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Rates of traumatization and psychopathology in criminal justice-involved women

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Abstract

Prior research has consistently found disproportionate rates of traumatization and psychopathology in criminal justice-involved women. The current study aimed to characterize rates of traumatization, psychopathology, and diagnostic comorbidity in women involved with the justice system. Furthermore, this study examined the role of posttraumatic stress symptoms in the association between traumatic events and levels of self-esteem. Participants were 185 women from the Chicagoland area with current or previous (past 2 years) involvement with the criminal justice system. Results confirmed disproportionate rates of trauma experiences and psychopathology in this population, and logistic regression analyses indicated that rates of traumatization predicted diagnostic comorbidity. Analyses indicated an indirect effect of posttraumatic stress in the association between traumatic experiences and self-esteem. Findings highlight the importance of assessing and targeting both trauma experiences and posttraumatic stress in justice-involved women to optimize prevention and intervention efforts.

Keywords

Emotional trauma; incarceration; posttraumatic stress; psychological trauma sequelae; substance use

Surveillance estimates indicate that more than 1 million women are under the care, custody, or control of probation, jail, prison, or parole agencies each year (Glaze & Kaeble, 2014). Rates of psychopathology in women involved in the criminal justice system remain high (Glaze & Kaeble, 2014), and it is imperative to develop effective interventions to interrupt the cycle of recidivism among women with psychopathology. When left untreated, psychopathology is also linked to decreased adaptive functioning, increased substance use and abuse, and poor decision making (Constantine et al., 2010; Salina, Lesondak, Razzano, & Weilbaecher, 2007; Swendsen et al., 2010).

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Women in the criminal justice system have disproportionately higher estimates of posttraumatic stress disorder (PTSD) compared to community samples (Komarovskaya, Booker Loper, Warren, & Jackson, 2011; Lynch, DeHart, Belknap, & Green, 2012; Salina et al., 2007; Teplin, Abram, & McClelland, 1996). This is especially problematic, as experiencing potentially traumatic events (PTEs) has many devastating effects on one's ability to function adaptively in the community (Herman, 1992), thereby increasing one's vulnerability to recidivism. In addition to PTSD (Boals, Riggs, & Kraha, 2013; Najavits, Weiss, & Shaw, 1997; Salina et al., 2007), PTEs are associated with other disorders (e.g., Deering, Glover, Ready, Eddleman, & Alarcon, 1996; Dorrington et al., 2014; O'Donnell, Creamer, & Pattison, 2004) and have been associated with substance abuse (Covington, 1999), poor health outcomes (Lurigio & Swartz, 2000; Schoedl et al., 2010), domestic violence (M. Cohen et al., 2000), and HIV risk behaviors (Machtinger, Wilson, Haber, & Weiss, 2012; Malow, Dévieux, & Lucenko, 2006).

Low self-esteem, another factor related to maladaptive outcomes, is also highly prevalent in women with criminal justice involvement. Self-esteem has been shown to mediate the relationship between childhood abuse and later maladaptive outcomes, such as depression and substance use (Stein, Leslie, & Nyamathi, 2002). Furthermore, among those who have experienced childhood sexual abuse, self-esteem has been shown to be predictive of suicidal ideation and attempts (Eskin, 2012). Together, these findings highlight the fact that low levels of self-worth and self-esteem are strong predictors of maladaptive or risky behaviors. It is worth noting the construct of self-esteem encompasses a range of psychological functioning, is domain specific, and is often variable between settings (e.g., one might have high self-esteem in relationships and low self-esteem in the workplace; Harter, 1999).

There is also evidence to suggest that an individual's self-esteem, self-concept, and self-worth are shaped by having experienced a trauma and/or having posttraumatic stress symptoms (e.g., Ekinci & Kandemir, 2015). Childhood maltreatment and family violence have been associated with lower self-esteem in adulthood (Liem & Boudewyn, 1999), and Soler, Paretila, Kirchner, and Forns (2012) found lower levels of self-liking in those who had experienced multiple victimizations compared to those with one victimization experience. Longitudinal findings have revealed that self-reported peer victimization is associated with lower self-esteem across 1-year time intervals (Overbeek, Zeevalkink, Vermulst, & Scholte, 2010). Thoughts about the self and PTSD symptoms also influence each other reciprocally (Shahar, Noyman, Schnidel-Allon, & Gilboa-Schechtman, 2013).

Though previous studies have examined self-esteem as a mediator between trauma and PTSD symptoms (e.g., Stein et al., 2002), or PTSD symptoms as a mediator between trauma and self-esteem (e.g., Bradley, Schwartz, & Kaslow, 2005), the relationship between trauma, self-esteem, and PTSD symptoms has yet to be examined in justice-involved women. Elucidating the relationship between self-esteem and PTSD symptoms in a population with particularly disproportionate rates of trauma (Grella, Lovinger, & Warda, 2013) and low self-esteem (Yang et al., 2015) may help optimize mental health services.

Self-esteem is consistently supported in the literature as a crucial mechanism in fostering resilience in those with adverse experiences (Boscarino & Adams, 2009; deRoos-Cassini,

Mancini, Rusch, & Bonanno, 2010; Wei, Liao, Ku, & Shaffer, 2011). However, enhancing self-esteem as a means of resiliency building necessitates an understanding of the complex associations and myriad pathways linking adverse life experiences, self-esteem, and resilience. Deriving a workable definition of resiliency is complex and alternates between an emphasis on internal criteria (e.g., the absence of psychopathology) versus external criteria (e.g., occupational achievement) or both (Luthar, Cicchetti, & Becker, 2000; Masten, 2007). Furthermore, recent empirically derived studies have demonstrated within-person variability in adaptation (e.g., the absence of internalizing/externalizing problems but deficits in socialization skills), suggesting the need for a more nuanced conceptualization of resilience across domains of functioning (Martinez-Torteya, Miller-Graff, Howell, & Figge, 2015). Definitional considerations of resilience are not trivial, as resilience may be used to determine who is eligible to receive services (Masten, 2001) and helps identify specific protective processes to target in the design of prevention and intervention programs (Cicchetti & Toth, 1992; Luthar et al., 2007; Masten, Best, & Garmezy, 1990). The identification of self-esteem as a crucial component in the link between adverse experiences and psychopathology highlights a protective mechanism to promote adaptive functioning in justice system-involved populations.

In the current study, two indirect effect analyses were conducted to examine the impact of PTEs on self-esteem and the effects of self-esteem on posttraumatic stress symptoms: (a) an analysis of the indirect effect of PTSD symptoms on the association between PTE exposure and self-esteem and (b) an analysis of the indirect effect of self-esteem on the association between PTE exposure and PTSD symptoms. Findings will help characterize women involved in the criminal justice system and examine the impact of trauma and posttraumatic stress symptoms on self-esteem to help provide comprehensive, trauma-informed treatment aimed at reducing recidivism.

Method

Participants

Participants were 185 women in recovery from at least one substance use disorder with current or previous (within the preceding 2 years) involvement with the criminal justice system. Women were recruited from multiple substance abuse treatment sites in the Chicagoland area and Cook County Jail. The current study examined data collected for a larger study examining the role of democratically run recovery homes in preventing relapse and recidivism (see Salina, Ram, & Jason, 2016). These treatment sites included residential inpatient programs of varying lengths, outpatient treatment centers, and neighborhood Alcoholics Anonymous and Narcotics Anonymous meeting places. Research staff actively visited sites to recruit participants for the study and posted flyers in places that might provide some form of services to substance-using women who were formerly or currently justice involved. Participants were also recruited using snowball techniques, which permitted other participants to refer women to the study. Most women who learned about the project agreed to participate in the study, with the exception of a very few women who declined. No women were refused participation by study personnel.

Procedures

After providing informed consent, each participant was individually interviewed by a trained research assistant in a private space. Participants received \$45 in grocery store gift cards for participating in the initial interviews. This study was reviewed and approved by the study institution's institutional review board and followed the provisions of federal regulations in Subpart C of 45 CFR 46. The institutional review board approved the amount of compensation as being consistent with the time spent completing the interview. Participants received transportation passes to travel to the interview, if needed.

Measures

Demographics

Income, race, age, education, marital status, and other demographic information was collected.

Diagnostic prevalence and potentially traumatic experiences

The Computerized Diagnostic Interview Schedule (CDIS) was used at baseline (Wave 1) to determine prevalence rates of *current* co-occurring disorders. The CDIS is a structured psychiatric instrument designed for use in community surveys (Regier et al., 1990; Robins & Helzer, 1994). This instrument has been used in large community psychiatric epidemiologic studies. For each positive symptom, there is a highly structured question sequence to determine whether the symptom meets severity criteria and to determine whether the symptom is due to other factors (i.e., alcohol, drugs or medications, physical illness, psychiatric illness). The CDIS covers *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV*; American Psychiatric Association, 1994), Axis I diagnoses, including substance-related disorder diagnoses occurring within 12 months prior to the interview. To assess PTE exposure, we had participants endorse whether they had experienced an adverse life event from a list of events. For the complete list of PTEs provided by the CDIS, see Table 2. The CDIS is designed to be used with adults older than age 18 during a single session lasting about 60 min.

Posttraumatic stress

The Trauma Symptom Checklist-40 (TSC-40; Briere, 1996) is a 40-item self-report instrument designed for adults to evaluate current symptoms associated with childhood or adult traumatic experiences. The TSC-40 includes six subscales: Anxiety, Depression, Sexual Abuse Trauma Index, Dissociation, Sleep Disturbance, and Sexual Problems. A total index score also can be calculated. Studies that have used the TSC-40 indicate that it is a reliable measure, with subscale alphas ranging from .66 to .77 and alphas for the full scale averaging between .89 and .91. The TSC-40 was administered at all interview time points and was used to assess trauma-related symptoms and behaviors in all analyses.

Self-esteem

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a 10-item measure assessing global self-esteem (e.g., "On the whole, I am satisfied with myself"). Responses were rated on a 5-

point scale ranging from 1 (*not very true of me*) to 5 (*very true of me*). Previous studies have reported alpha reliabilities for the Rosenberg Self-Esteem Scale ranging from .72 to .88 (Gray-Little, Williams, & Hancock, 1997).

Results

General diagnostic prevalence statistics

The prevalence of *DSM-IV* diagnoses for the current sample is presented in Table 1. National prevalence estimates included in the table were derived from the U.S. National Comorbidity Survey completed in 2005, a nationally representative household survey including 9,282 respondents (Kessler, Chiu, Demler, & Walters, 2005).

PTE exposure and *DSM-IV* diagnoses

Estimates of PTSD were excluded from prevalence analyses, as it is likely that the diagnostic interview used for the current study (CDIS-IV) underestimated the rates of PTSD. The current algorithmic structure of the CDIS-IV is such that if a participant does not endorse an index trauma, or “worst event,” subsequent questions regarding posttraumatic stress symptomology are skipped. Thus, a participant may have endorsed experiencing PTEs and not been assessed for PTSD symptom presentation because of a lack of endorsement of a “worst event.”

To highlight the current sample’s disproportionate levels of exposure to PTEs, we present percentages of the current sample who endorsed specific PTEs in Table 2. We also calculated the number of PTEs experienced in the sample. Results indicated disproportionately high rates of traumatic experiences for the current sample: More than 95% of the current sample endorsed experiencing a PTE, and on average women endorsed an average of almost five PTEs ($M = 4.92$, $SD = 2.6$).

Logistic regression analyses were conducted to predict the likelihood of meeting criteria for *DSM-IV* diagnoses based on sum scores of PTEs. Results are presented in Table 3. On average, women in the current sample had in their lifetime met criteria for 1.3 ($SD = 1.6$) *DSM-IV* diagnoses, with some women meeting criteria for up to eight diagnoses. We then conducted an independent linear regression to predict multiple diagnoses based on sum scores of PTEs. Results indicated that a higher number of PTEs significantly predicted a higher number of *DSM-IV* diagnoses, $F(1, 174) = 39.61$, $B = .431$, $t = 6.29$, $p < .001$.

Trauma experience, posttraumatic stress, and self-esteem

To determine whether posttraumatic stress symptoms mediate the association between PTE exposure and women’s self-esteem, we used the SPSS PROCESS macro created by Hayes (2012). This macro estimates path coefficients in mediator models and generates bootstrap confidence intervals for total and specific direct and indirect effects of X on Y through a mediator variable. This mediation analysis uses the indirect effect coefficient as an indicator of significant mediation and does not necessitate that all paths in the mediation model be significant (Preacher & Hayes, 2008).

Posttraumatic stress symptoms partially mediated the association between PTE exposure and self-esteem. As Figure 1 illustrates, PTE exposure predicted more PTSD symptoms, which in turn predicted lessened self-esteem. The presence of a significant indirect effect is indicated by a confidence interval that does not include 0, indicating a significant reduction in predictive power for the independent variable. In this model, the introduction of the indirect effect of PTSD symptoms significantly reduced the association between PTE exposure and self-esteem (confidence interval [0.048, 0.415]). The path linking PTE exposure and PTSD symptoms and the path linking posttraumatic stress and self-esteem were both significant ($p < .05$ and $p < .01$, respectively).

Indirect effect analyses were also conducted to examine whether self-esteem mediates the association between PTE exposure and PTSD symptoms. As Figure 2 illustrates, PTE exposure predicted lessened self-esteem, which in turn predicted more PTSD symptoms. In this model, the introduction of the indirect effect of self-esteem significantly reduced the association between PTE exposure and PTSD symptoms (confidence interval [0.014, 1.24]). Although all paths were not significant, this analysis does not necessitate that all paths be significant to find a significant indirect effect (Preacher & Hayes, 2008).

Discussion

The current study aimed to examine the role of posttraumatic stress in regard to self-esteem. Results of the current study indicate disproportionately high rates of psychopathology, comorbidity, and exposure to PTEs in the current sample compared to national prevalence rates. Results also suggest an indirect effect between traumatic experiences and self-esteem through levels of posttraumatic stress symptoms.

First, the current findings suggest that traumatic experiences are highly prevalent in this population and that these experiences are associated with increased psychopathology, diagnostic comorbidity, and decreased self-esteem. These rates of traumatization are notable in comparison to estimates that about 36% of individuals in the general population (e.g., Dorrington et al., 2014) and 92% in high-risk areas (e.g., Detroit, Michigan; Breslau, 2009) have experienced at least one PTE. Given the robust links between trauma experience and delinquent recidivism (e.g., Kerig, Vanderzee, Becker, & Ward, 2012), the alarmingly high rates found in our sample must be considered across the mental health research, intervention, and policy spheres to promote adaptive functioning for incarcerated women. Furthermore, being arrested and experiences while incarcerated may perpetuate the trauma–recidivism cycle, as both experiences have demonstrated the function of further traumatization in prior studies (e.g., Wolf, Silva, Knight, & Javdani, 2007), particularly for women (Moloney, Van Den Bergh, & Moller, 2009). As an illustration, women are more likely to experience revictimization while imprisoned (Dirks, 2004) and to experience shame and humiliation that endures after incarceration (Milligan & Andrews, 2005). Our findings align with prior research on the maladaptive outcomes associated with trauma (e.g., Edwards, Holden, Felitti, & Anda, 2003) and highlight the importance of recognizing the substantive trauma histories of women in the criminal justice system. However, although the maladaptive outcomes of those exposed to trauma are substantial, it is important to recognize that a sizable portion of individuals are resilient after exposure to PTEs (Edleson, 2001; Martinez-

Torteya, Anne Bogat, Von Eye, & Levendosky, 2009). Maintaining an awareness and consideration of traumatic experiences is crucial for recovery, as evidenced by the significant association with self-esteem, an outcome relevant to both posttraumatic stress symptoms and recidivism in justice-involved women.

To further delineate the association between PTE exposure and self-esteem, we tested two models. There was a significant indirect effect of posttraumatic stress symptoms in the association between PTE exposure and self-esteem. This finding highlights the role of posttraumatic stress symptoms in predicting lower levels of self-esteem. Thus, experiencing a PTE is not necessarily directly predictive of lowered self-esteem but instead predicts posttraumatic stress symptoms, which are directly predictive of factors relevant to maladaptation (in this case, self-esteem). The self-esteem measure utilized in the current study, although widely used, was only a brief snapshot of the encompassing, complex construct of self-esteem. Future studies would benefit from using a more nuanced measure of self-esteem and its direct associations with specific areas of functioning to increase the empirical and clinical utility of self-esteem as a construct.

Maladaptive outcomes may be the result of coping mechanisms used at the time of trauma that served a temporary adaptive function but over time became maladaptive. For example, dissociation at the time of trauma, or peritraumatic dissociation, may serve an adaptive purpose in derealizing and depersonalizing the experience of trauma. Yet dissociation may become a posttraumatic stress symptom that interferes with daily functioning, rather than a coping mechanism, when overutilized in inappropriate scenarios. A sense of inability to cope with adverse situations may perpetuate feelings of low self-worth or self-esteem. Current findings, paired with prior mediational findings of posttraumatic stress, highlight the importance of identifying the role posttraumatic stress plays in the consistent associations found between traumatic experiences and maladaptive outcomes.

Second, a significant indirect effect of self-esteem was found in the association between PTE exposure and posttraumatic stress symptoms. Findings of significant indirect effects in both models suggest that the associations between these variables are likely reciprocal and have bidirectional influence. For example, lowered self-esteem following a traumatic event may perpetuate decreased feelings of self-worth or coping efficacy, which may lead to greater distress surrounding the traumatic event (and thus increases in PTSD symptoms). Consequently, the increases in posttraumatic stress may perpetuate negative cognitions regarding oneself, further reducing levels of self-esteem (Bradley et al., 2005). It is also important to consider the potential confounding effect of prolonged or heavy substance use on women's self-esteem, as demonstrated by the bidirectionality of substance use and self-esteem in traumatized women (Stein et al., 2002).

Together, these results highlight the need for individuals and institutions working with women currently or formerly engaged in the criminal justice system (e.g., clinicians, community agencies, correctional facilities) to thoroughly assess trauma experiences and subsequent posttraumatic stress in order to provide an optimal level of care. Initial clinical assessments of justice-involved women should include levels of posttraumatic stress symptom presentation in order to individualize and optimize treatment goals and objectives.

Careful examination of both the PTEs and the subsequent post-traumatic stress will help guide mental health professionals in shaping specific and comprehensive treatment goals.

Traumatic experiences are a necessary but not sufficient precursor to posttraumatic stress, and identifying the presence of posttraumatic stress symptoms in addition to exposure to a traumatic experience is crucial in identifying those at greatest risk for continued maladaptive behavior. Our findings suggest that posttraumatic symptoms are related to self-esteem. Self-esteem is of critical importance when considering adaptive functioning in the face of adversity, as it has been linked to traumatic experiences (e.g., Ekinici & Kandemir, 2015), recidivism (Cook, 2014), substance abuse (e.g., Stein et al., 2002), and other maladaptive outcomes (e.g., suicidality; Eskin, 2012). Focusing trauma-informed efforts on those displaying posttraumatic stress symptoms and focusing those efforts on symptom reduction will optimize treatment in promoting adaptive functioning and thus improve perceptions of self-worth and self-esteem.

Assessing whether posttraumatic stress symptoms are present in an individual who has experienced a PTE also helps to ensure that the treatment does not have deleterious or iatrogenic effects. Devilly (2002) highlighted the importance of only implementing certain trauma-informed interventions when posttraumatic stress symptoms are present, as individuals with current posttraumatic stress presentation are most likely to benefit from treatment. Furthermore, exposure-based interventions may prolong the traumatic experience or increase the individual's anticipation of potential symptoms, thus worsening the deleterious effects of the traumatic experience in someone who may otherwise display resilience (Bootzin & Bailey, 2005; Herbert & Sageman, 2004).

Given the high rates of psychopathology in this population, collaborations between multiple contact points of the criminal justice system linking women to community mental health services are crucial in providing a potent and comprehensive strategy to address mental health (Munetz & Griffin, 2006). Many law enforcement officers do not recognize the presence of mental disorders in justice-involved women, and this often affects the women's symptoms and well-being. Trainings should be provided to both law enforcement staff who interact with the targeted group of women and the community agencies to which the women are referred for services. These trainings should focus on the additional needs of this population to promote more effective mental health services. Cognitive-behavioral therapies for those with posttraumatic stress (e.g., Trauma-Focused Cognitive Behavioral Therapy (TF-CBT); J. A. Cohen, Mannarino, & Deblinger, 2006) are the most widely used and consistently validated empirically based treatments for those with exposure to PTEs; however, these should be carefully implemented with only those presenting with clinical levels of posttraumatic stress symptoms (Deville, 2002). Furthermore, current findings highlight the importance of targeting both trauma histories and substance use in reducing recidivism, and further exploration and examination of treatment models that integrate trauma and addictions therapy concomitantly is warranted.

Together, the current findings highlight the disproportionate numbers of women involved in the criminal justice system who have experienced a traumatic event and the impact of posttraumatic stress on other maladaptive outcomes (i.e., self-esteem). Identifying and

assessing this heightened prevalence of trauma and the variability in symptom presentation is crucial in promoting the well-being of women involved in the criminal justice system.

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Figure 1.

Indirect effect of PTE on self-esteem through posttraumatic stress symptoms. Standardized regression coefficient between PTE exposure and self-esteem with the indirect effect of PTSD symptoms in parentheses. PTE = potentially traumatic event; PTSD = posttraumatic stress disorder; CI = confidence interval. * $p < .05$, ** $p < .01$.

Figure 2.

Indirect effect of PTE on posttraumatic stress symptoms through self-esteem. Standardized regression coefficient between PTE exposure and PTSD symptoms with the indirect effect of self-esteem in parentheses. PTE = potentially traumatic event; PTSD = posttraumatic stress disorder; CI = confidence interval. * $p < .05$, ** $p < .01$.

Table 1

Prevalence of *DSM-IV* diagnoses within the current sample compared to national prevalence estimates.

<i>DSM-IV</i> diagnosis	Current sample (<i>N</i> = 185)	National prevalence estimates (<i>N</i> = 9,282)
Major depressive disorder	29.7 (<i>n</i> = 55)	6.7
Bipolar I and II disorders	18.4 (<i>n</i> = 34)	2.6
Panic disorder	10.8 (<i>n</i> = 20)	2.7
Generalized anxiety disorder	9.73 (<i>n</i> = 18)	3.1
Agoraphobia	9.20 (<i>n</i> = 17)	0.8
Specific phobia	5.95 (<i>n</i> = 11)	8.7
Dysthymia	1.09 (<i>n</i> = 2)	1.5

Notes: Data are percentages. *DSM-IV* = *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*.

Table 2

Potentially traumatic events endorsed in the current sample.

Potentially traumatic event: "Have you ever..."	% endorsed
Experienced unexpected death of close friend/relative	83.4
Been raped by a nonrelative	59.1
Learned friend/relative experienced terrible thing	51.1
Been mugged	50.3
Seen someone being seriously injured/killed	45.9
Been raped by a relative	37.2
Been in a serious accident	31.5
Been shot/stabbed	25.7
Been in a disaster	21.0
Been held captive	19.3
Experienced other terrible/frightening/horrible thing	18.9
Discovered a dead body	18.2
Been diagnosed with life-threatening illness	11.6
Been exposed to radiation	1.1

Table 3

Logistic regression analyses predicting *DSM-IV* diagnosis based on frequency of potentially traumatic event scores.

<i>DSM-IV</i> diagnosis	Wald	Model χ^2	β weight	<i>p</i>
Major depressive disorder	5.65	5.83	0.154	.02
Bipolar I and II disorders	8.00	8.43	2.17	<.01
Panic disorder	15.19	18.96	0.425	<.001
Generalized anxiety disorder	7.29	7.81	0.269	<.01
Agoraphobia	10.36	11.82	0.347	.001
Specific phobia	2.61	2.65	0.192	.10
Dysthymia	0.088	0.087	0.080	.77

Notes: DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition.