault PBS on subsequent sexual assault experiences in a high-risk sample. Furthermore, rates of repeated sexual assault and victimization are unfortunately extremely high (e.g., Lisak & Miller, 2012), and frequency of sexual assault victimization is associated with negative health outcomes (Jozkowski & Sanders, 2012). Women also experience different psychological consequences based on the type of tactics used (e.g., Brown, Testa, & Messman-Moore, 2009). Therefore, an inclusive measure of sexual assault severity would include both frequency and tactic severity (Davis et al., 2014).

To our knowledge, this is the first study to address the gap in the literature examining the use of sexual assault PBS as a prospective protective factor in sexual assault victimization severity. The use of sexual assault PBS is only one potential strategy that may be associated with less sexual assault victimization likelihood. The most effective strategy to prevent sexual assault is to reduce perpetration. However, given that it is unlikely that perpetration will be eliminated entirely, it is essential to also understand ways in which potential victims can protect themselves if necessary. As such, incorporating PBS that may reduce one's risk of experiencing a sexual assault is ideal, as the use of sexual assault PBS may reduce one's risk of being targeted for a sexual assault. We hypothesized that a sexual assault history at baseline would be associated with more severe sexual assault victimization at 3-month follow-up (Hypothesis 1). We also hypothesized that sexual assault history at baseline would be associated with decreased use of sexual assault PBS (Hypothesis 2). Finally, we hypothesized that the use of sexual assault PBS at baseline would be negatively associated with sexual assault victimization at the 3-month follow-up (Hypothesis 3).

Method

Participants

A total of 107 participants were eligible to participate in the study after a screening baseline survey assessing eligibility criteria: (a) female, (b) reported consumption of four drinks over a 2-hr period at least once in the past month, (c) indicated they would like to be contacted regarding participation in study, (d) were between the ages of 18 and 20, and (e) were in the control group of the larger intervention study. A high-risk sample was recruited to be women who are under the age of 21 who engage in heavy episodic drinking. There were 77 (71.96%) participants who completed the follow-up survey. Participants who did not complete the follow-up survey did not differ from those who did on sexual assault experiences, drinking, age, years in college, or sorority membership.

Participants were 18.83 years old on average (SD = .74). The majority (64.0%) of participants had been in college for less than a year, were not a member of a sorority

(63.6%), spoke English as a first language (76.6%), and reported living on campus (75.4%). The majority of participants were White (50.6%) or Asian American/Pacific Islander (24.7%), and 13.0% were multiracial, 5.2% were Black/African American, 3.9% identified as "Other," 1.3% were American Indian/Alaska Native, and 1.3% chose to not identify their race. In addition, 10.7% of the participants identified as Hispanic/Latina.

Measures

Sexual assault PBS—Sexual assault PBS were assessed using a revised version of the Dating Self-Protection against Rape Scale (Breitenbecher, 2008; Moore & Waterman, 1999). Participants were asked when they were with a date how often they performed a number of behaviors to protect themselves from possible sexual assault. The questionnaire was revised to ask about behaviors to also include when with "someone who is sexually interested in you." Sample questions include items related to planning ahead for the potential need for self-defense (e.g., planning for self-protective measures if he or she becomes sexually aggressive, trying to be aware of common household objects that could be used as weapons), specific behaviors and approaches to spending time with a date/someone who is sexually interested in you (e.g., meeting in a public instead of a private place, making yourself aware of exits from the area), and advance communication with others (e.g., talking to people who know them to find out what he or she is like, letting someone know where and with whom they are with). Answer choices ranged on a 5-point Likert-type scale (1 = *never* and 5 = *always*). Scores were computed by creating an average of all items. Items had excellent internal consistency ($\alpha = .88$).

Drinks per week—Participants completed the Daily Drinking Questionnaire (Collins, Parks, & Marlatt, 1985), which assesses the average number of drinks per day of a typical drinking week. In the present investigation, the average number of drinks consumed per week was used by totaling the items to create a drinks-per-week score.

Sexual assault severity—Using the Sexual Experiences Survey (Koss et al., 2007), participants were asked about coerced sexual experiences at three time points: (a) after their 14th birthday, but before entering college (baseline), (b) since entering college (baseline), and (c) in the past 3 months (follow-up). Behaviorally specific questions including experiences perpetrated by verbal coercion, incapacitation, threats of physical force, and physical force were assessed. Sexual assault experiences include sexual contact, attempted penetration, and completed penetration. Participants were asked to indicate the number of times that a tactic or multiple tactics were used up to 3 times. Sexual assault severity was determined using a 63-point scale (Davis et al., 2014) for each time point. This scoring procedure takes into account both frequency of experiences and severity of experiences by multiplying frequency of experiences (0, 1, 2, or 3) by the victimization experience (1 = *sexual contact by verbal coercion*; 2 = *sexual contact by incapacitation*; 3 = *sexual contact by force*; 4 = *attempted or completed rape by verbal coercion*; 5 = *attempted or completed rape by incapacitation*; 6 = *attempted or completed rape by force*) and summing the total number of experiences with the highest possible score being 63 and the lowest possible score being 0 indicating no sexual assault history.

Procedure

Participants were recruited from introductory psychology courses for a larger study about "drinking and sexual behaviors" and were given course credit for completing the baseline survey online. A description of the study was posted on the psychology subject pool website, and students had a variety of choices regarding studies to participate in for course credit. Those who were eligible for the study and were in the control condition of the larger intervention study (15.76% [107 out of 674] students who completed the screening survey) were notified that they would be contacted 3 months later to participate in a follow-up study. Participants who completed the online follow-up survey were paid a $25 gift card.

Results

Analysis Plan

A path model was conducted using MPlus Version 6.1 (Muthén & Muthén, 1998–2015) to test the hypothesized model. Maximum likelihood estimation with robust standard errors was used to handle missing data. Because the outcome variable was skewed, negative binomial models using Monte Carlo integration will be modeled and the significant paths from that model will be discussed. Fit indices are not available for Monte Carlo integration; therefore, they are not presented. Furthermore, standardized betas are not available for Monte Carlo integration; therefore, unstandardized betas are presented.

The hypothesized model also controlled for weekly drinking and years in college to account for factors other than use of sexual assault PBS that might be associated with sexual assault victimization. To control for this in the hypothesized model, paths were included from number of weekly drinks and the number of years participants had been in college to sexual assault severity at baseline.

Descriptives

A total of 30 (38.96%) reported a history of before college adolescent/adult sexual assault ($M = 4.42$; $SD = 8.37$), 33 (42.86%) reported a history of since-college sexual assault ($M = 4.48$; $SD = 9.51$), and 16 (20.78%) reported experiencing sexual assault in the past 3 months at the point of the follow-up survey ($M = 2.79$; $SD = 7.60$). In addition, participants reported using sexual assault PBS some of the time on average ($M = 2.51$; $SD = .95$).

Path Model

The path model revealed a significant effect of years in college on baseline history of sexual assault severity ($b = 3.77$, $p = .02$). Weekly number of drinks did not demonstrate a significant effect on baseline history of sexual assault severity ($b = 1.285$, $p = .07$). Hypotheses 1 and 2 were not supported, as baseline history of sexual assault severity did not demonstrate a significant effect on use of sexual assault PBS ($b = -.01$, $p = .36$) or on sexual assault severity at the 3-month follow-up ($b = .08$, $p = .12$). As predicted in Hypothesis 3, sexual assault PBS at baseline revealed a significant effect on sexual assault severity at 3-month follow-up ($b = -.99$, $p = .03$).

Discussion

To our knowledge, this is the first study to examine the association between the use of sexual assault PBS and sexual assault victimization prospectively. Although reducing sexual assault perpetration should be a primary goal, the high prevalence of sexual assault incidence on college campuses suggests that multiple strategies toward reducing sexual assault are needed in this setting. The use sexual assault PBS is typically assessed as an outcome of sexual assault risk-reduction programs (e.g., Orchowski, Gidycz, & Raffle, 2008), as such it was important to examine the longitudinal association between sexual assault PBS and subsequent sexual assault. The present study investigated whether the use of sexual assault PBS at baseline would be negatively associated with sexual assault victimization at the 3-month follow-up in a sample of college women engaged in heavy episodic drinking.

The present study also provides information regarding rates of sexual assault prevalence and incidence in a sample of college women. A previous study on college women found that approximately 50% endorsed being victims of sexual aggression during the academic year (Kanin & Parcell, 1977). Another study that defined sexual assault as involving sexual intercourse against the individual's consent obtained through the use of actual force or threat of harm found that 13% of college women at a Midwestern university endorsed having experienced a sexual assault (Koss & Gidycz, 1985; Koss & Oros, 1982). In an approximately representative national sample of college students, 27.5% of college women reported experiencing sexual assault since age 14, and 8.3% of college women reported experiencing a sexual assault in the past 6 months (Koss, Gidycz, & Wisniewski, 1987). Within this study, sexual assault prevalence rates in the past 6 months were higher at major universities (17%) compared with other types of institutions. In a more recent study of college women, 56.8% reported some form of unwanted sexual experience during adulthood, and 43.4% reported some form of unwanted sexual experience during the course of the 8-month study (Messman-Moore & Brown, 2006).

In the present study, 38.96% of the participants reported a history of sexual assault prior to entering college, 42.86% reported a history of since-college sexual assault, and 20.78% endorsed experiencing sexual assault in the past 3 months. This is consistent with some prior research (e.g., Kanin & Parcell, 1977) but higher than other previous findings (Koss et al., 1987). However, the definition of sexual assault likely affects these rates. For instance, in the nationally representative sample of college women, the 6-month incidence rate was based on a legal definition of rape (i.e., oral, anal, or vaginal intercourse, or penetration by objects against consent through threat, force, or intentional incapacitation of the victim). In this study, 53.8% of women endorsed experiencing sexual contact by verbal coercion in the past year and 25.6% endorsed experiencing intercourse by verbal coercion, acts that were not included in the rape incidence results. In addition, the present sample is college women who engaged in heavy episodic drinking that relates to increased risk, which also likely affects the prevalence found in the present study versus representative college samples. As such, the findings from the present study are consistent with previous findings using a more inclusive definition of sexual assault; these findings clearly demonstrate the pervasiveness of sexual assault, particularly on college campuses. This provides compelling support for the need for effective prevention and risk-reduction programs in university settings.

The results from the present study partially supported the hypotheses. First, we hypothesized that sexual assault history at baseline would be associated with more severe sexual assault victimization at 3-month follow-up, but this association was not significant. This is inconsistent with previous research, which has found a significant relation between sexual assault history and victimization prospectively (e.g., Gidycz, Hanson, & Layman, 1995). Previous research has found that recency of sexual abuse is related to revictimization (e.g., Himelein, 1995), as such our inclusion of all sexual assault history prior to baseline might obscure the risk related to more recent sexual assault experiences. In addition, the short follow-up time frame (i.e., 3 months) might have affected this finding.

Extant research has not investigated what factors may affect whether women engage in sexual assault PBS. Previous literature has suggested that women who have previously experienced a sexual assault are more likely to engage in more passive versus active resistance strategies once a sexual assault has begun (e.g., Norris et al., 1996) and that sexual assault may lead to decreased self-efficacy (e.g., Edwards et al., 2014). As such, we hypothesized that sexual assault history at baseline would be associated with decreased use of sexual assault PBS. Results were inconsistent with this hypothesis. This finding provides preliminary evidence that although it appears history of sexual assault victimization affects engagement in effective resistance strategies once a sexual assault has begun, it does not appear to affect the use of sexual assault PBS, which occur prior to a sexual assault. This suggests that future research should investigate what factors or individual differences may predict engagement in sexual assault PBS beyond prior sexual assault history. For instance, specific cultural or demographic variables or personality traits may relate to use of sexual assault PBS without intervention or training. This information could be used to identify individuals who might particularly benefit from risk reduction, or how risk reduction focused on sexual assault PBS may be most effectively implemented.

Finally, we hypothesized that the use of sexual assault PBS at baseline would be negatively associated with sexual assault victimization at the 3-month follow-up. This hypothesis was supported, as the use of sexual assault PBS at baseline was associated with less severe sexual assault victimization 3 months later. To our knowledge, this is the first study to examine sexual assault PBS in a prospective design, and our findings suggest that the use of sexual assault PBS may be helpful in reducing risk of future sexual assault. This finding is consistent with previous cross-sectional research that has identified a significant association between sexual assault PBS and history of sexual assault victimization (Breitenbecher, 2008; Moore & Waterman, 1999). One previous study did not find a significant relationship between rape history and use of sexual assault PBS (Hickman & Muehlenhard, 1997). Notably, this study did not use the measure of sexual assault PBS used in the present study and other studies that have found a significant association (Breitenbecher, 2008; Moore & Waterman, 1999), so it is possible that the measure used in the present study is more effective at assessing sexual assault PBS that are protective and effective at increasing safety. This study also used a dichotomous single item asking about experiences of rape, as such the lack of a significant finding may also relate to some participants who have experienced sexual assault victimization not labeling their experience as “rape.” Some current sexual assault risk-reduction programs include increasing the use of sexual assault PBS as an intervention target outcome, as such the results from the present study suggesting a

prospective relation between the use of these strategies and decreased experiences of sexual assault at 3-month follow-up are encouraging and provides preliminary evidence for their inclusion in such programs.

It should be noted, however, that a sexual assault can still occur even if all PBS are used given that the victim is not in control or responsible for preventing a sexual assault from happening. This study is the first step in assessing whether sexual assault PBS could be included in sexual assault risk-reduction programs to supplement sexual assault prevention programs. The findings imply that the use of these PBS should be continued to be assessed as potential protective factors in reducing sexual assault victimization in future studies. For example, a future study could randomly assign participants to receive pscyhoeducation regarding sexual assault PBS or other PBS (e.g., drinking PBS) to determine whether providing suggested sexual assault PBS is associated with less risk than PBS in general. It is possible that individuals who use sexual assault PBS are engaging in other PBS, and more broad use of PBS could be a third variable accounting for this association. In particular, sexual assaults on college campuses frequently involve alcohol use by the perpetrator, victim, or both, and this prospective study does not take into account the use of drinking PBS. In addition, the sample included only heavy episodic drinkers, and although this population was chosen because it was at high risk of sexual assault, it may be possible that the association between use of PBS and sexual assault is unique to women who engage in heavy episodic drinking.

Limitations and Future Directions

More research assessing the association between sexual assault PBS and sexual assault experiences is necessary to inform sexual assault risk-reduction programs because the current research only presents naturally occurring PBS. It is possible that the individuals in the current study were taught these PBS in formal settings, but it is also possible that they use these PBS from modeling and experience. Therefore, it is unclear whether formally taught sexual assault PBS would be associated with sexual assault in the same way. Despite the limitation of naturally occurring PBS, this is the first study to thoroughly assess sexual assault PBS and its association with sexual assault experiences. Future research should include an assessment of social desirability given that the use of sexual assault PBS may be a socially desirable behavior.

Another limitation to the current research is the inability to make causal conclusions. Although this study was prospective, it is not possible to conclude whether the use of more sexual assault PBS caused decreased sexual assault severity especially because victims are not in control of the sexual assault. A strength of this study is that it is the first to carefully examine these associations in a prospective manner, and it is a needed first step in the literature. Given that these preliminary findings suggest that sexual assault PBS prospectively are associated with sexual assault severity, future research could use qualitative methodology to investigate why some individuals might engage in PBS compared with others, or to provide a more nuanced understanding of why individuals may or may not engage in specific sexual assault PBS.

The participants of this study were limited. Participants were recruited from psychology courses, and only college women under the age of 21 who engaged in heavy episodic drinking were included in the study because these women have elevated risk of experiencing sexual assault. However, future research is necessary before generalizing to other populations. Further, participants in this study were part of a larger study testing an intervention; therefore, they may differ from students who are not interested in interventions focusing on alcohol and sexual assault. Another factor to consider is that this college population was pooled from the Pacific Northwest, and the demographics of the participants reflect students in that particular area of the country. In addition, future research should examine the perceived socioemotional consequences of both sexual assault PBS and drinking PBS given that perceived negative consequences from sexual assault PBS are associated with experiencing subsequent sexual assault (Orchowski, United, & Gidycz, 2012).

Research Implications

Findings from the current study suggest that future research should continue to assess the association between sexual assault PBS and sexual assault victimization. These preliminary findings suggest that naturally occurring PBS are associated with less sexual assault severity. However, the association between PBS taught through interventions and sexual assault severity is unclear. These findings should also be replicated in sexual assault perpetration. It is not possible to prevent sexual assault without also addressing the perpetrators of sexual assault. The present research only presents half of the story, and future research should examine ways in which men reduce their likelihood of perpetration, or if they engage in PBS focused on stopping others from perpetrating such as those taught in bystander interventions. Because this was the first study to assess these associations, it was essential to first gain an understanding among the highest risk sample.

There are other types of PBS that should be considered in future research. First, the sexual assault PBS assessed in the current study were from an already established questionnaire. However, updated sexual assault PBS are necessary to include more college-specific sexual assault PBS. The PBS assessed in this study include questions (e.g., providing one’s on transportation), which may not be likely on all college campuses due to reasons specific to the college (e.g., if students live on campus, they may walk to most destinations). In addition, the use of PBS assessed was limited to when on a date or with someone who is sexually interested in the participant. This does not capture encounters with all possible perpetrators on college campuses, and therefore, it may not fully capture women’s overall use of PBS. Although the revision of the questionnaire to include more than just a date was used to partially address this concern, there are still other potential factors not addressed in the current examination of PBS.

Clinical and Policy Implications

Responses to sexual assault victimization differ based on the individual. After experiencing a sexual assault, a victim may feel as if he or she does not have control. This lack of control would be expected to be associated with use of sexual assault PBS especially if a victim used sexual assault PBS prior to the assault. Alternatively, a woman could increase her use

of sexual assault PBS after a sexual assault. There is no correct way to respond to a sexual assault, and different victims respond in different ways. Clinicians and college policies should take these differences into consideration rather than expecting victims to respond in a particular way to sexual assault victimization, including the use of PBS.

If these findings are replicated and future studies find that these PBS are in fact protective factors in reducing sexual assault on college campuses, there are clear implications for clinicians and policy. At the very least, it may be possible to provide incoming college students with training on how to use sexual assault PBS. This, however, would only be useful if perpetration prevention programs were used as the primary sexual assault reduction strategy because targeting only victims is not an effective way to reduce sexual assault rates. It may also be possible to intervene with individuals with a sexual assault history before entering college given that they are at heightened risk of sexual revictimization. This population is at high risk of being targeted for victimization in college settings, and individuals may not be aware of their risk. Therefore, interventions targeting the highest risk sample may be warranted. In a clinical setting, it may be possible to address PBS through motivational interviewing techniques if a client has a sexual assault history. Although it should not be assumed they have deficits in their use of PBS, assessing for use could be clinically relevant in helping decrease potential revictimization risk. Again, the primary focus for reducing sexual assault should be through sexual assault perpetration prevention strategies. However, as the elimination of perpetration is unlikely, individuals who are at high risk of being targeted for sexual assault could also benefit from interventions to help reduce their risk. Most risk-reduction programs include psychoeducation regarding sexual assault prevalence on college campuses. Instruction regarding sexual assault PBS could be incorporated subsequent to psychoeducation regarding prevalence to empower women in the face of high prevalence rates of sexual assault, as it may combat feelings of helplessness for some college women to know that there are some behavioral strategies that could be used to decrease risk.

Conclusion

Consistent with previous findings (e.g., Messman-Moore & Brown, 2006), the results from the present study suggest that high rates of sexual assault victimization persist on college campuses. These high rates of sexual assault victimization on college women have been found in research spanning multiple decades (e.g., Kanin & Parcell, 1977), and highlight the importance of a multiple-pronged approach to addressing this problem including prevention and risk-reduction efforts that are evidence-based. Sexual assault PBS have been included in some risk-reduction programs (Orchowski, Gidycz, & Raffle, 2008); as such, it is important to empirically examine their association with sexual assault victimization prospectively. The findings from the present study suggest that the use of sexual assault PBS is associated with less sexual assault severity 3 months later in a sample of college women who engage in heavy episodic drinking. Future research should assess the possibility of these strategies as protective factors and how to effectively incorporate them within risk-reduction programs.

Acknowledgments

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Data collection and manuscript preparation were supported by grants from the National Institute for Alcohol and Abuse and Alcoholism (F31AA020134 Principal Investigator [PI]: A. K. Gilmore), from the Alcohol and Drug Abuse Institute at the University of Washington, and from the National Institute of Mental Health (T32 MH18869, PIs: Dean G. Kilpatrick, PhD, & Carla Kmett Danielson, PhD).

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