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A Program to Improve Social Reactions to Sexual and Partner Violence Disclosures Reduces Posttraumatic Stress in Subsequently Victimized Participants

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Abstract

Objective: Research consistently documents the high rates and deleterious outcomes of dating and sexual violence (DSV) among college students. Thus, there is an urgency to identify cost-effective interventions that can mitigate the negative outcomes associated with these forms of violence. The purpose of the current study was to conduct secondary analyses to assess whether a two-session, face-to-face social support intervention (i.e., *Supporting Survivors and Self*) would confer psychological benefits for participants who subsequently experienced DSV victimization.

Method: Participants were 187 full-time undergraduate students from a university in the northeastern United States who reported at least one form of DSV in the six months following implementation of the program.

Results: No intervention effect was identified for self-blame or depressive symptoms among subsequent victims. However, the intervention led to lower levels of overall posttraumatic stress (PTS) symptoms, including avoidance and changes in cognition and mood symptoms, for participants who experienced unwanted sexual intercourse and/or physical intimate partner violence in the treatment versus those in the control condition. Gender did not moderate intervention effects.

Conclusion: Overall, results suggest that interventions aimed at providing social support to survivors may lead to some benefits for individuals who are subsequently victimized.

Keywords

sexual assault; dating violence; PTS; depression; intervention; social reactions

Research consistently documents alarmingly high rates and deleterious psychological, physical, and academic outcomes associated with dating and sexual violence (DSV) among college students, including symptoms of depression and posttraumatic stress (PTS) (Banyard et al., 2017; Carey, Norris, Durney, Shepardson, & Carey, 2018; Dworkin, Menon, Bystrynski, & Allen, 2017; Krebs, Lindquist, Warner, Fisher, & Martin, 2009; Straus, 2004; Tansill, Edwards, Kearns, Gidycz, & Calhoun, 2012). As such, there is a growing focus on creating campus-based DSV prevention and intervention efforts (Edwards & Ullman, 2018; McMahon, Steiner, Snyder, & Banyard, 2019). Prevention efforts are focused on preventing DSV before it happens, whereas intervention efforts are focused on supporting survivors in the aftermath of DSV. Recently, an intervention program entitled *Supporting Survivors and Self* (SSS) was created for college students to increase their positive social reactions and decrease their negative social reactions to future disclosures of DSV. The SSS intervention trains potential informal supports on what to say and not to say to survivors in addition to increasing their victim empathy and reducing their victim blame. Although the primary target of the SSS program is social reactions to disclosures (Edwards et al., 2020a), a potential secondary outcome is reduced psychological distress in program participants who are subsequently victimized. The purpose of the current study was to assess whether a two-session, face-to-face social support intervention (i.e., SSS) would confer psychological benefits for participants who subsequently experienced DSV victimization.

Although a number of factors increase the likelihood that college student survivors will develop symptoms of depression and PTS following victimization, one robust predictor of deleterious outcomes among survivors—which may be reduced by the SSS intervention—is self-blame (i.e., the extent to which survivors feel that they are responsible for the DSV incidents[s]) (Carey et al., 2018; Kline, Berke, Rhodes, Steenkamp, & Litz, 2018; Peter-Hagene & Ullman, 2018; Ullman, Filipas, Townsend, & Starzynski, 2007). Cognitive-behavioral theories of trauma recovery offer several potential explanations for associations between self-blame and negative psychological outcomes. Resick and colleagues (2014) theorized that PTS symptoms are more likely when survivors struggle to accommodate (i.e., reconcile) the trauma into existing schemas, such as beliefs that the self is worthy and the world is just (Janoff-Bulman, 1979). Instead, many survivors engage in assimilation, or attempts to retain prior beliefs (e.g., *bad things only happen to bad people*) by modifying their thinking about the trauma in a distorted manner to align with these beliefs (e.g., a bad thing happened, so I must have done something bad to cause it; Resick et al., 2014). These assimilated beliefs about blame are then thought to provide the basis for other distorted beliefs about oneself, other people, and the world (e.g., *I can no longer trust myself*). In addition, learned helplessness theory (Seligman, Abramson, Semmel, & Von Baeyer, 1979) suggests that viewing the cause of negative events as internal, global, and stable—as may be seen with self-blame—can lead to depressive symptoms.

College students who participate in DSV programs that aim to reduce victim blame and who experience a subsequent victimization may be less likely to develop deleterious outcomes compared to DSV survivors who do not participate in such programs. In fact, some preliminary data to support this hypothesis has emerged from feminist-empowerment sexual assault risk reduction and resistance programming. This type of programming teaches women how to recognize risk and respond assertively to unwanted sexual advances, and includes components that seek to reduce victim blame (Orchowski et al., 2018). In a study evaluating one such a program's effects, women in the treatment condition who were sexually assaulted during the follow-up period reported less self-blame relative to women in the control condition who were sexually assaulted during that period (Gidycz et al., 2015). Moreover, in a study of Canadian college women who participated in a sexual assault resistance program, results suggested that women in the treatment group, relative to the control group, reported reduction in victim blaming (Senn et al., 2017). Only one study to our knowledge has examined how participation in a risk reduction programming impacts subsequent victims' psychological distress beyond self-blame (Mouilso, Calhoun, & Gidycz, 2011). In this study, Mouilso et al. (2011) found that women who were in the treatment condition and sexually revictimized during the four-month follow-up were less likely to have PTS symptoms than comparable women in the control condition. Taken together, this evidence suggests that participation in feminist-empowerment sexual assault risk reduction and resistance programming reduces victim blaming and PTS symptoms in program participants compared to control participants.

In addition to reducing negative social reactions (e.g., blaming the survivor, not believing the survivor) (the primary outcome of the trial), programs such as the SSS program may have a therapeutic benefit on program participants, thus reducing deleterious outcomes following subsequent victimization (secondary outcomes of this trial). More specifically, in the SSS program, participants learn about the harmful nature of negative social reactions and how these should always be avoided when responding to DSV survivors. As part of this, the SSS program targets victim-blaming attitudes. This may help program participants who are subsequently victimized not internalize such victim-blaming messages, resulting in reduced self-blame and ultimately, less psychopathology. In addition, the SSS program emphasizes the importance of not encouraging survivors to avoid emotions and memories related to the victimization, but instead acknowledging survivors' emotions and providing a safe space to process difficult memories. This may help subsequently-victimized participants adopt these types of approach-oriented coping strategies and seeking out positive forms of social support, thus reducing the likelihood that symptoms of depression and PTS will develop. Although the larger trial did not assess these possible mechanisms, the trial's assessment of victimization and associated psychological symptoms among participants at follow-up permits the examination of whether the SSS program may have protected subsequently-victimized participants from developing deleterious victimization-related mental health outcomes.

Current Study

In sum, there is preliminary data that sexual assault risk reduction and resistance programming may reduce self-blame and PTS symptoms in survivors. However, the extent

to which other types of programs, such as the SSS program, may lead to similar benefits is unknown. Moreover, to our knowledge, DSV programming with college students has not examined the extent to which these types of programs impact symptoms of depression, a common outcome of DSV (Carey et al., 2018; Edwards et al., 2015; Fossos et al., 2011; Hughes et al., 2010; Shields, 2018). Finally, all studies to date examining secondary outcomes of program participation have focused exclusively on female survivors only (and excluded male survivors) and have been specific to sexual assault only (and not inclusive of partner violence as well). The purpose of the current study was to address these gaps in the literature by examining secondary effects of a program designed to improve social reactions to sexual and partner violence disclosures. We hypothesized that participants who attended the SSS intervention and were victimized during the 6-month period prior to follow-up would report less PTS symptoms (H1), less depressive symptoms (H2), and less self-blame (H3) than control condition participants. As an exploratory aim, we also examined victimization type and gender as moderators of program effects.

Method

Procedures

This study is an analysis of secondary outcome data from a randomized controlled trial (Edwards et al., 2020b). The trial took place at a residential, medium-size public university in the northeastern United States and received approval from the university's Institutional Review Board. The university's Dean of students sent emails to randomly selected, full-time, undergraduate students between the ages of 18 and 24 on the behalf of the researchers. These emails (initial and two reminders) were sent via mass email to 7,000 students in four batches across four weeks in the fall of 2018. We also sent an email from the research team to all professors at the University with classes greater than 60 students ($n = 205$ professors), as identified by the course catalog. Lastly, we posted fliers in residence halls and other shared spaces about the study. Overall, 1,831 students started the baseline survey, of whom 1,268 consented to and completed the survey. In the current paper, participants were 187 full-time undergraduate students from a university in the northeastern United States who reported at least one form of DSV in the six months following implementation of the program, prior to the follow-up (Time 2) survey.

Participants first completed the baseline survey (Time 1). An average of two weeks later, those in the intervention group participated in the first intervention session followed by the booster session one month later. The follow-up survey (Time 2) occurred 6 months after the first intervention session, and, for control participants, 6 months and 2 weeks after their baseline survey (to ensure receipt of email at times comparable to intervention participants). We sent participants up to eight total text, email, and call reminders to remind them to complete the Time 2 survey.

We utilized a randomized control trial design in which participants ($N = 1,268$) were randomly assigned to either the treatment condition or the wait-list control condition. Qualtrics randomized participants into intervention and control groups. Participants were initially randomized at a 50/50 rate to the intervention and control conditions. However, we found that rates of intervention attendance were lower than expected. Thus, in order to

achieve desired numbers of intervention participants, when we reached over 400 in the control group, we began assigning 100% of participants who were randomly selected to be emailed to the intervention group. Because participants recruited via professors and fliers were not randomly selected, these participants were always randomized 50/50. Thus, of the 187 participants in the present sample, 63.1% of participants were assigned to the intervention condition ($n = 118$) and 34.1% were assigned to control ($n = 69$). Because many participants ($n = 66$; 55.9% of participants invited) assigned to the treatment condition did not attend the actual intervention, we created three groups for the analyses: control ($n = 69$), treatment attender (Tx-Attender; $n = 52$), treatment non-attender (Tx-Nonattender; $n = 66$).

Participants

Participants¹ were 187 full-time undergraduate students from a university in the northeastern United States who reported at least one form of DSV in the six months following implementation of the program, prior to the T2 survey. The mean age of participants was 19.5 ($SD = 1.2$; range 18–23). Of the sample, participants' year in school was: 27.8% first year ($n = 52$), 24.6% second year ($n = 46$), 26.2% third year ($n = 49$), and 21.4% fourth year ($n = 40$). Three-quarters of students identified as a woman (77.0%; $n = 144$), 23.0% identified as a man ($n = 43$). Although we gave options for non-binary identity and to self-identify, no students identified as a gender other than woman or man. Participants were 91.9% White ($n = 170$), 3.7% Asian/Asian American ($n = 7$), 1.6% Black/African American ($n = 3$), and 2.7% Multiracial ($n = 5$). Seven percent were Hispanic/Latino ($n = 13$). Participants were 88.6% heterosexual/straight ($n = 164$) and 11.4% sexual minority (i.e., lesbian, gay, bisexual, another non-heterosexual identity) ($n = 21$).

Baseline Equivalence

We conducted a series of chi-squares and t -tests to examine the equivalence of baseline demographic and outcome measures between participants in the intervention ($n = 118$) and control ($n = 69$) conditions. At baseline, participants in the control condition were more likely to be men and to be in their first year of college. Groups did not differ at baseline on any other study variable, including victimization history at baseline: among intervention condition, 63.6% experienced lifetime intimate partner violence (IPV) ($n = 75$) and 55.6% experienced lifetime sexual assault ($n = 65$); among control condition, 63.2% experienced lifetime IPV ($n = 43$) and 48.5% experienced lifetime sexual assault ($n = 33$). Thus, we control for gender and year in college in the current analyses.

Measures

DSV victimization.—Participants responded to two questions asking if they had experienced unwanted sexual contact or unwanted sexual intercourse (0 = *no*, 1 = *yes*) during the past six months (Banyard, Ward, Cohn, Moorhead, & Walsh, 2007; Ward, Chapman, Cohn, White, & Williams, 1991). Participants also responded to four questions asking if they had, in the past six months, experienced psychological or physical IPV (0 = *no*, 1 = *yes*), for example, “My partner insulted or swore or shouted or yelled at me”. These

¹The percentages describing participants do not include participants who refused to answer the question. Participant refusal on these questions was small, ranging from 3 participants (0.2%) to 13 participants (1.0%).

questions were taken from the Revised Conflict Tactics Scale (Straus & Douglas, 2004). Thus, participants who answered affirmatively to any of the DSV victimization questions were included in the sample of 187 used for analyses in the current paper. Additionally, we created an indicator of victimization that included physical partner violence victimization and/or unwanted sexual intercourse during the past six months (*any* = 1; *none* = 0). In other words, we excluded psychological IPV items as well as the item about unwanted sexual contact so that the indicator included physical IPV and unwanted sexual intercourse only.

Posttraumatic stress symptoms.—At Time 1 and Time 2, participants responded to the PTSD Checklist for DSM-5 (Weathers et al., 2013). At Time 1, participants who reported SA or PA in their lifetime answered questions about the most traumatic/emotional/intense experience of SA or PA in their lifetime, whereas participants who did not report SA or PA answered questions about the most traumatic/stressful experience in their lifetime. At Time 2, participants who reported SA or PA in the past six months answered questions about the most traumatic/emotional/intense experience of SA or PA in the past six months. Twenty items such as “How much were you bothered by repeated, disturbing, and unwanted memories of the stressful experience?” asked about in the past month. Response items ranged from 1 = *not at all* to 5 = *extremely*. Final score was a sum of items. Reliability was $\alpha = .95$ at Time 1 and $\alpha = .94$ at Time 2. This scale had four subscale which were coded in the same way: *Intrusion/Re-experiencing* (5 items; “Repeated, disturbing dreams of the stressful experience?”), *Avoidance* (2 items; “Avoided memories, thoughts, or feelings related to the stressful experience?”), *Changes in Cognition and Mood* (7 items; “Lost interest in activities that you used to enjoy?”), and *Hyperarousal* (6 items; “Feeling jumpy or easily startled?”). Subscales’ reliability ranged from .79 to .89 at Time 1 and .75 to .87 at Time 2.

Depression.—Participants responded to the modified, 7-item Center for Epidemiologic Studies Depression Scale (Mirowsky & Ross, 1990), with items such as “I felt that I could not shake off the blues”. Response items ranged from 0 = *rarely or none of the time* to 3 = *most or all of the time* with final scores a sum of the items. Reliability was $\alpha = .89$ at Time 1 and $\alpha = .91$ at Time 2.

Self-blame.—Participants who reported DSV victimization in the past 6 months were asked, “How much would you say you blame yourself for what happened to you?” Response items ranged from 1 = *not at all* to 5 = *completely*.

Analysis Plan

Main effects.—Treatment main effect analyses compared participants in the treatment group who attended the intervention (Tx-Attender; $n = 52$) to both: (a) participants who were invited to the treatment but who did not attend (Tx-Nonattender; $n = 66$) and (b) participants in the control group ($n = 69$). We conducted ANCOVA analyses in SPSS with contrasts to compare the three groups using the /LMATRIX subcommand. Covariates were gender and year in college (based on baseline equivalency differences) and the T1 score on the outcome variable. Dependent variables included overall PTS symptoms, four PTS subscales, depressive symptoms, and self-blame.

Moderation.—We evaluated victimization type (Psychological IPV and/or unwanted sexual contact = 129, Physical IPV and/or unwanted sexual intercourse = 58) and gender (Woman = 144, Man = 43) as potential moderators of intervention effects on outcomes. Analyses included operationalizing intervention condition as two dummy codes: Tx-Attender (1) vs. Control (0) and Tx-Attender (1) vs. Tx-Nonattender (0). These dummy-coded variables were included in a regression model with covariates consistent with the covariates in the main effect analysis, main effect of the moderator, and the two interactions of interest (i.e., interaction between each dummy-coded treatment variable and moderator). For example, for gender, we included both gender \times Control and gender \times Tx-Nonattender in the model. Victimization type and gender were tested in separate models. In cases of significant interactions, the SAS PROCESS macro (Version 26) was used to probe the direction of the interaction by looking at the simple effect of the intervention at both levels of the moderator. We also used the SAS PROCESS macro to determine the R^2 change for each individual interaction.

Results

A total of 187 participants experienced at least one form of DSV in the prior 6 months at follow-up. Regarding types of partner violence experienced by these participants, 133 (71.1%) experienced any IPV, 133 (71.1%) experienced psychological IPV, and 27 (14.4%) experienced physical IPV. With regard to types of sexual violence experienced by these participants, 80 participants (42.8%) experienced any sexual assault, 71 (38.0%) experienced unwanted sexual contact, and 37 (19.8%) experienced unwanted sexual intercourse. Finally, 58 participants (31.0%) experienced any physical IPV victimization and/or any unwanted sexual intercourse.

Main effects results are provided with adjusted means in Table 1. Contrary to hypotheses (H1-H3), we did not find group differences in PTS (overall nor among the subscales), depression, or self-blame. Exploratory analyses for victimization type are depicted in Table 2. The R^2 change (second column) indicates whether the change in explained variance due to that interaction is significant. The interaction with the control group (e.g., type \times Control) is written first and the interaction with the Non-attender group (e.g., type \times Tx-Nonattender) is written second. Results indicated that victimization type significantly moderated intervention effects for three outcomes: overall PTS, PTS-avoidance, and PTS-changes in cognition and mood. For these significant interactions, we probed the adjustment means and simple effects (see Table 1). Results from simple effects analyses are illustrated in Figures 1–3 and suggested that the intervention led to fewer PTS symptoms among participants experiencing physical IPV and/or unwanted sexual intercourse, compared to participants in control and no-attend groups. This effect was not present among participants who experienced psychological IPV and/or unwanted sexual contact. Exploratory analyses for gender interactions are similarly depicted in Table 3. Gender did not moderate intervention effects.

Discussion

The purpose of the current secondary data analysis was to assess whether a social support intervention would confer psychological benefits for participants who subsequently experienced DSV victimization. Results indicated that, contrary to hypotheses (H1-H3), no overall intervention effect was identified for PTS symptoms, depressive symptoms, or self-blame. However, significant intervention effects were found for those who experienced physical IPV and/or unwanted sexual intercourse, such that, compared to those who did not receive the intervention, those who received the intervention and were subsequently victimized reported fewer PTS symptoms. The fact that individuals who experienced psychological IPV and/or unwanted sexual contact did not evidence a treatment effect could be because they may have had less severe symptoms, and therefore may have had less room for improvement.

In addition to overall effects on PTS symptoms among individuals who experienced physical IPV and/or unwanted sexual intercourse, the intervention evidenced some cluster-specific effects on PTS symptoms. First, the intervention led to reductions in avoidance symptoms among those who were subsequently victimized. This may be because intervention participants were more likely to seek social support following their victimization (therefore not avoiding engagement with others). In addition, the intervention content emphasized the importance of supporting survivors in experiencing and not avoiding negative emotions and memories, which might have led subsequently victimized participants to adopt a similar coping strategy. Second, the intervention led to reductions in the PTS symptom cluster of changes in cognition and mood. This suggests that the intervention had an effect on various cognitions, including negative beliefs about oneself, others, and the world, rather than exerting a specific effect on self-blame only. In fact, we did not find that the intervention had an effect on self-blame, although this could be due to the fact that we measured this construct with a single-item indicator.

Other hypotheses were also not supported. We did not identify an intervention effect for PTS arousal symptoms, which are notably some of the most difficult and resistant to treatment (Stein, Dickstein, Schuster, Litz, & Resick, 2012); thus, it makes sense that a brief intervention such as the SSS would not reduce this specific symptom cluster. In addition, inconsistent with hypothesis (H2), no intervention effect was identified for depressive symptoms. Depressive symptoms were not measured specific to traumatic experiences in the present study and may be influenced by a number of factors not sufficiently addressed by a social support intervention. However, these null findings should be interpreted with caution. The trial was powered to detect differences in the primary outcomes for the full sample of participants, and not the secondary outcomes tested in a subsample of participants in this analysis, so it is possible we were underpowered to detect these effects.

Limitations and Future Research

Despite the study's contributions, several limitations must be noted. The sample lacked diversity with respect to race, ethnicity, gender identity, and sexual identity. Future studies should explore these phenomena among more diverse samples. Self-blame was measured with a single item; future studies could explore self-blame using validated measures such as

the Rape Attributions Questionnaire (Frazier, 2003) including potential subscales of self-blame (i.e., behavioral vs. characterological). We explored gender and victimization severity as moderators separately, but it is possible that the interaction between severity and intervention group was further moderated by gender. Unfortunately, our sample size was too low to test this potential three-way interaction. The small sample size, in addition to unequal groups of men and women, likely limited power to find statistically significant effects, and may be a reason we did not find gender differences in the current analysis. Future research should seek to replicate our results with larger sample sizes. Future research should also explore potential mechanisms for reductions in PTS avoidance and cognitive/mood symptoms among those attending a social-support intervention. Some examples include: reductions in disgust, increases in positive attitudes toward disclosing DSV experiences, actual increases in disclosure of DSV and higher social support engagement, or reductions in social avoidance. We were not able to include these measures in the current study due to concerns about survey length and the need to prioritize measures associated with our primary outcomes (Edwards et al., 2020b). In addition, future research could compare SSS to other violence intervention and prevention programs to determine whether there are unique benefits of a social support-focused program for survivors, or whether enhanced knowledge of DSV, and open forums in which these topics can be discussed, generally contributes to reductions in PTS symptoms. Finally, it is important to note that victims of DSV were asked to answer the PTSD Checklist for DSM-5 with regard to their DSV experiences rather than asking participants to answer the measure based on the most upsetting experience in their lifetime. The extent to which the findings may have varied if this alternative measurement strategy was used is unknown and warrants future research.

Clinical Implications

Overall, results suggest that interventions aimed at providing social support to survivors may confer some potential benefits for individuals who are subsequently victimized, possibly mitigating PTS symptoms such as avoidance and negative changes in mood and cognition. Given that the majority of college students do not seek counseling services for DSV experiences (Orchowski & Gidycz, 2012; Sylaska & Edwards, 2014), it is important to identify alternative options, such as group-based programming, that could help to mitigate deleterious outcomes associated with DSV. In the current study, we found that these were positive results secondary to the intended program aims of increasing supportive responses to disclosures of DSV, and may reflect the benefits of voicing and hearing others discuss the importance of believing and supporting survivors as well as positive forms of social support. These are topics that may not be widely discussed within college students' social networks and warrant a dedicated space to address.

Conclusion

Given the high rates and negative outcomes associated with DSV experiences, there is an urgency to identify cost-effective interventions that can mitigate the negative outcomes associated with these forms of violence. In the current study, results suggested that although no reductions in self-blame or depressive symptoms were observed as a function of intervention condition among subsequent victims, the intervention led to lower levels of overall PTS for participants experiencing physical IPV and/or unwanted sexual intercourse

in the treatment versus those in the control condition. In sum, the SSS intervention, which is aimed at providing social support to survivors, may lead to some benefits for individuals who are subsequently victimized.

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Clinical impact statement:

These findings suggest that a program to improve social reactions among disclosure recipients may also be helpful in reducing PTS symptoms among individuals who experience unwanted sexual intercourse and/or physical intimate partner violence.

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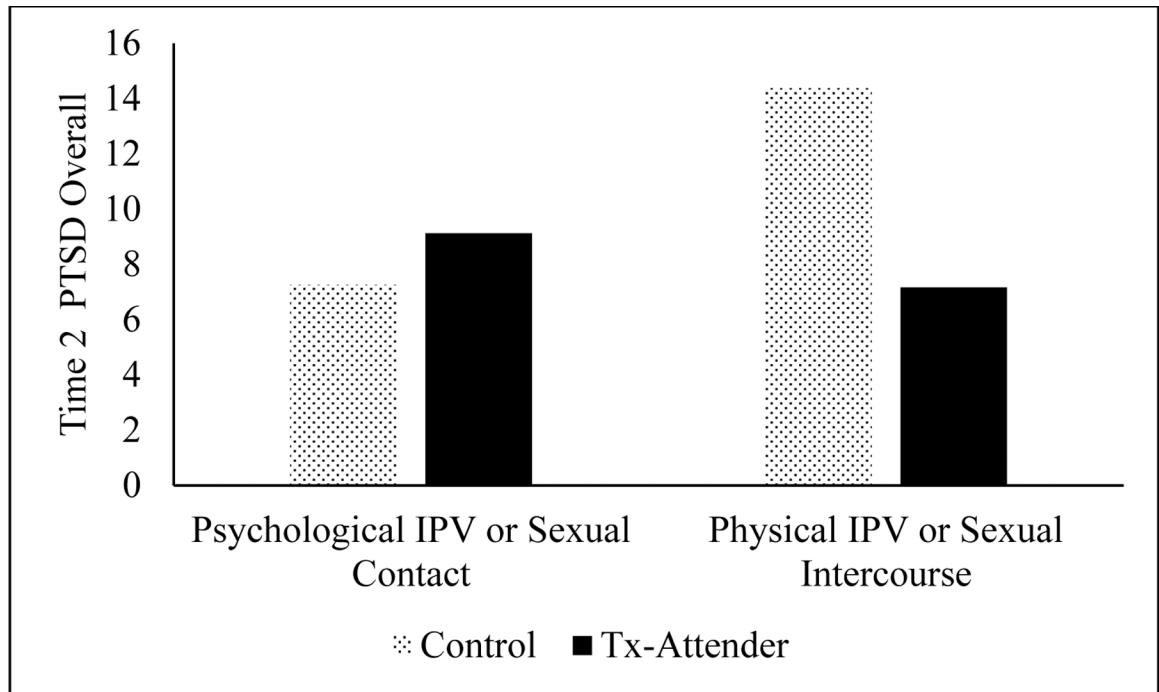


Figure 1. Type of victimization moderated intervention effects on changes in PTSD scores over the follow-up period. Neither simple effect significance.

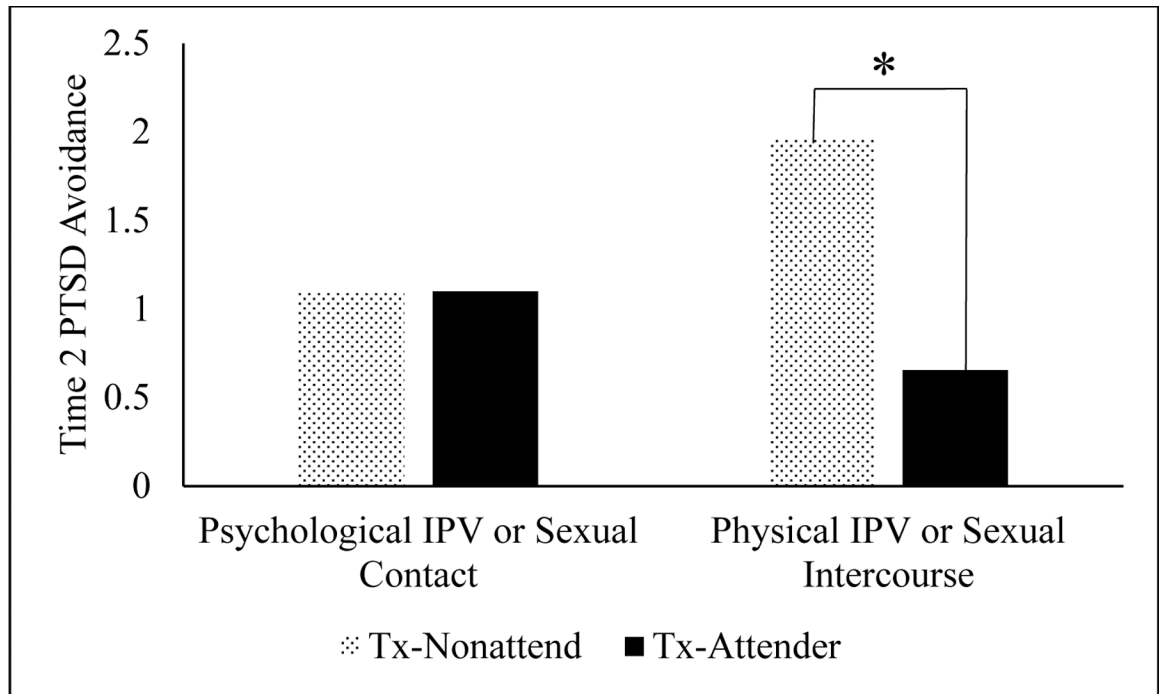


Figure 2. Type of victimization moderated intervention effects on changes in PTSD avoidance scores over the follow-up period. * $p < .05$

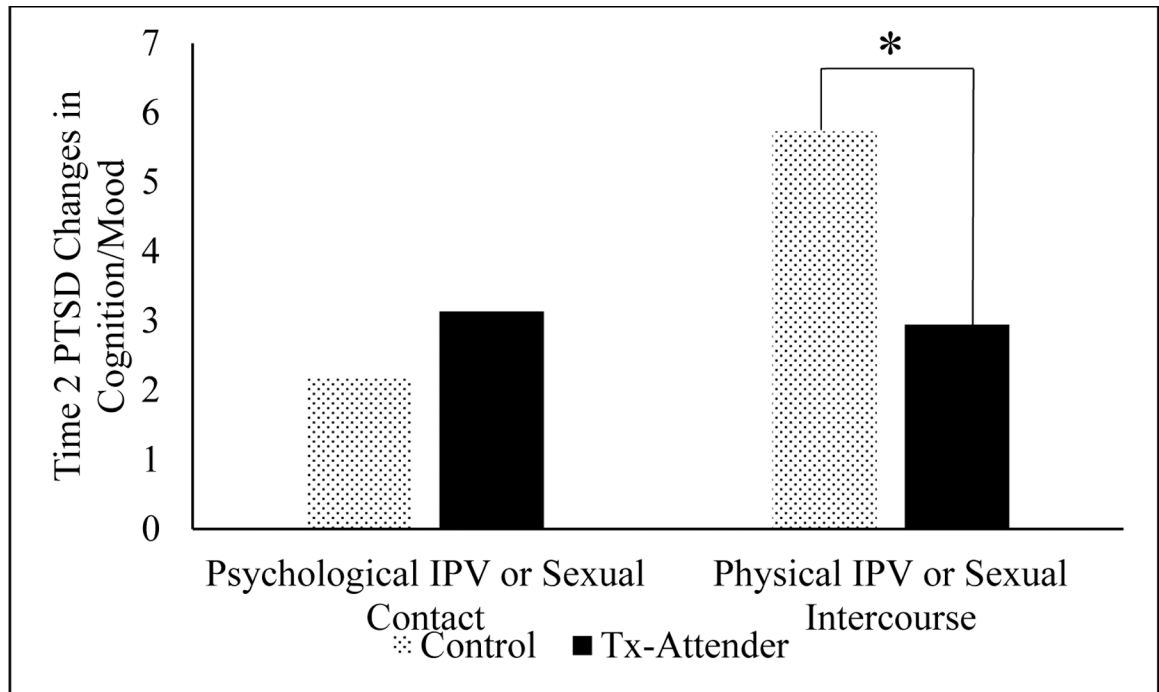


Figure 3. Type of victimization moderated intervention effects on changes in PTSD cognition and mood scores over the follow-up period. * $p < .05$

Main Effects Results

Table 1.

| | Control | Tx-Nonattender | Tx-attender | Effect size (<i>p</i> value) |
|-------------------------------|-----------------------|-----------------------|-----------------------|----------------------------------|
| | <i>M</i> (<i>n</i>) | <i>M</i> (<i>n</i>) | <i>M</i> (<i>n</i>) | |
| PTSD (overall) | 8.41 (68) | 9.75 (65) | 8.12 (52) | .01 (.46) |
| Intrusion/Re-experiencing | 1.90 (68) | 2.37 (65) | 2.00 (51) | .00 (.78) |
| Avoidance | 0.91 (68) | 1.34 (65) | 0.96 (51) | .01 (.33) |
| Changes in cognition and mood | 2.99 (68) | 3.26 (65) | 3.14 (51) | .01 (.46) |
| Hyperarousal | 2.57 (67) | 2.78 (65) | 2.13 (52) | .01 (.49) |
| Depression | 8.50 (66) | 7.25 (65) | 9.33 (51) | .02 (.24) |
| Self-blame | 2.29 (55) | 2.35 (54) | 2.32 (44) | .00 (.94) |

Note. Covariates were gender and year in college (based on baseline equivalency differences). We also controlled for the outcome at T1. Effect size is measured by eta squared; .02 is considered a small effect.

Table 2.

Moderation of Intervention Effects on Outcomes by Victimization Type

| Outcome | R^2 Change | | Adjusted Means by Group | | | | | | | | | | | | Simple Effects | | | |
|----------------------------------------|--------------------------|----------------------------------|--------------------------|----------------------------------|-------|-------|----------------|-------|--------------------------|----------------------------------|-------------|-------|--------------------------|----------------------------------|----------------|-------|-------------------------------------------------------------|--------------------------------------------------------------|
| | | | Control | | | | Tx-Nonattender | | | | Tx-Attender | | | | | | | |
| | Psych IPV Sex Contact | Phys IPV Sex Inter- course | Psych IPV Sex Contact | Phys IPV Sex Inter- course | Adj M | Adj M | Adj M | Adj M | Psych IPV Sex Contact | Phys IPV Sex Inter- course | Adj M | Adj M | Psych IPV Sex Contact | Phys IPV Sex Inter- course | Adj M | Adj M | $b(SE)$ of intervention effect at low level of moderator | $b(SE)$ of intervention effect at high level of moderator |
| PTSD overall | .02*/.01 | 14.37 | 7.26 | -- | -- | -- | 14.37 | -- | -- | -- | 9.12 | 7.16 | 1.86 (2.67) | -- | -- | -- | -- | -7.21 (3.73) |
| PTS: Intrusion/ Re-experiencing | .01/.01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| PTSD: Avoidance | .02/.02* | -- | -- | -- | -- | 1.09 | 1.95 | -- | 1.10 | 0.65 | 3.13 | 2.95 | 0.01 (0.39) | 0.97 (0.98) | -- | -- | -- | -1.30 (0.53)* |
| PTS: Changes in Cognition/Mood | .02*/.00 | 5.73 | 2.16 | -- | -- | -- | 5.73 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -2.78 (1.35)* |
| PTS: Hyperarousal | .02/.00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Depression | .00/.00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Self-blame | .00/.00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

Note. R^2 change is the change in R^2 due to the interactions (type \times Control/type \times Tx-Nonattender). Covariates were gender and year in college (based on baseline equivalency differences). We also controlled for the outcome at T1. Adjusted means and simple effects are reported for significant interactions only. The simple effects of the intervention are depicted at both levels of the dichotomous moderator (i.e., victimization type)

* $p < .05$.

Table 3.

Moderation of Intervention Effects on Outcomes by Gender

| Outcome | <i>R</i> ² Change | Adjusted Means by Group | | | | | | Simple Effects | |
|-------------------------------------|------------------------------|-------------------------|--------------|----------------|--------------|--------------|--------------|--------------------------------------------------------|---------------------------------------------------------|
| | | Control | | Tx-Nonattender | | Tx-Attender | | b(SE) of intervention effect at low level of moderator | b(SE) of intervention effect at high level of moderator |
| | | Woman | Man | Woman | Man | Woman | Man | | |
| | | <i>Adj M</i> | <i>Adj M</i> | <i>Adj M</i> | <i>Adj M</i> | <i>Adj M</i> | <i>Adj M</i> | | |
| PTSD overall | .00/.00 | -- | -- | -- | -- | -- | -- | -- | -- |
| PTSD: Intrusion and Re-experiencing | .00/.00 | -- | -- | -- | -- | -- | -- | -- | -- |
| PTSD Avoidance | .01/.01 | -- | -- | -- | -- | -- | -- | -- | -- |
| PTSD: Changes in cognition and mood | .00/.00 | -- | -- | -- | -- | -- | -- | -- | -- |
| PTSD: Hyperarousal | .00/.00 | -- | -- | -- | -- | -- | -- | -- | -- |
| Depression | .00/.00 | -- | -- | -- | -- | -- | -- | -- | -- |
| Self-blame | .00/.01 | -- | -- | -- | -- | -- | -- | -- | -- |

Note. *R*² change is the change in *R*² due to the interactions (gender × Control/ gender × Tx-Nonattender). Covariates were gender and year in college (based on baseline equivalency differences). We also controlled for the outcome at T1. Adjusted means and simple effects are reported for significant interactions only. The simple effects of the intervention are depicted at both levels of the dichotomous moderator (i.e., gender)