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Interpersonal violence, internal attributions, and social reactions as predictors of PTSD in women in
jail

By
Stephanie P. Kaplan

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Doctor of Philosophy in the Department of Psychology
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To the graduate faculty:

The members of the committee appointed to examine the dissertation of

STEPHANIE P. KAPLAN find it satisfactory and recommend that it be accepted.

Shannon M. Lynch, Ph.D.

Major Advisor

Linda Hatzenbuehler, Ph.D.

Committee Member

Joshua K. Swift, Ph.D.

Committee Member

Maria Wong, Ph.D.

Committee Member

Jeremy Thomas, Ph.D.

Graduate Faculty Representative

July 21, 2016

Stephanie Kaplan
Psychology

RE: study number IRB-FY2016-332: Examining Predictors of PTSD and Cognitive Deficits among Inmates

Ms. Kaplan:

I have reviewed your application for revision of the study listed above. The requested revision involves the addition of two self-report measures.

You are granted permission to conduct your study as revised effective immediately. The date for renewal remains unchanged at 6/14/17, unless closed before that date.

Please note that any further changes to the study must be promptly reported and approved. Contact Tom Bailey (208-828-2179; email humsubj@isu.edu) if you have any questions or require further information.

Sincerely,

Ralph Baergen, PhD, MPH, CIP
Human Subjects Chair

To my parents:

Your dedication to healing, teaching, and empowering others has made this world a better place.
You are a constant source of inspiration and encouragement.

Thank you for always having my back, I love you.

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Interpersonal violence, internal attributions, and social reactions as predictors of PTSD in women
in jail

Dissertation Abstract – Idaho State University 2018

Incarcerated women experience significantly higher rates of trauma exposure, particularly interpersonal violence (IPV), than women in the community. Surveys of this population have demonstrated strong links between IPV experiences and posttraumatic stress disorder (PTSD). Female offenders' rates of PTSD are considerably higher than women in the general population. Both theoretical and empirical work suggests that malleable mediating factors underlie the relationship between IPV and PTSD, including: coping self-efficacy (CSE), social reactions to disclosures, and feelings of shame. However, few studies have measured CSE, social reactions, or shame in incarcerated samples, and no work has been done that includes the simultaneous assessment of these factors as mediators in the relationship between IPV and PTSD. The present study aimed to expand upon current literature by comprehensively evaluating the relationships among trauma exposure, CSE, social reactions, shame, and PTSD among a sample of randomly selected female offenders ($N = 150$). Multivariate analyses were conducted to examine to what extent trauma was associated with CSE, social reactions, shame, and PTSD symptoms. Furthermore, structural equation modeling was employed to test CSE, social reactions, and shame as potential mediators of the relationship between IPV exposure and PTSD. There was a significant indirect effect of IPV upon symptoms of PTSD via negative social reactions and shame, such that as frequency of IPV increased so did perceptions of negative social reactions to disclosure, and as negative reactions increased, so did feelings of shame and ultimately symptoms of posttraumatic stress. There was no significant indirect effect of IPV to PTSD via CSE; however, shame mediated the relationship between CSE and PTSD. These findings demonstrate the importance of IPV, CSE, negative social reactions, and shame as predictors of PTSD, and highlight the complexity of the

relationships among these constructs. The results of this study have the potential to contribute to our knowledge of female inmate populations and their mental health needs (e.g., prevention and treatment of traumatic symptoms).

Key Words: incarcerated women, interpersonal violence, coping self-efficacy, negative social reactions, posttraumatic stress disorder

INTERPERSONAL VIOLENCE, INTERNAL ATTRIBUTIONS, AND SOCIAL REACTIONS AS PREDICTORS OF PTSD IN WOMEN IN JAIL

Over the past several decades, the number of incarcerated women has increased significantly. Between the years of 2010 and 2013, the number of incarcerated women increased by 10.9%, such that a total of 14% of all incarcerated peoples in the United States were women (Minton and Golinelli, 2014). Incarcerated women report high rates of exposure to traumatic experiences compared to women in the general public (Green, Miranda, Darowalla, & Siddique, 2005; Messina, Grella, Burdon, & Prendergast, 2007; Weeks & Widom, 1998; Zlotnick, 1997). Researchers have demonstrated that experiences of interpersonal violence (IPV; sexual, physical, or psychological violence) are a particularly important factor in the lives of this population (Brown, Miller, & Maguin, 1999; Dehart & Lynch, 2012). Notably, studies with female offenders suggest that experiences of IPV are associated with a breadth of poor mental health outcomes, such as Posttraumatic Stress Disorder (PTSD; Drake & Brunette, 1998; Gibson et al., 1999; Lynch et al., 2012).

Negative outcomes following traumatic exposure, particularly IPV, have been linked to individuals' altered perceptions of themselves and the reactions they receive from others. For example, internal attributions and perceptions of social reactions following IPV are both associated with symptoms of posttraumatic stress (e.g., Ullman, 1996). In addition, we know that individuals who are exposed to sexual violence, for instance, are more likely to have negative internal appraisals (e.g., shame, low self-efficacy) than those without such experiences (e.g., Dunmore, Clark, & Ehlers, 1997). Moreover, it has been suggested by existing literature that individuals' perception of others' reactions to disclosures surrounding their trauma shares a strong association with the type of experience they report. Specifically, individuals who disclose

experiences of IPV tend to describe more negative reactions than individuals who disclose other types of trauma (e.g., natural disaster, accidents; Ullman & Peter-Hagene, 2014). This is important given that negative perceptions of social reactions can have deleterious impacts on psychological well-being (e.g., Ullman & Peter-Hagene, 2014). Thus, studying factors like internal attributions and reactions to disclosure offers the elucidation of potential points for intervention in work with individuals who suffer from posttraumatic symptoms, particularly following experiences of IPV.

Although studies have demonstrated high prevalence rates of traumatic exposure and PTSD among incarcerated individuals, few have studied potential mechanisms for the development and maintenance of trauma-related stress in this population. For example, no current studies have assessed the extent to which social reactions and internal attributions explain the relationship between lifetime exposure to trauma and PTSD in an incarcerated sample. The purpose of this study is to gain a more in-depth understanding of the dynamic relationships between offenders' experiences of specific forms of violence exposure (i.e., physical versus sexual assault) and later PTSD symptoms. Given that internal attributions like shame and low self-efficacy and perceptions of reactions to disclosures are potentially malleable within treatment, a clearer understanding of their contribution to or exacerbation of PTSD may provide valuable insight into treatment planning and intervention with offenders. The following literature review presents existing relevant research to make a case for the proposed study.

Traumatic Exposure and PTSD

Trauma and PTSD. *Posttraumatic Stress Disorder* (PTSD) develops after an individual is exposed to a traumatic event that represents a threat to their life or safety (American Psychiatric Association, 2013). Beyond exposure to a traumatic event, the diagnostic criteria for

PTSD, as defined by the Diagnostic and Statistical Manual of Mental Disorders, 5th edition, includes difficulties related to four clusters of symptoms: intrusion, avoidance, negative alterations in cognitions and mood, and alterations in arousal. Beyond trauma exposure, extant literature has highlighted several risk factors for PTSD, including: being female, repetitive trauma, greater severity and duration of traumatic exposure, and familiarity with the perpetrator of the trauma (Martin et al., 2013; Wolff et al., 2011).

Historically traumatic events were thought to be rare occurrences, however, work done through a nation-wide prevalence study in 1995 demonstrated that 61% of men and 51% of women in the general community had been exposed to at least one traumatic event in their lifetime (Kessler et al.). Similarly, a telephone survey conducted with 1,000 randomly selected Canadian citizens showed that 74% of women and 81% of men had been exposed to one or more traumatic events. Moreover, 55% of the men and 46% of the women reported experiencing multiple traumatic events (Stein, Walker, Hazen, & Ford, 1997). The results of these studies suggest that rather than being a rare occurrence, more than half of the adult community experiences at least one traumatic event in their lifetime.

Normative responses to such traumatic events include symptoms of acute distress; however, a small number of people continue to experience stress reactions long after the traumatic event (Benight & Bandura, 2004). In fact, although trauma experiences are relatively common, a prevalence study of lifetime PTSD among adults in the United States (N=2,953) demonstrated that only 9.4% meet DSM-5 criteria for a PTSD diagnosis (Kilpatrick et al., 2013). This suggests that many trauma-exposed individuals never develop the trauma-related disorder. As such, it is important to better understand the risk-specific mechanisms underlying the development and maintenance of posttraumatic stress.

Previous work has underscored the importance of the type of trauma one experiences to in predicting PTSD. For instance, IPV is a robust predictor of later PTSD symptoms. A meta-analysis on the impact of IPV found that individuals with histories of exposure to interpersonal violence were 6 times more likely to meet criteria for PTSD than individuals without such experiences (Golding, 1999). Current PTSD symptoms share a strong relationship with exposure to IPV. This relationship is particularly robust in cases of sexual assault, (Golding, 1999; Molnar et al., 2001). For instance, 13.5% of female participants in a nationally representative sample reported childhood sexual abuse (CSA); and of those who reported CSA, 39.1% met threshold for clinically significant symptoms of PTSD compared to 7.8% of those without such experiences (Molnar et al., 2001).

Notably, the risk of developing PTSD symptoms also increases as a function of the number of forms of violence (i.e., cumulative IPV) one experiences over their lifespan (Griffing et al., 2006; Hedke et al., 2008). Researchers suggest that cumulative IPV is related to negative health outcomes (Griffing et al., 2006), especially when the cumulative violence begins early in life (e.g., CSA; Molnar et al., 2001; Schumm, Briggs-Phillips, & Hobfoll, 2006). For instance, a study with women in the community found that those who reported experiences of abuse in childhood and sexual assault in adulthood are 17 times more likely to develop PTSD than individuals without such experiences. The same study showed that individuals with *either* childhood exposure to abuse or adult rape, but not both, are six times more likely to have PTSD than their counterparts without such experiences (Schumm, Briggs, Phillips, & Hobfoll, 2006). Similarly, Hedtke and colleagues (2008) conducted a longitudinal study and demonstrated that the odds of PTSD increased as the number of different exposures to violence increased (e.g., physical assault, sexual assault, and witnessing serious injury).

Beyond the type and number of traumas one experienced, there are several other risk factors for developing trauma-related symptoms. Specifically, being female increases one's risk for PTSD (Martin et al., 2013; Wolff et al., 2011). The results of a 2013 National Comorbidity Study using DSM 5 criteria found that women reported higher rates of IPV exposure than men (44.9% versus 42.4% for physical assault; 42.4% versus 15.8% for sexual victimization). In accordance with these discrepant rates, 12.8% of women in their sample met diagnostic threshold for a lifetime diagnosis of PTSD compared to 5.7% of their male counterparts. Similarly, 7.3% of the women in this sample met criteria for a diagnosis of PTSD in the past 12 months compared to 3.2% of the men. These results are comparable to a 2004 National Comorbidity Study, which indicated that although women reported lower rates of exposure to traumatic events (both IPV and non-IPV) than their male counterparts, they experienced significantly higher rates of posttraumatic symptoms (Breslau et al., 2004). Both of these studies replicate earlier results from a nation-wide study done by Kessler and colleagues (1995) which demonstrated that women are twice as likely than their male counterparts to meet criteria for PTSD (10.4% of women and 5% of men met criteria). Although rates of PTSD were significantly different across genders, the highest risk factor for developing the disorder was rape for both men and women. Overall these results suggest that women are at higher risk for developing PTSD subsequent to traumatic events than men, and that experiencing sexual violence remains a strong predictor of posttraumatic symptoms, regardless of victims' gender.

Previous researchers have proposed several theories to explain the gender-specific patterns in trauma exposure and PTSD. One explanation suggests that women typically experience more noxious traumas (e.g., rape) than their male counterparts (Gavranidou & Rosner, 2003; Perkonig & Wittchen, 1999). However, this theory has failed to be substantiated

across empirical studies. For example, Tolin and Foa (2006) controlled for varied forms of trauma exposure for men and women, and found that women reported higher rates of PTSD with more severe symptoms. Feminist literature offers an alternative perspective on the issue. Specifically, the feminist perspective focuses on interpersonal relationships within a woman's life. Not only are women more likely to experience interpersonal violence within close relationships (e.g., domestic violence) than their male counterparts, they are also vulnerable to heightened levels of psychological distress as a result of these experiences (Norris, Foster, & Weisshaar, 2002). Work by Wolfe and Kimerling (1997) suggested that preexisting conditions, such as depression due to cultural acceptance of violence against women, might attenuate trauma-related symptoms. Breslau and colleagues (1997) similarly found that major depressive disorder partially explained sex differences in rates of PTSD.

In contrast to focusing on the types of trauma exposure or co-occurring disorders, the social-cognitive perspective (Bandura, 1997) instead highlights the importance of the cognitions related to a traumatic event, and how those cognitions are heavily influenced by one's gender (Saxe & Wolfe, 1999). In a review of the topic, Saxe and Wolfe discussed how cognitions related to helplessness following a traumatic event are in direct conflict with culturally defined masculinity. The social cognitive theorists purport that due to this dissonance between culturally prescribed masculinity and symptoms associated with PTSD, men are more likely to alter their thoughts and feelings surrounding a trauma, whereas women are more likely to reflect on their experiences and disclose them to others (Saxe & Wolfe, 1999; Wolfe & Kimerling, 1997). In this way, social cognitive theory highlights the dynamic relationships among gender, trauma exposure, one's social environment, internal thought processes, and one's mental health. As

such, many have characterized this theory as the leading explanation for gender-specific differences in the development of PTSD (e.g., Norris, Foster, & Weisshaar, 2002).

Given previous findings surrounding women's high risk for developing PTSD, particularly following experiences of IPV, it is important to elucidate the relationships between trauma exposure and posttraumatic symptoms. This may be particularly relevant for incarcerated individuals who have higher rates of both trauma exposure (e.g., IPV) and PTSD than individuals in the general population (e.g., Gibson et al., 1999).

Incarcerated Individuals' Traumatic Exposure and PTSD. Incarcerated individuals report high rates of trauma compared to individuals in the general population (e.g., Gibson et al., 1999; Wolff et al., 2007). Researchers have found that more than 75% of incarcerated women have experienced at least one traumatic event during their lifetime (Green et al., 2005; Jordan, Shelenger, Fairbank, & Caddell, 1996; Lynch, Fritch & Heath, 2012; Singer et al., 1995), with some estimates as high as 98% (Green et al., 2005). For instance, female offenders report high rates of IPV in adulthood. A study in 2008 with 391 incarcerated women found that 70% reported at least one experience of sexual violence (i.e., rape) in their adult lives (McDaniels-Wilson & Belknap, 2008). Another survey of female inmates suggested that 85% had experienced trauma in adulthood, with physical violence reported most frequently (77%), and then sexual violence (35%; Wolff et al., 2011).

Notably, these individuals report high rates of childhood abuse (e.g., Green et al., 2005). In fact, results from several studies with this population estimate that approximately 25-50% of female inmates report at least one instance of exposure to sexual violence in childhood (e.g., Bloom et al., 2003; Bureau of Justice Statistics, 1999; McDaniels-Wilson & Belnap, 2008; Wolff, Shi, & Siegel, 2009). Furthermore, literature purports that female offenders tend to report equal

rates of physical and sexual violence throughout childhood (Bureau of Justice Statistics [BJS], 1999; McClellan et al., 1997). Although there are similarities in regard to frequency of exposure to both childhood physical and sexual abuse, previous work demonstrates the role of childhood sexual trauma as a consistently strong and cumulative predictor of posttraumatic stress for female offenders (Messina et al., 2007).

These estimates are representative of the high frequency of traumatic exposure among incarcerated populations. Importantly, inmates often report traumas that involve severe, multiple exposures (Browne et al., 1999; Lynch, Fritch, & Heath, 2012). For instance, Wolff et al. (2011) examined the prevalence of traumatic exposure in a sample of prison inmates. They reported that almost three-fourths of the women interviewed ($N = 209$) indicated experiences of violence in their childhood; and 55% of those exposed to childhood violence reported CSA specifically. Moreover, 85% of their sample reported that they had at least one experience of IPV in adulthood. Notably, approximately 30% of this sample stated that they had experienced both physical and sexual violence at some point during their lifetime. The frequency at which those events occurred was significantly higher in individuals diagnosed with serious mental illness (e.g., PTSD) than in individuals who did not meet criteria for a disorder (Wolff et al., 2011). Overall, the results of these studies suggest incarcerated individuals are at high risk for cumulative IPV across their lifespan (Tusher & Cook, 2010). Importantly, these high rates of IPV and cumulative IPV increase inmates' likelihood of suffering from poor mental health outcomes, particularly PTSD.

High rates of IPV increase female offenders' likelihood of suffering from psychological distress, particularly PTSD. Thus, given the high rates of traumatic exposure across their lifespans, it is perhaps not surprising that studies with incarcerated populations homogeneously

demonstrate higher rates of PTSD compared to similar studies with the general population (Browne, Miller, & Maguin, 1999; Green et al., 2005; Harner, Budescu, Gillihan, Riley, & Foa, 2013; Lynch et al., 2014; Saxon et al., 2001; Teplin, Abram, & McClelland, 1996; Zlotnick, 1997), and that these rates of PTSD are closely associated with their reports of IPV (e.g., Lynch et al., 2012). For instance, Green and colleagues conducted structured interviews with a sample of women in jail (N = 100) and found that 98% had a history of trauma exposure, and 22% met criteria for current PTSD (2005). In a similar study with women in prison (N = 387), Harner et al. (2013) reported that approximately half (44%) of the sample met diagnostic criteria for PTSD. Those who met criteria for the disorder were more likely to report experiences of nonsexual and sexual assaults compared to women without diagnoses.

In summary, research has demonstrated high rates of traumatic exposures, particularly IPV, and PTSD within incarcerated populations (Green et al., 2005; Jordan et al., 1996; Lynch, Fritch & Heath, 2012; Lynch et al., 2014; Singer et al., 1995). However, the mechanisms underlying this relationship are understudied in this population. Work with community samples has highlighted several possible mediators that may explain the association between IPV and PTSD, including: perceived coping self-efficacy (e.g., Benight & Bandura, 2010), social reactions to disclosures (e.g., Frazier et al., 2005), and shame (e.g., Lee et al., 2001). However, no current literature has examined these variables simultaneously within an incarcerated population. The current study explores the relationships between trauma exposure and PTSD in women in jail, and offers a more comprehensive conceptualization of variables that may mediate this association or affect an individual's likelihood of experiencing symptoms of posttraumatic stress. Specifically, I examine perceived coping self-efficacy (e.g., Benight & Bandura, 2010),

social reactions to disclosures (e.g., Frazier et al., 2005), and shame (e.g., Lee et al., 2001) as potential mediators of the association between trauma and PTSD in incarcerated women.

Perceived Coping Self-Efficacy

In their seminal article on the subject, Benight and Bandura (2010) defined perceived coping self-efficacy, shortened to *self-efficacy*, as the “perceived capability to manage one’s personal functioning and the myriad environmental demands of the aftermath occasioned by a traumatic event (pp. 1130).” Commonly, self-efficacy is discussed from a social cognitive framework, focusing on coping with stress following an unpredictable or uncontrollable traumatic event. Given its strong association with traumatic exposure, many are interested in how self-efficacy contributes to the development and maintenance of PTSD. Before discussing how self-efficacy relates to pathology specifically, it is important to briefly discuss it from a theoretical and empirical standpoint.

One cannot discuss the topic of self-efficacy without also considering work by Albert Bandura. Bandura (e.g., 1997, 2001) is widely acknowledged as the father of research on human agency. He purported that a belief in one’s own self-efficacy, or the perceived ability to manage one’s own functioning and exert control within an environment, is the foundation of agency. In other words, without the belief that one’s actions can produce desired effects, one has little reason to act or persevere following challenging events. From this standpoint, self-efficacy regulates human functioning through a number of mechanisms, including: cognitive, motivational, affective, and decisional processes (Benight & Bandura, 2010). For instance, beliefs in self-efficacy impact the way an individual perceives him or herself (e.g., “I am strong enough to handle this” versus “I am unable to do anything to help”). Such beliefs also impact one’s motivation to endure stress and its subsequent consequences. Through these mechanisms,

self-efficacy impacts how resilient an individual is in the face of, and following, stressful or traumatic events (e.g., Bandura, 1997; Gully et al., 2002; Holden et al., 1990; Moritz et al., 2000).

Work by Bandura (e.g., 1997), and related work by others, suggests that self-efficacy is a key construct in understanding an individual's reaction to stress. In their review, Benight and Bandura purport that the mechanism of self-efficacy impacts the intensity and persistence of stress reactions through several distinct processes related to the evaluation of threat (i.e., attentional, construal, transformative actions, and thought control). Literature within this area underscores how rather than being objective and situational, threat is established in relation to both one's perceived abilities to cope as well as the potentially dangerous aspects of an environment (Bandura, 1997; Benight & Bandura, 2010). Thus, individuals exposed to the same environment may find it either dangerous or benign based on their beliefs surrounding self-efficacy. This is supported by experiments demonstrating that individuals led to believe that they have some control over their environment demonstrate less distress and impairment than their counterparts who are led to believe they have no control, even when the events they are exposed to are held constant (Litt, Nye, & Shaffer, 1993; Sanderson, Rapee, & Barlow, 1989).

Self-efficacy also affects how effectively individuals cope with stress following exposure. For instance, higher levels of self-efficacy are associated with higher levels of proactive behaviors (e.g., problem solving, strategizing) to alleviate stress and negative affect (e.g., Bandura, Blanchard, & Ritter, 1969; Williams, 1990). Moreover, higher self-efficacy has been associated with higher thought control (e.g., being able to rid one's mind of trauma-related or upsetting cognitions). Unlike thought suppression, which demands constant evaluation of the very thought someone is trying to rid themselves of (i.e., if told not to think about a pink bear

one must consistently “check in” to ensure they are not thinking about said bear; Mitchell et al., 2007), thought control implies being able to actively exercise control over what an individual thinks, and as such, not being bothered by upsetting intrusions (Benight & Bandura, 2004). This is important given that many researchers in this field suggest that low levels of thought control are associated with higher levels of negative affect, even while controlling for the frequency or content of the thoughts themselves (Churchill & McMurray, 1989; Kent, 1987). Thus, self-efficacy is tied to how one perceives threats, behavioral and cognitive reactions to stress, as well as coping following stressful events.

Social cognitive theory provides a framework to understand the relationships between self-efficacy, reactions to trauma, and trauma-related outcomes (e.g., Bandura, 1997). The theory is based on an individual acting as an agent, or holding the power to influence their functioning and environment. In this way, an individual acts to protect their well-being rather than having to rely on situational circumstances. Importantly, this framework suggests that individuals’ relations with others (e.g., social support) can further enable an individual to adapt following stress through modeling of positive coping skills or attitudes, motivating an individual with incentives or activities, or demonstrating efficacy themselves in the face of stress (Benight & Bandura, 2010). This has been supported through empirical studies demonstrating that social support is only beneficial in reducing psychological distress to the extent that it increases one’s perceived self-efficacy to cope (e.g., Benight et al., 1999). Moreover, limited work has suggested that self-efficacy is necessary to establish social support (Holahan & Holahan, 1987; Johansen, Wahl, Eilertsen, & Weisaeth, 2007). Overall, this framework suggests that social support and self-efficacy are strongly associated, and both are influential in one’s perception of and recovery from threatening events.

A few researchers have studied perceptions of self-efficacy after experiences of interpersonal trauma, and their relationship with psychological distress (e.g., Kushner, Riggs, Foa, & Miller, 1993). Unlike other types of trauma (e.g., natural disasters) IPV is social in nature. As a result of its social nature, experiences of IPV often contribute to an ongoing sense of threat across context and situation (Benight & Bandura, 2010). Due to the generalized nature of such trauma, an individual's sense of control is often constricted (e.g., expecting and interpreting threat across situations), which in turn increases psychological distress. To investigate the relationship between control and distress, Ozer and Bandura (1990) created a mastery-modeling program in which women learned self-defense against sexual violence. After women engaged in this program, they reported higher beliefs in self-efficacy, particularly in their abilities to control (e.g., dismiss) upsetting thoughts about themselves and their environment. The researchers used path analysis to demonstrate that self-efficacy increases one's ability to evaluate risk situations, which reduces avoidant behavior (e.g., withdrawal) and increases one's social contact and engagement in leisure activities. As a result, these women reported lower negative affect and psychological distress (e.g., trauma-related anxiety). Overall, this work suggests that self-efficacy is a proximal variable associated with psychological distress through the enhancement of adaptive cognitive, behavioral, and social coping strategies.

Researchers have also investigated the association between efficacy and trauma-specific pathology (DeCou, Lynch, Cole, & Kaplan, 2015). The study by DeCou and colleagues (2015) was conducted with 102 incarcerated women who had histories of partner violence (PV). Researchers demonstrated that the relationship between PV and PTSD was significantly moderated by coping self-efficacy, such that belief in one's ability to cope served as a protective factor against posttraumatic symptoms. Further, a study of 66 adult women who reported

histories of CSA (22 were recruited from correctional facilities) demonstrated that self-efficacy mediated the effects of negative cognitive distortions (i.e., strong negative beliefs about the self or the world) on PTSD (Cieslak, Benight, & Lehman, 2008). A study by Kushner and colleagues (1993) showed that perceived control following rape and nonsexual criminal acts predicted PTSD over time, even while controlling for assault severity. Moreover, a treatment study with women who had experienced domestic violence found that increasing self-efficacy related to fewer symptoms of posttraumatic stress (Benight & Midboe, 2002). Overall, these results suggest that self-efficacy shares a robust association with PTSD in victims of IPV.

Although empirical findings suggest that a strong association exists between IPV, self-efficacy beliefs, and PTSD, these relationships are understudied in incarcerated populations. The current study offers an opportunity to replicate this association, while also examining the influence of other variables (e.g., social reactions and shame) within an incarcerated sample.

Social Reactions to Disclosure

Subsequent to a trauma, most individuals disclose their experience to at least one person. Starzynski and colleagues (2005) wrote that the individuals whom survivors disclose to generally fall within two categories: formal or informal support systems. Formal supports are characterized by institutions that provide support, such as: police, medical personnel, or mental health professionals. Informal supports are characterized by individuals who share day-to-day relationships with the victim (e.g., friends, family, romantic partners). Generally, disclosure to a support system is thought to reduce psychological distress (e.g., Arata, 1998; Coker et al., 2002; Ruggiero et al., 2004). However, some mixed results have emerged regarding whether or not disclosure to support is associated with improved psychological adjustment. Specifically, some findings suggest that disclosure has no impact on psychological health (Nagel, Putnam, Noll, &

Tricket, 1997; Sinclair & Gold, 1997), while others report disclosure to be harmful (e.g., Elliott & Briere, 1994; Roesler, 1994). Such varied results suggest that other factors, such as social reactions to disclosure, rather than the act of disclosure itself, are predictive of a survivor's psychological adjustment.

The relationship between disclosure and psychological adjustment is important to understand given that most survivors of IPV perceive a mix of positive and negative reactions subsequent to their disclosure (Campbell et al., 2001; Ullman & Filipas, 2001; Ullman, 1996). In general, positive social reactions are characterized by providing emotional support and instrumental/tangible aid. In contrast, victim blame, egocentric reactions, taking control, distraction, and treating an individual differently characterize negative reactions. The rates at which one receives these reactions varies depending on the type of trauma being disclosed. For instance, survivors of sexual assault receive higher rates of negative responses than any other type of trauma (Davis & Brickman, 1997; Ullman & Filipas, 2001). This is notable given that the harmful impact of negative reactions is stronger than the protective impact of positive reactions on later psychological adjustment (e.g., Ullman & Peter-Hagene, 2014).

Several independent studies demonstrate the influence of social reactions on psychological adjustment. For instance, it appears that the nature of social responses, particularly to disclosure surrounding a stigmatized experience such as sexual victimization, influence how an individual perceives and reacts to their traumatic experience (Hassija & Gray, 2012; Ullman & Filipas, 2001). Specifically, negative reactions are associated with a range of negative psychosocial outcomes, such as higher rates of psychopathology, low self-worth, dissociation, and problems in adult relationships (e.g., Campbell et al., 2001; Davis, Brickman, & Baker, 1991; Hassija & Gray, 2012; Ullman, 1996; Ullman & Filipas, 2001). Research on social

reactions to disclosures of sexual or physical violence indicates that a particularly robust relationship exists between perceived negative reactions to disclosure and symptoms of PTSD (e.g., Andrews, Brewin, & Rose, 2003; Starzynski, Ullman, Filipas, & Townsend, 2005; Ullman & Filipas, 2001; Ullman, Townsend, Filiipas, & Starzynski, 2007; Ullman & Peter-Hagene, 2014; Ullman, 1996; Ullman, 2003).

One theory that explains the association between IPV and PTSD focuses on survivors' perceptions of control (e.g., Ullman & Peter-Hagene, 2014). Specifically, Frazier and colleagues (2011) demonstrated that negative reactions lowered survivors' perceptions of control over their recovery. In other words, survivors described having less perceived control over their recovery process (e.g., thoughts and feelings following the trauma; Frazier et al., 2011). Further work by Frazier and colleagues (2005) demonstrated that perceived control over one's recovery is associated with lower rates of social withdrawal and distress among victims of sexual assault. Overall, this suggests that negative reactions may increase the perceived loss of control often experienced during trauma, and such perceived uncontrollability may generalize to one's sense of control in their recovery.

Associations between positive reactions to disclosure and psychological adjustment are not as strong as those found between negative reactions and psychological distress (Ullman, 1999; Ullman, 2010), however, there is literature that suggests positive reactions may protect against poorer psychological outcomes. For instance, a longitudinal study of 173 parents whose children had passed away in violent situations (e.g., car accidents, homicides) found that perceived social support was one of only two variables (i.e., social support and gender) that significantly predicted change in PTSD symptoms. Specifically, parents who perceived high

levels of positive support reported fewer symptoms of PTSD over the five-year span (Murphy, Johnson, Chung, & Beaton, 2003).

Although existing research suggests a strong association between social reactions to disclosure and PTSD among many diverse populations, there is currently no work examining this relationship in incarcerated populations. The current study offers to replicate this important finding, as well as offer further insight regarding patterns of disclosure and reactions and how they may influence negative self-appraisals (i.e., shame).

Shame

Some extant literature suggests that the relationship between trauma and psychological adjustment may be due to the mediating effects of shame (Feiring, Taska, & Lewis, 1996; Oktedalen, Hoffart, & Langkaas, 2015). For the purposes of the current study, shame is defined as a pattern of painful negative evaluation of oneself (e.g., viewing oneself as intrinsically flawed/damaged). This emotion theoretically involves intense feelings of helplessness, powerlessness, and self-scrutiny (Lindsay-Hartz, 1984; Tangney, 1991) that are associated with a sense of intense and unexpected exposure or vulnerability (Lewis, 1971). Thus, the emotion is also characterized by a desire to withdraw from situations that may lead to real or imagined social evaluation (i.e., a want to escape from others) in order to avoid these painful affective states (Tagney, 1991; Feiring & Taska, 2005). Notably, among community and incarcerated samples, women report higher rates of shame than their male counterparts (Tangney & Dearing, 2002; Tangney, Stuwig, Mashek, & Hastings, 2011). The experience of shame is associated with a breadth of poor psychological outcomes across diverse populations, including: depression (Andrews, 1995, 1997; Andrews, Qian & Valentine, 2002; Tangney, Wagner, & Gramzow, 1992), eating disorders (Andrews, 1995, 1997; Troop, Allan, Serpal, & Treasure, 2008), and

PTSD (e.g., Andrews, Brewin, Rose, Kirk, 2000; Budden, 2009; Lee, Scragg, & Turner, 2001; Wilson, Drozdek, & Turkovic, 2006).

Before discussing its link to pathology further, it is important to first discuss shame broadly from a theoretical and empirical standpoint. Affect theory (e.g., Fessler, 2007; Gilbert, 2003; Lewis, 1987; Wilson, Drozdek, & Turkovic, 2006; Wurmser, 1987) characterizes shame as a *social emotion* that acts as an underlying mechanism for a range of negative emotions from mild embarrassment to severe humiliation. It provides humans with a sense of self-consciousness and, in healthy individuals, guides moral decision-making (Parker & Thomas, 2009). As such, shame offers both internal and external-based judgments (e.g., self-criticism versus social criticism; Gilbert, 2003; Lee, Scragg, & Turner, 2001).

Though often confused with guilt, affect theory states that the two emotions are distinct (e.g., Lewis, 1971; Sheik & Janoff-Bulman, 2010), and have differential outcomes (Leskela, Dieperink, & Thuras, 2002). Specifically, while shame is defined as a negative self-evaluation, guilt is characterized by remorse and regret occurring simultaneously with thoughts that one should have thought, felt, or acted differently (Kubany, 1994). As guilt is specific to a particular context rather than one's global identity, it is often thought to be less painful than the emotion of shame (Gramzow & Tangney, 1992). Moreover, while both emotions are thought to be adaptive in motivating individuals to repair wrongdoings or correct maladaptive behavior across situations, shame is thought to only be adaptive in controlled, changeable, and safe situations (de Hooze, Zeelenberg, & Breugelmans, 2010).

Unfortunately, many traumatic experiences, particularly IPV, are perceived to be unchangeable or dangerous to confront, and are strongly associated with maladaptive shame-related emotions. In fact, as violence becomes more severe, it is typically perceived as more

uncontrollable, and thus elicits more shame (Weiner, 1986). For instance, Wilson and colleagues (2006) studied traumatic shame in the context of Holocaust survivors. The survivors described chronic violence in concentration camps (e.g., physical and sexual assault, torture) as particular sources of shame later in life. The authors theorized that the ongoing violence violated the survivors' expectations about others and the world around them (i.e., the world became unsafe), and stripped them of their ability to act with dignity or defend themselves (i.e., helplessness/without control). Similar shame-related emotions have been demonstrated to be central features of post-traumatic reactions across several types of IPV, including: female-perpetrated violent crime (Trumbull, 2003), same-gender physical assault (Grey et al., 2001), child abuse (Schore, 1994), and combat exposure in war veterans (Wong & Cook, 1992).

The experience of shame is a particularly common consequence of CSA (e.g., Ackerman, Newton, McPherson, Jones, & Dykman, 1998; Feiring, Taska, & Lewis, 2002, 1996). A leading researcher on this topic, Feiring and her colleagues suggest that this is a result of the stigmatizing nature of sexual abuse (i.e., sex being a taboo subject; Feiring & Taska, 2005). As a result of the stigma, CSA is thought to lead to an increase in a person's self-focus and negative self-evaluation (e.g., beliefs about being "dirty"; Graham & Hoehn, 1995; Lewis, 1992). Moreover, these feelings of shame appear to heighten when the experience of CSA is made public through disclosure to either formal or informal sources of social support (Feiring et al., 2002). In other words, social disclosure of a taboo subject results in individuals feeling vulnerable and ashamed, and these emotions predict poor psychological adjustment, particularly PTSD (Feiring, Taska, & Chen, 2005). Given these relationships, it is important to better understand the relationship between shame and posttraumatic psychological adjustment.

A recent randomized controlled trial by Oktedalen and colleagues (2015) examined the relationship of shame and guilt to PTSD symptoms over the course of treatment. The researchers demonstrated that patients who reported higher levels of shame at the beginning of treatment also reported higher levels of PTSD symptoms throughout the course of the intervention. Moreover, fluctuations in self-reported shame are positively associated with posttraumatic symptoms both during and 3 days following treatment (Oktedalen et al., 2015). Overall, findings of this work are interpreted to suggest that shame is an important variable to consider in the development and maintenance of PTSD.

In recent decades, an influx of research on the relationship between shame and psychological outcomes of interpersonal trauma demonstrates that after a trauma, a sense of shame lowers help-seeking behavior (Andrews, 1995, 1998) and reduces an individual's ability to properly process an event (Brewin, Dalgleish, & Joseph, 1996; Riggs et al., 1992). Theorists who support the shame-based model of PTSD suggest that it is the characteristic act of withdrawing from thoughts, feelings, and behaviors that contribute to the development of trauma-based pathology (Lee et al., 2001). The model purports that shame perpetuates trauma through an ongoing influence on the interpretation and salience of an event. Specifically, trauma experiences lead to shame-based beliefs about oneself and others (e.g., "I am useless" or "others think poorly of me"). These beliefs guide how an individual interprets and processes a traumatic event. In order to cope with the painful thoughts, individuals often turn to avoidance strategies, which in turn, perpetuate the trauma by not allowing individuals to move forward from their experiences (Lee et al., 2001; Vidal & Petrak, 2007).

The socio-emotional framework presents a related model of shame and PTSD. In his review of the relationship between shame and posttraumatic stress, Budden (2009) discussed the

importance of shame specifically in relation to one's social self-i.e., one's sense of core identity that is stable across social environments. This framework suggests that traumas act as social threats that destroy one's ability to relate to the world around them. As individuals respond to these threats, shame-related emotions (e.g., helplessness) are either exaggerated or eased by interpersonal and cultural responses. As such, shame is a particularly important variable to consider when examining the psychological adjustment among survivors of IPV, particularly violence of sexual-nature, as those individuals are at increased risk for developing shame-related affect (Andrews, 1998; Talbot, 1996), and also less likely to receive positive social reactions upon disclosure (Davis & Brickman, 1997; Ullman & Filipas, 2001). Together, these two models offer support for the associations between victimization, shame, social responses, control over recovery (e.g., avoidance coping techniques), and the development of PTSD.

One example of a socio-cultural framework relevant to shame is religious affiliation. Religious affiliation is important to consider in the context of the current study given the high rates of individuals who report using religion as a method of coping following traumatic exposures (e.g., Ai & Park, 2005; Overcash et al., 1996), and the various studies that have pointed to religiousness as a predictor of posttraumatic growth and recovery (e.g., Calhoun, Cann, Tedeschi, & McMillian, 2000; Shaw, Joseph, & Linley, 2005). In recent decades, researchers have discussed the association between religiosity, shame, and mental health outcomes. In a study with 449 Veterans suffering from PTSD, researchers demonstrated that religiosity played a protective role (i.e., was negatively associated with) trauma-related symptoms. Specifically, Veterans who reported higher religious affiliation reported fewer symptoms of PTSD; researchers hypothesized that this was in part due to a reduction in shame and guilt due to feeling "forgiveness" from a higher power (Tran, Kuhn, Walser, & Drescher,

2012). As such, religion is an important socio-demographic factor to consider when discussing trauma, shame, and mental health outcomes.

Incarcerated Individuals and Shame. Although experiences of trauma, particularly CSA, are common among incarcerated populations, very few researchers examine inmates' experience of shame. Robinson and colleagues (2007) compared a group of adolescent male offenders (n=64) to a community comparison group (n=60) and reported that the two groups had no significant differences in reported levels of shame. However, their results demonstrated that shame was positively associated with aggression and anger (Robinson et al., 2007). Tangney and colleagues (2011) replicated these findings with a sample of men and women in jail. These researchers demonstrated that higher levels of reported shame are associated with increased psychological symptoms, negative attitudes towards others, and problems with substance use.

Extant studies suggest that not only is shame linked to negative affect and pathology among offenders, it is also predictive of their criminal behavior (e.g., Tibbetts, 1997, 2003; Tangney, 1994). For example, a study on individuals charged with tax evasion (N=652) demonstrated that experiences of shame resulting from others' negative reactions predicted higher rates of recidivism (Murphy & Harris, 2007). Similarly, research with a sample of 1,243 recently released German adolescents and young adults suggested that shame at release predicted higher rates of reoffending (Hooser, Windzio & Greve, 2008). This work suggests that shame is a particularly relevant variable for research with incarcerated individuals who suffer high rates of trauma and psychopathology.

Therefore, a more in depth understanding of the associations between IPV, social reactions, perceived control over recovery, shame, and PTSD offers the potential to identify

malleable targets for change, and as such may inform intervention programs for incarcerated individuals.

The Relationships among Traumatic Exposure, Social Reactions to Disclosure, Shame, Perceived Control over Recovery, & Posttraumatic Stress

The above literature review illustrates the relevance of social reactions to disclosure, shame, and self-efficacy (i.e., perceived control over recovery) in furthering our understanding of the relationship between IPV exposure and PTSD. However, in order to more fully understand why some individuals experience posttraumatic stress while others do not, it is critical to conduct research that assesses the relationships among these factors in one study. The present study aims to assess how these variables contribute to inmates' mental health following traumatic experiences. This will be the first study to examine all of these variables together in an incarcerated sample.

Only a small number of researchers have investigated the relationship between IPV, social support, self-efficacy, and PTSD. Longitudinal studies of treatment-seeking victims of assault have shown that positive reactions to disclosure predict fewer symptoms of posttraumatic stress at 1 and 6-month follow-up sessions. Specifically, positive responses to disclosure were significantly associated with higher levels of social engagement and lower levels of PTSD (Andrews, Brewin, & Rose, 2003). Proponents of the social cognitive theory state that social support (i.e., positive reactions to disclosure) reduces psychological distress by enabling and enhancing self-efficacy (Benight & Bandura, 2004). Evidence from several independent studies support this assertion (e.g., Cieslak et al., 2007; Johansen et al., 2007). For instance, Johansen and colleagues (2007) found that victims of violent assault experiences are more likely to

experience symptoms of PTSD if they report low perceived self-efficacy, and that relationship is moderated by perceived social support.

One reason that social support may enhance self-efficacy's impact on psychological well-being is the role of others in modeling coping attitudes and skills. In particular, receiving negative reactions may serve as a model for one's own attitude about themselves and their ability to cope with stressful life events. This relationship potentially explains the significant impact of negative social reactions on posttraumatic recovery. For example, a study by Ullman (1996) examining adult female survivors of sexual assault showed that negative social reactions (e.g., blaming the victim) were associated with higher reported rates of avoidance coping techniques (e.g., withdrawal) and greater characterological self-blame. Together, the results of these studies suggest that individuals who perceive high rates of positive social support (i.e. positive reactions) are at an increased likelihood to report higher levels of perceived control over recovery (i.e., coping self-efficacy) and lower amounts of psychological distress (e.g., PTSD).

As indicated above, support for social cognitive theory demonstrates that trauma-related self-efficacy and social support are important predictors of IPV survivors' experiences of posttraumatic recovery (Benight & Bandura, 2004). The social cognitive model also purports that these mechanisms influence recovery by reducing negative cognitions about the self and the world (Cieslak, Benight, & Lehman, 2008). A study by Samuels-Dennis and colleagues (2013) demonstrated through structural equation modeling that cognitions related to empowerment (i.e., being able to identify and reflect on personal strengths) mediated the relationship between IPV and PTSD. The study used reports from 181 single mothers who reported histories of interpersonal conflict, and found that both social support and a sense of empowerment were protective factors in the relationship between IPV and PTSD. Thus, positive cognitions about

oneself and perceived support from others acted as protective factors in regard to the development of PTSD. Further, researchers have found that negative evaluations about oneself relate to greater psychological distress and impairment. For example, Cieslak and colleagues (2009) studied cognitive distortions in two samples of trauma survivors, including 66 adult victims of CSA and 70 adult survivors of motor vehicle accidents. In both groups, negative beliefs about the self and the world predicted higher levels of posttraumatic stress. Notably, the relationship between negative cognitions and PTSD was mediated by self-efficacy.

Therefore, strong support exists for the role of negative cognitions in general in the development and maintenance of posttraumatic stress. However, less work has been done specifically examining the role of shame (i.e., the negative evaluation of oneself at a characterological level) in context with the other variables discussed above (e.g., self-efficacy, social reactions). However, many authors have alluded to the role of constructs related to shame in studies of self-efficacy and social reactions. For instance, Dunmore and colleagues (1997) examined the role of cognitive factors in the development and maintenance of PTSD. The authors showed that individuals with persistent PTSD symptoms were more likely to report negative appraisals of themselves (e.g., “something is wrong with me”) and their behaviors (e.g., self-blaming) during traumatic events. Moreover, in a study of women’s psychological adjustment following IPV, Ozer and Bandura (1990) used path analysis to demonstrate that self-efficacy strongly influenced individuals’ regulation of avoidant behavior by increasing engagement in social and recreational activities. Similarly, work by Ullman (1996) demonstrated that following sexual assaults, negative social reactions correlated with higher rates of avoidance coping, characterized by not talking about their assault or withdrawing from social situations. Notably, it has been shown that withdrawal and avoidance are key characteristics of shame

(Tagney, 1991; Feiring & Taska, 2005), and similar to shame, predict poorer psychological outcomes (e.g., PTSD) for victims of IPV (Frazier et al., 2005; Ullman, 1996; Valentiner et al., 1996).

Further, reductions in shame-related cognitions and behaviors are associated with improved recovery. For instance, a treatment study conducted with 125 female survivors of domestic violence showed that after completing treatment, and at 3 and 6-month follow-ups, reductions in shame were associated with reductions in PTSD symptoms. Self-reported reduced levels of shame were also significantly associated with reductions in avoidance (i.e., withdrawal; Kubany et al., 2004). Moreover, researchers who conducted a study with survivors of a natural disaster found that beliefs regarding one's ability to cope with a traumatic event were strongly associated with the ability to identify personal strengths and recognize personal improvement. Importantly, the level of self-efficacy and reported positive cognitions about oneself were related to improved psychological outcomes (Ceislak et al., 2009). The pattern of identifying personal strengths and recognizing personal improvement is in direct opposition to typically described patterns of shame-related cognitions (e.g., self-criticism). The combined results from these varied research projects suggest there are important associations among IPV, social reactions, perceived coping self-efficacy, shame-related cognitions and behaviors, and PTSD.

Current Study & Hypotheses

This dissertation seeks to contribute to the literature by examining the associations among IPV histories, social reactions to disclosures, self-efficacy, shame, and posttraumatic stress among a sample of female inmates. Specifically, the proposed study will examine the mediating influence of self-efficacy, negative social reactions, and shame on the association between IPV and posttraumatic stress. These constructs have all been demonstrated to mediate the relationship

between IPV and PTSD in previous research with female samples; however, this study will offer a strong contribution to the literature given that it will be the first to examine all of the identified variables in one model, and offer the first assessment of these potential mediators in an incarcerated sample. Given that several studies have demonstrated that positive social reactions are not significantly associated with negative outcomes following trauma exposure, they will not be included in the proposed model. Based on the above literature review, my study will examine the following hypotheses:

Hypothesis 1. Importance of religion will be significantly negatively correlated with shame, such that individuals who report religion as more important in their lives will have lower levels of shame. This hypothesis is based on literature that suggests that religiosity is a protective factor against shame and poor mental health outcomes following traumatic exposure (Tran, Kuhn, Walser, & Drescher, 2012).

Hypothesis 2: A measurement model with three latent variables will be tested. First, childhood physical violence, childhood sexual violence, adult physical violence, adult sexual violence, and witnessing violence will all load onto a common Interpersonal Violence (IPV) factor. Next, I hypothesize that distraction/discouraging talking, victim blame, treat differently, taking control, and egocentric reactions will load onto a common Negative Social Reactions factor. Finally, I expect that internal condemnation, internal affective-behavioral, external condemnation, and external affective-behavioral will load onto a common Shame factor. See Figure 3.

Hypothesis 3: Self-efficacy will mediate the relationship between IPV and negative social reactions to disclosure (see Figure 5). Specifically, IPV is predicted to be significantly negatively associated with self-efficacy, as has been demonstrated in existing literature (e.g.,

Benight & Bandura, 2010). Moreover, self-efficacy will be strongly negatively associated with reported negative reactions to disclosures. This hypothesis draws on work done by Hassija and Gray (2012) who found that negative social reactions mediated the relationship between internal attributes of responsibility and PTSD among survivors of interpersonal assaults. The authors argued that the way that an individual perceives and presents themselves and their experiences of trauma will strongly influence the perceptions of others, and therefore how others react to them. Further, work on perceived control over recovery (i.e., self-efficacy) has demonstrated that higher perceived control is associated with stronger and more positive social support (Benight & Bandura, 2010; Holahan & Holahan, 1987; Johansen, Wahl, Eilertsen, & Weisaeth, 2007). In regard to the current study, the author is proposing that higher rates of self-efficacy will influence whom an individual discloses to (e.g., the availability of positive support), as well as how they present information about themselves and their trauma. In this way, it is hypothesized that lower levels of self-efficacy will mediate the relationship between IPV and negative reactions to disclosures.

Hypothesis 4: Negative reactions to disclosure will significantly mediate the relationship between IPV and shame, such that inmates whom report more negative social reactions will have higher rates of shame-related cognitions relative to inmates whom report fewer negative social reactions. This hypothesis is based on literature demonstrating that following sexual assaults, negative social reactions are correlated with higher rates of avoidance (e.g., withdrawal from social situations). The characteristic pattern of withdrawal and avoidance key characteristics of shame, and similar to shame, have been demonstrated to predict poorer psychological outcomes (e.g., PTSD) for victims of IPV (Frazier et al., 2005; Ullman, 1996; Valentinier et al., 1996).

Hypothesis 5: Given that extant literature has highlighted the significant role of shame in predicting PTSD, it is predicted that female inmates with higher levels of shame will have higher rates of PTSD symptoms. In this way, shame is hypothesized to mediate the relationship between negative reactions to disclosures and PTSD, as well as the relationship between self-efficacy and PTSD (See Figure 5).

Chapter 2: Method

Participants

Participants included in the current study were 150 female inmates recruited through random selection from two jails in southeastern Idaho.

The women's ages ranged from 18 to 61 years old ($M = 32.09$, $SD = 9.48$). The sample was ethnically diverse. Women endorsed the following ethnic identities using a check all that apply format: 60% identified as White/Caucasian/European American ($N = 90$), 14.6% as American Indian ($N = 22$), 11.3% as Hispanic American/Hispanic ($N = 17$), 4% identified as African American ($N = 6$), 11.3% as European ($N = 17$), and 1.3% as Asian American ($N = 2$). The women had a mean annual income of \$2,682.60 ($SD = 7,944.07$) in the 12 months prior to their incarceration, with a range of \$0 to \$60,000 per year. Similar to the disparity in income, women's education ranged from 6th grade or less ($N = 1$, .6%) to the completion of a graduate program ($N = 1$, .6%), with most of the women reporting their highest education as having completed their GED ($N = 55$, 36.6%) or "some college" ($N = 49$, 32.6%). Of the women included in the sample, 57 were single (38%), 24 were divorced (16%), 22 were married (14.6%), 30 were living with their partner (20%) and 14 were not living with their current partner (9.3%) prior to incarceration. Of the 150 women in the sample, 109 endorsed being parents of children under age 18 (72.6%). Finally, there was a wide breadth of religious affiliation among the women. A third of the women described themselves as having no affiliation ($N = 50$), while 25 women affiliated with the LDS church (16.6%), 9 women reported affiliation with the Catholic church (6%), 3 described themselves as Protestant (2%), 2 as Buddhist (1.3%), and 61 said that they affiliated with an unlisted church (40.6%). Notably, many women ($N = 86$)

described religion as either “very important” or “somewhat important” in their lives (57.4%).

(See Table 1.)

Measures

Demographics. Participants completed a brief demographics questionnaire that included questions about age, income, educational/occupational history, ethnicity, religious affiliation and importance of religion, relationship and parental status, employment history, sexual orientation, and criminal history (i.e., current and previous charges, previous incarcerations).

Life Stressors Checklist – Revised. (LSC-R; Wolf & Kimerling, 1997). The LSC-R is a 30-item self-report measure that assesses an individual’s lifetime exposure to traumatic events. A broad range of traumatic experiences are assessed, including exposure to natural disasters, accidents, familial stress (e.g., divorce, adoption), and interpersonal violence. Questions are listed in a yes/no format; for example, “Has someone close to you died suddenly or unexpectedly?” In order to obtain frequency of events as well as to determine whether individuals experienced interpersonal violence in childhood or adulthood, the following adaptations were implemented. Participants indicated the frequency of each trauma on a scale of 0 (*never*) to 6 (*more than five times*) rather than presence/absence. In addition, questions related to IPV (e.g., “Were you ever touched or made to touch someone else in a sexual way because he/she forced you in some way or threatened to harm you if you didn’t?”) were asked twice: once to assess occurrence before age 16 and once for adulthood. This measure was similarly adapted in previous studies with incarcerated women (Bonci, 2016; Lynch, DeHart, Belknap, & Green, 2013). The measure’s test-retest reliability is fair, and it has been demonstrated to have good criterion validity for detecting stressful life events among prisoners (McHugo et al., 2005).

Trauma Coping Self-Efficacy (CSE-T; Benight et al., 2015). The CSE-T is a 9-item self-report questionnaire that measures one's perceived ability to control and cope with stressors related to trauma-related challenges. Participants respond to items using a 7-point Likert scale ranging from 1 ("not at all capable") to 7 ("totally capable"). Total scores on the CSE-T are produced by summing all of a participant's item ratings; higher scores indicate higher levels of self-efficacy.

According to the measure's developers, the CSE-T has high internal consistency among items, as demonstrated across diverse samples (i.e., hospitalized trauma patients, disaster survivors, and trauma exposed college students; Chronbach's $\alpha = .87-.90$). Chronbach's α for this study was .90. The measure was also demonstrated to have high test-retest reliability over a 6-week period ($r = .72$) and over a 3-month period ($r = .60$). The authors also demonstrated that the measure had strong convergent and divergent validity compared to several other measures of psychological well-being, and psychological distress (e.g., PTSD; Benight et al., 2015).

The Social Reactions to Disclosure Questionnaire (SRQ; Ullman, 2000). The SRQ is a 48-item measure assessing a range of positive and negative reactions individuals may have experienced following disclosure of their traumatic event. Using a 5-point Likert scale (1=Never to 4=Always), participants will be asked about how often they received 48 different reactions from other individuals told about their trauma. Factor analysis of the SRQ has supported 5 negative reaction subscales and 2 positive reaction subscales. The 5 negative scales include *Treat Differently* (e.g., pulling away from survivor), *Distraction* (e.g., telling survivor to "move on" or to "get over" the event), *Take Control* (e.g., taking control of decisions), *Victim Blame* (e.g.,

telling victim they could have done more to prevent the experience), and *Egocentric* (e.g., support focusing on own needs rather than survivor's).

According to research by Ullman (2000), the SRQ demonstrated acceptable test-retest reliability for all scales, including: distraction/discouraging talking ($r = .74$), victim blame ($r = .64$), treat differently ($r = .81$), taking control ($r = .78$), and egocentric reactions ($r = .80$). It was established that the measure had convergent validity when comparing the SRQ with other social support and psychological symptom measures. Moreover, the measure was shown to have concurrent validity by correlating the SRQ subscales with corresponding social reactions coded from open-ended data. Chronbach's alpha for this study was similar: distraction/discouraging talking ($r = .78$), victim blame ($r = .78$), treat differently ($r = .81$), and taking control ($r = .81$). The subscale egocentric reactions demonstrated adequate reliability ($r = .66$).

The Trauma Related Shame Inventory (TRSI; Oktedalen, Hagtvet, Hoffart, Langkaas, & Smucker, 2014). The TRSI is a 24-item self-report questionnaire that measures trauma-related shame. Specifically, the measure assesses negative evaluation of the self in context of the trauma. The construct of shame is characterized by both perceptions of oneself as defective (labeled as *internal shame*), as well as perceptions that others will evaluate one poorly (labeled as *external shame*). Using a 4-point Likert scale ranging from 0 ("not at all correct about me") to 3 ("completely correct about me"), respondents can either produce a total score ranging between 0 and 72, or four subscales ranging from 0-18, with higher scores representing higher levels of shame. For the purposes of the current study four subscale scores were used: internal condemnation, internal affect and behavior, external condemnation, and external affect and behavior. Chronbach's alpha across each of these four subscales for this study ranged from .90 - .92

The developers of the measure (Oktedalen et al., 2014) tested its psychometric properties with a group of patients being treated for PTSD (N=50). The authors utilized generalizability theory (G-theory) to estimate the reliability (i.e., generalizability) of the scores. They found that all items significantly contributed to the total variance of the TRSI ($Ep^2 = .87$), and that overall the measure had a high index of dependability (.77). Further, indices of shame (internal versus external references) were highly correlated ($r = .82-.90$) suggesting high internal consistency across the measure. The TRSI was also shown to have strong external and discriminant validity when compared to other measures of psychological distress (e.g., PTSD).

The PTSD-Checklist for DSM-5 (PCL-5; Weathers, Litz, Keane, Palmieri, Marx, & Schnurr, 2013). The PCL-5 is a 20-item self-report measure designed to assess DSM 5 PTSD symptom criteria related to an individual's "worst" nominated traumatic event, or events. Individuals are asked to indicate how much a particular symptom has bothered them in the past month using a five-point Likert scale ranging from 0 (not at all) to 4 (extremely). Total scores are calculated by summing the participants' responses, yielding a total score between 0 and 80. Higher scores indicate higher trauma-related symptoms, and it has been suggested that a total score of 31 is optimally efficient for diagnosing PTSD (Bovin et al., 2015).

Limited work has been done regarding the psychometric properties of the PCL 5, however a recent study conducted by Bovin and colleagues (2016) suggests that the measure has strong reliability and validity. In a study with 140 veterans from the United States military, the authors demonstrated that the measure has high internal consistency (Chronbach's $\alpha = .96$), as well as high test-retest reliability ($r = .84$). Chronbach's α for this study was .94. The measure was also demonstrated to have sufficient convergent and discriminant validity when compared to other commonly used and well-established measures of PTSD, such as the CAPS-5.

The measure's significant correlation with the CAPS-5, a structured diagnostic interview, as well as evidence of its ability to predict PTSD over time (Keane et al., 2014), suggest that it is a viable tool for assessing posttraumatic symptoms.

Procedures

The Idaho State University Human Subjects Committee approved study procedures. First, potential participants learned about the study in two different ways in accordance with policies at each corrections facility. At one jail, researchers went onto each unit to describe the purpose of the study to inmates and correctional officers and to answer questions. At the second jail, staff posted brief memos describing the study posted on each unit. In each case, inmates were informed that they would be randomly selected and invited to participate in a two-part study on stressful life events' impacts on mental health, behaviors, substance use, and cognitive abilities; and if selected, that they would be invited to interview individually.

Using publically-accessible online rosters from local jails, potential participants were identified and entered into a database according to their location (i.e., where they are incarcerated). Once all available subjects were identified and organized, a random number generator was used to select the order in which they were to be approached (e.g., generating one set of numbers per location). Given the jails high turnover rate, researchers updated the roster approximately every 3 weeks. Interviewers brought the roster to the corrections staff at each unit and requested to "call out" the identified women in the order listed. Corrections staff members notified the women that they had been selected and that a researcher was requesting to interview them. Once individuals indicated interest in participating in the study, they went with the interviewer to a private room. To begin, interviewers described the purpose of the study, the general content of the interview as well as the procedures (e.g., voluntary participation, estimated

length of assessment). Subsequently, researchers reviewed informed consent with participants. This study was open to all female inmates over the age of 18 who were fluent in English.

If the inmate chose to continue, they completed a battery of self-report questionnaires. The participant received a packet of the questionnaires and followed along while interviewers read all questionnaire items aloud. Reading the questionnaires aloud decreased the potential effect of reading level of the participant. To control for order-effects, we used three different packets of questionnaires in different order. However, in each packet, the THQ was first, as all of the other self-reports reference the participants' trauma history.

After the self-report battery was completed, the interviewer invited the participant to continue on the second portion of the study. This second portion was collected for another doctoral candidate's dissertation project and focused on elucidating relationships between lifetime substance use, neurocognitive functioning, and criminality. Following the second part of the study, the interviewer debriefed and thanked the participant for their time. Participants received a candy bar as a form of compensation for their time.

Chapter 3: Results

Descriptive Statistics

Women in this sample reported high rates of interpersonal violence (IPV). The average number of IPV experiences was 12.14 ($SD = 9.7$, see Table 2). Of the 150 women in the study, 84 reported experiencing childhood physical abuse (56%), and 82 (54.6%) reported experiencing childhood sexual abuse. Specifically, 65 (43%) of the women in this sample reported that they had been forced to have intercourse prior to age 16, and almost 70% of those women reported that they had been raped two or more times during their childhood. One hundred and nine women reported experiencing physical abuse during adulthood (72.6%), and 75 (50%) reported experiencing sexual assault as adults. Many women experienced completed rape, some multiple times. Specifically, 70 (47%) women said they had been forced to have intercourse after age 16, and of those 46% ($N = 32$) reported that it happened three or more times in their adult life. Further, 122 (81.3%) of the women reported witnessing IPV at some point in their lives.

On the T-CSE scores can range from 9-63; higher scores suggest higher coping self-efficacy (See Table 2). In the current sample, women scored an average of 41.4 ($SD = 12.9$), with participants reporting the full possible range of scores. In regard to social reactions, women responded to 28 prompts describing negative reactions to disclosures (Likert scale of 0-4; higher scores suggesting higher frequency of negative reactions). The mean score was 59.36 ($SD = 17.47$), with scores ranging from 27 to 102. The average score on the PCL was 39.7 ($SD = 20.5$) and the modal score was 44; these numbers exceed the cut score of 33 offered by the developers of the measure (Weathers et al., 2013).

Of the 135 women who completed the trauma-related shame measure, participants' scores ranged from 0 to 72, ($M = 26.2$, $SD = 21.3$). In regard to assessing religion, almost all of

the sample (N = 146, 97.3%) responded to the item assessing importance of religion in their lives. Of those who responded, 63 (41%) reported that religion was “extremely” or “very” important. Only 15.3% of the sample (N = 23) described religion as “not very important at all.” While Hypothesis 1 asserted there would be a significant relationship between importance of religion and shame, there was no significant associations between these two variables or between any of the socio-demographic variables (e.g., education, age, etc.) and any of the outcome variables. As such, further data analysis did not include any socio-demographic variables (See Table 3).

Preliminary Analyses

Before addressing the hypotheses of the current study, the identified variables (e.g., IPV, CSE, social reactions, and shame, PTSD) were assessed for normality. For the purposes of the current study, measures being used to estimate latent variables (e.g., LSC-R, SRQ, and TRS) were assessed for normality both with their total scores and their subscales. This was done to ensure that they met assumptions of normality and could be used in the primary analyses (see Table 2).

Results of descriptive analyses demonstrated that multiple indicators of IPV, per the LSC-R, were not normally distributed: childhood physical abuse, childhood sexual, adult physical abuse, and adult sexual abuse. However, witnessing IPV was normally distributed. The skewed and kurtotic nature of the childhood and adulthood physical and sexual abuse was due to the bimodal distribution of the data, which was in large part due to the inclusion of zeros. The decision to use zeros in the analyses is founded in previous studies on violence exposure (e.g., McLean, Morris, Conklin, Jayawickreme, & Foa, 2014). Given that trauma exposure is often bimodal, many argue that not including zeros artificially adjusts the nature of the observed data.

While the author attempted to transform variables, none of the transformations effectively reduced the skew or kurtosis; further attempts at transformation would make the data difficult to interpret and would reduce the meaningfulness of the data. Given the nature of the data and the robust nature of SEM against non-normality, further analyses included these variables in their original state (Figure 1).

In regard to social reactions, all of the subscales were normally distributed including: treating differently, distracting, taking control, blaming the victim, and egocentric responding. The same was true for three of the four subscales of the shame measure: internal condemnation, internal affect and behavior, and external affect and behavior. The fourth subscale, external condemnation, was not normally distributed (skewness = 3.9, kurtosis = -1.2). This was resolved by using a square root transformation on the variable (skewness = .01, kurtosis = -2.5). See Figure 2. Scores on the PCL were normally distributed, as were scores on the CSE-T.

The amount of missing data for study variables ranged from 3.7% (i.e., Child Physical Abuse, Adult Physical Abuse, IPV Witness Scales) to 10% (i.e., External Condemnation Scale). The missing data in the present sample seemed to reflect several factors related to the nature of the setting in which the data was collected, as well as the distress experienced by the inmates. These potential causes of missing data in the current sample suggest that data was missing at random (i.e., missingness that is conditioned by another observed variable within the dataset; Graham, 2009). Full-information maximum likelihood is a procedure used to address data that are missing at random (FIML). FIML is a statistical procedure that allows for the estimation of parameters within a model using all available information within a dataset rather than an imputation technique (Graham, 2009). FIML was used to address missing data in the following analyses.

Variables demonstrated associations with one another in the expected directions. Childhood physical and sexual assault were significantly correlated with negative social reactions. Further, adult physical and sexual violence shared strong positive correlations with negative social reactions, shame and PTSD; adult IPV variables also shared a significant negative correlation with CSE. CSE is significantly negatively associated with shame, negative social reactions, and symptoms of PTSD. Negative social reactions shared strong positive correlations with shame and PTSD. Finally, shame shared strong positive correlations with PTSD. (See Table 4.) Notably, the correlations between the observed indicators of shame and PTSD are very high (ranging from $r = .79 - .88$). Given that high correlations between variables can result in unstable model estimations or inaccurate results (Grewal, Cote, & Baumgartner, 2004), I next examined the correlation between the total score for the shame measure (TRS-I) and the PCL which was .58. Thus, the author chose to include the shame total score as an observed variable in the model (See Figure 6).

Study hypotheses were evaluated using structural equation modeling (SEM). SEM is used to simultaneously test associations among multiple predictor and outcome variables. The method also allows for the estimation of error terms for observed variables, and the evaluation of measurement models for latent (i.e., unobserved) variables included in the analysis. Given that the analyses included two unobserved constructs (i.e., IPV and social reactions), structural equation modeling offered the ability to evaluate a measurement model for these latent variables. Moreover, it allowed the author to determine the extent to which observed subscales and items were good indicators of IPV and social reactions. The procedure specified by MacKinnon (i.e., PRODCLIN; 2008) was then used to evaluate the significance of mediated effects by calculating an asymmetric confidence interval (ACI).

A commonly used approach to determining sample size for SEM is by examining existing studies. In a similar study using an incarcerated sample ($n = 152$), Konecky (2015) employed SEM to evaluate the relationships among trauma exposure, emotion regulation and PTSD. Konecky's model consisted of 3 latent and 13 observed variables; the model identified 58 degrees of freedom and significant path coefficients ranged from .308 to .396. The current study is similar with 2 latent variables and 13 observed variables. Given the expected degrees of freedom ($df = 103$), the current study recruited 150 participants. This sample size is supported by seminal work done by MacCullum, Browne, and Sugawara (1996). The authors offered a framework for estimating the sample size necessary to achieve adequate statistical power based on one's ability to detect models with different levels of fit relative to observed data. Given that the authors purported that a model with 100 degrees of freedom with an alpha value of .05 would require a minimum sample size of 132 to obtain a power of .8, the present study is considered sufficiently powered with a sample of 150.

Primary Analyses

Measurement Model

Before examining the structural model, confirmatory factor analysis is conducted to identify the measurement model that is theoretically specified. This step examined the extent to which observed indicators loaded onto the common factors of interpersonal violence and negative social reactions. A single measurement model included all observed variables wherein the latent variables were allowed to correlate freely.

Based on the initial analyses of model fit with five indicators for Interpersonal Violence (childhood physical, childhood sexual, adult physical, adult sexual, and witnessing violence) and five indicators for Negative Social Reactions (treating differently, distracting, taking control,

victim blaming, and ego reaction) the measurement model showed less than desirable fit to the data. A review of the results suggested that one factor loading for Negative Social Reactions (egocentric reactions) was below the minimum conventional cutoff of .40. The indicator was dropped from the model and the model was re-run.

Next, four model modifications were supported based on theory and the modification indices. Specifically, the error terms of four indicators for Interpersonal Violence were correlated (adult sexual with childhood physical, adult sexual with childhood sexual, childhood physical with witnessing violence). Similarly, the error terms of two indicators for Negative Social Reactions were correlated (treating differently and victim blaming). The resulting measurement model after making these modifications showed excellent fit to the data ($X^2(22) = 12.63$, $p = .94$; RMSEA = .00; CFI = 1.00, TLI = 1.03). The latent variables were significantly represented by all of their indicators (all at $p < .001$), with standardized coefficients ranging from .49 to .92. See Table 5 for the factor loadings of the measurement model, and Figure 4 for a visual representation of the final measurement model.

Identification of the Structural Model

Next, the hypothesized structural model was tested (see Figure 6). The structural model tested the prediction of significant relationships among interpersonal violence, negative social reactions, perceived coping self-efficacy, shame, and symptoms of PTSD. Specifically, the hypotheses purported that higher rates of Interpersonal Violence would be associated with decreased coping self-efficacy and increased negative reactions to disclosure such that coping self-efficacy would mediate the relationship between Interpersonal Violence and Negative Social Reactions (Hypothesis 3); that Negative Social Reactions would mediate the relationship between Interpersonal Violence and Shame (Hypothesis 4); and finally that Shame would

mediate the relationships between coping self-efficacy, negative reactions to disclosure and PTSD. This model demonstrated poor fit to the observed data ($X^2(47) = 85.57, p < .001$; RMSEA = .07; CFI = .94, TLI = .91), in part due to lack of significant relationship between IPV and CSE, and CSE and negative social reactions.

Alternative Models and Parameters

In order to best evaluate model fit, it is imperative that researchers systematically alter the estimation of various parameters within the proposed structural model to test if it is superior to alternative possible models (Schumacker & Lomax, 2010). To test the parameters, the author tested two alternative models. In the first alternative model, the non-significant pathways between CSE and IPV, and between CSE and Negative Social Reactions were constrained to zero. This model also demonstrated poor fit to the observed data ($X^2(49) = 92.26, p < .001$; RMSEA = .08; CFI = .93, TLI = .91). The author then compared the original structural model described above and the alternative model using chi-square. The computed difference in chi-square statistics from the alternative model and the original model was compared to 5.99 (the chi-square cut-off value for a difference in 2 degree of freedom).

Results for the first alternative model, with the relationship between CSE and IPV, and CSE and Negative Social Reactions constrained to zero, demonstrated significantly better fit than the original model (chi square difference: $X^2(2) = 6.69, p < .05$). This assessment suggests that while not a strong fit to the data, the alternative model is superior compared to the originally hypothesized structural model. See Table 7 for standardized factor loadings for alternative model one and Figure 8 for a visual representation of the model.

The second alternative model is based on theory, and theoretically-informed modification indices, that purports strong direct relationships between CSE and PTSD, as well as negative

social reactions and PTSD. In this model, direct pathways between all mediators and PTSD are estimated. Notably, due to the superiority of the aforementioned alternative model, the author continued to restrict pathways between CSE and IPV, and CSE and negative social reactions in the second alternative model (see Figure 9). This model demonstrated strong fit to the observed data ($X^2(47) = 50.27, p = .35$; RMSEA = .02; CFI = .99, TLI = .99), and superior model fit compared to the first alternative model (chi square difference: $X^2(2) = 41.99, p < .001$). The second alternative model also had a strong effect size; the R^2 for the model is .493, indicating that 49.3% of the variance in PTSD was accounted for by the predicting variables.

In this model, Interpersonal Violence was significantly associated with Negative Social Reactions ($\beta = .43, p < .001$), Negative Social Reactions was significantly associated with Shame ($\beta = .32, p < .001$), and symptoms of Shame was significantly associated with PTSD ($\beta = .33, p < .001$). This supports Hypothesis 4 that negative reactions to disclosure would significantly mediate the relationship between IPV and shame (indirect estimate = .13, SE = .05; CI 95% = .05 -.24). Further, this offers support for Hypothesis 5, which purported that shame would mediate the relationship between negative reactions and PTSD (indirect estimate = .11, SE = .04; CI 95% = .05 - .18). Similarly, results showed that Shame was significantly, negatively associated with coping self-efficacy, wherein higher coping self-efficacy was associated with lower levels of shame ($\beta = -.37, p < .001$). This offered further support for Hypothesis 5 which also asserted that shame would mediate the relationship between coping self-efficacy and PTSD (indirect estimate = -.12, SE = .04; CI 95% = -.19 - -.06). Overall, these results lend support to the second alternative model as the model best fit with the observed data.

Chapter 4: Discussion

This study examined associations among IPV, negative social reactions, coping self-efficacy, trauma-related shame, and PTSD among 150 randomly selected women in jail. Participants responded to an invitation to participate in a two-part study on stressful life events' impacts on mental health, behaviors, substance use, and cognitive abilities. The current study provides several findings that offer important contributions to our limited knowledge of incarcerated women.

First, the participants' reports of their experiences of IPV replicate that of other recent studies, indicating incarcerated women are at high risk of exposure to multiple and repeated violence (e.g., Lynch, Fritch, & Heath, 2012; Lynch et al., 2017; Wolff et al., 2011). Overall, women reported an average of approximately 12 exposures to interpersonal violence across their lifetime ($SD = 9.72$). Greater than 50% reported experiences of childhood physical abuse, childhood sexual abuse, and sexual violence in adulthood. Almost three quarters (72.6%) experienced physical violence as adults. These high rates of multiple forms of IPV and frequency of IPV experiences support extant literature's findings that incarcerated women experience high rates of lifetime violence in comparison to the general population (e.g., Bloom et al., 2003; Browne et al., 1999; Levenson, Willis, & Prescott, 2015).

The participants also reported elevated PTSD symptoms. The modal score on the PCL was 44 ($M = 39.65$, $SD = 20.5$), significantly exceeding the recommended cutoff score of 33 (Weathers et al., 2013). The modal score is also notable given the mean total score of 36.97 ($SD = 21.16$) obtained in a large sample of Veterans ($N=468$) (Weathers et al., 2013). These scores replicate previous studies with incarcerated women that have demonstrated high prevalence rates of PTSD (e.g., Harner et al., 2013; Lynch et al., 2014). Overall, the current study supports

previous research suggesting that women in jail have high rates of mental health problems, specifically trauma-related distress, and traumatic histories (Lynch et al., 2012; Lynch et al., 2017; Tusher & Cook, 2010). This suggests that incarceration may provide a unique and optimum time for assessment and treatment of trauma related distress.

In regard to study hypotheses, hypothesis one asserted that importance of religion would be significantly correlated with shame. The data did not support this hypothesis. This was unexpected given that previous work across fields suggests religiosity is a protective factor against shame following traumatic exposure (e.g., Tran, Kuhn, Walser, & Drescher, 2012). It is possible that the results in the current study are due to the use of a single item to assess religious importance in the women's life. It is possible that the use of this single item was not sensitive to all the ways in which religion might be important. For example, individuals' perception of religious importance may vary contextually across various facets of life, such as: pronouncement of faith, involvement in organized religious services, engagement in tradition and culture, or participation in a shared experience. It may be that perceived importance of specific aspects of religious participation are more clearly related to feelings of shame. As such, the use of a more comprehensive assessment of the importance of religion in future research may be beneficial in elucidating the role of religion in the development and maintenance of shame.

The current study's other hypotheses are all related to the proposed structural equation model. Subsequent to the development of a strong measurement model, the hypothesized structural model was tested and demonstrated poor fit to the observed data. Poor fit was in part due to CSE's lack of significant relationships IPV and negative social reactions. As such, the hypothesis that coping self-efficacy would mediate the relationship between IPV and negative social reactions to disclosure is not supported. Lack of significant associations was surprising

given previous literature demonstrating the strong associations between coping self-efficacy, IPV, and negative social reactions (e.g., Hassija & Gray, 2012). The difference in findings may be explained through previous work demonstrating that incarcerated women report low levels of self-efficacy, and express a greater sense of powerlessness than people in the general population (Pelissier & Jones, 2006). It is possible that the measure of CSE in the current study captured these women's lack of perceived agency to overcome their contextual stressors (e.g., life in jail) rather than self-efficacy related to a specific trauma. In other words, women in jail may have a low sense of CSE regardless of IPV histories, suggesting that incarceration may provide an optimal time to address low self-efficacy and enhance a healthy sense of agency.

In regard to the lack of relationship between CSE and negative social reactions, incarcerated individuals, or those more prone to engaging in criminal activity, tend to have poorer social support systems in place (e.g., Staton-Tindall, Royse, & Leukfeld, 2007). As such, it is possible that within this population a sense of self-efficacy does not have as strong of a relationship with social reactions to disclosures. This may be because whether the individuals' perceived sense of efficacy over recovery is high or low, they may not have access to many positive social supports; it may be that women in jail would have received negative social reactions regardless of their perceived CSE. As such, incarceration may be an invaluable time to help women gain interpersonal skills that would assist them to enhance social supports and educate them on healthy support systems.

In order to best evaluate model fit, the author tested two alternative models. First, given that coping self-efficacy demonstrated no significant relationship with IPV or negative social reactions, a model was run with these pathways constrained. This model had poor fit to the observed data, however, when compared to the identified structural model described above, the

alternative model demonstrated superior model fit. Based on previous empirical work and theory that suggests direct pathways exist between all mediators and outcome of interest, a model with direct pathways between CSE, negative social reactions, and PTSD was run. This model is a strong fit to the data and has superior fit indices compared to the aforementioned models.

Results from the second alternative model support previous findings that increased frequency of IPV is strongly associated with increased negative social reactions across various populations (e.g., Schackner, Weiss, Edwards, & Sullivan, 2016). For example, extant literature suggests that survivors of sexual violence in the community experience negative social reactions following disclosures at higher frequency compared to disclosures about other types of trauma (e.g., Filipas & Ullman, 2001). This is notable given the myriad poor psychological outcomes associated with negative social reactions to disclosures, particularly the robust relationship such reactions share with PTSD (e.g., Andrews, Brewin, & Rose, 2003; Starzynski, Ullman, Filipas, & Townsend, 2005; Ullman & Filipas, 2001; Ullman, Townsend, Filipas, & Starzynski, 2007; Ullman & Peter-Hagene, 2014; Ullman, 1996; Ullman, 2003).

Reductions in perceptions of self-efficacy and increased negative social reactions to disclosure following IPV is particularly pertinent for women in jail, who experience high rates of IPV (e.g., Wolff et al., 2011) and have low control over their environment and who they interact with compared to individuals in the community. For instance, women in jail have little control over their access to coping-related resources (e.g., choice of mental health providers), access to healthy sources of stress relief (e.g., exercise, time outdoors, engaging reading material), and ability to connect with trusted others (e.g., limited time to speak with social support(s)). They also have far fewer choices in their day-to-day life (e.g., what is eaten at meals, who they spend time with, waking and sleeping routines). Thus, future literature would benefit from considering

environmental constraints on social support and coping resources when investigating outcomes of IPV with incarcerated populations.

Support was also found for the hypotheses that negative social reactions would mediate the relationship between IPV and shame, and that shame would mediate the relationship between negative social reactions and PTSD. These outcomes corroborate extant work suggesting that both shame (La Bash & Papa, 2014) and negative social reactions to disclosure (e.g., Ullman et al., 2007) are strong predictors of trauma-related distress following IPV. For example, longitudinal work conducted with treatment-seeking victims of assault has shown that negative reactions to disclosure share a strong association with increased social withdrawal (a behavioral characteristic of shame) and higher levels of PTSD (Andrews, Brewin, & Rose, 2003). Moreover, it has been shown that commonly measured aspects of shame, such as negative self-evaluation and behavioral avoidance, following traumatic exposure, share a robust relationship with symptoms of PTSD (e.g., Cieslak et al., 2009; Dunmore et al., 1997; Frazier et al., 2005). Further support comes from recent work with a sample of college students that identified trauma-related shame to be a mediator between negative social reactions to disclosure and symptoms of PTSD (DeCou, Cole, Lynch, Wong, & Matthews, 2017).

Overall, the results of these studies corroborate work demonstrating that individuals exposed to social threat (e.g., negative reactions to disclosure) subsequent to IPV are at higher risk of engaging in behaviors characteristic of shame (e.g., withdrawing from social situations) (e.g., Feiring & Taska, 2005). This implies negative social reactions may leave individuals feeling vulnerable and ashamed, and those shame-related emotions predict poorer psychological adjustment and pathology (i.e., PTSD). While in support of previous work, findings from the current study expand relevant literature through the examination of a unique population of

women in jail. Moreover, besides work conducted with college students by DeCou and colleagues in 2017, no other study has directly assessed trauma-related shame in the same model as negative social reactions and PTSD. Further, the current study is the first to assess CSE and trauma-related shame in the same model.

While never previously studied together directly, extant literature suggests a relationship between self-efficacy and shame-related emotions and behaviors (Ozer & Bandura, 1990). The current study aimed to build upon these findings, and hypothesized that trauma-related shame would also mediate the relationship between CSE and PTSD. This hypothesis was supported, and as such the current results are in line with the shame-based model of PTSD. This framework purports that shame perpetuates trauma-related distress through enduring effects on individuals' interpretation and salience of an event (Lee et al., 2001). The model suggests that trauma experiences, particularly IPV, lead to shame-based beliefs about oneself and others (e.g., "there is something wrong with me" "others think less of me because of what happened"). This model of PTSD suggests that avoidant behaviors characteristic of shame, such as withdrawing from such painful thoughts and feelings, contributes to the development of trauma-based pathology (Lee et al., 2001). Importantly, extant literature has noted that as individuals with lower self-efficacy are at heightened risk for utilizing such avoidance strategies.

Together, previous work and the current study support the notion that a sense of being out of control or helpless in regard to one's recovery (i.e., low self-efficacy) is linked to negative shame-based thoughts and behavior, and that together the constructs play a role in developing and maintaining pathology. Per this framework, it is likely that reductions in self-efficacy enhance reliance on avoidant strategies characteristic of shame, and said strategies perpetuate the trauma by not allowing individuals to move forward from their experiences (Lee et al., 2001;

Vidal & Petrak, 2001). For instance, an individual with low CSE who experiences shame-related thoughts (e.g., “others are disgusted with me”) may be more likely to withdraw from social situations (shame-based behavior) to elude possible confirmation of their negative self-evaluation. However, this shame-based avoidance prevents the individual from discovering alternative evidence (e.g., receiving positive support), or experiencing alternative thoughts (e.g., “I can handle this,” “others care about me”), and instead perpetuates distress.

Importantly, results of the current study also largely support the socio-emotional framework theory of PTSD. Per this theoretical framework, presented by Budden (2009), once an individual experiences the social threat of trauma, they often respond with shame-related emotions (e.g., helplessness); these emotions can either be eased or exaggerated by the reactions of others. This is particularly true among survivors of IPV who are at heightened risk for developing shame-related affect (e.g., Andrews, 1998), having a lower sense of self-efficacy (Benight & Bandura, 2010), and receiving more negative social reactions upon disclosure (e.g., Davis & Brickman, 1997). Results of the current study therefore suggest that a low sense of self-efficacy and negative social reactions following disclosure leave individuals feeling helpless and experiencing shame. As an individual’s cognitions become increasingly shame-based, they have a harder time relating to the world around them (e.g., behavioral withdrawal), and they begin to experience a loss in their sense of core identity (i.e., how one perceives themselves within their social context across time). Budden (2009) attributes increased psychological distress (e.g., PTSD) to be founded in this shame-based loss of sense of self.

Results of the current study suggest that the three mediators (CSE, negative social reactions, and shame) are all important to consider when studying the development and maintenance of posttraumatic stress following IPV among incarcerated women. In the current

study, both CSE and negative social reactions emerged as strong predictors of trauma-related shame. This pattern is consistent with socio-emotional and social cognitive theories (Budden, 2009; Benight & Bandura, 2004), and suggests that after IPV occurs, one's perceptions of others' social reactions and one's own ability to cope strongly influences their experience of shame. Trauma-related shame emerged as a robust mediator in the relationships between negative reactions, CSE, and PTSD. This pattern is consistent with previous work highlighting the role of shame-related cognitions and behaviors in predicting psychological distress (e.g., Cieslak et al., 2009; Dunmore et al., 1997; Frazier et al., 2005; Lee et al., 2001). Given the overall variance accounted for by the constructs included ($R^2 = .493$), as well as the pattern of results, it will be important for future research to refine measurements and further elucidate the role of CSE, negative social reactions, and shame in PTSD.

Overall, there are several implications of the current study. Given the high rate of victimization and symptoms of PTSD, it may be beneficial to screen all women entering the justice system for trauma-related symptoms. Doing so may increase the rate at which women receive critical therapeutic interventions. Further, health providers in jails may find it advantageous to offer broad-based trauma-focused treatment to all women with histories of interpersonal violence. Strategies to target and reduce trauma-related distress would not only be likely to improve incarcerated women's quality of life, it may also reduce rates of recidivism after women are released. In fact, posttraumatic distress increases women's risk of criminal recidivism (e.g., Cimino, Mendoza, Thieleman, Shively & Kunz, 2015; Sadeh & McNiel, 2014). This suggests that many women would benefit from trauma-focused therapy, and that offering such services may reduce the burden on communities and the justice system over time.

Offering more targeted therapy may be especially important for incarcerated women given that the very nature of incarceration may exacerbate trauma-related stress. Results of the current study may imply that restrictions placed on individuals during their stay (e.g., lack of access to resources, little to no choice in who they interact with, limited agency in day-to-day tasks) may be directly related to a sense of shame via a lowered sense of self-efficacy and negative social interactions. This is particularly important to consider in a highly traumatized population given the noxious outcomes associated with shame (i.e., psychological distress). Results of the current study thus support changes to policy, such as the call for increases in a trauma informed approach at federal and state levels put forward by the Substance Abuse and Mental Health Services Administration (SAMHSA) in 2014, which consider incarceration as an opportunity for rehabilitation.

Therefore, finding opportunities for women to develop a sense of coping self-efficacy would likely reduce shame-related thoughts and feelings, and may in turn reduce psychological distress; it would also likely be more in line with parameters set forward by leaders in trauma informed care (SAMHSA, 2014). One way to do this would be offering screening for symptoms of PTSD, providing comprehensive feedback, and allowing women to opt into or out of trauma-specific treatment. Doing so would be directly related to enhancing a sense of coping self-efficacy (i.e., how much control women have over their ability to recover from trauma). Similarly, women in jail would likely benefit from psycho-education focused on interpersonal effectiveness. Providing this population with the skills necessary to enhance their social network (e.g., appropriate boundaries, assertiveness training) may reduce the frequency of harmful negative social reactions, and in turn may protect against further trauma-related distress.

As such, these findings suggest that perceived social reactions, coping self-efficacy, and trauma-related shame are important and malleable points for therapeutic intervention, and support the development and use of clinical interventions for PTSD that address these constructs. Cognitive Processing Therapy (CPT), an intervention developed for victims of rape, is based in social cognitive theory (Resick, Nishith, Weaver, Astin & Feuer, 2002; Resick & Schnicke, 1992). CPT aims at addressing distorted thoughts about the trauma, oneself, others, and the world as a mechanism for relieving symptoms of posttraumatic stress. The developer of the treatment suggests that activating memories of the traumatic event and providing corrective information about attributions regarding one's competence (i.e., self-efficacy), how they relate to others and the world around them (e.g., perceptions of social feedback), and their sense of self-worth (e.g., shame-based evaluations) will reduce symptoms of PTSD (Williams, Galovski, Kattar & Resick, 2011). Importantly, CPT has been shown to be an efficacious treatment for survivors of IPV (e.g., Foa & Rothbaum, 2001), and finds further support with results of the current study. This suggests that future treatments, particularly with incarcerated women, would benefit from including some or all of these points of intervention when treating trauma-related distress following exposure to IPV. Future research may benefit from including these variables as measures of therapeutic change when assessing the efficacy of treatments for posttraumatic stress among women in jail.

The current findings also highlight the need to explore preventative measures that may be offered through community resources. For example, given the robust role of social reactions to disclosure in both shame and PTSD, teaching social skills early in life may be critical in preventing psychological distress in adulthood. In their 2005 paper, Johns, Crowley, and Guetzloe discuss the critical need for schools to build social competency into curriculum during

early development. This call was a response to the robust relationship between poor social skills and mental illness, delinquency, and poor social relationships. An example of such an intervention is a mindfulness-based curriculum that focuses on promoting prosocial and self-regulatory skills (Flook et al., 2015). Teaching such valuable skills may help build more positive social support networks, and in doing so reduce individuals' experiences of negative social reactions when trauma occurs.

Overall, findings from the current study suggest that negative social reactions to disclosure, self-efficacy, and shame are all impacted by frequency of IPV, and are all strong predictors of PTSD symptoms. These findings have significant implications for the treatment of traumatized populations. For example, assessing shame in tandem with coping self-efficacy or perceived social reactions may help to identify those at heightened risk for developing or maintain PTSD-related pathology. Such findings suggest perceived social threat, decreased belief in one's ability to cope, and shame are pertinent targets when treating traumatized individuals, particularly incarcerated women, for posttraumatic symptoms.

Limitations

There are several important limitations regarding this study. The first limitation is that the current study relied on retrospective data. Retrospective data, much like other types of self-report, is subject to biased reporting. Specifically, this type of data collection is dependent on women's ability to accurately recall and report details surrounding historic events, many of which occurred several years prior to data collection. The current study also relied on women's reports of many details concerning their previous experiences (e.g., IPV experience) that sometimes occurred several years previously. Therefore, this limitation may have impacted the accuracy of the results. A second limitation is that the study relied on a correlational and cross-

sectional design; as such, it cannot infer causality or ascertain temporal relationships. Future research could address both of these issues by using longitudinal design. Further, while the current model had a large effect size, the author did not include potential covariates that may have contributed to the variance explained. For example, it would be beneficial for future research to control for perceived social support over the lifespan when assessing social reactions to disclosure.

Another limitation of the current study is its generalizability. Women in the study were from two jails in a rural northwest state, which may have resulted in a unique subsample of the incarcerated population. For instance, the jails' population was largely representative of the surrounding area in regard to ethnicity (i.e., approximately 25% of the current sample identified as either Hispanic/Latina or Native American) which differs notably from other areas of the country. While this is an important consideration, it should be noted that the list of names used to "call out" women was updated and randomized approximately every 3 weeks, and data was collected over a 9-month period. Given the high turn-over rate of women in jail, this is likely representative of the greater jail population within these two facilities.

Moreover, although the current study will add to the dearth of literature on incarcerated women, it is not clear that the findings will generalize to the general community. Incarcerated women are unique in that they experience much higher rates of traumatic experiences, and report much higher levels of psychological distress than individuals in the general population. Further studies should be conducted to clarify whether the findings of the current study would also apply to women who are not incarcerated.

Conclusion

It is critical that researchers continue to seek empirical knowledge concerning incarcerated women's lives in order to guide best practice in assessment, intervention, and pre-release planning. The current study demonstrated several significant relationships among IPV, social reactions, coping self-efficacy, shame, and PTSD. Data from this sample suggest that IPV is associated with higher levels of negative social reactions, shame, and PTSD; and that shame mediates the relationship between negative social reactions to disclosure and PTSD, as well as CSE and PTSD. Moreover, the data suggest that shame shares robust associations with both negative social reactions and CSE.

Overall, these findings suggest the importance of understanding the vulnerabilities that may make incarcerated women at higher risk for developing PTSD. Specifically, this study highlights the complex relationships between IPV, negative social reactions to disclosure, CSE, and shame in their roles underlying symptoms of posttraumatic stress. Elucidating these relationships in the future may aid in the development of more efficacious treatments for women in jail, and hopefully reduce the debilitating psychological effects of traumatic experiences among such at-risk populations.

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Table 1
Demographics of participants

Demographic Variable	Women	Percent
	N	%
Ethnicity		
African American	6	4%
Asian American	2	1.3%
Caucasian/White/European	101	67.3%
Hispanic	17	11.3%
Native American/Indian	22	14.6%
Marital Status		
Single	57	38%
Divorced	24	16%
Married	22	14.6%
Living with partner	30	20%
Not living with partner	14	9.3%
Level of Education		
Completed 8 th grade or less	2	1.3%
Some high school	25	16.7%
Completed high school/GED	55	36.6%
Some college/Tech degree	49	32.6%
2-4 year college degree or more	18	12%
Parent		
Yes	109	72.6%
No	41	27.3%
Religious Affiliation		
Buddhist	2	1.3%
Protestant	3	2%
Catholic	9	6%
LDS	25	16.6%
Other	61	40.6%
None	50	33.3%
Religious Importance		
Extremely important	22	14.7%
Very important	40	26.7%
Somewhat important	46	30.7%
Not very important	15	10.0%
Not important at all	23	15.3%

Table 2
Descriptive statistics for variables of interest

Variable	<i>M</i>	<i>SD</i>	α	<i>n</i>	Skew	Kurtosis
<u><i>LSC Subscales:</i></u>						
Childhood Physical Assault (1 item)	2.48	2.61	-	150	1.9	-4.1
Childhood Sexual Assault (2 items)	3.51	4.48	-	149	5.1	-1.3
Adult Physical Assault (1 items)	3.54	2.65	-	150	-1.7	-4.3
Adult Sexual Assault (2 items)	2.71	3.93	-	148	6.9	1.4
Witnessing Violence (2 items)	5.30	3.84	-	150	1.0	-2.2
<u><i>SRQ Subscales:</i></u>						
Treat Differently (6 items)	13.34	4.68	.81	143	1.6	-1.2
Distract (6 items)	13.90	4.66	.78	142	1.0	2.5
Take Control (8 items)	17.98	5.99	.81	141	1.3	-1.8
Victim Blame (3 items)	5.98	2.78	.78	143	2.4	-1.4
Ego Reaction (4 items)	8.22	3.02	.66	143	1.9	-1.7
<u><i>TRS-I Subscales:</i></u>						
Internal Condemn (6 items)	6.96	5.96	.92	143	2.0	-2.4
Internal Affect-Behavior (6 items)	7.82	5.93	.91	141	1.1	-3.1
External Condemn (6 items)	5.50	5.46	.92	138	3.9	-1.2
External Affect-Behavior (6 items)*	6.15	5.62	.92	141	.01	-2.5
<u><i>TRS-I Total Score</i></u> (24 items)	26.04	20.94	.94	143	2.6	-1.9
<u><i>CSE</i></u> (9 items)	41.43	12.92	.90	142	-1.3	-1.6
<u><i>PCL</i></u> (20 items)	39.65	20.45	.94	141	-1.5	-2.3

Table 3

Associations among socio-demographic variables and variables of interest

Variables	X^2	df	r	p
Religion				
PCL	363.74	325	-	.07
CSE	201.48	240	-	.96
TRS-I	259.86	300	-	.96
Negative Social Reactions	327.80	300	-	.13
Employment Status				
PCL	161.85	195	-	.96
CSE	168.74	141	-	.06
TRS-I	179.60	180	-	.50
Negative Social Reactions	187.02	177	-	.29
Relationship Status				
PCL	344.409	325	-	.22
CSE	253.12	240	-	.27
TRS-I	320.23	300	-	.20
Negative Social Reactions	290.03	300	-	.65
Sexual Orientation				
PCL	183.73	195	-	.71
CSE	132.13	144	-	.75
TRS-I	156.68	177	-	.23
Negative Social Reactions	184.84	180	-	.39
Ethnicity				
PCL	130.94	130	-	.46
CSE	127.65	120	-	.72
TRS-I	111.97	120	-	.69
Negative Social Reactions	130.11	120	-	.25
Age				
PCL	-	-	-.06	.52
CSE	-	-	-.03	.76
TRS-I	-	-	.12	.18
Negative Social Reactions	-	-	.07	.40
Income				
PCL	-	-	.05	.60
CSE	-	-	-.07	.44
TRS-I	-	-	.12	.20
Negative Social Reactions	-	-	-.04	.63

Table 4
Zero-order correlations among study variables

Variable	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
1. Religious Imp	.09	-.01	-.04	-.01	-.06	.14	-.03	.01	.14	-.03	.02	-.14	-.02	-.15	.06	.06
2. IPV – CPA	.08	-.02	-.04	.04	.03	.03	.13	.24**	.23**	.15	-.01	.46**	.21**	.33**	.37**	1.00
3. IPV – CSA	.13	.11	.11	.15	.12	.05	.14	.24**	.21*	.24**	-.12	.28**	.44**	.25**	1.00	
4. IPV – APA	.27**	.26**	.24**	.21*	.22**	.32**	.16	.24**	.24**	.28**	-.13	.30**	.30**	1.00		
5. IPV – ASA	.22*	.23**	.23**	.27**	.23**	.17*	.20*	.24**	.29**	.27**	-.20*	.26**	1.00			
6. IPV – Witness	.04	.51	.13	.73	.35	.63	.50	.25**	.27**	.14	.00	1.00				
7. CSE	-.57**	-.34**	-.4**	-.08	.04	.06	.24**	.16	.13	-.22**	1.00					
8. SRQ – Treat Diff	.34**	.36**	.32**	-.48**	.04	-.10	.16	-.16	-.22**	1.00						
9. SRQ – Distract	.43**	.37**	.28**	.27**	.30**	.67**	-.20*	.70**	1.00							
10. SRQ – Control	.44**	.38**	.35**	.24**	.33**	.60**	.79**	1.00								
11. SRQ – Blame	.23**	.27**	.22*	.29**	.36**	.63**	1.00									
12. SRQ – Ego	.25**	.29**	.21**	.20*	.27**	1.00										
13. TRS – Int Cond	.87***	.79**	.24**	.22**	1.00											
14. TRS – Ext Cond	.79***	.88**	.83**	1.00												
15. TRS – Int Affect/Beh	.88***	.82**	1.00													
16. TRS – Ext Affect/Beh	.82***	1.00														
17. PCL	1.00															

Note. *, $p < .05$, **, $p < .01$, *** $p < .001$. IPV=interpersonal violence, CSE=coping self-efficacy, SRQ=social reactions questionnaire, TRS=trauma-related shame, PCL=PTSD Checklist

Table 5
Measurement model

Measurement Model Description	Estimate	S.E.	Est./S.E.	p-value
IPV By:				
Childhood Physical Assault	.62	.09	6.78	.00
Childhood Sexual Assault	.55	.09	6.24	.00
Adult Physical Assault	.54	.08	6.47	.00
Adult Sexual Assault	.55	.10	5.63	.00
Witnessing Violence	.49	.09	5.30	.00
Negative Social Reactions By:				
Treat Differently	.83	.03	26.07	.00
Distract	.85	.03	28.47	.00
Take Control	.92	.02	39.17	.00
Victim Blame	.69	.05	13.94	.00

$X^2 (22) = 12.63, p = .94$

RMSEA = .00 (90% CI = .00 - .01)

CFI = 1.00; TLI = 1.03

Note. Estimates are standardized

Table 6
Structural model of originally hypothesized model

Structural Model Description	Estimate	S.E.	Est./S.E.	p-value
IPV → Social Reactions	.42	.10	4.43	.00
IPV → Coping Self Efficacy	-.17	.10	-1.66	.09
Social Reactions → Shame	.31	.08	3.96	.00
Coping Self Efficacy → Shame	-.36	.07	-4.98	.00
Coping Self Efficacy → Social Reactions	-.14	.09	-1.63	.10
Shame → PCL	.59	.06	10.44	.00

$\chi^2 (47) = 85.57, p < .001$

RMSEA = .07 (90% CI = .05 - .10)

CFI = .94; TLI = .91

Note. Estimates are standardized

Table 7

Structural model of alternative model with path between CSE, IPV, and social reactions restricted to zero

Structural Model Description	Estimate	S.E.	Est./S.E.	p-value
IPV → Social Reactions	.44	.09	4.69	.00
IPV → Coping Self Efficacy	.00	.00	-	-
Social Reactions → Shame	.32	.08	3.97	.00
Coping Self Efficacy → Shame	-.37	.07	-5.03	.00
Coping Self Efficacy → Social Reactions	.00	.00	-	-
Shame → PCL	.58	.06	10.35	.00

$\chi^2(49) = 92.26, p < .001$

RMSEA = .08 (90% CI = .05 - .10)

CFI = .93; TLI = .91

Note. Estimates are standardized

Table 8

Structural model of alternative model with direct pathways from all mediators to PTSD

Structural Model Description	Estimate	S.E.	Est./S.E.	p-value
IPV → Social Reactions	.43	.09	4.63	.00
IPV → Coping Self Efficacy	.00	.00	-	-
Social Reactions → Shame	.32	.08	4.03	.00
Coping Self Efficacy → Shame	-.37	.07	-5.00	.00
Coping Self Efficacy → Social Reactions	.00	.00	-	-
Coping Self Efficacy → PCL	-.39	.07	-5.88	.00
Social Reactions → PCL	.28	.07	3.91	.00
Shame → PCL	.33	.07	4.56	.00

$X^2(47) = 50.27, p = .35$

RMSEA = .02 (90% CI = .00 - .06)

CFI = .99; TLI = .99

Note. Estimates are standardized

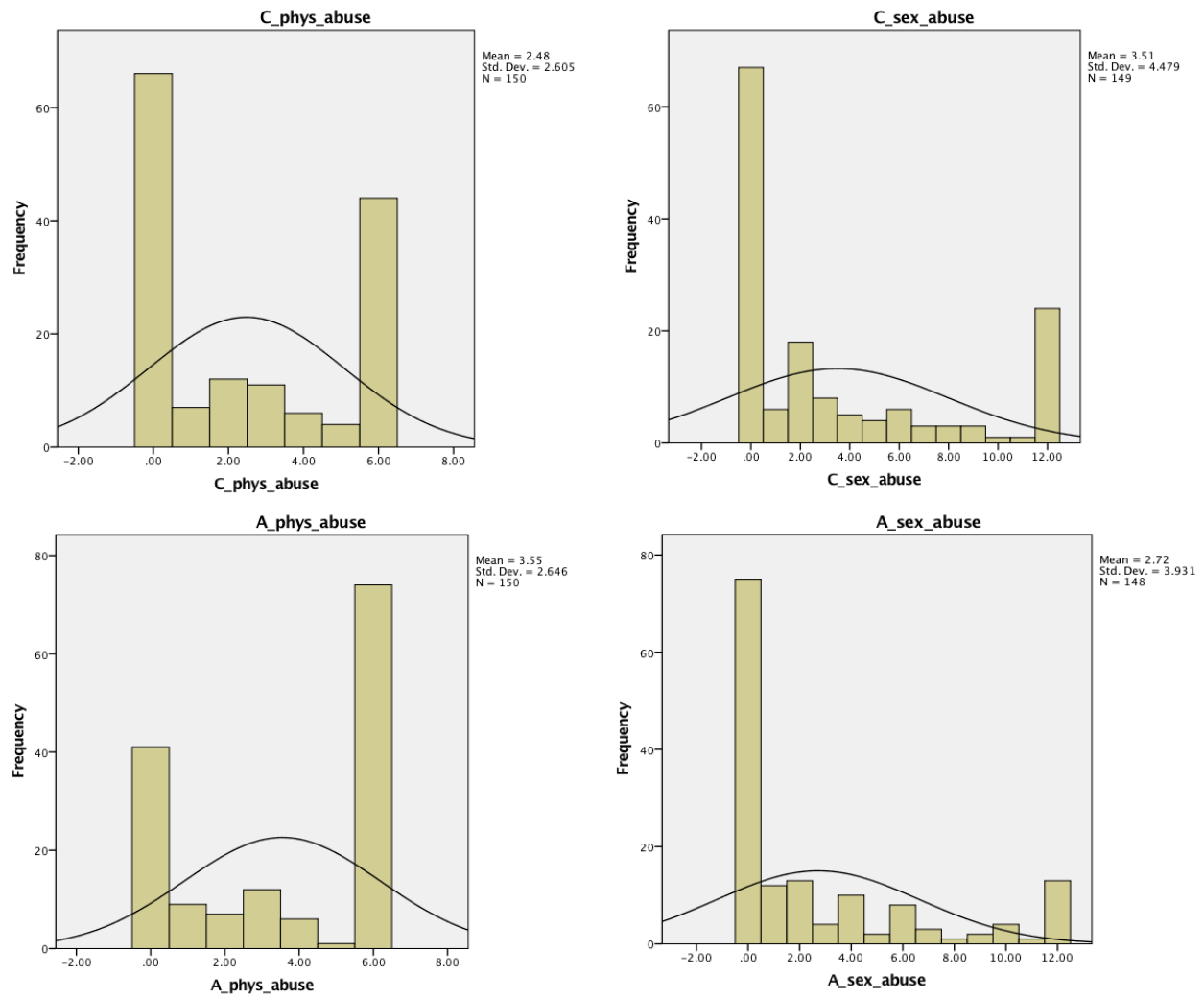


Figure 1. Non-normal distribution of four indicators of interpersonal violence. Top left is the distribution of childhood physical assault, top right is the distribution of childhood sexual assault, bottom left is adulthood physical assault, and bottom right is adulthood sexual assault.

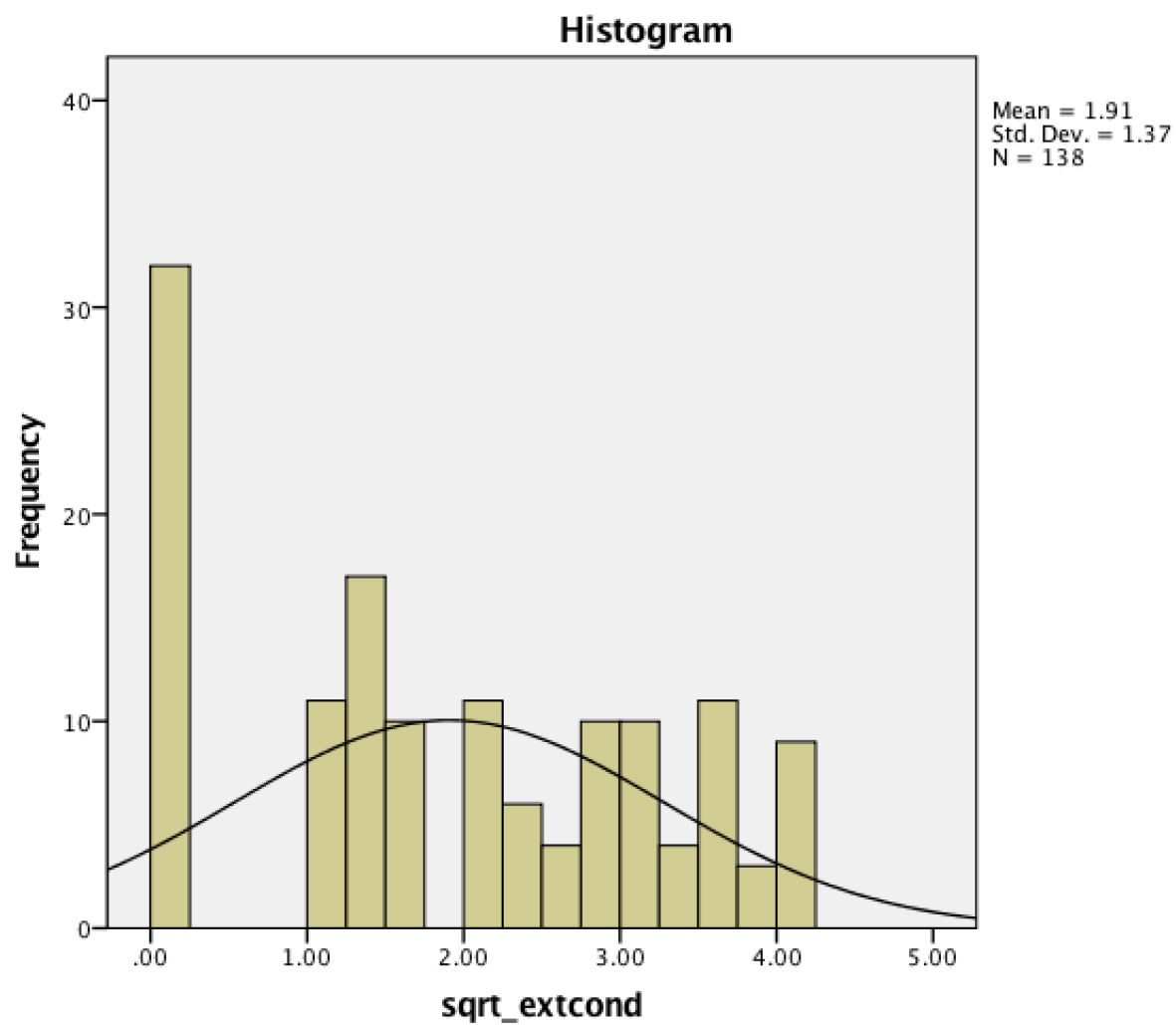


Figure 2. Distribution of external condemnation after square root transformation.

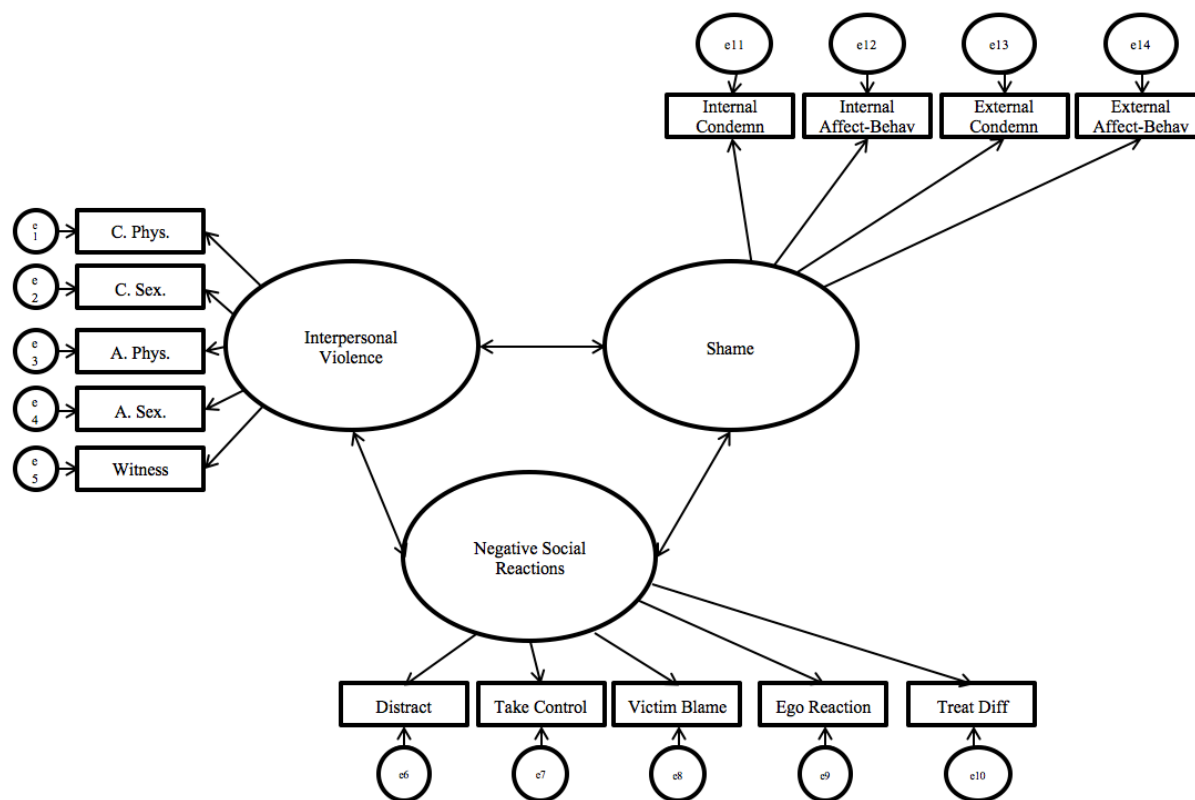


Figure 3. Hypothesized measurement model.

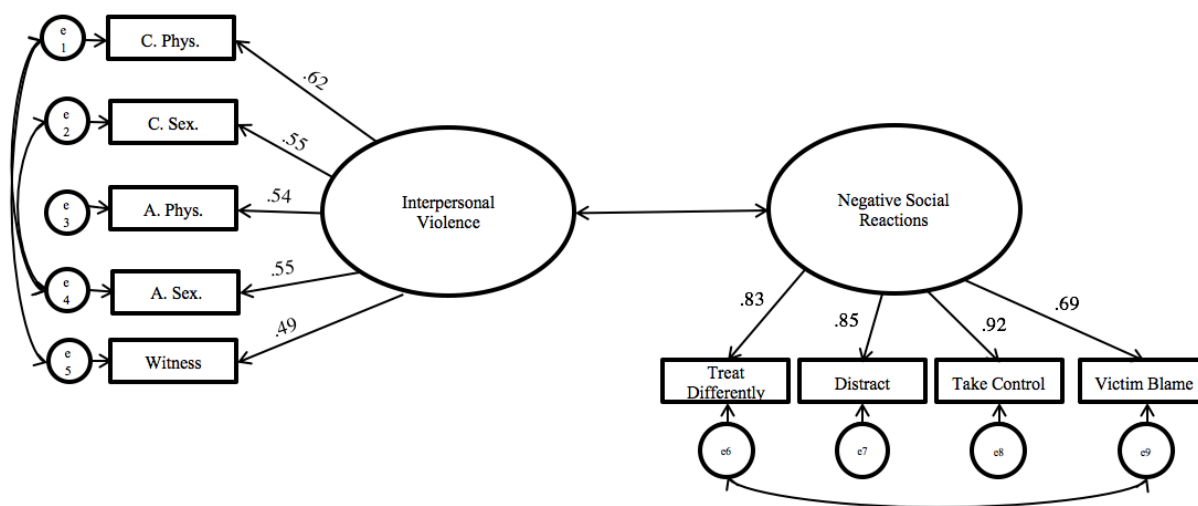


Figure 4. Final measurement model. All standardized loadings and correlations significant, $p < .001$.

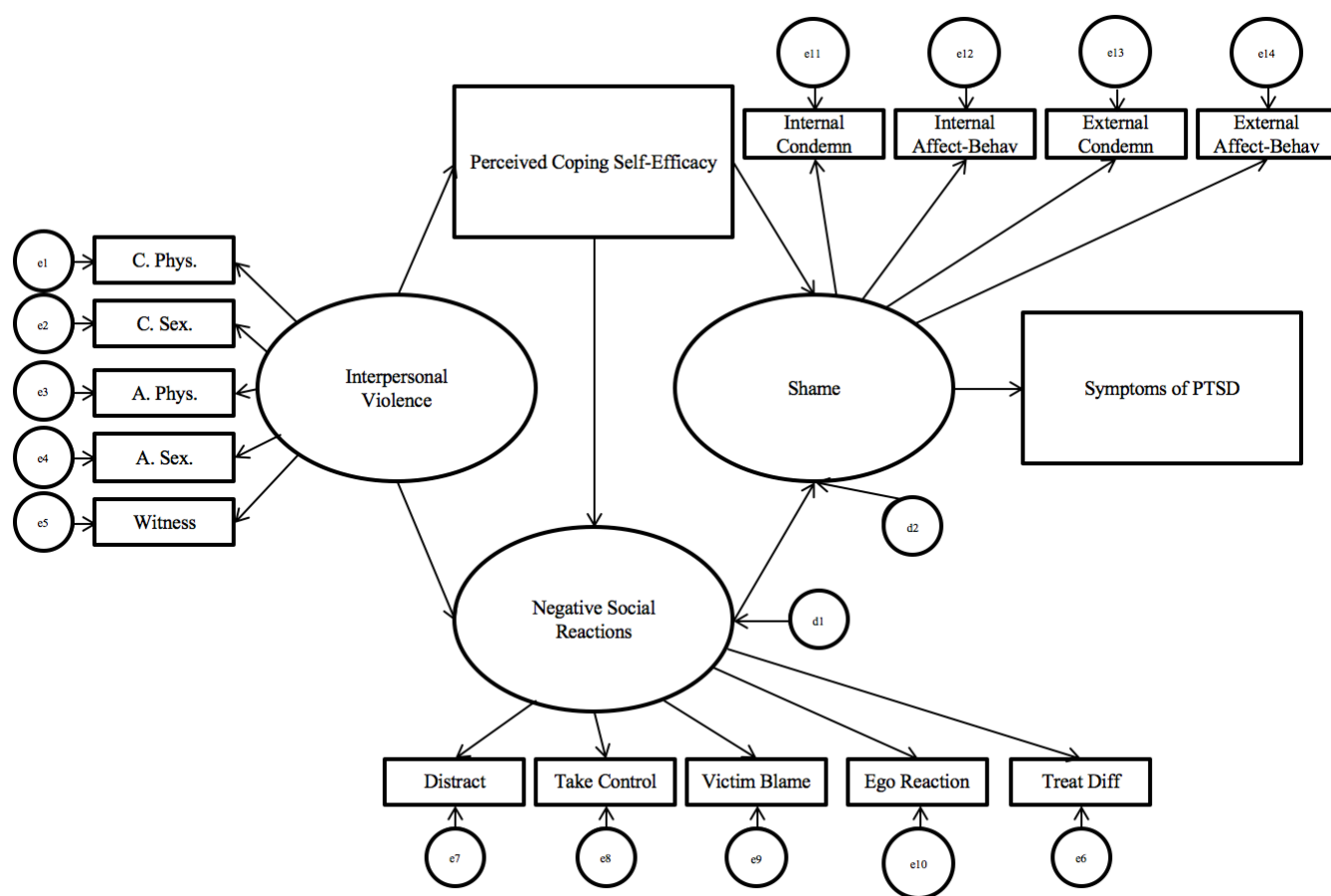


Figure 5. Hypothesized structural model.

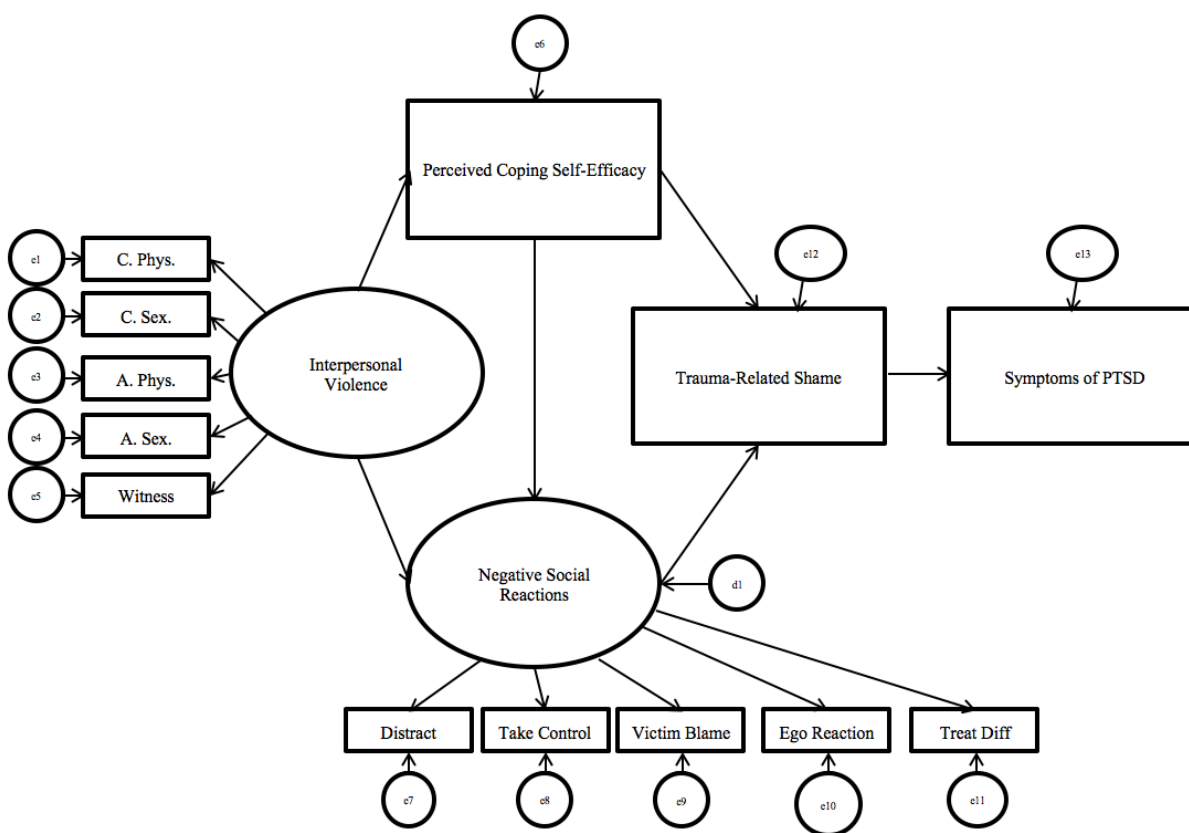


Figure 6. Hypothesized structural model with shame as observed variable.

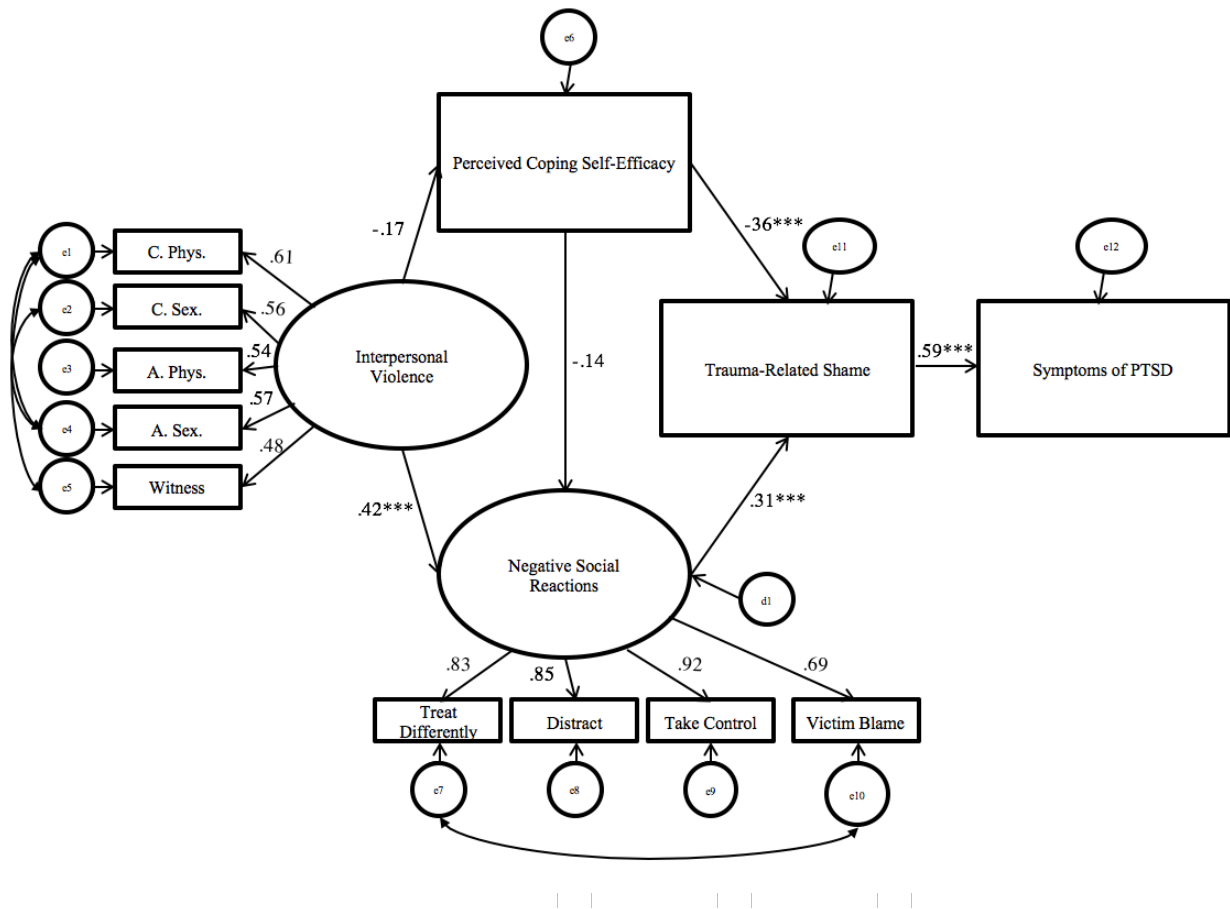


Figure 7. Final structural model. * $p < .05$, ** $p < .01$, *** $p < .001$. All structural paths and factor loadings are reported as standardized coefficients. All factor loadings significant at $p < .001$.

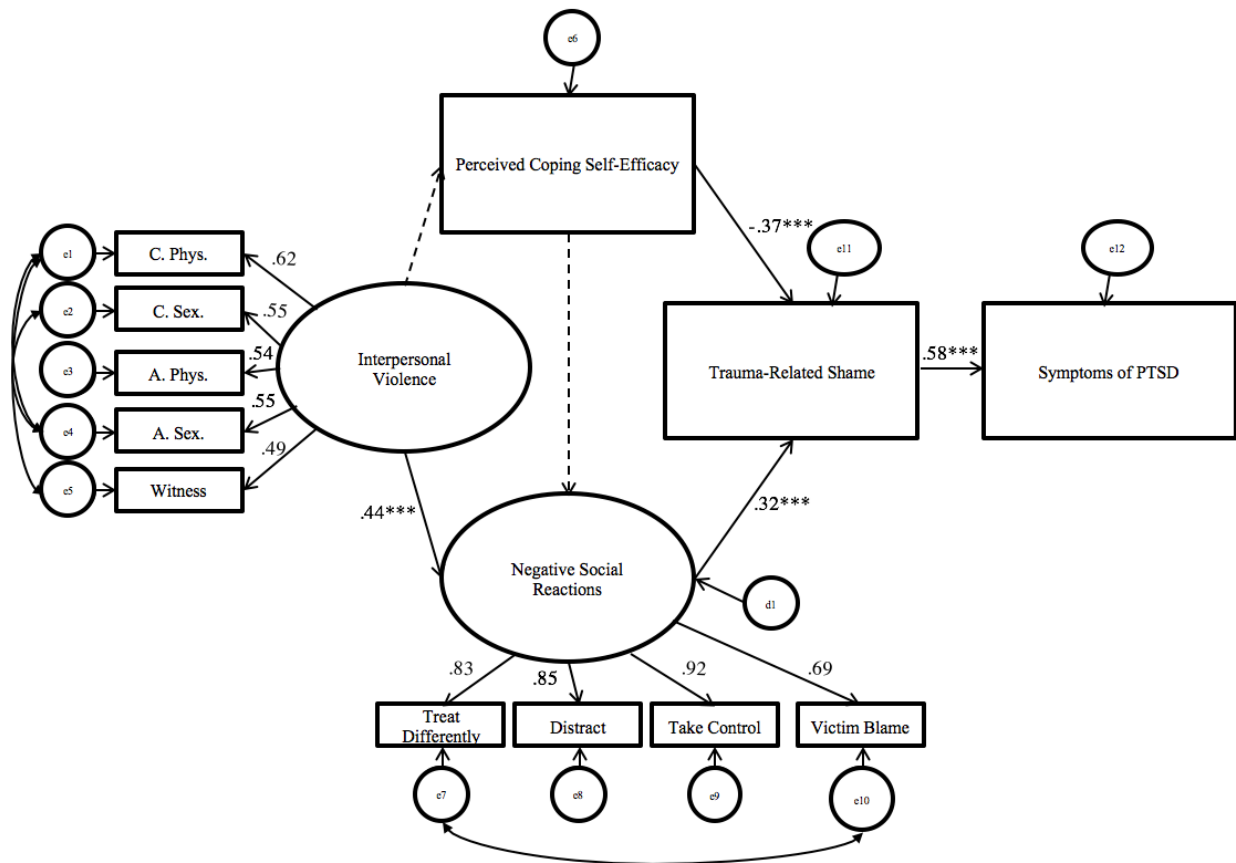


Figure 8. Alternative structural model with path between CSE, IPV, and social reactions restricted to zero. * $p < .05$, ** $p < .01$, *** $p < .001$. All structural paths and factor loadings are reported as standardized coefficients. All factor loadings significant at $p < .001$.

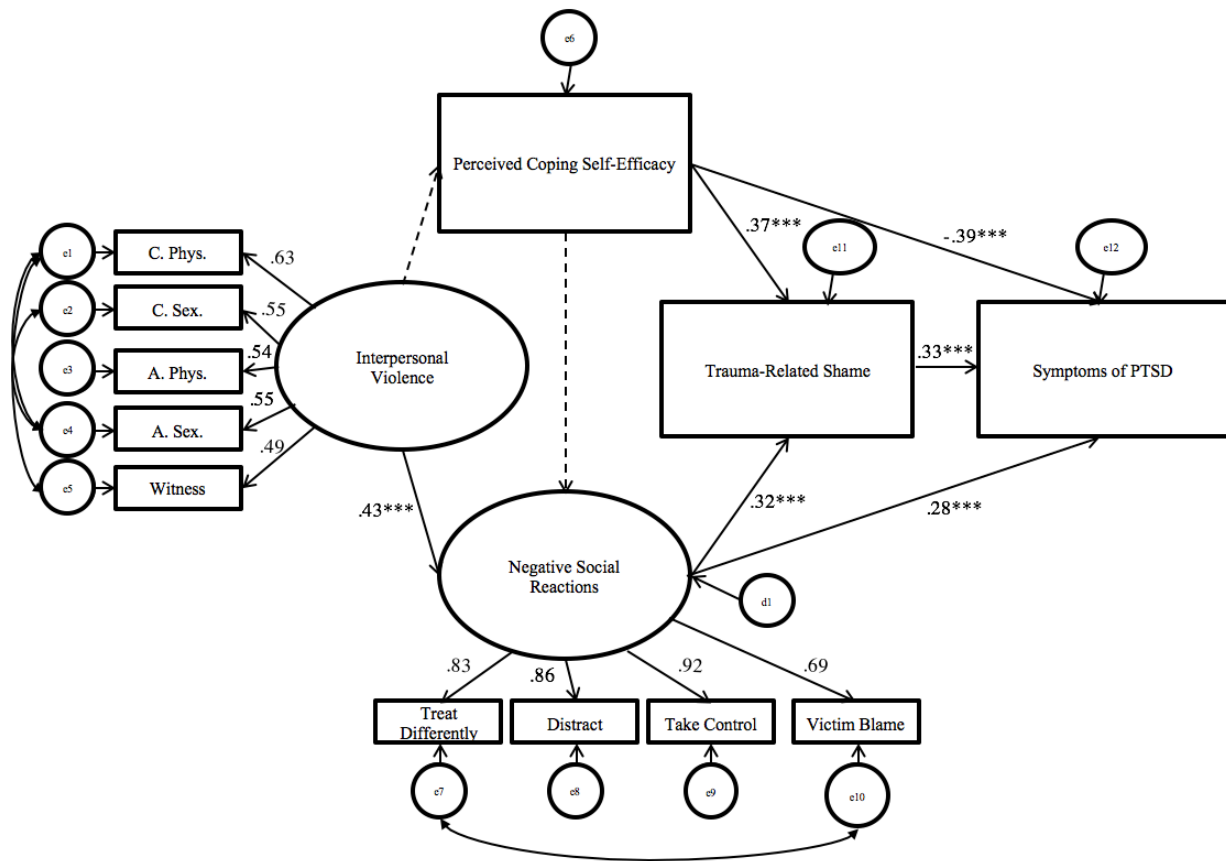


Figure 9. Alternative structural model with direct pathways from all mediators to PTSD. * $p < .05$, ** $p < .01$, *** $p < .001$. All structural paths and factor loadings are reported as standardized coefficients. All factor loadings significant at $p < .001$.

APPENDICES
APPENDIX A
Demographics Questionnaire

____ Participant #

The biographical information on this page is used to provide summaries of those who participate in this study without providing details about any one individual.

1. Age: ____

2. How do you identify your gender?

- ____ (1) Man
 ____ (2) Woman
 ____ (3) Trans
 ____ (4) Other
 ____ (5) Prefer not to disclose

3. Education

- | | |
|----------------------------|-----------------------------------|
| ____ 6th or less | ____ technical degree |
| ____ completed 8th grade | ____ some college |
| ____ some high school | ____ 4 year college degree |
| ____ completed high school | ____ some graduate school |
| ____ GED | ____ completed a graduate program |

4a. What is your religious preference/affiliation?

- | | |
|-----------------|---------------|
| ____ Protestant | ____ Jewish |
| ____ Catholic | ____ Muslim |
| | ____ Buddhist |
| ____ Hindu | ____ LDS |
| ____ Other | ____ None |

4b. How important would you say religion is in your own life?

- ____ (1) extremely important
 ____ (2) very important
 ____ (3) somewhat
 ____ (4) not very important
 ____ (5) not very important at all

5a. When did you last work? _____

5b. When you last worked, what was your employment status?

- | | |
|---------------------|-------------------------|
| ____ (1) full-time | ____ (4) disability/SSI |
| ____ (2) part-time | ____ (5) no income |
| ____ (3) occasional | |

5c. What was your income when you last worked? _____ (circle one: per week/month/year)

6. Current relationship status:

- | | |
|---------------------------------------|--|
| <input type="checkbox"/> (1) single | <input type="checkbox"/> (4) married |
| <input type="checkbox"/> (2) divorced | <input type="checkbox"/> (5) living with partner |
| <input type="checkbox"/> (3) widowed | <input type="checkbox"/> (6) not living with current partner |

7. Do you consider yourself to be:

- | | |
|--|---|
| <input type="checkbox"/> (1) heterosexual/straight | <input type="checkbox"/> (4) bisexual |
| <input type="checkbox"/> (2) gay/lesbian | <input type="checkbox"/> (5) other (specify: _____) |

8a. Parent: ☐ Yes ☐ No

8b. # of children under 18: _____

8c. Where do your children under 18 live? _____

8d. How often do you see them? ☐ daily ☐ 2-3times/week ☐ weekly ☐ 2x/month
☐ monthly ☐ less than monthly ☐ never

9a. Ethnicity (check all that apply):

- | | |
|---|--|
| <input type="checkbox"/> (1) African-American/Black | <input type="checkbox"/> (6) White/European-American/Caucasian |
| <input type="checkbox"/> (2) Caribbean/Haitian | <input type="checkbox"/> (7) European |
| <input type="checkbox"/> (3) African | <input type="checkbox"/> (8) Hispanic-American/Hispanic |
| <input type="checkbox"/> (4) Asian-American | <input type="checkbox"/> (9) Native-American/American-Indian |
| <input type="checkbox"/> (5) Asian/Pacific-Islander | <input type="checkbox"/> (10) Other: _____ |

9b. Which ethnicity do you identify with the most? _____

10. For what behavior(s) are you CURRENTLY incarcerated? _____

11. What is the legal charge(s) for which you are currently incarcerated? _____

12a. Are you currently waiting for trial/sentencing? ☐ Yes / ☐ No, already sentenced

12b. If sentenced, how long is your current sentence? _____

13a. Was the crime for which you are currently incarcerated your first offense? Yes/No

13b. If not, how many times before the current charge have you been convicted of/pled guilty to:

Murder, manslaughter, or homicide: _____ times

Assault: _____ times

Sex offenses: _____ times

Illegal drug charges: _____ times (specific charges: e.g., possession, use) _____

Larceny, theft, robbery, burglary, or fraud: _____ times

Disorderly conduct, public drunkenness, or driving under the influence: _____ time

Vandalism or trespassing: _____ times

On what date were you incarcerated? _____

APPENDIX B

LSC-R

READ THIS FIRST: Now we are going to ask you some questions about events in your life that are frightening, upsetting, or stressful to most people. Please think back over your whole life when you answer these questions. Some of these questions may be upsetting events you don't usually talk about. Your answers are important to us, but you do not have to answer any questions that you do not want to.

1.) Have you ever been in a serious disaster (for example, a massive earthquake, hurricane, tornado, fire, explosion)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

2.) Have you ever seen a serious accident (for example, a bad car wreck or an on-the-job accident)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

3.) Have you ever had a very serious accident or accident-related injury (for example, a bad car wreck or an on-the-job accident)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

4.) Was a close family member ever sent to jail?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

5.) Have you ever been sent to jail?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

6.) Were you ever put in foster care or put up for adoption?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

7.) Did your parents ever separate or divorce while you were living with them?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

8.) Have you ever been separated or divorced?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

9.) Have you ever had serious money problems (for example, not enough money for food or a place to live)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

10.) Have you ever had a very serious physical or mental illness (for example, cancer, heart attack, serious operation, felt like killing yourself, hospitalized because of severe nerve problems)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

11.) Have you ever been emotionally abused or neglected (for example, being frequently shamed, embarrassed, ignored, or repeatedly told that you were “no good”)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

12.) Have you ever been physically neglected (for example, not fed, not properly clothed, or left to take care of yourself when you were too young or ill)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

13.) Have you ever had an abortion or miscarriage (lost your baby)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

14.) Have you ever been separated from your child against your will (for example, the loss of custody or visitation or kidnapping)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

15.) Has a baby or child of yours ever had a severe physical or mental handicap (for example, mentally retarded, birth defects, can't hear, see, walk)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

16.) Have you ever been responsible for taking care of someone close to you (not your child) who had a severe physical or mental handicap (for example, cancer stroke, Alzheimer's disease, AIDS, felt like killing themselves, hospitalized because of nerve problems, can't hear, see, walk)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

17.) Has someone close to you died suddenly or unexpectedly (for example, an accident, sudden heart attack, murder, or suicide)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

18.) Has someone close to you died (do NOT include those who died suddenly or unexpectedly)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

19.) When you were young (before age 16) did you ever see violence between family members (for example, hitting, kicking, slapping, punching)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

20.) Have you ever seen a robbery, mugging, or attack taking place?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

21.) Have you ever been robbed, mugged, or physically attacked (not sexually) by someone you did not know?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

22.) *Before age 16*, were you ever abused (not sexually) or physically attacked (hit, slapped, choked, burned, or beat up) by someone you knew (for example, a parent, boyfriend, or husband)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

23.) *After age 16*, were you ever abused (not sexually) or physically attacked (hit, slapped, choked, burned, or beat up) by someone you knew (for example, a parent, boyfriend, or husband)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

24.) Have you ever been bothered or harassed by sexual remarks, jokes, or demands for sexual favors by someone *at work or school* (for example, a co-worker, a boss, a customer, another student, a teacher)?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

25.) *Before age 16*, were you ever touched or made to touch someone else in a sexual way because they forced you in some way or threatened to harm you if you didn't?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

26.) *After age 16*, were you ever touched or made to touch someone else in a sexual way because they forced you in some way or threatened to harm you if you didn't?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

27.) *Before age 16*, did you ever have sex (oral, anal, genital) when you didn't want to because someone forced you in some way or threatened to harm you if you didn't?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

28.) *After age 16*, did you ever have sex (oral, anal, genital) when you didn't want to because someone forced you in some way or threatened to harm you if you didn't?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

29.) Are there any events we did not include that you would like to mention? Yes No
What was the event?

How many times did it happen?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

30.) Have any of the events mentioned above ever happened to someone close to you so that even though you didn't see or experience the event yourself, you were seriously disturbed by it?

What was the event?

How many times did it happen?

Never (0) Once (1) Twice (2) 3 times (3) 4 times (4) 5 times (5) More than 5 times (6)

APPENDIX C CSE-T

Using the scale below, please rate how much you CURRENTLY feel capable of handling the following situations after having experienced traumatic events, including violence from partners, friends, or caregivers.

	1 Not at all Capable	2	3	4	5	6	7 Totally Capable
1. Deal with my emotions (anger, sadness, depression, anxiety) since I experienced my trauma.							
2. Get my life back to normal.							
3. Not “lose it” emotionally.							
4. Manage distressing dreams or images about the traumatic experience.							
5. Not be critical of myself about what happened.							
6. Be optimistic since the traumatic experience.							
7. Be supportive to other people since the traumatic experience.							
8. Control thoughts of the traumatic experience happening to me again.							
9. Get help from others about what happened.							

APPENDIX D

Social Reactions Questionnaire

The following is a list of behaviors that other people responding to a person with this experience often show. Please indicate how often you experienced each of the listed responses from other people by placing the appropriate number in the blank next to them.

1 NEVER	2 RARELY	3 SOMETIMES	4 FREQUENTLY
------------	-------------	----------------	-----------------

1. Told you it was not your fault. _____
2. Pulled away from you. _____
3. Wanted to seek revenge on the perpetrator. _____
4. Told others about your experience without your permission. _____
5. Distracted you with other things. _____
6. Comforted you by telling you it would be all right or by holding you. _____
7. Told you he/she felt sorry for you. _____
8. Helped you get medical care. _____
9. Told you that you were not to blame. _____
10. Treated you differently in some way than before you told him/her that mad you uncomfortable. _____
11. Tried to take control of what you did/decisions you made. _____
12. Focused on his/her own needs and neglected yours. _____
13. Told you to go on with your life. _____
14. Held you or told you that you are loved. _____
15. Reassured you that you are a good person. _____
16. Encouraged you to seek counseling. _____
17. Told you that you were to blame or shameful because of this experience. _____
18. Avoided talk to you or spending time with you. _____
19. Made decisions or did things for you. _____
20. Said he/she feels personally wronged by your experience. _____
21. Told you to stop thinking about it. _____
22. Listened to your feelings. _____
23. Saw your side of things and did not make judgments. _____
24. Helped you get information of any kind about coping with the experience. _____

25. Told you that you could have done more to prevent this experience from occurring. ____
26. Acted as if you were damaged goods or somehow different now. ____
27. Treated you as if you were a child or somehow incompetent. ____
28. Expressed so much anger at the perpetrator that you had to calm him/her down. ____
29. Told you to stop talking about it. ____
30. Showed understanding of your experience. ____
31. Reframed the experience as a clear case of victimization. ____
32. Took you to the police. ____
33. Told you that you were irresponsible or not cautious enough. ____
34. Minimized the importance or seriousness of your experience. ____
35. Said he/she knew how you felt when he/she really did not. ____
36. Has been so upset that he/she needed reassurance from you. ____
37. Tried to discourage you from talking about the experience. ____
38. Shared his/her own experience with you. ____
39. Was able to really accept your account of your experience. ____
40. Spent time with you. ____
41. Told you that you did not do anything wrong. ____
42. Made a joke or sarcastic comment about this type of experience. ____
43. Made you feel like you didn't know how to take care of yourself. ____
44. Said he/she feels you're tainted by the experience. ____
45. Encouraged you to keep the experience a secret. ____
46. Seemed to understand how you were feeling. ____
47. Believed your account of what happened. ____
48. Provided information and discussed options. ____

APPENDIX E
Trauma Related Shame Inventory

Everybody at times can feel embarrassed, self-conscious or ashamed. These questions are about such feelings if they have occurred at any since your traumatic experience. There are no “right” or “wrong” answers. Please indicate the response which most applies to you with a tick.

	Not At All 0	A Little 1	Moderately 2	Completely 3
1. As a result of my traumatic experiences, I have lost respect for myself.				
2. Because of what happened to me, others find me less desirable.				
3. I am ashamed of myself because of what happened to me.				
4. As a result of my traumatic experience, others have seen parts of me that they want nothing to do with.				
5. As a result of my traumatic experience, I cannot accept myself.				
6. If others knew what happened to me, they would view me as inferior.				
7. If others knew what happened to me, they would be disgusted with me.				
8. I am ashamed of myself because of what happened to me.				
9. I am so ashamed of what happened to me that I sometimes want to escape from myself.				
10. As a result of my traumatic experience, I find myself less desirable.				
11. I am ashamed of the way I felt during my traumatic experience.				

12. If others knew what happened to me, they would look down on me.				
13. As a result of my traumatic experience, there are parts of me that I want to get rid of.				

Not At All
1

A Little
2

Moderately
3

Very Much
4

14. If others knew what happened to me, they would not like me.				
15. Because of my traumatic experience, I feel inferior to others.				
16. If others knew what happened to me, they would be ashamed of me.				
17. If others knew what happened to me, they would find me unacceptable.				
18. As a result of my traumatic experience, a part of me has been exposed that others find shameful.				
19. If others knew how I behaved during my traumatic experience, they would be ashamed of me.				
20. My traumatic experience has revealed a part of me that I am ashamed of.				
21. As a result of my traumatic experience, I don't like myself.				
22. If others knew how I felt during my traumatic experience they would be ashamed of me.				
23. Because of what happened to me, I am disgusted with myself.				
24. I am so ashamed of what happened to me that I sometimes want to become invisible to others.				

APPENDIX F

PCL-5

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being "superalert" or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4