SEXUAL VIOLENCE, COPING SELF-EFFICACY, AND ATTACHMENT AS PREDICTORS OF POSTTRAUMATIC STRESS IN EMERGING ADULTS

A thesis presented to the faculty of the Graduate School of
Western Carolina University in partial fulfillment of the
requirements for the degree of Master of Arts in Psychology

By

Jessie Elizabeth Phillips

Director: Dr. Kia K. Asberg
Professor of Psychology
Psychology Department

Committee Members:
Dr. Brianna M. Byllesby, Psychology
Dr. David Solomon, Psychology

April 2022

ACKNOWLEDGEMENTS

Firstly, I would like to thank my thesis committee for their support through this process. Specifically, I extend my appreciation to Dr. Kia Asberg for her guidance and direction through this journey. Her insightful comments and helpful suggestions have continued to facilitate my interest in trauma research. I look forward to exploring more research endeavors with her in the SVEA lab as I continue into the PsyD program.

I would also like to extend my sincerest thanks to a few people who have made this journey possible. Thank you to my wonderful mother, Deanna, for being my number one fan and supporting me in all my endeavors. I would like to thank my sweet friends, Anna and Terran, who I can always count on to bring a smile to my face. I truly do not think I would have made it through this program without them. Lastly, my utmost appreciation and gratitude goes to my boyfriend, Jordan, for always supporting me, being my biggest cheerleader, and encouraging me to chase my dreams.

TABLE OF CONTENTS

ABSTRACT

SEXUAL VIOLENCE, COPING SELF-EFFICACY, AND ATTACHMENT AS PREDICTORS OF POSTTRAUMATIC STRESS IN EMERGING ADULTS

Jessie E. Phillips, B.S.

Western Carolina University (April 2022)

Director: Dr. Kia Asberg

Interpersonal trauma (e.g., intimate partner violence, sexual assault, and childhood abuse) can play a significant role on one's mental representations of the self and others (Fowler et al., 2013; Sandberg et al., 2009). A substantial number of individuals are exposed to potentially life-threatening events through the course of their lives (27%; Shors & Millon, 2016), and yet they are able to persevere and cope with the trauma (i.e., they evidence *resilience*; Bonanno, 2008). Similarly, one may expect that a person with a history of sexual victimization would develop a negative schema about the world and self; however, research suggests only 8 to 15 percent of individuals experience persistent posttraumatic stress (PTS; Bistricky et al., 2017). The discrepancy between the significant number of people who have experienced trauma, including sexual violence, and those who develop PTS and other adverse outcomes suggests the presence of variables that impact or explain the association. Two such variables are coping self-efficacy and attachment security (Altan-Atalay & Sohtorik Ilkmen, 2020). For example, adult attachment partially mediated the association between past interpersonal trauma and depression severity (Fowler et al., 2008), while Cieslak et al. (2008) found that coping self-efficacy mediated the effects of negative cognitions on posttraumatic distress. Likewise, reviews (e.g., Mikulincer et al., 2015) generally concluded that "insecure attachment appears to increase vulnerability for

developing posttraumatic stress symptoms" (Barazzone et al., 2019, p. 140). The interplay among attachment behaviors and coping self-efficacy expectancies in the prediction of PTS is less understood, especially in the context of sexual violence.

The present study investigated coping self-efficacy and attachment security as potential protective factors against the development of posttraumatic stress in survivors of sexual victimization. In this study, 205 college students (M = 19.07 years, SD = 1.62 years) completed self-report measures of sexual victimization, coping self-efficacy, and attachment. Of that sample, 111 participants (M = 19.19, SD = 1.62) reported at least one experience of sexual victimization. The primary analyses were conducted using this subsample of 111 that endorsed the relevant sexual experiences and a self-report measure for posttraumatic stress (PLC-5) was only obtained from this group. The main hypotheses of this study were that coping self-efficacy and attachment security would indirectly impact the association between frequencies of sexual victimization and symptoms of posttraumatic stress. As expected, coping self-efficacy and attachment security, respectively, were found to mediate the association between sexual victimization and posttraumatic stress in the subsample. This evidence supports that coping self-efficacy and attachment security serve as protective factors for the development of posttraumatic stress in the aftermath of sexual violence. Furthermore, these findings may aid in interventions for survivors of sexual violence in order to decrease posttraumatic stress symptomatology.

INTRODUCTION

Sexual Violence and Posttraumatic Stress

Trauma directly caused by another person is known as interpersonal violence and puts a survivor at greater risk for developing posttraumatic stress, compared to individuals who experienced traumatic events not involving others (e.g., car accidents; Morris et al., 2020). While a majority of the literature focuses on adverse outcomes of traumatic events, there is research to support that many survivors demonstrate resilience and only experience posttraumatic stress symptomatology in the few weeks and months following the traumatic event (Bonanno, 2008; Masten, 2001). This affirms findings of Frazier and colleagues (2001) that survivors of sexual assault reported positive changes and greater appreciation for life two weeks after their attack. Compared to other forms of interpersonal violence, sexual violence is highly associated with posttraumatic stress (Mahoney et al., 2019). Sexual violence is typically used as an inclusive term and is defined as sexual acts perpetrated on a nonconsenting individual (Mahoney et al., 2019; Shors & Millon, 2016). This includes deliberate sexual touching and nonphysical sexual acts. Rape and sexual assault are more specifically defined as forced or threatened penetration, or physical and verbal coercion, which can be done while the victim is incapacitated. According to the Centers for Disease Control, one in four women experienced unwanted sexual contact, while one in five women and one in seven men were raped before age 25 (Mahoney et al., 2019).

Survivors of sexual violence often report negative cognitions about themselves and the world, which exacerbates the development of posttraumatic stress symptomatology and makes treatment efforts more difficult (Shors & Millon, 2016). Common posttraumatic stress symptomatology includes reexperiencing trauma and avoidance of significant reminders of the traumatic event, as well as hypervigilance and negative mood or negative cognitions about the

self (Shors & Millon, 2016). Kessler et al. (2014) investigated the risk of developing PTSD following sexual violence and found that although rape and sexual assault was infrequently reported, it was strongly associated with PTSD symptomatology. Individuals dealing with posttraumatic stress often experience symptomatology that impairs their ability to cope and leads to negative perceptions of the self. For example, a woman experiencing intrusive thoughts, social isolation, and hyperarousal following a sexual assault is likely to perceive herself as incompetent and develop negative cognitions about herself. The negative cognitions adversely affect her ability to engage in adaptive coping mechanisms; however, with coping self-efficacy as a protective factor she may be able to overcome and begin her path to recovery. Given the staggering number of individuals who experience sexual violence, it is imperative to examine the protective factors that may diminish the development of posttraumatic stress.

Coping Self-Efficacy

Coping self-efficacy (CSE) reflects a person's confidence in their ability to manage stress and cope with problems related to their trauma (Chesney et al., 2006). CSE is related to one's perceived ability to manage their problems, rather than the methods and techniques used to cope. Moreover, coping self-efficacy derives from an individual's need of control in their life (Benight & Bandura, 2004), which perpetuates an individual's motivation to effectively cope with their trauma or, conversely, partake in debilitating behaviors (Bosmans & van der Velden, 2015). Individuals with high coping self-efficacy are more apt to motivate themselves, less vulnerable to stress, and more resilient when adverse situations occur (Benight & Bandura, 2004). Conversely, those with low coping self-efficacy are hypersensitive to stressful stimuli, feel unable to manage stress, and experience more severe psychological dysfunction.

A key aspect of CSE is the belief that one is able to handle the internal and external demands placed on an individual in the aftermath of trauma (Mahoney et al., 2019). The perceived ability to control and reduce negative emotional states related to the traumatic event leads to significant recovery outcomes. The degree to which one perceives they have control over responses to their traumatic event not only reduces stress in the moment, but also serves as a protective factor and a predictor of long-term recovery of posttraumatic stress (Bosmans & van der Velden, 2015). Those with higher coping self-efficacy are likely to partake in more adaptive coping mechanisms, thereby reducing posttraumatic stress, which reinforces their ability to cope.

Based on Social Cognitive Theory, individuals exposed to trauma are consciously evaluating their emotional and behavioral responses related to the traumatic event, as well as their posttraumatic stress symptoms (Benight & Bandura, 2004). This process of self-regulation aids individuals by guiding their behavior in ways that promotes growth and well-being following a traumatic event, therefore exhibiting the utilization of coping self-efficacy. This core belief is rooted in the fact that the individual has the ability, or the power, to guide their behavior which leads to more desirable outcomes (e.g., diminished posttraumatic stress; Benight & Bandura, 2004).

Cieslak et al. (2008) conducted two studies that investigated the association between coping self-efficacy and posttraumatic stress following a traumatic event. In addition to coping self-efficacy, participants' negative cognitions about themselves, the world, and self-blame were measured. The study examined 66 female participants who experienced childhood sexual abuse and dealt with posttraumatic stress. Results indicated coping self-efficacy mediated the effect negative cognitions had on posttraumatic stress. Furthermore, participants with higher coping self-efficacy had lower levels of posttraumatic stress, despite their high levels of negative

cognitions about themselves and the world (Cieslak et al., 2008). This study indicated the significant power coping self-efficacy may have in diminishing one's posttraumatic stress.

Mahoney et al. (2019) investigated the association between CSE and PTSD symptomatology in 518 survivors of sexual violence. The results indicated CSE mediated the association between sexual violence and PTSD symptoms, thereby demonstrating diminished symptoms that may serve as a protective factor in the development of such symptoms. The results also suggested participants with high levels of CSE were able to retain a sense of control in managing their trauma and had an enhanced adaptive recovery from their sexual assault (Mahoney et al., 2019). Consistent with other research (Benight & Bandura, 2004), the researchers reported a negative association between CSE and posttraumatic stress over time.

Similar to coping self-efficacy, the development of one's attachment behaviors are greatly impacted by the interactions with their environment and establishes the internal working model of the self or others, thereby driving the strategies used when responding to traumatic events (Bosmans & van der Velden, 2015; Mikulencer & Shaver, 2016).

Attachment and Adaptations

Various patterns of attachment behaviors are described in the literature, most commonly noting the dimensional approach to secure-insecure attachment (Shaver & Mikulencer, 2002; Fraley et al., 2015). People fall on the spectrum of attachment security and insecurity, where security is typically associated with adaptive, normal functioning behaviors, whereas insecurity is reflective of maladaptive functioning. Exhibiting insecure attachment behaviors can lead to individuals having increased difficulty with emotion regulation and establishing healthy coping mechanisms, thereby inhibiting the skills needed to build coping self-efficacy (Benight & Bandura, 2004; Bistricky et al., 2017). The literature suggests attachment behaviors correspond

with positive and negative associations between interpersonal violence and posttraumatic stress (Barazzone et al., 2019; Mikulincer et al., 2015; Sandberg et al., 2009).

Among close relationships individuals have with others, including parents or parental figures, romantic partners, or close friends, individuals may exhibit different attachment behaviors with each member of their close group. These varying attachment behaviors with close relationships contribute to an overall, global attachment (Fraley et al., 2011; Fraley et al., 2015). Research suggests that global attachment is predictive of psychological adjustment and plays a significant role in interpersonal relationships (Mikulincer & Shaver, 2016). In contrast to those with secure attachment, insecurely attached adults may lack the internal motivation to seek out support from others, thereby increasing experiences of adverse effects of a traumatic event (Fraley et al., 2006; Mikulincer & Shaver, 2016).

Moreover, one's ability to trust and desire closeness may be compromised in the event of a traumatic experience (Barazzone et al., 2019). Research supports the notion that individuals with secure attachment behaviors are more apt to protect themselves emotionally from the trauma endured and exhibit resiliency (Barazzone et al., 2019; Bonanno, 2004). Likewise, individuals that exhibit insecure attachment behaviors are more likely to feel the impact of the traumatic event and experience more adverse effects of the trauma. Thus, increasing the likelihood of developing posttraumatic stress compared to securely attached individuals.

In a sample of 224 women who experienced traumatic events (e.g., interpersonal trauma, war combat, and natural disasters), Sandberg et al. (2009) found a positive correlation between insecure attachment and posttraumatic stress suggesting that attachment insecurity played a significant role in the development of PTS. Furthermore, women who were insecurely attached and experienced domestic violence and sexual victimization had the highest levels of PTS.

Likewise, O'Connor and Elklit (2008) investigated the association between secure attachment behaviors and responses to traumatic events, including physical violence and sexual abuse. Their findings highlighted the resiliency displayed in individuals with secure attachment compared to their counterparts. Secure attachment was significantly associated with low levels of PTS, whereas insecure attachment was associated with the highest PTS symptomatology. Strategies or behaviors associated with particular attachment behaviors are likely to have implications for adjustment following a traumatic event (e.g., sexual victimization).

Overall, the association between attachment behaviors and posttraumatic stress is consistent in literature, such that attachment insecurity is highly associated with posttraumatic stress symptomatology (Fraley et al., 2006). Adults with attachment insecurity lack secure or supportive attachment figures (i.e., parental figures, romantic partners, etc.), which may lead to maladaptive responses to traumatic events (Mikulincer & Shaver, 2016). Due to the high rate of sexual victimization in emerging adults (Morris et al., 2020; Shors & Millon, 2016), in addition to various attachment behaviors exhibited in this population, posttraumatic stress may be exacerbated in emerging adults.

Emerging Adulthood and Victimization

Although victimization can occur at any age, emerging adults ranging from 18 to 25-years old are at high risk of experiencing a traumatic event, therefore warranting research in this population. Young college age women are particularly vulnerable to interpersonal violence and posttraumatic stress compared to college age men (Coker et al. 2016; Morris et al., 2020; Shors & Millon, 2016), specifically sexual victimization in their freshman year (Kimble et al., 2008). In fact, approximately one in five young women experience sexual violence during their freshman and sophomore year of college (Shors & Millon, 2016). According to the Centers for

Disease Control (2014), approximately half of both male and female victims of sexual violence experience their trauma prior to age 25.

Individuals in this stage of life are in the process of psychosocial maturation skills that are needed to adapt to their environment. Emerging adulthood is associated with many challenges including instability, self-identity exploration, and self-focus, but also provides an opportunity for diverse possibilities (Arnett, 2000). Investigating the effects of sexual violence and predictors of posttraumatic stress in this population is imperative to understanding the development of the self and its adaptations to challenges, particularly in the aftermath of sexual victimization.

Present Study

As evidenced by the plethora of research that points to a significant discrepancy between the number of individuals exposed to trauma and those who experience posttraumatic stress symptomatology (Benight & Bandura, 2004; Bosmans & van der Velden, 2015), further research is warranted. The exploration of mediating factors in the association between sexual violence and PTS is of particular importance given that this group is particularly vulnerable to PTS compared to those who suffer other forms of victimization (Kessler et al., 2014). Thus, the present study examined the interplay of coping self-efficacy and attachment security on the expression of posttraumatic symptomatology among emerging adults who have experienced sexual violence (18-25-year-olds; Arnett, 2000). Specifically, this study independently measured coping self-efficacy and attachment security as predictors of posttraumatic stress when an individual has experienced a traumatic event related to sexual violence. The present study examined the extent to which the aforementioned variables independently mediated the link between the frequency of sexual victimization and symptoms of posttraumatic stress. This investigation provided a deeper understanding of the resiliency factors many survivors of sexual violence possess (Bonanno,

2008; Masten, 2001), in efforts to promote well-being and growth among survivors. Given the high prevalence rate of sexual violence among emerging adults, findings of this study may add to the literature to further the understanding of protective factors that combat posttraumatic symptomatology.

HYPOTHESES

Hypothesis 1: Sexual victimization and posttraumatic stress will be positively correlated.

Hypothesis 2: A negative correlation between coping self-efficacy and posttraumatic stress, such that higher levels of coping self-efficacy will correspond with lower levels of posttraumatic stress.

Hypothesis 3: A negative correlation between attachment security and posttraumatic stress, such that higher scores on the attachment measure will correspond with lower levels of posttraumatic stress.

Hypothesis 4: Coping self-efficacy and attachment security will be positively correlated, such that higher scores on the attachment measure will correspond with higher levels of coping self-efficacy.

Hypothesis 5: Coping self-efficacy will indirectly affect the association between sexual victimization and posttraumatic stress, such that coping self-efficacy will serve as a protective factor against posttraumatic stress (i.e., lower levels of posttraumatic stress).

Hypothesis 6: Attachment security will indirectly affect the association between sexual victimization and posttraumatic stress, such that attachment security will serve as a protective factor against posttraumatic stress (i.e., lower levels of posttraumatic stress).

METHODS

Participants

A total of 235 participants were recruited from the psychology undergraduate research pool at a regional comprehensive university. Of the 235, 205 were retained to conduct the analyses. The remaining 30 participants were not included because they completed only 85 percent or less of the survey. The mean age of the participants over the overall sample of 205 was 19.07 years (*SD* = 1.62), ranging from 18 to 25. Of the sample, 128 (62.4%) identified as women, 70 (34.1%) identified as men, 3 (1.5%) identified as non-binary, 2 (1.0%) identified as other, and 2 (1.0%) preferred not to answer. The sample was 69.3% White, 11.2% were Black or African American, 4.4% were Hispanic or Latinx, 2.9% were Asian, 1.5% were American Indian or Alaska Native, 0.5% were Native Hawaiian or Other Pacific Islander, and 0.5% were of another race or ethnicity.

In the sexual victimization subsample of 111, the mean age was 19.19 years (*SD* = 1.62), ranging from 18 to 25 years of age. Of the sample, 83 (76.9%) identified as women, 21 (19.4%) identified as men, 2 (1.9%) identified as non-binary, 1 (0.9%) identified as other, and 1 (0.9%) preferred not to answer. The sample was 74.1% White, 7.4% were Black or African American, 4.6% were Asian, 3.7% were Hispanic or Latinx, 1.9% were American Indian or Alaska Native, 0.9% were Native Hawaiian or Other Pacific Islander, and 0.9% were of another race or ethnicity. Overall, the general makeup of samples was similar in gender identity and racial and ethnic groups (See Appendix E).

Procedure

All surveys were completed in Qualtrics, an online survey software program, through a link provided to the participants. Western Carolina University students who participated in the

study were recruited through SONA. All data were anonymous. Participants were asked to read and sign the informed consent prior to the start of the survey which explained the sensitive nature of the survey (e.g., questions pertaining to sexual trauma, etc.). Participation was voluntary and students were informed that they could discontinue the study at any time and without penalty. Once participants signed the consent form, they were directed to the demographics survey and subsequent self-report measures. Following the completion of the study, student participants were provided resources to the university counseling center in the event they were negatively impacted by the questions answered. Students received credit towards a psychology course requirement in exchange for completing the survey.

Measures

The present study consisted of all self-report questionnaires, in addition to a demographics survey in order to obtain information about participants' age, gender, and ethnic/racial identification.

Sexual Victimization

The Sexual Experiences Survey – Short Form Victimization (SES-SFV; Koss et al., 2007; See Appendix A) was used to measure instances of sexual victimization, including forceable kissing, touching, rape, etc. Participants completed the 10 item scale (from 0 = Never happened to 4 = Four or more times) to measure their sexual violence trauma history since their 18th birthday. Items assessed the extent of the person's experiences with various degrees of sexual coercion or victimization (e.g., "Someone had oral sex with me or made me have oral sex with them without my consent"). This survey was used to place participants into dichotomous groups based on whether they had experienced sexual victimization or not. The SES-SFV is scored on a severity scale from no sexual trauma to sexual trauma; however, for the purposes of

this study, a severity total score was also calculated, ranging from 0 to 21. According to Koss et al. (2007) the Cronbach's α of this measure was 0.74. For this study, the Cronbach's α of this measure was 0.87.

For the purposes of this study, this scale was modified from the original version (Koss et al., 2007). Modifications included changing the age of exposure to a sexual coercive event from 14 to 18 years of age to account for the emerging adult population in the present study. Additionally, the prompt question, "how many times in the past 12 months?" regarding exposure to the event was excluded. Instead, participants were asked to only indicate the number of times they experienced sexual victimization since the age of 18. Moreover, all items were presented using gender neutral terms. Of note, although each participant completed all 10 items of the survey, only 6 items on the scale (i.e., questions 1-5, and 7; See Appendix A) were used for analyses.

Posttraumatic Stress

For the purposes of this study, only participants who reported at least one instance of sexual victimization on the SES-SFV were prompted to complete this measure. To assess one's posttraumatic stress symptomatology, participants completed the PTSD Checklist (PCL-5; Weathers et al., 2013; See Appendix B), which includes 20 items rated on a 5-point Likert scale (0 = Not at all to 4 = Extremely). The PCL-5 is based on the DSM-5 criteria that characterizes PTSD symptomatology. The symptom severity ranges from 0 to 80, with a cutoff score of 31-33 for probable PTSD (National Center for PTSD, 2016; Weathers et al., 2013). The PCL-5 has been validated in college age research studies (Blevins et al., 2015). Additionally, this measure is used by the National Center for Posttraumatic Stress Disorder to assess PTSD symptomatology.

According to a study by Blevins et al. (2015), Cronbach's α was 0.94 in comparison to other PTSD measures. For the present study, the Cronbach's α was 0.97.

Coping Self-Efficacy

To measure coping self-efficacy, the Coping Self-Efficacy Scale (CSE; Chesney et al., 2006; See Appendix C) was used to assess one's perception of their ability to manage their problems and have control over life events. The participants answered questions pertaining to their confidence in their ability to use coping strategies when dealing with a problem (e.g., "Break an upsetting problem down into smaller parts," "Look for something good in a negative situation.") Participants completed the CSE, which includes 26 items rated on a 5-point Likert scale (0 = Cannot do at all to 4 = Can certainly do), with a potential total score of 104. The sum score was used to measure a person's overall CSE score. Chesney et al. (2006) reported that the Cronbach's α of this measure was 0.95. The present study found a Cronbach's α of 0.98.

Attachment Security

To assess adult attachment behaviors as it relates to their interpersonal relationships, participants completed the Revised Adult Attachment Scale – Close Relationship Version (RAAS; Collins, 1996; See Appendix D), which includes 18 rated items on a 5-point Likert scale (0 = Not at all characteristic of me to 4 = Very characteristic of me). The RAAS is comprised of three subscales that measure closeness, dependency, and anxiousness as it relates to attachment in interpersonal relationships. For the purpose of this study, the closeness and dependency scales were combined to measure attachment security (as seen in Shevlin et al., 2013). The closeness subscale measures a person's comfort level with intimacy and closeness with others (e.g., "I find it relatively easy to get close to people"). The dependency subscale measures the extent to which a person feels they can depend on others (e.g., "I am comfortable depending on others"). The

anxiety subscale measures a person's worry about abandonment or being unloved (e.g., "I often wonder whether romantic partners really care about me"). According to Shevlin et al. (2013), the Cronbach's α of closeness/dependency scale was 0.76 and the anxiety scale was 0.83 for each subscale. For this study, the Cronbach's α of closeness/dependency scale was 0.82 and the anxiety scale was 0.92 for each subscale.

Analytical Plan

Hypotheses 1, 2, 3, and 4 were tested using Pearson bivariate correlations coefficients. To counter the risk of Type 1 errors, the threshold level for interpretation of $p \leq .01$ was established. For Hypotheses 5 and 6, mediation analyses were used to test a conceptual model for the associations between variables. To test if the association between sexual victimization and posttraumatic stress symptomatology was mediated by coping self-efficacy and attachment security, two mediation analyses were conducted. First, the association between sexual victimization severity and coping self-efficacy was tested by regressing coping self-efficacy onto sexual victimization severity (i.e., the *a* path). Next, the association between sexual victimization and posttraumatic stress symptoms was assessed by regressing posttraumatic stress onto sexual victimization severity (i.e., the *c* [total] path). Furthermore, regression analyses were conducted to predict the association between posttraumatic stress scores from coping self-efficacy and sexual victimization severity (i.e., the *b* and *c*' [direct] paths). Likewise, all regressions were also conducted with attachment security as the mediating variable.

Using the regression procedure PROCESS macro version 4.0 (model 4; Hayes, 2017), two mediation models were then conducted to test the indirect effects of sexual victimization on posttraumatic stress symptomatology through levels of coping self-efficacy and attachment security behaviors. As recommended by Hayes & Rockwood (2016), the indirect effect is

significant if the bootstrap confidence interval for the indirect effect excludes zero. The indirect effect was tested using 5,000 resampled bootstrap confidence intervals (95% CI).

In addition, secondary analyses were conducted using *t* tests to measure the group mean differences across the sample, including gender differences, to gain further context and understanding about the sample. No hypotheses were made about the secondary analyses. All analyses were conducted in IBM SPSS Statistics (Version 27).

RESULTS

Of the 205 participants, 11 (5.4%) had one missing item on the coping self-efficacy measure and 4 (2.0%) had one item missing on the attachment measure. Person-mean imputation was used to prorate the average scores on the completed items in order to account for missing data. For the purposes of this study, analyses were conducted on a within group sample (i.e., only those who experienced sexual victimization) and a between-group sample (i.e., all participants). All hypotheses pertain to participants with a history of sexual victimization.

Sexual Victimization Subsample

A Pearson's bivariate correlation was conducted to examine the association between the frequency of sexual victimization and symptoms of posttraumatic stress (n = 111). In support of Hypothesis 1, sexual experiences scores were positively corelated with posttraumatic stress scores, thus, as sexual victimization severity (i.e., SES total score) increased, posttraumatic stress symptoms increased (r = .68, p < .001). Given the sample, only those who endorsed at least one instance of sexual victimization were assessed for posttraumatic stress (See Appendix F).

Additional bivariate correlations were conducted for exploratory analyses to investigate the association between sexual victimization, coping self-efficacy, and attachment security. Higher sexual victimization severity was associated with lower coping self-efficacy scores (r = -.35, p < .001). Similarly, a negative correlation was found between sexual victimization and attachment security (r = -.40, p < .001), suggesting that those with more instances of sexual victimization experience fewer secure attachment behaviors (See Appendix F).

In support of Hypothesis 2, a negative correlation was found between levels of posttraumatic stress and coping self-efficacy, (r = -.40, p < .001). Likewise, in support of Hypothesis 3, posttraumatic stress was negatively correlated with attachment security (r = -.45, p

< .001). Consistent with Hypothesis 4, a positive correlation was found between coping self-efficacy and attachment security (r = .44, p < .001).

To test Hypothesis 5, a mediation model was used to examine the effects of sexual victimization and posttraumatic stress through coping self-efficacy. Sexual victimization severity was associated lower levels of coping self-efficacy (*a* path: B = -1.56, SE = 0.40, t(106)= -3.86, p < .001). Sexual victimization severity was significantly associated with higher posttraumatic stress symptomology (*c* [total] path: B = 2.89, SE = 0.30, t(106) = 9.60, p < .001). Furthermore, coping self-efficacy was negatively and significantly associated with posttraumatic stress symptomatology (*b* path: B = -0.17, SE = 0.07, t(105) = -2.45, p = .01). Sexual victimization severity had a significant direct effect on posttraumatic stress symptomatology (c' [direct] path: B = 2.62, SE = 0.31, t(106) = 8.33, p < .001). In support of Hypothesis 5, sexual victimization had a significant indirect effect on posttraumatic stress symptoms through levels of coping self-efficacy (*ab* path: B = 0.27, SE = 0.13, β = 0.064, 95% CI for B [0.008, 0.130]), such that the presence of coping self-efficacy is associated with fewer posttraumatic symptoms in survivors of sexual trauma (See Appendix I).

To test Hypothesis 6, a mediation model was used to examine the effects of sexual victimization and posttraumatic stress through attachment security. Sexual victimization severity was associated with fewer secure attachment behaviors (*a* path: B = -0.64, SE = 0.14, t(106) = -4.47, p < .001). Sexual victimization severity was significantly associated with higher posttraumatic stress symptomology (*c* [total] path: B = 2.92, SE = 0.30, t(106) = 9.83, p < .001). Furthermore, attachment security was negatively and significantly associated with posttraumatic stress symptomatology (*b* path: B = -0.50, SE = 0.20, t(103) = -2.55, p = .01). Sexual victimization severity had a significant direct effect on posttraumatic stress symptomatology (c'

[direct] path: $B = 2.60$, $SE = 0.32$, $t(106) = 8.21$, $p < .001$). In support of Hypothesis 6, sexual victimization had a significant indirect effect on posttraumatic stress symptoms through levels of attachment security (*ab* path: $B = 0.32$, $SE = 0.16$, $\beta = 0.077$, 95% CI for B [0.030, 0.641]), such that the secure attachment behaviors are associated with fewer posttraumatic symptoms in survivors of sexual trauma (See Appendix J).

Secondary Analyses for Group Mean Differences

The group mean differences between women ($n = 83$) and men ($n = 21$) who reported a history of sexual victimization were measured to explore the gender differences across variables. No hypotheses were made about the following analyses. We conducted an independent samples *t* test to compare the levels of severity for sexual victimization for women ($M = 6.51$, $SD = 5.39$) and men ($M = 2.71$, $SD = 2.65$). Women reported more instances of sexual victimization than men, $t(102) = -3.21$, $p = .002$. The effect size for the difference was large, Cohen's $d = 0.89$. Moreover, we conducted an independent samples *t* test to compare the levels of posttraumatic stress for women ($M = 27.87$, $SD = 21.70$) and men ($M = 8.19$, $SD = 12.38$) who reported at least one instance of sexual victimization. Women had higher reported posttraumatic stress than men, $t(102) = -3.99$, $p < .001$. The effect size for the difference was large, Cohen's $d = 1.11$. An independent samples *t* test was conducted to compare the levels of coping self-efficacy for women ($M = 45.70$, $SD = 20.33$) and men ($M = 66.63$, $SD = 23.38$). Men reported higher levels of coping self-efficacy than women, $t(102) = 4.09$, $p < .001$. The effect size for the difference was large, Cohen's $d = 0.96$. Furthermore, we conducted an independent samples *t* test to compare the levels of attachment security for women ($M = 22.10$, $SD = 8.33$) and men ($M = 26.14$, $SD = 7.19$). Men reported higher levels of attachment security than

women, $t(102) = 2.04$, $p = .044$. The effect size for the difference was moderate, Cohen's $d = 0.52$.

Secondary analyses were conducted to examine the mean differences across the entire sample ($N = 205$). No hypotheses were made about the following analyses. We conducted a Pearson's bivariate correlation to examine the association between coping self-efficacy ($M = 54.06$, $SD = 24.95$) and attachment security ($M = 24.10$, $SD = 8.52$). A moderate correlation ($r = .43$, $p < .001$) was found. Independent samples t tests were conducted to compare individuals' level of coping self-efficacy in those with no history of sexual victimization ($n = 94$, $M = 59.65$, $SD = 25.81$) and those with a reported history of sexual victimization ($n = 111$, $M = 49.33$, $SD = 23.29$). The results yielded that individuals with no reported sexual victimization had higher reported coping self-efficacy than those who had experienced sexual victimization, $t(203) = 3.01$, $p = .003$. The effect size for the difference was moderate, Cohen's $d = 0.42$. The level of secure attachment for individuals who reported no sexual victimization ($M = 25.68$, $SD = 8.37$) and individuals who reported experiencing at least one instance of sexual victimization ($M = 22.76$, $SD = 8.45$) were compared. Individuals with no reported history of sexual victimization had higher reported secure attachment than those who had experienced sexual victimization, $t(203) = 2.48$, $p = .014$. The effect size for the difference was moderate, Cohen's $d = 0.35$.

DISCUSSION

The current study aimed to examine the association between sexual victimization and posttraumatic stress to determine the indirect effects of coping self-efficacy and attachment security. The findings generally supported the hypotheses. Consistent with previous findings in the literature, sexual victimization was strongly associated with posttraumatic stress (Mahoney et al., 2019). The findings in the present study indicated that an individual who endured repeated sexual victimization experienced posttraumatic stress at a higher degree. Moderate negative correlations were found between coping self-efficacy and posttraumatic stress, such that a higher perceived ability to cope with sexual trauma is associated with lower levels of posttraumatic stress. Likewise, attachment security was negatively correlated with posttraumatic stress, suggesting that this also serves as a protective factor to reduce the number of adverse effects in the aftermath of trauma. Furthermore, the moderately positive correlation between coping self-efficacy and attachment security suggests that engaging in supportive relationships is associated to a higher perceived capacity to cope.

The partial mediations found suggests that sexual victimization has direct and indirect effects on posttraumatic stress. The indirect effect of coping self-efficacy on the association between sexual victimization and posttraumatic stress indicated that coping self-efficacy accounts for some of the statistical significance of that association; therefore, weakening the association between sexual victimization and posttraumatic stress symptomatology. This indicates that higher levels of coping self-efficacy were associated with fewer posttraumatic stress symptoms in individuals with a history of sexual victimization. Thus, the effect of sexual victimization and posttraumatic stress operated partially through coping self-efficacy. The mechanism by which this occurs serves as a protective factor against the development of

posttraumatic stress. The degree to which one perceives they have control over responses to their traumatic event not only reduces stress in the moment, but also serves as a protective factor and a predictor of long-term recovery of posttraumatic stress (Bosmans & van der Velden, 2015; Luszczynska et al., 2009; Mahoney et al., 2019).

Likewise, attachment security had a significant indirect effect on the association between sexual victimization and posttraumatic stress, which indicated that attachment security accounts for some of the statistical significance of the association. Thus, weakening the association between sexual victimization and posttraumatic stress symptomatology, such that attachment security indirectly influenced the impact of sexual trauma on the development of posttraumatic stress. This suggests that when a survivor maintains healthy, close relationships with others in the aftermath of the sexual victimization, this could impact their recovery. These findings demonstrate that both coping self-efficacy and attachment security may employ greater resiliency by promoting adaptive recovery from sexual trauma (Benight & Bandura, 2004; Bosmans & van der Velden, 2015; Mikulincer et al., 2015). Despite the significant indirect effects found, the direct effect of sexual victimization on posttraumatic stress was also significant and largely explains the association between these variables.

Between group comparisons were made to investigate how survivors of sexual victimization differ from those who did not report any sexual victimization. The results indicated that individuals who have no history of sexual victimization have higher levels of coping self-efficacy and endorsed more secure attachments in their close relationships. Individuals with sexual victimization likely experience a violation of trust following their traumatic experience that led to this disruption in secure attachment behaviors (Barazzone et al., 2019). As such, this leads to fewer close relationships, lack of trust in others, and negative perception of the self and

the world. Given the negative impact sexual victimization has on one's self-concept, these findings suggest that therapeutic interventions for survivors should target the development of coping self-efficacy and healthy attachment behaviors in order to facilitate growth and trust within the self.

Overall, the overwhelming number of participants in this sample that reported experiencing a form of sexual victimization in the past two years, presumably, reiterates the need to expand upon the services provided to students. This finding suggests that a continued effort to investigate the factors that lead to recovery after traumatic experiences is of the utmost importance.

Limitations and Future Research

There are several limitations and suggestions for future research based on the current study. A majority of the participants were White females approximately 18 years of age. The use of a non-clinical sample of undergraduate students limits the generalizability of the findings to clinical samples. Furthermore, the present study did not control for gender when investigating the associations between variables, which could have greatly impacted the results. In general, men had significantly higher levels of coping self-efficacy and secure attachment behaviors, and experienced fewer posttraumatic stress symptomatology. Given the significant group mean differences found in this study, in addition to the higher rate of women who experience sexual victimization compared to men (CDC, 2014), gender should be considered as a covariate in future studies. Additionally, future studies should look at more diverse samples, including community samples and those with a higher man to woman ratio. However, the results found in the present study are consistent with the literature, therefore important conclusions can be drawn from the data.

The current study measured the frequency of sexual victimization and did not differentiate between types of coercive sexual experiences, such as attempted rape or completed rape. Although this approach was appropriate to measure the hypotheses examined in this study, this limits the findings when looking at posttraumatic stress symptomatology in those with different types of coercive sexual experiences. For example, those who reported they were kissed without their consent compared to those who were raped are likely to experience different levels of posttraumatic stress. For future studies, categorizing the type of sexual victimization could lead to more generalizable results and, therefore, can be used for targets of intervention. Furthermore, all participants were asked to only refer to sexual experiences that happened since the age of 18. Due to this approach, no data was collected for participants who experienced sexual victimization prior to the age of 18. Additionally, because of the nature of this study, other forms of trauma (e.g., dating violence, physical abuse, etc.) were not measured. Participants who experienced multiple types of trauma were likely to report higher levels of posttraumatic stress. These types of trauma likely impact one's level of coping self-efficacy and attachment behaviors; however, it was not accounted for in this study.

Additionally, the present study did not account for individuals who have been in therapy or processed their sexual trauma. This could greatly impact someone's coping self-efficacy and attachment security as they build skills to cope with the trauma. Moreover, the present study measured only one outcome variable, posttraumatic stress symptoms. Future studies should consider measuring additional outcomes such as posttraumatic growth in order to gain a greater understanding for how sexual victimization, or interpersonal violence in general, impacts individuals in the aftermath of their trauma.

Conclusions

The present study supports the body of research that suggests sexual victimization is highly correlated with posttraumatic stress (Mahoney et al., 2019), and coping self-efficacy and attachment behaviors contribute to the level of posttraumatic stress. The findings of the current study indicate that perceptions of one's ability to cope with the sexual trauma endured impacted the development of posttraumatic stress. This notion suggests that it is imperative for survivors of sexual violence to develop strong self-efficacy skills. Working to increase their coping skills, sense of control, and confidence in their ability to cope with the trauma endured will help to reduce posttraumatic stress. Although traumatic events can cause cognitive distortions about the self and the world, interventions targeted towards coping self-efficacy may compensate for this as one develops the skills and confidence to know they can heal from their trauma. In addition to developing a perceived capacity to cope, survivors of sexual violence may benefit from intervention that promotes secure attachment by building trust with others and forming positive interpersonal relationship to reduce posttraumatic stress in the aftermath of trauma.

REFERENCES

Altan-Atalay, A., & Sohtorik Ilkmen, Y. (2020). Attachment and psychological distress: The mediator role of negative mood regulation expectancies. *Journal of Clinical Psychology, 76*, 778-786. https://doi.org/10.1002/jclp.22913

Arnett, J. J. (2000). Emerging Adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(4), 469-480. https://doi.org/10.1037//0003-066X.55.5.469

Barazzone, N., Santos, I., McGowan, J., & Donaghay-Spire, E. (2019). The links between adult attachment and post-traumatic stress: A systematic review. *Psychology and Psychotherapy: Theory, Research, and Practice, 92*(1), 131-147. https://doi.org/10.1111/papt.12181

Benight, C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behavior Research and Therapy, 42*(10), 1129–1148. https://doi.org/10.1016/j.brat.2003.08.008.

Bistricky, S. L., Gallagher, M., L., Roberts, C. M., Ferris, L., Gonzalez A. J., & Wetterneck, C. T. (2017). Frequency of interpersonal trauma types, avoidant attachment, self-compassion, and interpersonal competence: A model of persisting posttraumatic symptoms. *Journal of Aggression, Maltreatment & Trauma, 26*(6), 608-625. https://doi.org/10.1080/10926771.2017.1322657

Blevins, C. A., Weathers, F. A., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The posttraumatic stress disorder checklist for DSM-5 (PCL-5): Development and initial psychometric evaluation. *Journal of Traumatic Stress, 28*, 489-498. https://doi.org/10.1002/jts.22059

Bonanno, G. A. (2008). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *Psychological Trauma: Theory, Research, Practice, and Policy, S*(1), 101-113. https://doi.org/10.1037/1942-9681.S.1.101

Bosmans, M. & van der Velden, P. G. (2015). Longitudinal interplay between posttraumatic stress symptoms and coping self-efficacy: A four-wave prospective study. *Social Science & Medicine, 134,* 23-29. https://doi.org/10.1016/j.socscimed.2015.04.007

Centers for Disease Control and Prevention (CDC). (2014). Prevalence and characteristics of sexual violence, stalking, and intimate partner violence victimization – National intimate partner violence and sexual violence survey. https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6308a1.htm

Chesney, M., Neilands, T., Chambers, D., Taylor, J., & Folkman, S. (2006). A validity and reliability study of the Coping Self-Efficacy scale. *British Journal of Health Psychology, 11*(3), 421-437. https://doi.org/10.1348/135910705X53155.

Cieslak, R., Benight, C., & Lehman, V. (2008). Coping self-efficacy mediates the effects of negative cognitions on posttraumatic distress. *Behavior Research and Therapy, 46*(7), 788– 798. https://doi.org/10.1016/j.brat.2008.03.007

Collins, N. L. (1996). Working models of attachment: Implications for explanation, emotion, and behavior. *Journal of Personality and Social Psychology, 71*(4), 810-832. https://doi.org/10.1037//0022-3514.71.4.810

Fowler, J. C., Allen, J. G., Oldham, J. M., & Frueh, B. C. (2013). Exposure to interpersonal trauma, attachment insecurity, and depression severity. *Journal of Affective Disorders, 149*(1-3), 313-318. https://doi.org/10.1016/j.jad.2013.01.045

Fraley, R. C., Fazzari, D. A., Bonnano, G. A., & Dekel, S. (2006). Attachment and psychological adaptation in high exposure survivors of the September 11th attack on the world trade center. *Personality and Social Psychology Bulletin, 32*(4), 538- 551. http://dx.doi.org/10.1177/0146167205282741

Fraley, R. C., Heffernan, M. E., Vicary, A. M., & Brumbaugh, C. C. (2011). The experiences in close relationships—Relationship Structures Questionnaire: A method for assessing attachment orientations across relationships. *Psychological Assessment*, *23*(3), 615–625. https://doi-org.proxy195.nclive.org/10.1037/a0022898

Fraley, R. C., Hudson, N. W., Heffernan, M. E., & Segal, N. (2015). Are adult attachment styles categorical or dimensional? A taxometric analysis of general and relationship-specific attachment orientations. *Journal of Personality and Social Psychology, 109*(2), 354-368. http://dx.doi.org/10.1037/pspp0000027

Frazier, P., Conlon, A., & Glaser, T. (2001). Positive and negative life changes following sexual assault. *Journal of Consulting and Clinical Psychology, 69*(6), 1048-1055. https://doi.org/10.1037//0022-006x.69.6.1048

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd edition). Guilford Press.

Hayes, A. F., & Rockwood, N. J. (2017). Regression-based statistical mediation and moderation analysis in clinical research: Observations, recommendations, and implementation. *Behaviour Research and Therapy, 98*, 39-57.

Kessler, R., Rose, S., Koenen, K. C., Karam, E. G., Stang, P. E., Stein, D. J., . . . McLean, S. A. (2014). How well can post-traumatic stress disorder be predicted from pre-trauma risk

factors? An exploratory study in the WHO World Mental Health Surveys. *World Psychiatry*, *13*, 265-274. https://doi.org/10.1002/wps.20150.

Koss, M. P., Abbey, A., Campbell, R., Cook, Sarah, Norris, J., Testa, M., Ullman, S., West, C., & White, J. (2007). Revising the SES: A collaborative process to improve the assessment of sexual aggression and victimization. *Psychology of Women Quarterly, 31*(1), 357-370. https://doi.org/10.1111/j.1471-6402.2007.00385.x

Luszczynska, A., Benight, C., & Cieslak, R. (2009). Self-efficacy and health-related outcomes of collective trauma: A systematic review. *European Psychologist, 14*, 51-62.

Mahoney, C. T., Lynch, S. M., & Benight, C. C. (2019). The indirect effect of coping self-efficacy on the relation between sexual Violence and PTSD symptoms. *Journal of Interpersonal Violence*. 1-17. https://doi.org/10.1177/0886260519881525

Masten, A. (2001). Ordinary magic. Resilience processes in development. *American Psychologist, 5*(3), 227-238. https://doi.org/10.1037/0003-066X.56.3.227

Mikulincer, M., Shaver, P. R., & Solomon, Z. (2015). An attachment perspective on traumatic and posttraumatic reactions. In M. P. Safir, H. S. Wallach, & S. Rizzo (Eds.), *Future directions in post-traumatic stress disorder* (pp. 79–96). Springer. https://doi.org/10.1007/978-1-4899-7522-5_4

Mikulincer, M., & Shaver, P. R. (2016). *Attachment in adulthood: Structure, dynamics, and change* (2nd edition). Guilford Press.

Morris, M. C., Sanchez-Sáez, F., Bailey, B., Hellman, N., Williams, A., Schumacher, J. A., & Rao, U. (2020). Predicting posttraumatic stress disorder among survivors of recent interpersonal violence. *Journal of Interpersonal Violence*, 1-30. https://doi.org/10.1177/0886260520978195

National Center for PTSD. (2016). PTSD Checklist for DSM-5 (PCL-5). Retrieved from www.ptsd.va.gov/professional/ assessment/adult-sr/ptsd-checklist.asp

O'Conner, M. & Elklit, A. (2008). Attachment styles, traumatic events, and PTSD: A cross-sectional investigation of adult attachment and trauma. *Attachment & Human Development, 10*(1). 59-71. https://doi.org/10.1080/14616730701868597

Sandberg, D. A., Suess, E. A., & Heaton, J. L. (2009). Attachment anxiety as a mediator of the relationship between interpersonal trauma and posttraumatic symptomatology among college women. *Journal of Interpersonal Violence, 25*(1), 33-49. https://doi.org/10.1177/0886260508329126

Shaver, P. R., & Mikulincer, M. (2002). Attachment-related psychodynamics. *Attachment & Human Development*, *4*(2), 133–161. https://doi.org/10.1080/14616730210154171

Shors, T. J. & Millon, E. M. (2016). Sexual trauma and the female brain. Frontiers in *Neuroendocrinology, 41*, 87-89. http://dx.doi.org/10.1016/j.yfrne.2016.04.001

Weathers, F. W., Litz, B. T., Keane, T. M., Palmieri, P. A., Marx, B. P., & Schnurr, P. P. (2013). The PTSD Checklist for DSM-5 (PCL-5) – Standard [Measurement instrument]. Retrieved from www.ptsd.va.gov

APPENDIX A: SEXUAL EXPERIENCES SURVEY – SHORT FORM VICTIMIZATION

(KOSS ET AL., 2007)

Instructions: The following questions concern unwanted sexual experiences that you may have had. The items ask about consent. "Without consent" means someone did something without you saying they could or without you wanting them to. We know these are personal questions, so we do not ask your name or other identifying information. Your information is completely confidential. We hope this helps you to feel comfortable answering each question honestly. Please select how many times any of the following events have happened to you since the age of 18

0 = Never happened
1 = One time
2 = Two times
3 = Three times
4 = Four or more times

1. Someone fondled, kissed, or rubbed up against the private areas of my body (lips, breast/chest, crotch or butt) or removed some of my clothes without my consent (but did not attempt sexual penetration).
2. Someone had oral sex with me or made me have oral sex with them without my consent.
3. Someone inserted their penis, fingers, or objects into my private parts without my consent.
4. Even though it did not happen, some TRIED to have oral sex with me, or make me have oral sex with them without my consent.
5. Even though it did not happen, someone TRIED to insert their penis, fingers, or objects into my private parts without my consent.
6. Please indicate if someone perpetrated an unwanted sexual experience by doing one of the following to you. (Yes or No)
    a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I did not want to.
    b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical for after I said I didn't want to.
    c. Taking advantage of me when I was too drunk or out of it to stop what was happening.
    d. Threatening to physically harm me or someone close to me.
    e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.
7. Since age of 18, have you ever been raped?
    a. Yes
    b. No
8. What was the gender of the person who perpetrated the unwanted sexual experience onto you?

    a. Man
    b. Woman
    c. Non-binary
    d. Other
9. Who did these things to you?
    a. A parent
    b. Another relative
    c. A friend
    d. A romantic partner
    e. An acquaintance (someone you know, but not well)
    f. A stranger

APPENDIX B: PTSD CHECKLIST (WEATHERS ET AL., 2013)

Instructions: Below is a list of problems that people sometimes have in response to a very stressful life experience. Please answer the questions based on your unwanted sexual experiences. Please read each problem carefully and then mark one of the numbers to the right to indicate how much you have been bothered by that problem in the <u>past month</u>.

0 = Not at all
1 = A little bit
2 = Moderately
3 = Quite a bit
4 = Extremely

1. Repeated, disturbing memories, thoughts, or images of the unwanted sexual experience?
2. Repeated, disturbing dreams of the unwanted sexual experience?
3. Suddenly feeling or acting as if the unwanted sexual experience were actually happening again (as if you were actually back there reliving it)?
4. Feeling very upset when something reminded you of the unwanted sexual experience?
5. Having strong physical reactions when something reminded you of the unwanted sexual experience (e.g., heart pounding, trouble breathing, sweating)?
6. Avoiding memories, thoughts, or feelings related to the unwanted sexual experience?
7. Avoiding external reminders of the unwanted sexual experience (e.g., people, places, conversations, activities, objects, or situations)?
8. Trouble remembering important parts of the unwanted sexual experience?
9. Having strong negative beliefs about yourself, other people, or the world (e.g., having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?
10. Blaming yourself or someone else for the unwanted sexual experience or what happened after it?
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?
12. Loss of interest in activities that you used to enjoy?
13. Feeling distant or cut off from other people?
14. Trouble experiencing positive feelings (e.g., being unable to feel happiness or have loving feelings for people close to you)?
15. Irritable behavior, angry outbursts, or acting aggressively?
16. Taking too many risks or doing things that could cause you harm?
17. Being “super alert” or watchful or on guard?
18. Feeling jumpy or easily startled?
19. Having difficulty concentrating?
20. Trouble falling or staying asleep?

APPENDIX C: COPING SELF-EFFICACY SCALE (CHESNEY ET AL., 2006)

Instructions: For each of the following items, indicate a number from 0 - 4, using the scale above. When things aren't going well for you, or when you're having problems, how confident or certain are you that you can:

0 = Cannot do at all
1 = Can do a little bit
2 = Moderately can do
3 = Can do quite a bit
4 = Can certainly do

1. Keep from getting down in the dumps.
2. Talk positively to yourself.
3. Sort out what can be changed, and what cannot be changed.
4. Get emotional support from friends and family.
5. Find solutions to your most difficult problems.
6. Break an unsettling problem down into smaller parts.
7. Leave options open when things get stressful.
8. Make a plan of action and follow it when confronted with a problem
9. Develop new hobbies or recreations.
10. Take your mind off unpleasant thoughts.
11. Look for something good in a negative situation.
12. Keep from getting sad.
13. See things from the other person’s point of view during a heated argument.
14. Try other solutions to your problems if your first solutions don’t work.
15. Stop yourself from being upset by unpleasant thoughts.
16. Make new friends.
17. Get friends to help you with the things you need.
18. Do something positive for yourself when you get discouraged.
19. Make unpleasant thoughts go away.
20. Think about one part of the problem at a time.
21. Visualize a pleasant activity or place.
22. Keep yourself from feeling lonely.
23. Pray or meditate.
24. Get emotional support from community organizations or resources.
25. Stand your ground and fight for what you want.
26. Resist the impulse to act hastily when under pressure.

APPENDIX D: REVISED ADULT ATTACHMENT SCALE – CLOSE RELATIONSHIPS

(COLLINS, 1996)

Instructions: The following questions concern how you ***generally*** feel in ***important close relationships in your life***. Think about your past and present relationships with people who have been especially important to you, such as family members, romantic partners, and close friends. Respond to each statement in terms of how you ***generally*** feel in these relationships.

0 = Not at all characteristic of me
1 = A little bit
2 = Moderately
3 = Quite a bit
4 = Very characteristic of me

1. I find it relatively easy to get close to people.
2. I find it difficult to allow myself to depend on others.
3. I often worry that other people don't really love me.
4. I find that others are reluctant to get as close as I would like.
5. I am comfortable depending on others.
6. I don't worry about people getting too close to me.
7. I find that people are never there when you need them.
8. I am somewhat uncomfortable being close to others.
9. I often worry that other people won't want to stay with me.
10. When I show my feelings for others, I'm afraid they will not feel the same about me.
11. I often wonder whether other people really care about me.
12. I am comfortable developing close relationships with others.
13. I am uncomfortable when anyone gets too emotionally close to me.
14. I know that people will be there when I need them.
15. I want to get close to people, but I worry about being hurt.
16. I find it difficult to trust others completely.
17. People often want me to be emotionally closer than I feel comfortable being.
18. I am not sure that I can always depend on people to be there when I need them.

APPENDIX E: DEMOGRAPHICS INFORMATION

Table 1

Demographics Information

Characteristics	*SES*		*No SES*	
	N	%	*N*	%
Gender	108	100	94	100
Woman	83	76.9	43	45.7
Man	21	19.4	48	51.1
Non-binary	2	1.9	1	1.1
Other	1	0.9	1	1.1
Prefer not to answer	1	0.9	1	1.1
Race	101	93.5	81	86.2
African American	8	7.4	15	16.0
American Indian/Alaska Native	2	1.9	1	1.1
Asian	5	4.6	1	1.1
Hispanic	4	3.7	5	5.3
Native Hawaiian/Pacific Islander	1	.9	0	0
White	80	74.1	59	62.8
Prefer not to answer	1	0.9	0	0

Notes. $N = 205$. SES sample represents participants who indicated at least one instance of sexual victimization. SES age ($M = 19.19$, $SD = 1.62$). No SES sample represents participants who did not report any history of sexual victimization. No SES age ($M = 18.97$, $SD = 1.46$).

APPENDIX F: CORRELATIONS FOR SEXUAL VICTIMIZATION SAMPLE

Table 2

Correlations for Sexual Victimization Subsample

	M	*SD*	Correlations		
			1	2	3
1. Sexual Victimization	5.82	5.24			
2. Posttraumatic Stress	24.82	22.16	.68***		
3. Coping Self-Efficacy	49.33	23.29	-.35***	-.40***	
4. Secure Attachment	22.73	8.52	-.40***	-.45***	.43***

Notes. Ns = 108-111. ** $p < .01$. ***$p < .001$.

APPENDIX G: GENDER DIFFERENCES FOR SEXUAL VICTIMIZATION SAMPLE

Table 3

Gender Differences for Sexual Victimization Sample

	Gender		*t*	*p*
	Women (n = 83)	Men (n = 21)		
1. Sexual Victimization	6.51 (5.39)	2.71 (2.65)	-3.21	.002**
2. Posttraumatic Stress	27.87 (21.70)	8.19 (12.38)	-3.99	.001***
3. Coping Self-Efficacy	45.70 (20.33)	66.63 (23.38)	4.09	.001***
4. Secure Attachment	22.10 (8.33)	26.14 (7.19)	2.04	.044

Notes. Means and standard deviations are presented. ** $p < .01$. ***$p < .001$.

APPENDIX H: MEDIATION ANALYSES TO PREDICT LEVELS OF POSTTRAUMATIC STRESS

Table 4

Indirect Effect of Variables on the Association Between Sexual Victimization and PTS

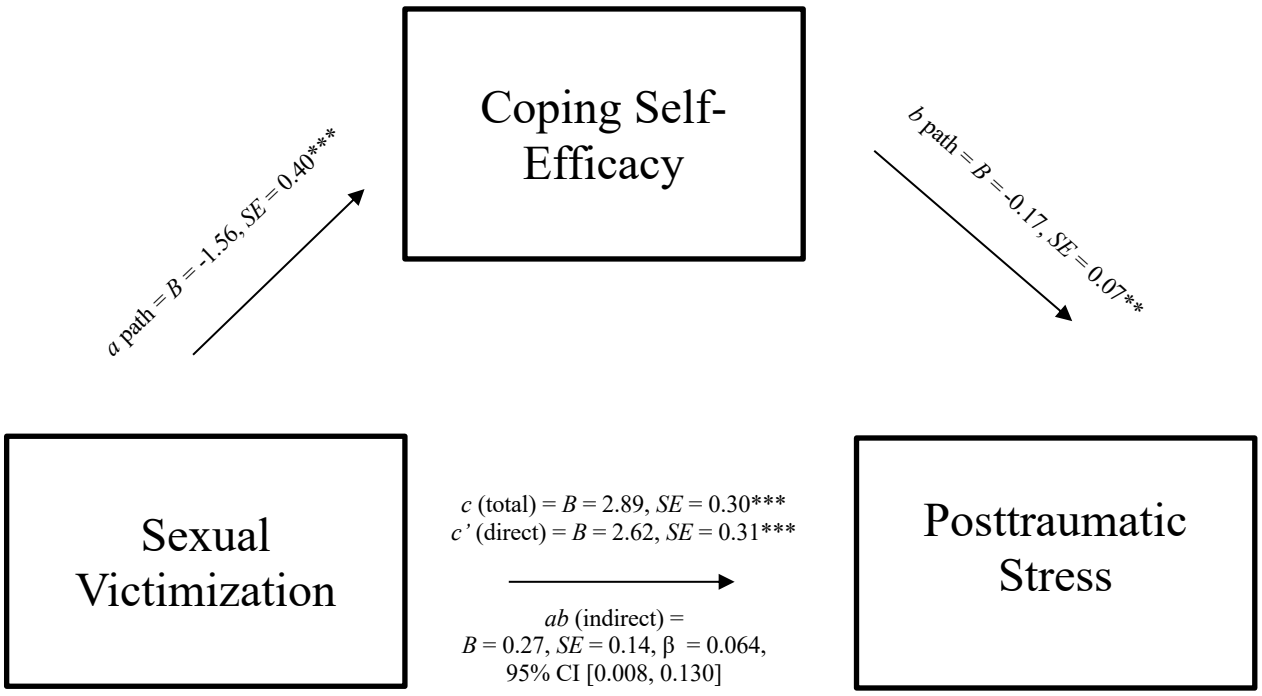
	B	*SE*	β	95% CI	*p*
Coping Self-Efficacy	0.27	0.13	0.064	[0.008, 0.130]	.001***
Secure Attachment	0.32	0.04	0.077	[0.030, 0.641]	.001***

Notes. *N*s = 106-108. ** $p < .01$. ***$p < .001$.

APPENDIX I: MEDIATION MODEL FOR COPING SELF-EFFICACY

Figure 1

Mediation Model for Coping Self-Efficacy

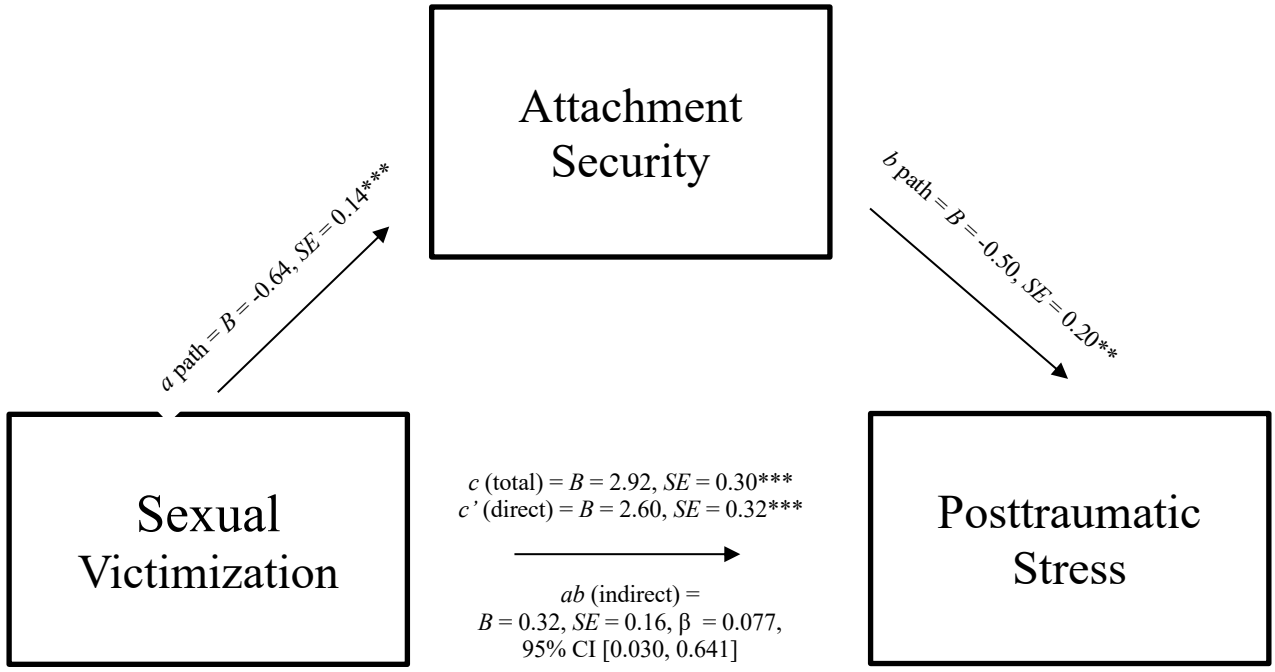


Note. ** $p \leq .01$. ***$p < .001$

APPENDIX J: MEDIATION MODEL FOR ATTACHMENT SECURITY

Figure 2

Mediation Model for Attachment Security



Note. ** $p \leq .01$. ***$p < .001$