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Examining Trauma-Related Shame and Trauma Coping Self-Efficacy as Predictors of PTSD in Women in Jail

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Abstract: Women in jail experience high rates of exposure to interpersonal violence and PTSD. However, programming to address women's trauma-related treatment needs in corrections facilities is limited and this population remains underserved. Research identifying treatment targets to reduce PTSD symptoms and to support recovery is needed. Prior research suggests trauma-related shame and coping self-efficacy are associated with PTSD symptoms in the general population. The present study aimed to expand upon the current literature by using structural equation modeling to evaluate the associations among cumulative interpersonal violence exposures, trauma coping self-efficacy (TCSE), trauma-related shame, and current PTSD symptoms in a sample of randomly selected women in jail (n = 150). Over half the sample (55%) reported clinically significant PTSD symptoms. Shame (β = 0.372, p = 0.001) and TCSE (β = −0.375, p < 0 000) significantly predicted PTSD symptoms, explaining 50% of the variance in PTSD. These findings provide preliminary direction for identification and implementation of evidence-based treatments addressing trauma-related shame and TCSE to reduce PTSD symptoms in incarcerated women.

Keywords: incarcerated women; interpersonal violence; traumatic stress; mental health; shame; coping self-efficacy

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1. Introduction

In 2022, women were incarcerated in jails at a rate of approximately 55 per 100,000 women in the United States and represented 14% of the population of individuals in jail (Zeng 2023). Further, incarceration rates of women in jails continued to rise with an increase of 9% in 2022. Individuals in jails and prisons exhibit serious psychological distress at a rate of three to five times higher than that of the general population in the U.S., with women reporting higher rates than men in corrections facilities (Bronson and Berzofsky 2017). Additionally, incarcerated women report high rates of traumatic experiences compared with women in the general public (Grella et al. 2013). In particular, women in corrections facilities report high rates of exposure to interpersonal violence such as childhood physical and sexual abuse, sexual assault during adulthood, and partner violence (Karlsson and Zielinski 2020; Lynch et al. 2017; Tussey et al. 2024). Additionally, studies with women in jail have identified 42 to 53 percent of participants met criteria for lifetime PTSD using diagnostic interviews (Lynch et al. 2014; Trestman et al. 2007), rates that are three to six times the rate of PTSD in community samples of women (Karlsson and Zielinski 2020). There is clear recognition that exposure to interpersonal violence increases the risk of PTSD in the general population (Hedtke et al. 2008; Ullman and Relyea 2016). Yet, although studies have identified high rates of interpersonal violence and PTSD in women in jail (e.g., Karlsson and Zielinski 2020; Tussey et al. 2024), there are comparatively few

studies evaluating the effectiveness of evidence-based treatments for PTSD in corrections populations (van der Ploeg et al. 2024; Zielinski et al. 2023).

It is also critical to note that exposure to interpersonal violence is a risk factor for legal system involvement (e.g., Browne et al. 1999; DeHart et al. 2014). Feminist pathways theorists argue that women's repeated experiences of interpersonal violence increases risk of entry into the criminal legal system (DeHart and Lynch 2021). For example, DeHart et al. (2014) utilized mixed methods to examine the links between experiences of multiple forms of interpersonal violence exposure and subsequent criminal offending by women in jail. Using in-depth life history interviews, they found that experiences of caregiver violence, witnessing violence, and/or partner violence prior to incarceration were associated with women's subsequent risk of system involvement for behaviors defined as criminal such as drug offenses, commercial sex work, and running away.

Given the rates of lifetime trauma exposure and PTSD in samples of women in corrections facilities, it is critical that we identify treatment targets to address the negative impact of these trauma exposures and specifically reduce PTSD in this under-served population. We drew on the existing literature to identify malleable potential treatment targets that we hypothesized would be associated with PTSD in incarcerated women. Using the current literature as a basis, we examined women's perceptions of control over recovery from trauma (i.e., trauma coping self-efficacy, TCSE) and feelings of trauma-related shame as predictors of PTSD. Additionally, we examined the extent to which TCSE and shame demonstrated indirect effects on the association between cumulative interpersonal violence and current PTSD. Below we highlight our rationale for examining TCSE and trauma-related shame as predictors of PTSD and potential treatment targets for trauma-exposed incarcerated women.

1.1. Trauma Coping Self-Efficacy

Benight and Bandura (2010) defined trauma coping self-efficacy (TCSE) as the "perceived capability to manage one's personal functioning and the myriad environmental demands of the aftermath occasioned by a traumatic event" (p. 1130). These authors propose assessing trauma-specific coping self-efficacy because trauma exposures present uncommon and often severe challenges to individuals' ability to cope as compared with demands to cope in response to general, non-traumatic stressors. They describe TCSE as a key form of self-regulation that guides how an individual manages traumatic stress and recovery over time. Benight et al. (2015) offer a review of the literature on coping self-efficacy after traumatic events and note support for TCSE as a predictor of trauma recovery in longitudinal studies. Additionally, a few researchers have examined TCSE and PTSD specifically after experiences of differing types of interpersonal violence. For example, Mahoney et al. (2021) reported TCSE was significantly negatively associated with PTSD and identified a significant indirect effect of TCSE on the relation between sexual violence and PTSD symptoms in college students. These authors suggested TCSE may serve a protective function after a sexual assault, asserting that perceptions of competency to manage the demands for coping after a sexual assault likely reduce vulnerability to developing PTSD symptoms. They speculated that perceiving oneself as competent in response to a traumatic event may assist the individual to reestablish a sense of control, decreasing symptoms of PTSD. DeCou et al. (2015) also examined TCSE after experiences of interpersonal violence, but this time as a moderator. They conducted a study with 102 women in prison who had histories of recent partner violence and reported the relation between partner violence and PTSD was significantly moderated by TCSE, such that belief in one's ability to cope served as a protective factor against higher levels of posttraumatic symptoms. In both of these studies, TCSE was associated with lower symptoms of PTSD in

survivors of partner violence and sexual violence, although the authors differed in their tests of TCSE as a mediator or moderator. An aim of the current study was to examine TCSE reported by women in jail, its association with current PTSD, and the potential of TCSE to exert an indirect effect on the established association between interpersonal violence and PTSD.

1.2. Trauma-Related Shame

The experience of shame is associated with a range of negative psychological outcomes across diverse populations, including PTSD (Beck et al. 2011; DeCou et al. 2023; Stewart et al. 2024). For the purposes of the current study, shame is defined as a pattern of painful negative evaluations of oneself (e.g., viewing oneself as intrinsically flawed/damaged). This emotion involves intense feelings of helplessness, powerlessness, and self-scrutiny (Tangney 1991) that are associated with a sense of intense and unexpected exposure or vulnerability (Lewis 1971). Feelings of shame can be adaptive in controlled, changeable, and safe situations (de Hooge et al. 2010), motivating important behavioral changes. However, in the context of interpersonal violence, given the lack of control or safety in the environment, shame is often maladaptive and linked with increased distress.

A number of studies have identified an association between exposures to interpersonal violence and shame, including longitudinal studies (e.g., Bennet et al. 2005; Bhuptani et al. 2024; Irwin et al. 2019). Budden (2009) discusses shame as a primary emotional response to interpersonal violence. He asserts that trauma-related shame occurs in response to feelings of powerlessness and helplessness evoked by experiencing a traumatic event and argues shame is likely more intense in response to interpersonal violence compared with a traumatic event such as a natural disaster due to loss of power and the inability to act in a manner consistent with our values and with social expectations.

There also is growing evidence to suggest shame is associated with PTSD (DeCou et al. 2023; López-Castro et al. 2019). DeCou et al. identified a significant moderate association (r = 0.49) between trauma-related shame and trauma-related symptoms (e.g., PTSD) in a meta-analysis of 25 articles. Lopez-Castro and colleagues conducted a similar meta-analysis; however, they assessed shame more broadly (not specific to trauma) and reported a similar moderate association between shame and PTSD (r = 0.49). A few key studies of shame and PTSD are longitudinal in design, allowing stronger temporal conclusions. Andrews et al. (2000) found that shame measured one month after experiencing a violent crime was associated with PTSD symptoms six months later. Feiring and Taska (2005) reported that sexually abused youths' initial level of shame predicted symptoms of PTSD six years later. Stewart et al. (2024) also examined shame after experiences of sexual violence and reported that shame was the strongest predictor of PTSD in a cross-sectional study with 409 young adults who experienced alcohol-involved sexual assaults. It is important to note, as is illustrated by this review, that researchers have assessed shame broadly as well as shame specific to traumatic experiences. Some researchers have argued that assessment of shame specific to the context of trauma is necessary to more accurately assess and directly influence the relation between shame and trauma-related distress, such as PTSD (DeCou et al. 2023; Øktedalen et al. 2014).

1.3. The Current Study

Although experiences of trauma, particularly interpersonal violence, are common among incarcerated women, very few researchers have examined women's experience of shame in corrections facilities. Additionally, the existing research examining associations among exposures to interpersonal violence and shame or TCSE typically has included one type of violence (e.g., partner violence or sexual violence). Given the high rates of multiple

forms of interpersonal violence reported by women in jail, this study included a broad, cumulative assessment of exposure to physical and sexual violence prior to the current incarceration. The purpose of this study was to examine the proposed associations among cumulative interpersonal violence, TCSE, trauma-related shame, and PTSD using structural equation modeling. Assessing TCSE and trauma-related shame as predictors of current PTSD offers the potential to identify malleable targets for change, and as such may inform selection of PTSD-focused intervention programs for women in corrections facilities.

Hypothesis 1. *We predicted cumulative interpersonal violence exposures would be significantly negatively associated with TCSE and positively associated with trauma-related shame. Next, we predicted a negative association between TCSE and shame. Finally, we anticipated that as shame increased, women's PTSD symptoms would increase and that as TCSE increased, PTSD symptoms would decrease.*

Hypothesis 2. *We also hypothesized that TCSE would demonstrate a significant indirect effect on the relation between interpersonal violence and PTSD symptoms, such that higher rates of interpersonal violence would be associated with lower self-efficacy and lower self-efficacy with greater severity of PTSD symptoms.*

Hypothesis 3. *Shame was also hypothesized to demonstrate a significant indirect effect on the relation between interpersonal violence and PTSD symptoms, such that higher rates of interpersonal violence would be associated with greater trauma-related shame and greater shame with more severe PTSD symptoms.*

2. Materials and Methods

2.1. Participants

The participants were 150 women recruited through random selection from two county jails in a primarily rural northwestern state. These jails have capacity to detain 300 (jail 1, county population of 87,000) to 500 (jail 2, county population 124,000) individuals who are waiting for court hearings or who have been sentenced and are waiting to be transferred to state or federal corrections facilities. Typically, about 70 in 300 detained individuals are women. The women in this study ranged in age from 18 to 61 (M = 32.09, SD = 9.48). Women endorsed the following ethnic identities in a check all that apply format: 60% identified as White/Caucasian/European American (n = 90), 14.6% as Native American (n = 22), 11.3% as Hispanic American/Hispanic (n = 17), 4.0% as African American (n = 6), 11.3% as European (n = 17), and 1.3% as Asian American (n = 2). Approximately 80% identified as straight or heterosexual (n = 120), 4.0% as gay or lesbian (n = 6), 8.7% as bisexual (n = 13), and 7.3% as other (n = 11). The women reported a mean annual income of $2682.60 (SD = $7944.07) in the 12 months prior to their incarceration, with a range of $0 to $60,000 per year. Most of the women reported their highest education as having completed their GED, a high school equivalency diploma (n = 55, 36.6%), or some college (n = 49, 32.6%). Prior to incarceration, women indicated they were single (n = 57, 38.0%), married (n = 22, 14.6%) or living with their partner (n = 30, 20.0%), divorced (n = 24, 16.0%), or not living with their current partner (n = 14, 9.3%). The majority (n = 109, 72.6%) endorsed being parents of children under age 18. Less than one third (n = 44, 29.3%) of the participants were incarcerated for the first time. Approximately 35% were waiting to be sentenced at the time of the interview. The most common charges women reported were drug-related charges (n = 95, 63.3%), most often due to possession of a substance, while 38.0% (n = 57) indicated charges for violent crimes (e.g., assault).

2.2. Measures

Demographics. Participants completed a brief demographics questionnaire that included questions about age, income, education, ethnicity, relationship and parental status, employment history, sexual orientation, and criminal history (i.e., current charges, previous incarcerations).

Life Stressors Checklist—Revised. (LSC-R; Wolfe and Kimerling 1997). The LSC-R is a 30-item self-report measure that assesses an individual's lifetime exposure prior to the current incarceration to a broad range of experiences including exposure to natural disasters, accidents, and interpersonal violence (e.g., physical and sexual violence). Items were adapted to assess the frequency of each traumatic event on a scale of 0 (never) to 6 (more than five times). Questions related to physical and sexual abuse (e.g., "Before age 16, were you ever abused or physically attacked by someone you knew?" and "After age 16, 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 to assess occurrence before and after age 16. The measure has demonstrated good criterion validity for detecting stressful life events among prisoners (McHugo et al. 2005). In total, eight items assessing childhood physical abuse, childhood sexual abuse, adulthood physical abuse, and adulthood sexual violence exposures were included to represent interpersonal violence in the model.

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 traumatic experiences. Participants are instructed to answer questions about their ability to handle situations such as distressing emotions, nightmares, and self-critical thoughts as well as being supportive of others or optimistic related to their exposures to interpersonal violence on a scale ranging from 1 ("not at all capable") to 7 ("totally capable"). Total scores on the CSE-T are produced by summing all of the item ratings; higher scores indicate higher levels of self-efficacy. Chronbach's alpha for this study was 0.90. This measure also has demonstrated strong convergent and divergent validity compared with several other measures of psychological well-being and psychological distress (Benight et al. 2015).

The Trauma-Related Shame Inventory (TRSI; Øktedalen et al. 2014). The TRSI is a 24-item self-report questionnaire that assesses perceptions of oneself as defective as well as perceptions that others will evaluate one poorly. Using a 4-point Likert scale ranging from 0 ("not at all correct about me") to 3 ("completely correct about me"), respondents produce a total score ranging between 0 and 72. The TRSI has had strong external and discriminant validity when compared with other measures of psychological distress (Øktedalen et al. 2014). Chronbach's alpha in this study was 0.94.

The PTSD Checklist for DSM-5 (PCL-5; Weathers et al. 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 (identified on the LSC-R in this study). Individuals indicate how much a particular symptom has bothered them in the past month using a 5-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, with a total score of 33 indicative of greater severity and probable PTSD diagnosis (Weathers et al. 2013). Bovin et al. (2016) noted the measure has high test–retest reliability (r = 0.84) as well as convergent and discriminant validity when compared with well-established measures of PTSD. Chronbach's alpha for this study was 0.93.

2.3. Procedures

This study was approved by the Idaho State University Human Subjects Committee (IRB-FY2016-332). Using publicly accessible online rosters from local jails, potential participants were identified and entered into a database. Next, a random number generator was used to select the order in which the women were approached and invited to participate in the study. Rosters for each jail were updated every two weeks. Potential participants were informed that they had been randomly selected to participate in a voluntary study on stressful life events, mental health, and substance use. They were also informed they had the right to decline to participate with no negative consequences. This study was open to all women in the detention center over the age of 18 who were fluent in English. Forty-two women declined.

Individuals who indicated interest in participating went with the interviewer to a private room to review and obtain informed consent and then complete the interview. Each participant received the questionnaire packet and followed along while the interviewer read all items aloud to address varied reading levels of the participants and marked the participant's answers. To control for order-effects, questionnaires were organized into three different packets, where the trauma and PTSD questionnaires were first but the order of all other measures varied. At the end of the interview, the interviewer debriefed and thanked the participant for her time. Participants were offered a candy bar as a thank you during the interview.

3. Results

3.1. Descriptive Results

Women in this sample reported high rates of interpersonal violence. Almost three quarters of the sample reported childhood sexual abuse (n = 109, 72.7%, M = 3.51, SD = 4.48). Half of the women (n = 75, 50.0%) reported that they had been forced to have intercourse prior to age 16, and almost one in four (n = 37, 24.7%) reported that they had been raped more than five times during their childhood. Over a third of the women (n = 53, 36.7%) indicated they had been forced to have intercourse after age 16 with an average adult sexual assault score of 2.72 (SD = 3.93). Next, 40.7% (n = 61) indicated experiences of childhood physical abuse with an average score of 2.48 (SD = 2.61). The majority of women reported physical attacks by strangers (n = 109, 72.7%) with 55.5% reporting five or more experiences of stranger attacks, and 42.7% (n = 64) reported physical attacks by known others (e.g., partners, family members) as adults for an average adult physical violence score of 3.55 (SD = 2.65).

The participants indicated high levels of PTSD symptoms (range 0 to 70) with an average score on the PCL-5 of 34.78 (SD = 19.50). Over half of the sample (55.3%) had scores above 33 indicating severity of symptoms consistent with a PTSD diagnosis (Weathers et al. 2013). Coping self- efficacy scores ranged from 13 to 57 with an average score of 37.51 (SD = 10.52) and the average trauma-related shame score was 28.06 (SD = 20.77) with a possible range of 0 to 82. Variables were associated in the expected directions (see Table 1).

Table 1. Correlations among identified variables.

	CSA	CPA	ASV	APV	TCSE	TRS
CSA						
CPA	0.366 **					
ASV	0.436 **	0.213 **				
APV	0.251 **	0.332 **	0.303 **			
TCSE	−0.122	−0.009	−0.198 *	−0.130		
TRS	0.133	−0.010	0.254 **	0.242 **	−0.425 **	
PTSD	0.132	0.082	0.217 *	0.271 **	−0.569 **	0.590 **

Note: Child Sexual Abuse (CSA), Child Physical Abuse (CPA), Adult Sexual Violence (ASV), Adult Physical Violence (APV), Trauma Coping Self-Efficacy (TCSE), Trauma-Related Shame (TRS), ** $p < 0.01$, * $p < 0.05$.

3.2. Preliminary Analyses

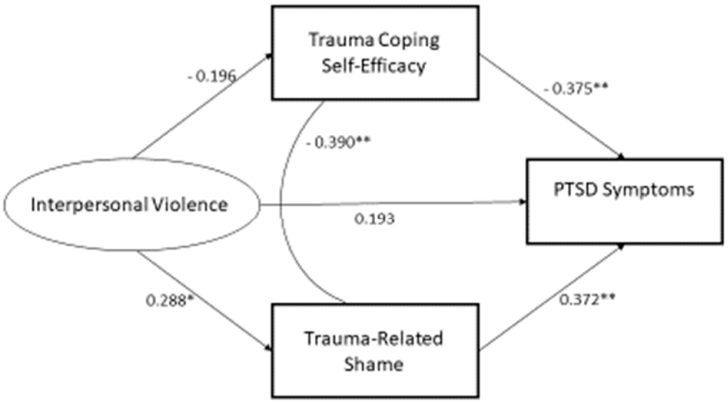
The identified variables (e.g., interpersonal violence, coping self-efficacy, shame, and PTSD) were normally distributed and within acceptable ranges for skew and kurtosis. There were no significant associations between socio-demographic variables (e.g., education, age, etc.) and the outcome variables. The amount of missing data for study variables ranged from 3.7% (i.e., Child Physical Abuse, Adult Physical Abuse Scales) to 10% (i.e., Shame Scale). The missing data in the present sample appeared to be missing at random (Graham 2009). Full-information maximum likelihood (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 and is recommended when data is missing at random (Graham).

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 included in the analysis. We used MPLUS V8.3 to evaluate the proposed model and to conduct bootstrap analyses with 5000 resamples to test the hypothesized indirect effects and generate 95% confidence intervals (Muthén and Muthén 1998–2019).

3.3. Primary Analyses

First, the proposed structural model was tested using confirmatory factor analysis to confirm the measurement model was adequately specified (see Figure 1). Observed indicators and loadings for the latent variable representing interpersonal violence included childhood sexual violence (0.493), childhood physical abuse (0.520), adult physical violence (0.627), and adult sexual violence (0.473). The full model demonstrated good fit to the observed data (X^2 (10) = 15.924, p = 0.102; RMSEA = 0.063 [0.000, 0.118]; CFI = 0.969, TLI = 0.935, SRMR = 0.050). These combined fit indices suggest an acceptable-to-good fit of the model to the data given the non-significant chi square, CFI above 0.95, and RMSEA and SRMR indices below 0.08.

This model explained 50% of the variance in PTSD. As expected, cumulative interpersonal violence was significantly positively associated with trauma-related shame (β = 0.288, SE = 0.139, p = 0.039). Unexpectedly, TCSE was not significantly associated with interpersonal violence (β = −0.196, SE = 0.120, p = 0.104). Shame and TCSE were significantly negatively associated with one another (β = −0.390, SE = 0.087, p = 0.000). Next, trauma-related shame (β = 0.372, SE = 0.112, p = 0.001) and TCSE (β = −0.375, SE = 0.093, p = 0.000) were associated with PTSD symptom scores while interpersonal violence approached significance as a predictor of PTSD symptoms (β = 0.193, SE = 0.100, p = 0.055). Finally, there were no significant indirect effects (e.g., the 95% confidence intervals contained zero) for TCSE or trauma-related shame.



*p < 0.05, ** p < 0.001

Figure 1. Associations among Interpersonal violence, TCSE, trauma-related shame, and PTSD.

4. Discussion

This study examined associations among interpersonal violence, TCSE, trauma-related shame, and PTSD among 150 randomly selected women in jail. While we did not find evidence of indirect effects, TCSE and shame were significantly associated with the women's current PTSD symptoms, explaining 50% of the variance in PTSD. These findings suggest TCSE and shame may serve as malleable targets for trauma-focused interventions aimed at reducing PTSD symptoms in incarcerated women.

The participants' reports of their experiences of interpersonal violence replicated those of other recent studies, indicating women in jail are at high risk of exposure to multiple and repeated forms of interpersonal violence (e.g., Lynch et al. 2017; Karlsson and Zielinski 2020; Tussey et al. 2024). Further, over half of this sample of women in jail indicated current PTSD symptom severity above the cutoff score. These findings are consistent with previous studies that identified high prevalence rates of PTSD symptoms in women in corrections facilities (e.g., Harner et al. 2015; Lynch et al. 2014; Tussey et al. 2024), suggesting that treatment of trauma-related distress should be a key component of interventions offered to women in corrections settings. However, at this time, there is a limited empirical literature available to guide implementation of treatments for reducing PTSD in corrections facility populations (van der Ploeg et al. 2024; Zielinski et al. 2023).

Interpersonal violence was significantly associated with trauma-related shame but was not significantly associated with TCSE or PTSD. The significant positive association between experiences of interpersonal violence and shame replicated findings in other studies (e.g., Bennet et al. 2005; Bhuptani et al. 2024; Irwin et al. 2019). TCSE and shame were also significantly and positively associated with one another. To our knowledge, this is the first study to include both TCSE and trauma-related shame in one model. Given their association and Budden's (2009) conceptualization of trauma-related shame as a response to feelings of powerlessness and helplessness, it is possible that an alternative model with interpersonal violence leading to shame which in turn effects individuals' perceptions of their ability to cope (e.g., TCSE) and then PTSD may offer additional insight into how these variables are associated with one another. Assessing these associations over time is an important next step in this research area. Interpersonal violence approached significance as a predictor of PTSD but did not reach significance. This lack of a significant association may be due to the focus on cumulative lifetime exposures to interpersonal violence rather than more nuanced assessments of the recentness, severity, or specific forms of interpersonal violence (e.g., sexual violence).

Similar to findings of prior meta-analyses (DeCou et al. 2023; López-Castro et al. 2019), shame was significantly associated with PTSD in the current study. Given the aims of this study, it is also important to note that there is some preliminary evidence that reductions in shame in the context of trauma-focused treatment are associated with decreases in PTSD. For example, Ginzburg et al. (2009) reported that reductions in shame (but not guilt) in a randomized group therapy trial for adult survivors of childhood sexual abuse were associated with decreased PTSD post treatment. In this case, both trauma-focused (addressing memories of traumatic events) and present-focused group treatment (current focus on coping and skills to change maladaptive behaviors) were effective at reducing shame and post-treatment PTSD symptom levels.

TCSE was strongly and significantly associated with both shame and PTSD. In one of only a few studies examining TCSE in incarcerated women, DeCou et al. (2015) reported that higher TCSE was associated with lower PTSD symptoms in women exposed to partner violence, similar to our findings. Next, given the centrality of feelings of helplessness, powerlessness, and self-scrutiny that are proposed to be key components of shame (Tangney 1991), it is not surprising that TCSE would be strongly and negatively associated with shame. However, the findings from the current study suggest the potential utility of targeting TCSE as a mechanism for changing women's experiences of shame and their trauma-related distress.

Targeting TCSE is not a new idea. Yoder and Kahn (1992) discussed the importance of self-efficacy for women as a form of individual "power-to" that is linked to the feminist concept of empowerment and can be facilitated in treatment. Addressing perceptions of coping self-efficacy may be particularly pertinent for women in corrections facilities, who have low control over their environment (Fedock 2017). Women in jail generally have few choices in their day-to-day life (e.g., what is eaten at meals, who they spend time with, waking and sleeping routines). They also often have little control over their access to coping-related resources (e.g., mental health providers), to potential sources of stress relief (e.g., exercise, time outdoors, engaging reading material), and ability to connect with trusted others (e.g., limited time to interact with social support(s)). Thus, interventions that target women's perceptions of coping self-efficacy may be particularly critical in corrections facilities.

4.1. Limitations

There are several important limitations regarding this study. First, although the findings of prior longitudinal research support the hypothesized directions of the associations in this study, the study relied on a cross-sectional design and thus causality cannot be inferred. 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 incarcerated populations in more urban 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 2 weeks, and data was collected over a 9-month period. Given the high turn-over rate of women in jail, this sample is likely representative of the greater jail population in rural northwestern states.

4.2. Implications

Overall, there are several implications from the current study. Given the high rates of trauma exposure and symptoms of PTSD reported by the randomly selected women

in this sample, we recommend screening women entering the criminal legal system for trauma-related symptoms of distress. Further, health service providers in jails may find it advantageous to offer trauma-focused treatment to women with histories of interpersonal violence, or given the often shorter length of incarceration periods in jails, to include referrals to evidence-based trauma treatment in release planning. Assisting trauma-exposed women in corrections facilities to access effective treatment is likely to improve their quality of life, and may also reduce rates of recidivism after women are released (e.g., Cimino et al. 2015; Sadeh and McNiel 2014).

Additionally, these findings support testing and evaluating evidence-based clinical interventions for PTSD that target self-efficacy and shame in longer-term corrections facilities such as prisons or with women under community supervision. For example, Cognitive Processing Therapy (CPT, Resick et al. 2002; Resick and Schnicke 1992) addresses distorted thoughts about the trauma, oneself, others, and the world as a mechanism for relieving symptoms of posttraumatic stress. The developer of CPT suggests that activating memories of the traumatic event and providing corrective information about attributions regarding one's competence (i.e., self-efficacy) and sense of self-worth (e.g., shame-based evaluations) will reduce symptoms of PTSD (Williams et al. 2011). Importantly, there is recent work (Zielinski et al. 2023) assessing the acceptability of CPT in corrections environments, including the perspectives of incarcerated women. Zielinski and colleagues reported participants indicated CPT was compatible with their needs and available mental health resources and acceptable to the women and corrections staff.

Further, Dialectical Behavioral Therapy (DBT, Linehan 1993) is an intervention that explicitly addresses shame and offers strategies for recognizing when affective responses are adaptive versus maladaptive as well as strategies to manage affect. Given that implementing established evidence-based protocols in corrections facilities can be challenging, it is important to note that there is also a protocol available with adaptations (individual versus group sessions, flexibility in number of sessions, etc.) for providing DBT in a corrections environment (Sampl et al. 2010). Finally, recent research suggests both CPT and DBT for PTSD are effective at reducing PTSD in individuals with histories of interpersonal trauma (Bohus et al. 2020). This study suggests targeting trauma-related shame and TCSE may reduce symptoms of PTSD in women in corrections facilities but these findings are preliminary. Important next steps are to examine to what extent evidence-based PTSD treatments reduce shame and/or increase TCSE and subsequent reductions in PTSD symptoms in this underserved population. Additional work includes assessing women's preferences regarding type of PTSD treatment (e.g., exposure-based treatments such as CPT or present-focused, skills-based treatments such as DBT) in corrections facilities (see Karlsson et al. 2024). Additionally, it is also important to acknowledge that trauma-related shame is only one component of the shame experienced by individuals in corrections facilities. Researchers examining shame more broadly in offender populations note that it is associated with multiple negative outcomes and recommend amending institutional practices to reduce shame and implementing interventions that directly target shame (Tangney et al. 2011).

In conclusion, the findings of this study offer preliminary support for TCSE and trauma-related shame as potential malleable targets of interventions to reduce PTSD in women in corrections facilities. Further examination of how these constructs change over the course of evidence-based treatments for incarcerated women may aid in the implementation of more efficacious treatments for women in the criminal legal system, and reduce the debilitating psychological effects of traumatic experiences among this at-risk population.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author due to the sensitive nature of the research and potential identification of participants.

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