

In presenting this thesis in partial fulfillment of the requirements for an advanced degree at Idaho State University, I agree that the Library shall make it freely available for inspection. I further state that permission for extensive copying of my thesis for scholarly purposes may be granted by the Dean of the Graduate School, Dean of my academic division, or by the University Librarian. It is understood that any copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Signature _____

Date _____

Interpersonal violence, emotion regulation, and trauma coping self-efficacy as predictors of
substance use and risk engagement among women in jail

by

Shelby Weber

A dissertation

submitted in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy in the Department of Psychology

Idaho State University

Summer 2023

Copyright (2023) Shelby Weber

To the Graduate Faculty:

The members of the committee appointed to examine the dissertation of SHELBY
WEBER find it satisfactory and recommend that it be accepted.

Shannon Lynch, Ph.D.
Major Advisor

Steve Lawyer, Ph.D.
Committee Member

Maria Wong, Ph.D.
Committee Member

DJ Williams, Ph.D.
Committee Member

Jeremy Thomas, Ph.D.
Graduate Faculty Representative

Human Subjects Committee Approval Page

January 21, 2022

Shelby Weber
Psychology
MS 8112

RE: Study Number IRB-FY2022-93 : Interpersonal violence, emotion regulation, and trauma coping self-efficacy as predictors of substance use and risk engagement among women in jail

Dear Ms. Weber:

Thank you for your responses to a full-board review of the study listed above. Your responses are eligible for expedited review under FDA and DHHS (OHRP) regulations. This is to confirm that I have approved your application.

Notify the HSC of any adverse events. Serious, unexpected adverse events must be reported in writing within 10 business days.

You may conduct your study as described in your application effective immediately. The study is subject to renewal on or before January 21, 2023, unless closed before that date.

Please note that any changes to the study as approved must be promptly reported and approved. Some changes may be approved by expedited review; others require full board review. Contact Tom Bailey (208-282-2179; email humsubj@isu.edu) if you have any questions or require further information.

Sincerely,

Ralph Baergen, PhD, MPH, CIP
Human Subjects Chair

January 3, 2023

Shelby Weber
Psychology
MS 8112

RE: Study number IRB-FY2022-93: Interpersonal violence, emotion regulation, and trauma coping self-efficacy as predictors of substance use and risk engagement among women in jail

Dear Ms. Weber:

You are granted permission to continue your study as described effective immediately. The study is next subject to continuing review on or before January 3, 2024, unless closed before that date.

As with the initial approval, changes to the study must be promptly reported and approved. Contact Tom Bailey (208-282-2179, humsubj@isu.edu) if you have any questions or require further information.

Sincerely,

Ralph Baergen, PhD, MPH, CIP
Human Subjects Chair

TABLE OF CONTENTS

List of Figures	vi
List of Tables	vii
List of Appendices	viii
Abstract	ix
CHAPTER ONE: INTRODUCTION.....	1
Trauma, Violence, PTSD among Incarcerated Women.....	2
Substance Use among Incarcerated Women.....	4
Risk Behaviors and Outcomes	9
Mechanisms	13
Purpose of Study	26
CHAPTER TWO: METHOD	27
Participants.....	27
Measures	29
Procedure	34
CHAPTER THREE: RESULTS	35
Descriptive Statistics.....	35
Preliminary Analyses	36
Primary Analyses	38
CHAPTER FOUR: DISCUSSION	41
References	56
Appendices.....	92

List of Figures

Figure 1. Hypothesized measurement model.....	89
Figure 2. Hypothesized structural model.....	90
Figure 3. Final model.....	91

List of Tables

Table 1. Demographics of participants	84
Table 2. Descriptive statistics for variables of interest	86
Table 3. Correlations between identified variables.....	87
Table 4. Model Summary	88

List of Appendices

Appendix A: Demographics Questionnaire	92
Appendix B: Life Stressors Checklist – Revised (LSR-R)	95
Appendix C: Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5)	98
Appendix D: Trauma Coping Self-Efficacy (CSE-T)	99
Appendix E: Difficulties in Emotion Regulation Scale (DERS)	100
Appendix F: Mini International Neuropsychiatric Interview 7.0. (MINI).....	102
Appendix G: Risky, Impulsive, and Self-Destructive Behavior Questionnaire (RISQ)	104

Interpersonal violence, emotion regulation, and trauma coping self-efficacy as predictors of
substance use and risk engagement among women in jail

Dissertation Abstract—Idaho State University (2023)

Incarcerated women report significantly higher rates of interpersonal violence, PTSD symptoms, and substance use disorders compared to the general population. Exposure to interpersonal violence is associated with PTSD and maladaptive behaviors such as substance use and engagement in risky behaviors. However, less is known about mechanisms, such as emotion regulation and trauma coping self-efficacy, that increase or decrease the likelihood of these negative outcomes in this population. It is also unclear how PTSD affects these outcomes. The present study aimed to investigate the extent to which emotion regulation and trauma coping self-efficacy exert indirect effects on the relations between cumulative interpersonal violence exposure and negative outcomes among incarcerated women ($N = 180$) using Structural Equation Modeling. Women with a probable PTSD diagnosis were more likely to report higher difficulties with emotion regulation and lower coping self-efficacy compared to those without probable PTSD. Interpersonal violence also significantly predicted emotion dysregulation and increased engagement in risky behavior. Additionally, lower coping self-efficacy was associated with higher substance use. However, there were no significant indirect effects of emotion regulation and coping self-efficacy on substance use or risky behavior engagement. These findings demonstrate the importance of cumulative experiences of interpersonal violence and PTSD as predictors of maladaptive coping mechanisms and behaviors among incarcerated women. Understanding the role of trauma-related experiences has the potential to contribute to our knowledge of incarcerated women's treatment and service utilization needs.

Key words: interpersonal violence, PTSD, substance use, risky behaviors, incarcerated women.

Introduction

In 2018, 15.5% of adult jail inmates in U.S. state and local jails were women, and this number continues to grow each year (Zeng, 2020). The highest jail growth rates are in rural counties; between 1970 and 2013, rural incarceration rates increased by 436% (Kang-Brown & Subramanian, 2017). Incarcerated women suffer disproportionately high rates of traumatic experiences, serious mental illness, and substance use (Henry, 2020; Jones et al., 2017; McKee & Hilton, 2019). In particular, many studies have identified high rates of the co-occurrence of trauma exposure and substance use in general populations (Brady et al., 2004; Khoury et al., 2010; Ouimette & Brown, 2003) and in incarcerated populations (Lynch et al., 2014; Wolff et al., 2011). In a multi-site study of incarcerated women, about half (46%) of women in the sample met criteria for Posttraumatic Stress Disorder (PTSD) and a Substance Use Disorder (SUD) (Lynch et al., 2014). In addition, trauma exposure is linked to engagement in risky behaviors among female inmates (DeHart, 2008; Huebner et al., 2010). For example, studies have shown that multiple traumatic exposures are associated with risky sexual behaviors (Khan et al., 2008) and increasing risk of negative health outcomes and recidivism (Dalsklev et al., 2021) among incarcerated populations. It is especially important to examine these associations given that these outcomes are implicated in behaviors labeled as criminal (e.g., illicit drug use, sex work).

In particular, incarcerated women report elevated rates of exposure to interpersonal violence (e.g., child abuse, physical violence, sexual violence) (Wolff et al., 2011). Among female offenders, previous research has suggested an association between interpersonal violence and emotional regulation (Konecky & Lynch, 2019; Walsh et al., 2011) and trauma coping self-efficacy (DeCou et al., 2015). While there is preliminary evidence that key outcomes (i.e., substance use symptoms, risk engagement) are related to emotion regulation and coping self-

efficacy in the general population, there is limited research on these topics with incarcerated women. These mechanisms have not been examined as predictors of substance use or risky behavior among incarcerated women. Further, no literature has explored these mechanisms concurrently or while considering PTSD symptom severity. Taken together, existing studies suggest exposure to interpersonal violence, substance use, and behavioral risk may be linked. Given the high prevalence of PTSD, substance use, and traumatic experiences identified in incarcerated women, studying associations among these variables and their link to negative outcomes such as substance use and risky behavior offers has the strong potential to guide future intervention efforts.

Trauma, Interpersonal Violence, and PTSD among Incarcerated Women

Incarcerated women report high rates of trauma exposure compared to the general population (Briere et al., 2016; Radatz & Wright, 2017). For instance, Cook and colleagues (2005) found that 99% of their sample of incarcerated women reported experiencing at least one traumatic event and on average, women reported experiencing over eight traumas in their lifetime. Given the high trauma exposure in incarcerated women, it is not surprising they report higher rates of PTSD. For instance, a study of 508 incarcerated individuals documented about 42% of female inmates met diagnostic criteria for lifetime PTSD (Trestman et al., 2007). This is on par with estimates of PTSD prevalence rates from other studies (e.g., Lynch et al., 2014).

Evidence suggests that trauma type (i.e., interpersonal violence) and chronicity is important when considering risk outcomes. In a longitudinal study of 3,031 women in the community, Hedtke et al. (2008) found that the risk of PTSD and substance use increased with multiple experiences of interpersonal violence. Indeed, studies have consistently shown that the vast majority of incarcerated women report interpersonal victimization (Green et al., 2005;

Walsh et al., 2011; Wolff et al., 2011), with some estimates as high as 92% (Lynch et al., 2017).

In a review of sexual violence exposure and mental health disorder prevalence rates among incarcerated women, Karlsson & Zielinski (2020) identified rates of childhood sexual abuse ranging from 50-66%, adult sexual abuse ranging from 28-68%, and sexual revictimization ranging from 12-37%. In addition, these authors reported that between 15% and 29% of women were diagnosed with current PTSD and between 29% and 53% were diagnosed with lifetime PTSD. Other forms of interpersonal violence (e.g., childhood sexual abuse, physical abuse) have also been shown to predict negative mental health outcomes among incarcerated women (Green et al., 2016; Johnson & Lynch, 2013; Lynch et al., 2012; McClanahan et al., 1999).

Furthermore, incarcerated women are at increased likelihood of experiencing multiple forms of interpersonal trauma. For example, Lynch et al. (2017) found that over a third (34.5%) of women reported experiencing at least five types of interpersonal violence. In addition, there was an indirect effect of adulthood trauma on the relation between victimization in childhood and mental health distress. This is consistent with other research that indicates higher risk of polyvictimization, defined as exposure to multiple forms of trauma, in adulthood and childhood for incarcerated women compared to non-incarcerated women (Tusher & Cook, 2010) and incarcerated men (Wolff et al., 2022). This is an important consideration given that cumulative interpersonal trauma is more strongly associated with PTSD than non-interpersonal trauma (Briere et al., 2016), as well as other negative outcomes.

Perhaps due to the high co-occurrence of varying forms of interpersonal violence, researchers typically measure and represent forms and/or severity of interpersonal violence as a single construct or cumulative summary score as opposed to accounting for several different forms of traumatic experiences. In a paper offering recommendations for future research on

violence, Hamby (2014) argued that is critical to assess trauma exposure broadly, even when we are examining the association between specific forms of violence and negative outcomes. Multiple studies suggest the importance of examining the associations between a broad range of violence exposures and mental health outcomes. For instance, Yalch & Rickman (2021) investigated different types of intimate partner violence (i.e., physical, sexual, psychological) and the relative contribution of each form of violence toward PTSD, alcohol, and substance use. Physical partner violence was the strongest independent predictor of hazardous alcohol and drug use; additionally, cumulative exposure to all three types of intimate partner violence was significantly associated with substance use, PTSD, and comorbidity between these two outcomes. Among incarcerated women, Tripodi and Pettus-Davis (2013) found that women's experience (presence/absence) of childhood sexual violence were not more likely to predict a SUD; however, there was a significant relation between violence exposure and substance use for those who were both physically and sexually victimized, suggesting multiple exposures to violence may increase risk of substance use. Additionally, exposure to interpersonal violence in adulthood and childhood is associated with incidence of PTSD, SUDs, and other mental health diagnoses among incarcerated women (Lynch et al., 2017).

Substance Use among Incarcerated Women

Substance use by incarcerated women has presented a longstanding concern (Bronson et al., 2020). For example, the pooled prevalence estimate from a meta-analysis indicated that about 51% of incarcerated women used substances in the past year (Fazel et al., 2017), which is substantially higher compared to women in the general population with rates of past-year use of 20% (SAMHSA, 2022). Incarcerated women also report high rates of polysubstance use. In a study of 801 female inmates in prison, 30.8% met substance use dependence criteria for at least

two substances (Proctor, 2012). Among another sample of incarcerated individuals, men and women reported using a range of multiple substances in the 30 days prior to incarceration (Smith et al., 2020). The most commonly reported substances included cannabis (52.5%), alcohol (49.5%), and prescription opioids (50.7%). Furthermore, incarcerated women report higher prevalence rates of substance use and drug use diagnosis (Fazel et al., 2017) and higher rates of drug use at the time of offense (Bronson et al., 2020) compared to incarcerated men.

Criminal offending among women is often associated with substance use (Bronson et al., 2020; Deschenes et al., 2007). About 25% of women in state prisons and 61% of women in federal prison are incarcerated for drug crimes (Bureau of Justice Statistics, 2009). Substance use is also related to negative outcomes among these women, including recidivism and continued drug use after being released (Mallik-Kane & Visser, 2008). For instance, the majority of criminally detained women will go on to reoffend, with rates of rearrest as high as 57.6% within three years (Deschenes et al., 2007). Another study showed that 60% of incarcerated individuals met at least one DSM-IV criteria for substance dependence at one year post-release (Tangney et al., 2016). These studies suggest that substance use among women is problematic both pre- and post- incarceration, which may contribute to ongoing legal problems.

Interpersonal violence exposure is associated with substance use in the general population. For example, in a large sample (N=16,005) of non-institutionalized individuals, women who experienced high rates of interpersonal conflict violence, physical aggression, and/or systematic abuse had a greater likelihood of using substances than women who have not experienced interpersonal violence (Carbone-López et al., 2006). Relatedly, trauma and PTSD are associated with substance use disorders in community samples. For example, Reynolds et al. (2012) found that substance use increased after traumatic experiences for the majority (66%) of

those who met criteria for PTSD (N=10,641), and specifically, that substance use was associated with attempting to escape and cope with intrusive traumatic memories. Similarly, Edwards et al. (2006) found that traumatic stress symptoms (e.g., dissociation, intrusive thoughts) were associated with higher alcohol consumption.

As noted previously, interpersonal violence is a significant predictor of SUD among incarcerated women (Green et al., 2016; Lynch et al., 2012; Tripodi & Pettus-Davis, 2013). Further, incarcerated women face multiple barriers to drug abstinence upon release, such as lack of employment, familial, social, and financial support (Adams et al., 2008; DeHart, 2008). In a longitudinal study examining predictors of mental health post-release among women in prison, Lynch & Heath (2017) showed that PTSD, depression, and maladaptive coping during incarceration, and recent experiences of interpersonal violence increased the likelihood of post-release substance use problems. Incarcerated women also report high diagnostic comorbidities with substance use (Abram et al., 2003; Fazel et al., 2017; Lynch et al., 2014). In a large sample of women in jail, the majority (72.4%) met criteria for SUD and another severe mental health disorder (Abram et al., 2003). In another study with incarcerated women, researchers demonstrated that the relation between experiences of intimate partner violence and illicit drug use was mediated by PTSD symptoms (Jones et al., 2017). Given the high rates of both substance use disorders and mental health problems in this population, it is important to consider the extent to which mental health symptoms contribute to increased substance use among incarcerated women.

Self-Medication Hypothesis

While there are clear relations among interpersonal violence, psychological distress, and substance use, how experiences of violence and mental health problems contribute to increased

risk of substance use is less understood. A widely accepted theory that offers an explanation for this pathway is the self-medication hypothesis, which proposes that individuals abuse drugs or alcohol with the intent of modulating psychological distress (Khantzian, 1997). One of the core principles embedded in the self-medication hypothesis is that individuals may be susceptible to using substances to cope if they lack self-regulation in any of a variety of domains (Khantzian, 1997).

Several studies have supported this theory related to individuals' expression of PTSD (Haller & Chassin, 2014; Hawn et al., 2020; Leeies et al., 2010), such that individuals with greater trauma-related distress appear to be more likely to use substances to cope. Researchers have found support for this across several populations. For instance, Miranda et al. (2002) showed that undergraduate females with a history of sexual assault were more likely to experience psychological distress and use alcohol as a form of negative reinforcement. This suggests women used alcohol to decrease their distress, such that after using the substance, survivors reported increased ability to cope and lower anxiety. In a sample of women who experienced partner violence, the association between trauma exposure and alcohol use was mediated by drinking to cope (Kaysen et al., 2007). In another study, researchers compared multiple explanations (i.e., shared vulnerability hypothesis, susceptibility hypothesis, high-risk hypothesis) using prospective and survival analyses in a sample of 955 randomly selected participants over a 5-year period and found the best support for the self-medication hypothesis in explaining the causal effect of PTSD on substance use (Chilcoat & Breslau, 1998). More recently, a systematic review showed overall support for the self-medication hypothesis for those who reported PTSD symptoms across longitudinal and cross-sectional studies (Hawn et al., 2020). Ullman and colleagues (2013) offered further evidence for self-medication specifically in

regard to interpersonal violence, noting that interpersonal trauma predicted substance use coping after controlling for the contributing role of PTSD while non-interpersonal trauma exposure did not. In addition, they found that PTSD and substance use coping mediated the relation between trauma exposure and problem substance use.

Researchers have identified similar outcomes among incarcerated populations. In a sample of incarcerated men, Brack (2018) found a significant indirect effect of cognitive coping motives among the relation between PTSD and number of drugs used and behavioral consequences due to substance use. Among incarcerated women, studies have shown that avoidance coping with substances mediated trauma symptoms and negative consequences due to substance use following childhood sexual abuse (Asberg & Renk, 2012). Together, these studies suggest that women with interpersonal trauma histories are at high risk for using substances with the intention of avoiding trauma-related distress as well as increased problematic behaviors due to substance use.

In addition to quantitative studies, researchers utilizing qualitative approaches propose that incarcerated women often experience complex constellations of disparities that influence substance use; identified themes in these studies also appear to offer support for the self-medication hypothesis. Bowles et al. (2012) detailed links between adversity and substance use in participants' narratives including not only experiences of interpersonal violence but also childhood adversity and neglect, family problems and violence, financial strain, and loss. These findings are consistent with narratives from another qualitative study among incarcerated women (Buchanan et al., 2011) that noted the leading catalysts of substance use were family dynamics and trauma exposure. The majority (76%) of women in this sample reported that they continued using substances to avoid, suppress, or escape painful emotions or memories. Collectively,

results from these studies provide strong foundational support that women use substances to cope with trauma-related distress. However, few studies have examined possible explanations underlying the drive to self-medicate due to trauma-related distress.

Risk Behaviors and Outcomes

Commonly studied and prevalent risky outcomes among incarcerated women include but are not limited to risky sexual behavior and illegal behaviors. Research suggests that there are gender-specific pathways for those involved in the criminal justice system. In particular, incarcerated women have more mental health problems, report high rates of interpersonal victimization, and have different pathways into criminal activity compared to incarcerated men, all of which may be associated with increased risk behaviors (Adams et al., 2008; DeHart, 2008; DeHart et al., 2014; Huebner et al., 2009). While we know that women in the legal system experience high rates of violence, less is known about risky behaviors that may be involved in entry and re-entry.

One important reason to examine risky behaviors as an outcome of interpersonal violence is due to its association with criminal offending. Most women enter the criminal justice system as the result of nonviolent crimes, including drug, property, and sex work offenses (Carson, 2020; Fehrenbacher et al., 2020). In their review of mental health needs among female offenders, Bloom & Covington (2008) cited multiple reasons for these elevated rates of nonviolent offenses compared to males. These authors explained that in addition to trauma exposure, women are often met with pressure in relationships and experienced heightened economic and social marginality, all of which have been shown to influence engagement in criminal behavior to meet related goals. As an example, women may commit a property or sex-related crime to secure

financial means and cope with distress in response to trauma. It may be that women's strains and repeated trauma exposure contribute to ongoing patterns of illegal and reckless behavior.

Another implicated outcome among female inmates is risky sexual behavior. In a study by Khan and colleagues (2008), authors found that incarcerated women reported higher rates of transactional sex (i.e., sex traded for money, goods, or services) and had higher rates of sexually transmitted infections and HIV compared to incarcerated men. Further, findings indicated that incarcerated women were more likely to report more sexual partnerships and transactional sex compared to women who were never incarcerated. In a study of rural women in jail, 59.8% reported lifetime injection drug use, 44% had engaged in sex work, and the women reported an average of 33 sexual partners in their lives (Peteet et al., 2018). Sexual risk behaviors have also been assessed in the context of interpersonal trauma and PTSD among women in the general population. One study found that women who experienced sexual assault were at increased likelihood of using substances and engaging in risky sexual behaviors (Lang et al., 2003). Van Dorn and colleagues (2005) extended these results by finding support that the relation between history of childhood sexual abuse and risky sexual behavior (i.e., unprotected sex, trading sex for drugs or money) was mediated by PTSD symptoms.

Various studies have examined the influence of trauma on other risk outcomes among women. Trauma (Wamser-Nanney et al., 2020; 2019) and PTSD (Augsburger & Maercker, 2020) also predicts aggressive behavior among women; while this isn't closely related to criminal outcomes, aggression may interfere with relationships and could indirectly lead to maladaptive coping mechanisms (Padgett & Tremblay, 2020). Sexual abuse was found to be a significant predictor of non-suicidal self-injury and suicide attempts among incarcerated women (Power et al., 2016). Finally, preliminary evidence suggests that gambling (Ledgerwood &

Wilsosevic, 2015) and eating disorders (Madowitz et al., 2015) may also be negative risk behaviors associated with PTSD, but it is unclear whether these effects would generalize to incarcerated women. One study found that at high levels of PTSD symptom severity, experiences of childhood sexual abuse were related to disordered eating in adulthood (Kiefer et al., 2021). Overall, experiences of interpersonal violence increase the chance of engaging in maladaptive risk behaviors that may contribute to worsened behavioral and mental health outcomes among women. Women's unique experiences should be considered in treatment to meet the multiple needs of this vulnerable population to better decrease substance use, risky behaviors and recidivism (Adams et al., 2008; Erikson et al., 2019; Lynch et al., 2012).

General Strain Theory

As aforementioned, incarcerated women represent a vulnerable population with an array of gender-specific needs that are linked with risk-taking trajectories. Theorists have identified social and systemic disparities that increase the likelihood of negative outcomes. Across studies, exposure to household, interpersonal, and neighborhood violence, poverty, and disadvantaged environments contribute to problem behaviors in female offenders (Anderson et al., 2020; DeHart, 2008; Huebner et al., 2010; Kerig, 2018; Simpson et al., 2008). In addition, there are differences in race and age of onset, such that offending at a younger age and identifying as a racial minority may confer additional risk depending on outcome (Huebner et al., 2010; Simpson et al., 2008).

According to general strain theory, these types of burdens lead to engagement in criminal behavior to offset negative emotions associated with failure to achieve goals, loss of positive stimuli, and presence of negative stimuli (Agnew, 1992; Agnew & White, 1992). General strain theory is a crime-related theory that emphasizes the role of emotions, such that individuals

experience distressing emotions in response to the strains noted above (Agnew, 1992; Ganem, 2010). Subsequently, this is thought to generate involvement of criminal behavior due to the short-term positive rewards, goal completion (albeit maladaptive), and control associated with the criminal behavior.

While the original theory is specific to criminal outcomes, it may generalize to other maladaptive or risky behaviors in the general population. Greco and Curci (2017) studied general strain theory by examining the effect of up to 35 strain events related to victimization, family, work, school, financial, justice, and health on substance use and gambling. Results from their study suggested a positive relation between strain and increased gambling and substance use. Additionally, they found that total general strain predicted depressive and anger symptoms. Another study replicated and extended these findings using disordered eating as an outcome (Piquero et al., 2010). These studies provide support for broadening general strain theory to other risky behaviors in the context of behavioral coping.

A gender-specific iteration of general strain theory by Broidy & Agnew (1997) proposes gender-specific risk factors for crime and other risk behaviors by considering the type of strain, emotional response to strain, and network variables (e.g., social support, social control, systemic opportunities). This is consistent with other work that suggests women's distinct contexts set the scene for risk engagement. These adversities and their interactions unfavorably affect women's opportunity to develop resilience and healing. To date, there is a lack of research that has examined multiple risky behaviors among incarcerated women who have experienced interpersonal trauma. Understanding relative risks concurrently may inform and improve treatment interventions for system-involved women.

Mechanisms

General strain theory and the self-medication hypothesis both place emphasis on the individual's ability to respond to stress or strain and manage distress. However, general strain theory underscores external coping behaviors whereas the self-medication hypothesis focuses on alleviating internalizing symptoms. Moreover, research surrounding the general strain theory accounts for gender differences and diverse environmental predictors, whereas literature on the self-medication hypothesis takes a narrower approach on the considerations of trauma and PTSD. Together, these theories provide a framework that may help us to better understand predictors of substance use and risky behaviors in incarcerated women, as well as the roles of coping and emotions. There is limited research that explores how factors such as emotion regulation and trauma coping self-efficacy may further explain the links between trauma exposure and risk outcomes. No studies have explored concurrent indirect effects of emotion regulation and trauma coping self-efficacy on the link between interpersonal violence and risk behaviors, or among incarcerated women.

Emotion Regulation

Emotion regulation is a construct generally characterized by the intent (consciously or unconsciously) to influence emotions inter- and intra-personally to meet the appropriate demands and context of the situation (Gratz & Roemer, 2004; Naragon-Gainey et al., 2017). Emotion dysregulation refers to impaired emotion regulation. Several emotion regulation strategies exist; some of the most studied strategies include rumination, avoidance, suppression, acceptance, reappraisal, problem solving, awareness and clarity, difficulties with goal-directed behavior and impulse control, and limited access to strategies (Gratz & Roemer, 2004; Gross & John, 2003; Hayes et al., 2004; Seligowski et al., 2015).

There is no empirical consensus on which emotion regulation strategies are adaptive versus maladaptive. Instead, it seems to depend on individual and environmental differences. Research suggests that the type of stressor, awareness, and situation are instrumental elements when considering strength of an emotion regulation strategy (Gross, 1998). Bonanno & Burton (2013) additionally argue that context sensitivity, flexibility across a diverse repertoire of skills, and feedback filter into the successful application of emotion regulation strategies. It may be that traumatized individuals have a restricted range of strategies. For instance, in their cluster analysis of emotion regulation profiles, Chesney & Gordon (2017) found that those in the “adaptive regulation” profile, characterized by frequent use of various strategies, reported less PTSD symptoms compared to other profiles with less often used strategies. While a given strategy may be adaptive for a specific situation, it will not always generalize which may lead to worsened distress.

Emotion Regulation and Trauma. Empirical evidence broadly suggests that difficulties with regulation emotions are linked with trauma exposure and PTSD in the general population (Cloitre et al., 2005; Cloitre et al., 2019; Eftekhari et al., 2009; McLean & Foa, 2017; Shephard & Wild, 2014; Ullman et al., 2013). In a meta-analysis on emotion regulation and PTSD symptoms ($k = 57$), effects ranged from medium ($r = .28$) to large ($r = .53$) for six of the eight strategies analyzed (Seligowski et al., 2015). While it is important to note that general trait emotion regulation may be a risk factor for PTSD (Seligowski et al., 2015), a body of literature posits that regardless of emotion regulation predisposition, exposure to trauma significantly disrupts emotion regulation modulation. As such, researchers have established the indirect effect of emotion regulation following trauma exposure on PTSD symptoms (Barlow et al., 2017; Stevens et al., 2013; Ullman et al., 2013). One study among college students found that those

with trauma and clinically significant PTSD reported more difficulties with emotion regulation compared to individuals without trauma exposure (Radomski & Read, 2016). Further, emotion regulation mediated the relation between trauma, PTSD, and alcohol use among those who met criteria for PTSD. Other studies have modeled the impact of emotion regulation on PTSD subsequent to experiencing trauma longitudinally (Forbes et al., 2020) and prospectively (Pencea et al., 2020). These findings suggest that those with elevated trauma-related distress are at higher risk of emotion dysregulation.

Interpersonal trauma does appear to influence emotion dysregulation distinctly from other traumas. For instance, researchers have shown that individuals with exposure to childhood abuse are at increased likelihood of developing PTSD symptoms and emotion dysregulation (Cloitre et al., 2005; Stevens et al., 2013). Ehring & Quack (2010) examined the effect that different types of interpersonal trauma (i.e., non-interpersonal, late interpersonal, early single interpersonal, early chronic interpersonal) and PTSD had on emotion regulation. These authors found that while all categories of trauma predicted emotion regulation problems, early-onset chronic interpersonal violence had the strongest associations with most emotion regulation variables. Further, in Cloitre et al. (2005)'s study, after controlling for PTSD symptoms, emotion regulation and interpersonal problems accounted for about half of variance of functional impairment, suggesting that emotion regulation plays a distinct role in functional behavior.

Interpersonal trauma, PTSD, and emotion regulation also appear to be related in samples of incarcerated women. Konecky & Lynch (2019) identified an indirect effect of emotion regulation on the relation between cumulative trauma and PTSD symptoms. In a comparison of emotion regulations skills by nonvictimized, sexually abused, raped, and revictimized female inmates, another study found that revictimized women reported higher scores in most areas of

emotion dysregulation (i.e., emotional nonacceptance, difficulties engaging in goal directed behavior, impulse-control, emotion regulation strategy accessibility) (Walsh et al., 2011). Taken together, these studies suggest that cumulative exposure to interpersonal trauma is a salient risk factor for emotion regulation problems. Research also suggests that PTSD exacerbates emotion regulation difficulties. While both interpersonal violence and PTSD are implicated in the development and maintenance of emotion dysregulation, no studies have examined the interaction between these variables as a predictor of emotion regulation. Among those who have experienced interpersonal violence, perhaps those diagnosed with PTSD have decreased accessibility to emotion regulation strategies compared to those who do not meet criteria (e.g., Weiss et al., 2013). Another possibility is that those who experience limited or subthreshold PTSD symptoms but do not meet diagnostic criteria may still endure emotion dysregulation (e.g., Norman et al., 2007). An important next step in this area of research is to examine how PTSD and exposure to interpersonal violence may interact to predict emotion dysregulation and progression to substance use and other risk outcomes.

Emotion Regulation and Substance Use. Indeed, Khantzian (1997) argued that substance abuse in itself is a self-regulation disorder, such that substance-using individuals grapple with emotional awareness, expression, or regulation. Multiple studies have noted the association between substance use and poorer emotion regulation (Dingle et al., 2018; Kober, 2014). This has been replicated across substances, including alcohol and marijuana use (Weiss et al., 2017), cocaine use (Fox et al., 2007), and opioid use (Gold et al., 2020). Lower flexibility of emotion regulation skills has also been identified among substance users compared to matched controls (Dingle et al., 2018). Patterned behavior of using substances to cope with and change heightened emotional stress often results in repeated drug use (Kober, 2014). It may be that

individuals use substances to temper emotional distress in the short-term, but this increases risk of chronic use. Emotion dysregulation may not only help explain *why* individuals use substances to cope, but may also underscore *how* people cope. For example, some individuals may cope by avoiding emotions, while others may intend to seek clarity. Among trauma survivors, the ability to readily adapt varied emotion regulation strategies may be beyond reach due to persistent substance use.

Level of PTSD symptoms are an important consideration when examining the links between emotion regulation and substance use. This is evidenced by Weiss et al. (2013), who found that those with PTSD reported significantly higher emotion dysregulation in total and across each dimension of emotion regulation in a sample of SUD inpatients. In addition, those with PTSD scored higher on the tendency to engage in impulsive behaviors. A separate study with community adults found that emotion regulation fully mediated the relation between PTSD symptoms and marijuana use coping motives (Bonn-Miller et al., 2011), suggesting that those with higher distress related to trauma are more likely to use substances to cope via problems with emotion regulation. In another sample of female sexual assault survivors, emotion regulation moderated PTSD when predicting to substance use (Mahoney et al., 2022). In their review on comorbid PTSD and SUDs, Westphal et al. (2017) described convergent evidence that individuals with PTSD are at high risk of turning to substances to cope with trauma-related distress due to emotion dysregulation; this is in accordance with the self-medication hypothesis. While these studies showed associations between trauma symptom severity, emotion regulation, and substance use, none examined the impact of interpersonal violence specifically.

Emotion Regulation and Risk Behaviors. Subsequent to experiencing trauma, emotion dysregulation may predict risk behaviors in addition to substance use. Aversive emotions are

central to general strain theory, which postulates that negative affect resulting from strain leads to later engagement in criminal behaviors as a method of coping (Agnew, 1992; Agnew & White, 1992). Under the framework of general strain theory, Ganem (2010) tested the effect of three emotions (i.e., anger, frustration, fear) on criminal behaviors (i.e., hitting someone, shoplifting, truancy) utilizing a vignette design. Results indicated that depending on the strain, all three emotions influenced criminal risk. In another sample testing principles of general strain theory among African American individuals, authors found that anger predicted deviant coping behaviors (Joon Jang, 2007). While these articles were limited to certain emotional and criminal experiences and did not account for trauma, it provides groundwork for understanding the impact of strain on risk outcomes via emotional distress.

Researchers have examined the link between emotion regulation and impulsive behaviors at large and with specific risk behaviors, but most studies in this literature do not account for trauma-related experiences. Emotion dysregulation has been associated with self-harm (Brereton et al., 2020; Gratz & Roemer, 2008; Gratz & Tull, 2010), risky sexual behavior (Messman-Moore et al., 2010; Weiss et al., 2019), eating pathology (Prefit et al., 2019; Stice, 2002), aggression (Robertson et al., 2014), and gambling (Jauregui et al., 2016; Williams et al., 2012). Miller & Racine (2020) also found that lack of emotional clarity, non-acceptance of emotions, and difficulties achieving goals predicted several risky behaviors. One study in college women found that emotion regulation (i.e., positive and negative urgency) mediated the relation between negative affect and alcohol and risky sexual behaviors (Hahn et al., 2022). History of sexual assault moderated these findings, such that the direct effect strengthened among those who reported being raped. It is rarer to see several risk behaviors assessed in one study, but it may be worthwhile to explore how emotion regulation explains cumulative risky behaviors while

considering interpersonal violence and substance use. Still, these studies suggest that as emotion regulation difficulties increase, individuals are more likely to engage in various risk behaviors.

Researchers have also established links between trauma exposure and trauma related symptoms with various risk behaviors (Burns et al., 2012; Howard et al., 2017; Miles et al., 2016; Poole et al., 2017); these referenced studies employ mediational analytic designs. One study examined PTSD, emotion dysregulation, and impulsivity (e.g., impulsive sexual behavior, binge eating and/or purging, spending sprees, substance abuse, antisocial behavior) among SUD patients in residential treatment and found a significant indirect effect of emotion dysregulation on the relation between PTSD diagnosis and cumulative impulsive behaviors (Weiss et al., 2013). Tobar-Santamaria and colleagues (2021) identified emotion regulation as a moderator between sexual victimization and disordered eating, indicating that the positive association between victimization and eating pathology strengthened at higher levels of emotion dysregulation. Another study found emotion dysregulation to be a mediator between all PTSD symptom clusters and engagement in reckless/self-destructive behaviors (Jin et al., 2022). This body of work has limitations; most have examined specific forms of trauma exposure (e.g., sexual violence) or PTSD symptom severity but not both, which restricts interpretation regarding strength of predictors. In cases where PTSD is the only predictor, it is harder to understand the relative impact of trauma on risky behaviors through emotion regulation.

There is very little research that has examined emotion dysregulation and risk outcomes among incarcerated women. Avoidance coping, a related emotion regulation strategy, has been found to mediate trauma symptoms and substance use consequences among incarcerated women who experienced childhood sexual abuse (Asberg & Renk, 2012). In their qualitative study, Kuo et al. (2014) noted that women with histories of interpersonal violence often reported using

emotion dysregulation strategies (e.g., avoidance, numbing, dissociation) to cope during risky sexual situations. In turn, these strategies increased likelihood of acquiring a sexually transmitted infection or engagement in a risky sexual relationship. Authors from another study with incarcerated women examined emotion regulation, trauma, PTSD, and self-harm behaviors (Howard et al., 2017). Findings indicate that the PTSD symptom cluster arousal/reactivity, dissociation, and emotion regulation mediated the association between childhood trauma and self-harm. Collectively, findings from these studies support associations between emotion regulation and risky behaviors, but few have examined these associations after considering cumulative interpersonal trauma, the interaction between trauma exposure and PTSD status, or among incarcerated women. Moreover, it may be advantageous to consider multiple mechanisms to better inform interventions for incarcerated women and reduce reoffending.

Trauma Coping Self-Efficacy

Trauma coping-self efficacy refers to one's perceived ability to effectively cope with challenges related to trauma exposure and implement adaptive behaviors needed to achieve a goal (Benight & Bandura, 2004; Benight et al., 2015). This construct is a theoretical expansion from seminal work by Bandura (e.g., 1997, 2001), who used social cognitive theory to describe personal, environmental, and behavioral self-regulatory processes of self-efficacy. It is thought that self-efficacy matures with mastery experiences, vicarious experiences, verbal persuasion, and physiological/affective states, and through exposure to these, individuals deduce their capability of overcoming barriers and develop resilience (Bandura, 1997). While a review of this framework in its entirety is beyond the scope of this paper, it is important to recognize the role of human agency and feedback from the external world in developing self-efficacious beliefs and responding to stress. Benight and Bandura (2004) extended these ideas into the key iteration of

coping self-efficacy which is more closely related to trauma exposure. After experiencing a traumatic event, individuals are faced with the challenge of reorganizing beliefs and adjusting with novel information to meet the demands of coping and recovery (Benight & Bandura, 2004; Benight & Cieslak, 2011). Thus, trauma coping self-efficacy specifically encompasses the regulatory processes and perceptions that are used to manage distress post-trauma. This concept aligns with both the self-medication hypothesis and general strain theory, such that those who do not have the necessary resources (e.g., assessment of self and situation, adaptive coping strategies) to manage responses to adversity may initiate seemingly more accessible strategies (i.e., substance use, risky behaviors).

Coping Self-Efficacy and Trauma. Scholars have demonstrated the negative association between trauma and coping self-efficacy. Due to its social nature and the strong likelihood of perceived loss of control, interpersonal violence in particular is often met with decreased coping self-efficacy and increased psychological distress (Benight & Bandura, 2004). One experimental study in which women (with and without experiences of interpersonal assault) participated in a self-defense intervention constitutes evidence for this relation (Ozer & Bandura, 1990). Using path analysis, researchers showed that posttreatment, higher perceived self-efficacy contributed to improved cognitive coping (i.e., cognitive control efficacy, ruminative thoughts, anxiety arousal) and behavioral coping (i.e., perceived vulnerability, risk discernment, avoidance). Their model indicates that coping self-efficacy drives one's capability to assess for risky situations and implement adaptive coping strategies. This may have important implications in decreasing reckless behaviors and alleviating symptom distress.

Trauma coping self-efficacy is also associated with severity of PTSD symptoms across studies. Weighted mean effects between PTSD and trauma-specific coping self-efficacy were

large cross-sectionally ($r = -.49, k = 38$) and longitudinally ($r = -.52, k = 14$) in a meta-analysis on positive expectancies and PTSD symptoms (Gallagher et al., 2019). These effects were larger than associations between PTSD symptoms and hope, optimism, and general self-efficacy, and suggest that greater levels of PTSD symptoms are related to and predicted lower trauma coping self-efficacy. Among samples of interpersonally-traumatized women, higher coping self-efficacy appears to buffer against symptom severity. Benight and Midboe (2002) designed a treatment study for women residing at a domestic violence shelter. Those who participated reported improved coping self-efficacy in addition to decreased PTSD and depressive symptoms, avoidant coping, and rumination (Benight & Midboe, 2002). In a study of incarcerated women who reported recent exposure to partner violence, exposure interacted with coping self-efficacy to predict PTSD symptoms such that the relation between partner violence and PTSD strengthened as coping self-efficacy decreased (DeCou et al., 2015). Another study by Mahoney and colleagues (2021) showed that coping self-efficacy indirectly affected the relation between sexual violence and PTSD symptom severity among female undergraduates. Notably, these studies (i.e., Benight & Midboe, 2002; DeCou et al., 2015; Mahoney et al., 2021) focused on associations between one specific form of interpersonal violence and PTSD but did not consider cumulative exposure. Overall, there is evidence that interpersonal trauma and PTSD symptoms predict worsened coping self-efficacy among women. However, this is understudied among incarcerated women where rates of trauma exposure and PTSD are high.

Coping Self-Efficacy and Substance Use. Both the self-medication hypothesis and the coping self-efficacy schema offer explanation for using substances to cope with distress, and specifically, with trauma-related stressors. Bandura (1986) integrated these concepts and argued that individuals with satisfactory coping self-efficacy are less likely to turn to substances given

they have adaptive skills, strategies, and locus of control. On the contrary, those with low coping self-efficacy are thought to lack skills needed to withstand initial temptations or continued use (Bandura, 1986). Broadly, the empirical literature supports these theories. Higher coping self-efficacy is associated with lower risk of using substances or substance use relapse in the general population and among substance use patients (Kadden & Litt, 2011; Luszczynska et al., 2009; Torrecillas et al., 2015). In a sample of individuals in an outpatient methadone treatment program, those classified as heroin users reported significantly lower coping self-efficacy compared to non-users (Senbanjo et al., 2009). In addition, after controlling for several covariates (e.g., depressive symptoms, anxiety symptoms, perceived self-efficacy, other drug use), poorer coping self-efficacy was a main predictor of persistent heroin use.

Coping self-efficacy has also been found to be a prominent mediator in substance abuse treatment outcomes (Glasner-Edwards et al., 2007; Kadden & Litt, 2011). Using structural equation modeling, Warren et al. (2007) examined the role of abstinence self-efficacy (i.e., extent to which individuals perceive they can abstain from substances) on mental health and substance use outcomes six months posttreatment among residential inpatient substance users with a co-occurring disorder. Results demonstrated that abstinence self-efficacy indirectly affected the relation between psychological distress and cocaine and alcohol use. One study that investigated gender differences in self-efficacy and substance use found that female offenders reported more concerns about drug abstinence and lower general self-efficacy compared to male offenders (Pelissier & Jones, 2006).

While there is some research evidence of bivariate associations between interpersonal trauma, PTSD, coping self-efficacy, and substance use, there is scant research on how these experiences and behaviors are inter-related. One study with incarcerated women found that as

trauma exposure increased, frequency and number of substances used also increased while self-efficacy decreased (Saxena et al., 2016). However, the majority of existing published work on coping self-efficacy and substance use is typically carried out with inpatient samples. While substance users in residential treatment report elevated rates of trauma exposure (Dore et al., 2012), it is critical to explore these relations in incarcerated women specifically. In addition, research on coping self-efficacy has historically focused on specific forms of non-interpersonal trauma (e.g., injury/health-related, natural disaster, mass violence) (Luszczynska et al., 2009) and only more recently has examined interpersonal violence. Mahoney and colleagues (2022) found that coping self-efficacy interacted with PTSD to predict substance use among sexual assault survivors. This suggests that higher levels of coping self-efficacy may be protective against substance use. However, no other studies found focused on trauma coping self-efficacy, interpersonal trauma, and PTSD and it is rare to see substance use as an outcome even though it is highly comorbid with trauma exposure and related symptoms.

Coping Self-Efficacy and Risk Behaviors. It is first important to note that there is limited research specific to coping self-efficacy and risky behaviors and particularly in the context of trauma. In part, this may be due to the progression in conceptualizing different versions of self-efficacy as a construct (i.e., efficacy, self-efficacy, coping self-efficacy, trauma-specific self-efficacy). When individuals with low coping self-efficacy are confronted with stressors and strains, general strain theory proposes that the likelihood of deviant behavior increases (Agnew, 2001; Agnew & White, 1992). Based on principles of general strain and social cognitive theories, it may be that that emotional distress (e.g., related to psychopathology) following strain, such as trauma, reduces coping self-efficacy which manifests into negative

behavioral outcomes. Indeed, there is preliminary research that suggests coping self-efficacy is related to various risk behaviors.

Schwarzer & Fuchs (1995) explored the impact of self-efficacy on several risk behaviors, including smoking, condom use, risky sexual engagement, and other health outcomes. In their review, they describe how perceived coping abilities play a fundamental role in understanding behavioral risk and changing behaviors to reach a desired objective. Further, these risky behaviors appear to compound negative outcomes in the face of adversity, especially if one does not believe they have the skills needed to navigate the situation (Schwarzer & Fuchs, 1995). Lower coping self-efficacy has also been found to be associated with non-suicidal self-injury (Heath et al., 2016), eating pathology (MacNeil et al., 2012), and crime (Davenport, 2014). A study among justice-involved women found that those with higher self-efficacy were at less risk of reoffending compared to those with lower levels of self-efficacy (Yamamoto et al., 2013). It may be that those with lower beliefs in their abilities to cope with stress engage in risky behaviors to relieve emotional distress in an immediate way. Similar to many aforementioned studies investigating the link between emotion regulation and risk behaviors, studies on coping self-efficacy and risk behaviors did not account for the impact of trauma exposure or PTSD.

Examining the relations between trauma exposure and trauma coping self-efficacy may aid our understanding of how individuals cope with trauma-related distress by engaging in several risky outcomes. Given most work on trauma coping self-efficacy includes the domain of trauma and PTSD, there is empirical justification to explore how cumulative interpersonal trauma exposure interacts with PTSD severity to predict coping self-efficacy. In turn, these relations may describe the differential impact on risky behaviors and other associated outcomes (i.e., substance use). As incarcerated women often present with various mental and behavioral

health problems, identifying modifiable targets for treatment is crucial. Examining trauma coping self-efficacy concurrent with other mediators (i.e., emotion regulation) and moderators (i.e., PTSD) may inform treatment for these women.

Purpose of Study

Though there are clear links between exposure to interpersonal violence and risk outcomes (e.g., substance use, risky behaviors), there is a dearth of literature examining the role of potential mechanisms such as emotion regulation and trauma coping self-efficacy in these relations. While evidence suggests that PTSD symptoms are also strongly related to interpersonal trauma and negative outcomes, most studies to date often do not account for both trauma and PTSD as predictors; this limits our understanding of how experiences of traumatic events progress to substance use and risky behaviors. In addition, existing literature has not examined these associations among incarcerated women. Given the elevated rates of interpersonal trauma exposure, PTSD, substance use, and behavioral risk among incarcerated women, it is imperative that we identify factors for this population that influence these important behavioral outcomes.

This study advances the literature in several ways. First, the current study aims to build on existing research by examining cumulative exposure to interpersonal violence and the impact on two categories of negative outcomes (i.e., risky behaviors, substance use symptoms). Next, this study extends current knowledge by examining the simultaneous indirect effect of two widely accepted mechanisms in trauma research related to coping. While it is understood that emotion regulation and trauma coping self-efficacy are often an outcome of trauma exposure, less is known about how these factors impact risk related outcomes. Finally, including PTSD in the model as a dichotomous moderator between variables provides an opportunity to probe these relations at levels of symptom severity consistent with a probable diagnosis. Understanding these

associations among incarcerated women may provide a deeper knowledge of specific conditions under which negative behavioral outcomes worsen; this is especially important for this population considering that resources and treatment within correctional facilities are limited. The following hypotheses were tested using the proposed measurement model (*See Figure 1*) and in the moderated mediation model (*See Figure 2*).

Hypotheses

1. Hypothesis 1: Experiences of interpersonal violence (i.e., childhood physical violence, childhood sexual violence, adult physical violence, adult sexual violence, witnessing domestic violence) will all load onto a common Interpersonal Violence (IV) factor (*See Figure 1*).
2. Hypothesis 2: There will be a positive indirect effect of emotion dysregulation on the relations between IV and negative outcomes (i.e., substance use, risk behaviors).
3. Hypothesis 3: There will be a negative indirect effect of trauma coping self-efficacy on the relations between IV and negative outcomes (i.e., substance use, risk behaviors).
4. Hypothesis 4: Probable PTSD diagnosis will moderate the relations between IPV and emotion dysregulation (a_1 path) and trauma coping self-efficacy (a_2 path), such that those with higher cumulative IPV and probable PTSD diagnosis will experience heightened emotion dysregulation and lower trauma coping self-efficacy compared to those who do not meet threshold for criteria.

Method

Participants

Sample size was determined a priori using a power analysis conducted for the proposed SEM consisting of 1 latent variable and 14 observed variables. Schumacker & Lomax (2016)

describe steps to determine adequate power, including model specification and parameter estimates. A widely accepted method of determining model specification for structural models stems from work described by MacCallum and colleagues (1996). Model specification involves calculating distinct observations in which estimated parameters will be subtracted based on overall model fit using the Root Mean Square Error of Approximation (RMSEA) (MacCallum et al., 1996). Distinct observations were calculated by using the formula $p(p+1)/2$, where p = the number of observed variables in the model. Using this formula, distinct elements for the proposed model was 105. Next, parameter estimation was calculated by evaluating the coefficient estimates for direct effects, error for each observed variable, and variance for each latent variable. The total estimated parameters for the proposed model was 30. Based on these calculations, the degrees of freedom equal 75. Using an alpha value of .05 and power of .80, a minimum sample size of 161 was needed for the test of close fit. The same framework suggested a minimum sample size of 132 to allow inclusion of potential covariates. Oversampling was utilized to account for potential missing data.

The current study included 180 female inmates recruited through random selection from two jails in southeastern Idaho. Women ranged in age from 18 to 65 years ($M = 34.43$, $SD = 9.52$). Women identified as White/Caucasian/European-American (72.8%, $n = 131$), Native American/American Indian (11.7%, $n = 21$), Hispanic/Latin (7.8%, $n = 14$), Multi-racial (6.7%, $n = 12$), Native Hawaiian/Pacific Islander (.6%, $n = 1$), and Middle Eastern/North African (.6%, $n = 1$). Over two thirds (68.9%, $n = 124$) identified as heterosexual/straight, 20.6% ($n = 37$) as bisexual, 6.1% ($n = 11$) as lesbian/gay, 3.9% ($n = 7$) as pansexual, and .6% ($n = 1$) as asexual. Women's education experiences were diverse, ranging from 6th grade or less (.6% $n = 1$,) to the completion of a graduate program (.6% $n = 1$,) with most of the women reporting their highest

education as having completed high school (23.9%, $n = 43$). About half (51.1%, $n = 92$) reported being employed part- or full- time. Most women (46.1%, $n = 83$) reported mean annual income of less than \$10,000. About a third (36.7%, $n = 66$) indicated relationship status of single, 29.4% ($n = 53$) as in a relationship, 13.9% ($n = 25$) as married, 8.9% ($n = 16$) as divorced, 6.1% ($n = 11$) as separated, and .6% ($n = 1$) as widowed. There was breadth of religious affiliation among women, with 33.3% ($n = 60$) described being Non-Denominational, 30.6% ($n = 55$) as having no affiliation, 12.8% ($n = 23$) as Catholic, 12.2% ($n = 22$) as LDS, 2.2% ($n = 4$) as Buddhist, 1.7% ($n = 3$) as Protestant, .6% ($n = 1$) as Muslim, and 6.7% ($n = 12$) as being affiliated with an unlisted religion (See Table 1).

In regard to criminal offense history, over three quarters (76.0%) of women were incarcerated for drug possession. Other common legal charges were for DUIs (22.2%), larceny/theft (19.5%), and drug manufacturing/selling (15.5%) (See Table 1). About a quarter (26.1%) of women reported the crime for which they are currently incarcerated for was their first offense, and 59.4% indicated incarceration due to probation/parole violation. Of the women who were sentenced at the time of the interview (27.2%, $n = 49$), the average reported sentence length of 907.88 ($SD = 1006.48$) days. The time between incarceration and interview day was an average of 65.24 ($SD = 74.21$) days.

Measures

Demographics. The demographics questionnaire designed for this study included questions assessing age, income, educational level, race/ethnicity, religious affiliation, sexual orientation, gender identity, relationships status, employment/occupational status, criminal history (i.e., current and previous charges, previous incarcerations, sentencing status/length), and substance use history (i.e., age of onset, first substance used).

Life Stressors Checklist – Revised (LSC-R). The LSC-R is a 30-item self-report that assesses lifetime exposure to traumatic events (Wolfe et al., 1997). This tool screens for a broad range of traumatic experiences, including interpersonal violence, non-interpersonal violence, natural disasters, serious accidents, familial/domestic adversity, and significant life stressors. Questions were originally designed to be answered dichotomously (*yes/no*); for the purpose of collecting cumulative exposure to trauma, we adapted the measure to include answers ranging in frequency. Thus, individuals were prompted to respond to each item ranging from 0 (*never*) to 6 (*more than 5 times*). Other studies have utilized these adaptations (Green et al., 2016; Kaplan, 2018). The LSC-R has demonstrated adequate test-retest reliability ($\kappa = .70$) and good criterion validity (McHugo et al., 2005). For the proposed study, nine questions regarding interpersonal violence (i.e., unwanted sexual touching in childhood, unwanted sexual touching in adulthood, childhood sexual abuse, adulthood sexual abuse, witnessed domestic violence, witnessed attack, experienced physical attack by stranger, experienced non-stranger physical violence in childhood and adulthood) were utilized for the latent IV factor. Subsequently, a total score for interpersonal violence was generated by summing item responses to represent total experiences of interpersonal violence.

Posttraumatic Stress Disorder Checklist for the DSM-5 (PCL-5). The PCL-5 is a 20-item self-report that assesses 20 symptoms of PTSD corresponding to DSM-5 diagnostic criteria (Weathers et al., 2013). The PCL-5 is a widely accepted screener for PTSD symptoms and can be used to determine probable PTSD diagnosis (Elhai et al., 2005; Weathers et al., 2013). Individuals were asked to indicate the extent to which they have been bothered by each symptom in the past month using a 5-point Likert scale. Answers range from 0 (*not at all*) to 4 (*extremely*), with total possible scores range from 0 to 80, with lower scores representing lower trauma-

related distress. For the current study, scores were summed to represent total symptom severity and compared to the recommended cutoff indicative of PTSD diagnosis. While some research (Bovin et al., 2016) suggests a clinical cutoff score of 31-33, other studies have suggested using 33 as a diagnostic indicator to improve validity, especially in clinical samples (Hoge et al., 2014; Wortmann et al., 2016). The PCL-5 has demonstrated strong psychometric properties, including internal consistency ($\alpha = .95$), test-retest reliability ($r = .82$), convergent validity ($r_s = .74$ to $.85$), discriminant validity ($r_s = 0.31$ to 0.60), sensitivity (77%), and specificity (93%) (Blevins et al., 2015). Additionally, the PCL-5 cutoff score had strong predictive validity with the Clinician Administered PTSD Scale for DSM-5 (CAPS-5; Weathers et al., 2013) (Bovin et al., 2016). In this study, Cronbach's alpha was also .95.

Trauma Coping Self-Efficacy (CSE-T). The CSE-T measures one's perceived ability to control and cope with stressors related to trauma-related challenges (Benight et al., 2015). This measure includes 9 items with answers ranging from 1 (*not at all capable*) to 7 (*totally capable*). Total scores were summed and range from 9-63, with higher scores representing higher perceptions of self-efficacy.

The CSE-T demonstrated good test-retest reliability ($r = .76$) for up to two months in a traumatized sample (Benight et al., 2015). In addition, the CSE-T showed good criterion validity when compared to PTSD ($r = -.67$, Modified PTSD Symptoms Scale; Falsetti et al., 1993), depressive ($r = -.65$, Center for Epidemiologic Studies Depression Scale; Radloff, 1997), and worry ($r = -.49$, Penn State Worry Questionnaire; Meyer et al., 1990) surveys. Internal consistency among items was high, ranging from $\alpha = .87$ - $.90$ across three samples. Discriminant validity and factor invariance were also adequate. Cronbach's alpha in this study was good ($\alpha = .89$).

Difficulties in Emotion Regulation Scale (DERS). The DERS is designed to measure difficulties with emotion regulation skills, including awareness, understanding, and acceptance of emotions, ability to inhibit impulsive behaviors and engage in goal-directed behavior when distressed, and ability to access and flexibly apply effective, appropriate strategies (Gratz & Roemer, 2004). The measure consists of 36 self-report items with answers ranging from 1 (*almost never*, 0% to 10%) to 5 (*almost always*, 90% to 100%). Scores are summed, with higher scores indicating higher difficulties with emotion regulation. The DERS yields a total score and six subscale scores (i.e., awareness, clarity, nonacceptance, goals, impulse control, strategies).

The DERS has shown high internal consistency ($\alpha = .93$ for full scale, $\alpha > .80$ for all subscales) and construct validity with other emotion regulation measures (i.e., Negative Mood Regulation Scale; Catanzaro & Mearns, 1990, Emotional Expressivity Scale; Kring et al., 1994) (Gratz & Roemer, 2004). The Cronbach's alpha in this study was similarly strong ($\alpha = .94$). Good test-retest reliability ($r = .88$) was found over a period up to eight weeks. To measure predictive validity, the DERS was measured alongside two clinically relevant behavioral outcomes: self-harm and intimate partner abuse (Gratz & Roemer, 2004). The total DERS score was significantly correlated with both outcomes.

Mini International Neuropsychiatric Interview 7.0. (MINI). The MINI is a short, structured diagnostic interview which assesses psychiatric symptoms consistent with DSM-5 diagnoses (Sheehan & Lecrubier, 1992-2016). For the purpose of this study, only the Substance Use Disorder (SUD) module was administered. Individuals were asked to indicate use of several substances listed on the MINI in the past year to determine polysubstance use. Participants were then instructed to respond to items based on the substance that causes the most impairment in the past year, consistent with other studies with incarcerated populations (e.g., Lynch et al., 2014;

Proctor, 2012; Tripodi & Pettus-Davis, 2013). There are 11 dichotomous questions ($0 = no$, $1 = yes$). Items were summed to represent a total substance use symptom count, with higher total scores indicating more severe substance use symptoms.

The MINI has evidenced strong reliability and validity properties. In regard to reliability, the MINI showed excellent values for interrater reliability (current drug abuse $\kappa = .88$; current drug dependence $\kappa = .91$), test-retest reliability (current drug abuse $\kappa = .89$; current drug dependence $\kappa = .96$) (Sheehan et al., 1998). Internal consistency for the substance use module was strong in the current study ($\alpha = .93$). The MINI also demonstrated strong concordance with other validated diagnostic interviews (e.g., SCID, Spitzer et al., 1992; CIDI, World Health Organization, 1990) (Sheehan et al., 1998; Sheehan et al., 1997). A strength of the MINI is the anticipated time duration of administration, which is estimated to take about 18 minutes; this is substantially shorter than other commonly used diagnostic interviews.

Risky, Impulsive, and Self-Destructive Behavior Questionnaire (RISQ). The RISQ is a newly developed measure designed to comprehensively assess a variety of risky behaviors using 38 items (Sadeh & Baskin-Sommers, 2017). In addition to the full-scale score, the RISQ includes eight domain-specific factors including drug use, aggression, self-harm, gambling, risky sexual behavior, impulsive eating, heavy alcohol use, and reckless behavior. For the proposed study, all factors besides drug use and alcohol use were measured given substance use is measured elsewhere. For each item in this scale, participants are asked to report how many times total they have done this in their lifetime, in the past month, their age the first time they engaged, and whether it caused functional problems (e.g., medical, legal, relational). In addition, respondents are prompted to rate the extent to which they agree with two additional questions on a scale from 0 (*strongly disagree*) to 4 (*strongly agree*) for each item (i.e., “I do this behavior to

stop feeling upset, distressed, or overwhelmed,” “I do this behavior to feel excitement, to get a thrill, or to feel pleasure”). The RISQ was validated using a summed score of the total lifetime behaviors. Risky behaviors in this study were represented with a summed score of the total behaviors for the included factors, but for the past 12 months. Higher scores indicate higher engagement in risky behaviors. To address skew, measurement developers encouraged use of five categorized response bins (i.e., 0, 1-10, 11-50, 51-100, >100). Given the higher range (0 to 4,847) of reported risky behaviors in this sample, the variable was binned with five cutpoints based on percentiles to create relatively equally distributed bins. Using this method, response bins in the current study were <11, 12-25, 26-51, 52-105, 106-265, and >265 and the percent within each bin ranged from 15.6% to 17.8%.

The RISQ showed excellent internal consistency for the full scale ($\alpha = .92$) and borderline to excellent for each factor ($\alpha = .63 - .92$) (Sadeh & Baskin-Sommers, 2017). In this study assessing past year behaviors, Cronbach’s alpha was acceptable ($\alpha = .67$). In addition, in previous studies the RISQ showed moderate correlations with other measures related to risk (i.e., Domain-Specific Risk Taking; Blais & Weber, 2006), substance use (i.e., Michigan Assessment-Screening Test for Alcohol and Drugs; Westermeyer et al., 2004), aggression (i.e., Reactive-Proactive Aggression Questionnaire; Raine et al., 2006), and suicidal behavior (i.e., MINI Suicide Scale; Roaldset et al., 2012), suggestive of construct validity. The RISQ factors also evidenced good convergent and discriminant validity.

Procedure

Procedures were conducted with institutional review board (IRB) approval. Researchers secured a certificate of confidentiality to protect disclosure of sensitive research information from outside parties. The project was preregistered on Open Science Framework prior to data

collection. Names of current inmates were obtained from publicly accessible rosters (e.g., online) from two jails in a predominantly rural state in the Mountain Northwest. Lists were updated every two weeks and used to randomly select participants using a random number generator. Randomly selected participants were invited to participate in a study of women's life experiences and coping. If interested, women were interviewed in private rooms where researchers reviewed purpose of study and informed consent. Women received a packet with all surveys and were read items out loud to account for reading level. Surveys were counterbalanced in four orders. Packets were counterbalanced using four different orders of packets, but each packet administered the LSC-R and PCL-5 together to provide women context to rate trauma-related distress symptoms. The rate of refusal to participate was 12.6% including refusals by participants or officers (e.g., not safe to interview). Interviewers were clinical psychology graduate students and masters-level clinicians supervised by a licensed clinical psychologist. To be considered for the study, women must have been at least 18 years old and proficient in English. Participants received a candy bar or small, alternative snack (e.g., granola bar) or \$5 added to their personal canteen account, depending on jail policies, as a form of compensation for their time.

Results

Descriptive Statistics

Women in this sample reported high rates of interpersonal violence (IPV, $M = 18.30$, $SD = 13.58$). Of the women in the study, 72.2% reported witnessing domestic violence before age 16, 48.3% reported witnessing an attack, 32.2% reported a direct physical attack by an unknown other, 58.9% reported a direct physical attack by a known other before age 16, 72.8% reported a direct physical attack by a known other after age 16, 47.2% reported forced sexual touching

before age 16, 40.6% reported forced sexual touching after age 16, 39.4% reported sexual assault before age 16, and 50.6% reported sexual assault after age 16 (See Table 2).

In addition, women reported high rates of past-month PTSD symptoms, with a mean score of 37.82 ($SD = 20.73$). Over half (57.2%) of the women met or exceeded the suggested threshold score of 33 indicative of meeting criteria for a diagnosis of PTSD. Women's scores on the DERS ranged from 36 to 173 ($M = 89.62$, $SD = 24.41$) and the CSE-T total score ranged from 9 to 63 ($M = 43.63$, $SD = 11.82$).

For substance use, women in this sample reported an average age of onset of 14.63 years ($SD = 5.35$), with overall first use ranging from ages 6 to 40 years. Most commonly used substances included stimulants (83.9%), cannabis (62.8%), and opiates (48.3%). Very few women reported no substance use (10%) or use of only one substance (11.1%). Of the 11 total symptoms on the Substance Use Disorder module on the MINI, women reported an average of 8.1 symptoms ($SD = 3.76$) in the past year. The majority (87.2%) of the women met criteria for a Substance Use Disorder using this diagnostic tool. Women reported an average of engaging in 178.90 ($SD = 434.90$) risky behaviors in the past year, with a range from 0 to 4,847. Given high skew and kurtosis, the variable was binned with five cutpoints as recommended by measure developers using percentiles for similar cell sizes (See Table 2).

Preliminary Analyses

Before addressing study hypotheses, data was screened for assumptions including normality, outliers, and missing data. One item assessing experienced physical attack by stranger was negatively skewed (skew = 2.21, kurtosis = 4.197); however, results were unaffected when addressed by square root transformation and therefore the original variable was retained. In addition, the summed RISQ variable was very skewed and kurtotic. To address this, a binned

variable was created as measure developers suggested. All other variables met assumptions of normality. The amount of missing data for study variables ranged from .6% (i.e., income) to 1.1% (i.e., RISQ). Full-information maximum likelihood (FIML) was used to address data missing at random. FIML allowed for the unbiased estimation of parameters within a model using all available information within a dataset rather than an imputation technique (Graham, 2009).

Preliminary analyses were conducted to examine whether identified demographic variables were significant predictors of the identified outcome variables (i.e., emotion regulation, trauma coping self-efficacy, substance use, risky behaviors). Based upon the findings of previous research, it was expected that employment, age, and income should be assessed for inclusion as possible covariates for substance use (Adams et al., 2008; Bowles et al., 2012; Buchanan et al., 2011; Jones et al., 2017; Peteet et al., 2018) and income, age, and race should be assessed as potential covariates for risky behaviors (Anderson et al., 2020; Greco and Curci, 2017; Peteet et al., 2018; Wamser-Nanney et al., 2020; 2019). There were no identified covariates based on the literature for trauma coping self-efficacy or emotion regulation and therefore none were assessed. Covariates were tested using correlations for continuous demographics (i.e., age, income) and independent samples t-tests for categorical demographics (i.e., employment, race). Categorical demographics were collapsed into dichotomous variables given unequally distributed cell sizes (e.g., unemployed = 0, employed = 1; White = 0, other race = 1). Only age was significantly correlated with substance use ($r = -.266, p < .01$) and retained as a covariate in subsequent analyses. No other significant associations were identified.

The majority of associations among key study variables were consistent with the hypotheses that experiences of interpersonal violence, PTSD symptoms, difficulties with

emotion regulation, coping self-efficacy, substance use, and risky behaviors are related. Total IPV exposure was significantly positively correlated with substance use ($r = .187, p < .05$), total risky behaviors ($r = .317, p < .01$), DERS ($r = .311, p < .01$), PCL-5 ($r = .361, p < .01$), and significantly negatively correlated with CSE-T ($r = -.200, p < .01$). The CSE-T was negatively significantly correlated with substance use ($r = -.269, p < .01$), but not significantly correlated with risky behaviors ($r = -.023, p > .05$). The DERS was significantly positively correlated with substance use ($r = .284, p < .01$) and risky behaviors ($r = .147, p < .05$). These preliminary findings warranted further investigation into whether emotion regulation and coping self-efficacy may exert an indirect effect the relation between interpersonal violence and maladaptive outcomes (i.e., substance use, risky behaviors) (See Table 3).

Primary Analyses

Measurement Model

The hypothesized model was tested using *Mplus* statistical software version 8.2 (Muthén & Muthén, 2012). Study hypotheses were evaluated using structural equation modeling (SEM). SEM is a statistical method that adopts a confirmatory (i.e., theory-driven) approach to the analysis of a structural theory. An advantage of using SEM is that it simultaneously estimates the relationships between observed indicators and latent variables. In addition, SEM accounts for measurement error between latent and observed variables.

SEM was used to first test whether the measurement model for IV was adequately specified. Confirmatory factor analysis was used to examine the extent to which observed indicators load onto the common factor of IV. Based on the initial analyses of model fit with nine indicators for IV, while all standardized coefficients were significant (all at $p < .001$), the measurement model showed poor fit ($\chi^2(27) = 200.138, p < .001$, CFI = .714, TLI = .619,

RMSEA = .189. Modification Indices (MI) indicated several of the indicators should be correlated. Four model modifications were made consistent with theory and index size for indicators of interpersonal violence (childhood sexual abuse with childhood unwanted sexual touching, adulthood sexual abuse with adulthood unwanted sexual touching, physical attack with witnessed attack, non-stranger physical violence in childhood with witnessed domestic violence). Once these variables were allowed to covary, the measurement model demonstrated good fit to the data ($\chi^2(23) = 37.885, p = .0262, CFI = .975, TLI = .962, RMSEA = .060$). The ratio between the chi-square statistic and degrees of freedom is equal to 1.647, within the recommended ratio ≤ 2 indicative of strong fit (Cole, 1987; Wheaton et al., 1977). Standardized coefficients ranged from .477 to .649 (See Table 4). Thus, hypothesis one that experiences of interpersonal violence would load onto a common Interpersonal Violence latent factor was supported.

Moderated Mediation Analysis

The hypothesized model (See Figure 3) was evaluated using *Mplus* (Muthén & Muthén, 2012). The structural model was used to test the second and third hypotheses that emotion regulation and trauma coping self-efficacy would have positive and negative, respectively, indirect effects on the relation between interpersonal violence, substance use, and risky behaviors. In addition, this model was used to test the fourth hypothesis that interpersonal violence would interact with probable PTSD status to predict trauma coping self-efficacy and emotion regulation. Age was covaried with substance use in the model. Standardized model results are reported below. Further, 95% bootstrap confidence intervals (CI) were calculated using *Mplus* to determine the significance of the indirect effects. Effects were considered significant at $p < .05$ if the CI did not include 0.

When entered in the model, age continued to be significantly associated with substance use ($\beta = -.218, SE = .075, p = .004$), such that lower age was related to increased substance use. Probable PTSD and the latent IV factor were allowed to covary and were significantly related ($\beta = .392, p < .001$), as well as between emotion regulation and trauma coping self-efficacy ($\beta = -.444, p < .001$). Interpersonal violence significantly predicted difficulties with emotion regulation ($\beta = .184, p = .025$) but not to trauma coping self-efficacy ($\beta = -.098, p = .308$). In addition, there were main effects of probable PTSD predicting emotion regulation ($\beta = .431, p < .001$) and coping self-efficacy ($\beta = -.367, p < .001$). However, interpersonal violence did not interact with probable PTSD diagnosis to predict trauma coping self-efficacy ($\beta = -.013, p = .883$) or emotion regulation ($\beta = .130, p = .103$), hypothesis four was not supported, and the interaction term was dropped from the model. This suggests that the relationship between interpersonal violence and the two identified mechanisms were not different among those with or without probable PTSD diagnosis. In sum, women with a probable diagnosis of PTSD reported significantly greater emotion dysregulation and lower trauma coping self-efficacy while higher levels of cumulative violence were also significantly associated with more emotion dysregulation.

Next, the final model indicated significant main effects of total interpersonal violence predicting risky behaviors ($\beta = .350, p = .001$) but not substance use ($\beta = .100, p = .293$) when considering all variables at the same time. Emotion regulation did not significantly predict substance use ($\beta = .126, p = .135$) or risky behaviors ($\beta = .084, p = .306$). Trauma coping self-efficacy significantly predicted substance use ($\beta = -.161, p = .041$) but not risky behaviors ($\beta = .107, p = .196$). There was not a significant indirect effect of emotion regulation between

interpersonal violence and substance use ($\beta = .023$, 95% CI [-.007, .070]) or interpersonal violence and risky behaviors ($\beta = .015$, 95% CI [-.015, .057]), thus hypothesis two was not supported. Indirect effects for trauma coping self-efficacy on interpersonal violence and substance use ($\beta = .016$, 95% CI [-.016, .056]) and risky behaviors ($\beta = -.010$, 95% CI [-.052, .012]) were also insignificant and inconsistent with hypothesis three. Model fit was good ($\chi^2(78) = 117.768$, $p = .0024$, CFI = .952, TLI = .936, RMSEA = .053, SRMR = .057, See Table 4). The included predictors explained a significant proportion of variance in difficulties of emotion regulation ($R^2 = .282$, $p < .001$), trauma coping self-efficacy ($R^2 = .172$, $p = .001$), risky behaviors ($R^2 = .134$, $p = .035$), and substance use ($R^2 = .138$, $p = .002$).

In sum, interpersonal violence significantly predicted higher emotion dysregulation and risky behaviors. Probable PTSD diagnosis significantly predicted higher emotion dysregulation and lower trauma coping self-efficacy. Higher trauma coping self-efficacy was associated with lower levels of substance use. Overall, PTSD diagnosis and interpersonal violence explained about 28% of variance in emotion regulation, 17% of trauma coping self-efficacy, 13% of risky behaviors, and 14% of substance use.

Discussion

Women involved in the criminal justice system are a vulnerable, understudied, and underserved population who report high rates of trauma exposure and co-occurring distress that may lead to maladaptive coping mechanisms. Limited research has examined the effect of trauma and PTSD on critical key outcomes including substance use disorders and risky behaviors in this population. In addition, no studies have assessed the concurrent roles of emotion regulation and coping self-efficacy in the relation between experiences of lifetime interpersonal violence and current substance use and risky behaviors. In a population that reports

disproportionately high rates of substance use and engagement in behaviors that may be criminalized, it is important to understand the factors that may contribute to these outcomes. This study examined cumulative interpersonal violence, PTSD, emotion regulation, trauma coping self-efficacy, substance use, and risky behaviors among incarcerated women. In this study, there were significant main effects of interpersonal violence as a predictor of higher emotion dysregulation and risky behaviors, probable PTSD diagnosis as a predictor of higher emotion dysregulation and lower trauma coping self-efficacy, and lower coping self-efficacy as a predictor of greater substance use. These findings offer important targets for programming and treatment to reduce substance use and engagement in risky behaviors among incarcerated women.

Prevalence of Interpersonal Violence, Substance Use, and Risky Behaviors

The findings of this study that incarcerated women reported elevated rates of experiences of interpersonal violence and mental health disorders are consistent with the research literature (Karlsson & Zielinski, 2020; Lynch et al., 2014; Lynch et al., 2017; Radatz & Wright, 2017; Trestman et al., 2007). Overall, women in the current study reported a broad range of exposures to violence in childhood and adulthood. Notably, about 39.4% reported at least one instance sexual abuse under age 16 and about half (50.6%) reported an experience of sexual assault after the age of 16. High rates of exposures across types of interpersonal violence indicated that many women experienced poly-victimization. About two thirds (65.6%) reported experiencing at least one instance of sexual violence and physical violence. Further, women reported high rates of PTSD symptoms in the past month. Over half (57.2%) of the women indicated experiencing above threshold symptoms consistent with a current probable PTSD diagnosis. The rates in this study exceed rates from recently published studies among incarcerated women ranging from

21% (Baranyi et al., 2018) to 39% (Konecky & Lynch, 2019). Overall, the prevalence of interpersonal trauma history and related psychological distress in this sample underscores the importance of assessment and treatment of key mental health experiences in system-involved women.

The majority of incarcerated women report substance use (Fazel et al., 2017) and using substances is chronically related to criminal offending and recidivism (Bronson et al., 2020; Bureau of Justice Statistics, 2009; Mallik-Kane & Visser, 2008). Indeed, this study identified substance possession and abuse to be the most common offenses reported by participants. Women also reported multiple substance use symptoms in the past year. On average, women reported about 8 substance use symptoms and most (87.2%) met DSM-5 criteria for a Substance Use Disorder, similar to rates found in other studies (Abram et al., 2003; Lynch et al., 2017). The women also reported using about three categories (e.g., stimulants, opioids, etc.) of substances in the past year indicating polysubstance use. While concerning, this is unsurprising, as past research has shown that women in incarcerated settings often report use of multiple substances (Proctor, 2012; Smith et al., 2020). Many studies have previously assessed substance use using a single question (Jones et al., 2017; Smith et al., 2020), brief screeners (Reynolds et al., 2012; Ullman et al., 2013), or non-validated interview questions (Tangney et al., 2016); only a minority of articles have used structured diagnostic interviews such as in this project. Using this validated measure for most problematic substance may lead to more accurate conceptualization and clinical utility.

Women in this sample began using substances around age 14. Age was negatively associated with substance use in this sample, consistent with literature that has shown age is significantly related to heavy illicit drug use (Jones et al., 2017) and risky drug behaviors (Peteet

et al., 2018) in samples of incarcerated women. Age is a vulnerability factor in developing a substance use disorder during specific developmental periods such as adolescence and early adulthood (Merikangas & McClair, 2012; Vasilenko et al., 2017). This may be in part due to early experiences of victimization (Kerig, 2018). Given the highly trauma-exposed sample, women with earlier age of onset may use substances to modulate mental health distress during a particularly sensitive developmental period when substances may be more accessible than other strategies. This further highlights the importance of early assessment, prevention, and intervention efforts for trauma exposure and substance use for this at-risk population prior to engagement with the legal system as an adult.

Women additionally indicated engaging in remarkably high levels of risky behaviors with an average report of about 178.9 behaviors in the past 12 months compared to lifetime estimates of about 13.8 behaviors for community, student, and veteran women (Sadeh & Baskin-Sommers, 2017). These rates represent an important first step in gaining awareness of incarcerated women's susceptibility to risk. The most frequent reported risky behavior was gambling ($M = 47.59$, $SD = 176.64$) and the least frequent was aggressive behaviors ($M = 6.48$, $SD = 18.35$). General strain theory asserts that women are likely to internalize emotional distress when responding to strain (Agnew & Broidy, 1997; Joon Jang, 2007). To manage these difficult negative emotions, women may turn to self-directed methods to control, cope with, and reduce strain, such as some of the top reported risky behaviors in this study (e.g., gambling, self-harm, impulsive eating). The heightened prevalence rates in this study may represent some of these efforts. In addition, gender-specific burdens (e.g., poverty status, household strain) may impact risk behaviors differently among incarcerated women (Anderson et al., 2020). It may be that incarcerated women engage in risky behaviors as a means to cope with gender-specific strains

(Bloom & Covington, 2008). In turn, these strategies are also evidenced by primarily nonviolent criminal behaviors of female offenders in general (Carson, 2020; Fehrenbacher et al., 2020) and in this sample.

Interpersonal Violence, Probable PTSD, and Mechanisms

There was a main effect of probable PTSD predicting lower trauma coping self-efficacy and difficulties with emotion regulation and a main effect of interpersonal violence significantly predicting difficulties with emotion regulation. Unexpectedly, probable PTSD diagnosis did not moderate the relation between interpersonal violence and emotion dysregulation or trauma coping self-efficacy. This indicates that the relation between interpersonal violence and the mechanisms does not change in the presence of probable PTSD. While the relations between interpersonal violence and the two potential mechanisms were not different among those with or without PTSD diagnosis, probable PTSD appears to be a stronger independent predictor of both TCSE and emotion dysregulation than cumulative exposure to interpersonal violence.

These findings speak to the key role of PTSD symptoms when considering distress-related responses, such that those who meet required criteria for a PTSD diagnosis were more likely to indicate emotional dysregulation and lower coping self-efficacy. It may be that regardless of frequency of interpersonal violence, those with PTSD are more likely to struggle to cope with their experiences of interpersonal violence. Perhaps the reaction to trauma (i.e., PTSD) holds additive weight and is the distinguishing factor. Some studies have shown that trauma exposure and PTSD is indirectly affected by mechanisms such as emotion regulation (Konecky & Lynch, 2019; Mahoney et al., 2022), providing more evidence for considering the reaction to violence. This finding has important clinical implications in regard to treatment. While exposure to violence is an important predeterminant, it cannot be eliminated or changed. However, several

treatments for PTSD are designed to alleviate distress among trauma survivors and it may be beneficial to focus efforts on decreasing the intensity of PTSD symptoms given the identified associations between probable PTSD and emotion regulation and trauma coping self-efficacy in this study; moreover, trauma-focused treatment that targets emotion regulation and trauma coping self-efficacy may be instrumental in facilitating women to develop alternative strategies to risk taking and substance use behaviors.

While previous research has established links between interpersonal violence, PTSD, and distress outcomes (Barlow et al., 2017; Forbes et al., 2020; Mahoney et al., 2021), a strength of this project is the inclusion of both experiences of violence and PTSD as predictors of self-regulation strategies. Given the varied significant associations with both violence exposures and probable PTSD, as well as the correlation between interpersonal violence and PTSD, this project demonstrates the importance of including assessment of both to better inform our understanding of women's treatment needs and potential treatment targets. Future research may seek to explore whether moderated effects hold for different types of violence (e.g., sexual violence, physical violence) or violence in adulthood compared to childhood. In addition, it may be warranted to examine whether there are indirect effects of PTSD on the relation between interpersonal violence and outcomes.

Mechanisms, Substance Use, and Risky Behaviors

Trauma coping self-efficacy significantly predicted substance use, suggesting that women with lower trauma coping self-efficacy were more likely to report substance use symptoms. While there is limited research to suggest that general coping self-efficacy is linked to lower substance use (Mahoney et al., 2022; Saxena et al., 2016; Torrecillas et al., 2015), the findings in the current project are notable finding given that coping self-efficacy specific to the context of

trauma has previously not been examined as a predictor of substance use in general or in this population. From the perspective of the self-medication hypothesis, women with high levels of trauma-related distress may use substances to cope or avoid unwanted emotional responses (Khantzian, 1997). Several studies have supported this hypothesis (Asberg & Renk, 2012; Chilcoat & Breslau, 1998; Hawn et al., 2020; Ullman et al., 2013) with trauma-related distress, but have not examined the unique impact of trauma coping self-efficacy as a mechanism that may explain maladaptive coping with substances. Variations in trauma coping self-efficacy may help to identify which women are more likely to resort to substance use as a possible form of avoidance of trauma-related distress, especially if they do not have other skills to overcome barriers of recovery. As general self-efficacy has been noted to play an important role in substance use treatment (Glasner-Edwards et al., 2007; Kadden & Litt, 2011), it is worth considering how these findings may translate by targeting trauma coping self-efficacy in substance use and trauma-focused treatments.

Trauma coping self-efficacy did not predict risky behavior engagement. It may be that those with low coping self-efficacy subsequent to experiencing trauma do not perceive themselves to have the means to overcome adversity or related distress, and therefore are not likely to engage in any behavior to secure goals. Research has shown associations between general self-efficacy and select risky behaviors (Heath et al., 2016; MacNeil et al., 2012; Schwarzer & Fuchs, 1995), it may be that trauma-specific distress does not as readily translate to engagement in risky behaviors compared to other coping mechanisms, such as substance use.

Difficulties in emotion regulation were not significantly related to either substance use or engagement in risky behaviors. This indicates that there was not a linear relation between emotional dysregulation and substance use or risky behaviors in this sample. One area of

consideration for these findings may lie in the type of emotion regulation strategies assessed. As there are multiple specific strategies to regulate emotions, perhaps it would be fruitful to examine whether there are strategy-specific associations related to each outcome variable. For instance, strategies such as avoidance may be more related to substance use whereas difficulties with impulse control may be more related to risky behaviors. It also may be that women who have experienced interpersonal trauma are sensitive to even low levels of emotion dysregulation, or those who experience high levels of emotion dysregulation may cope in other ways. However, it is noteworthy that these results are largely inconsistent with previous research on substance use (Dingle et al., 2018; Westphal et al., 2017) and some risky behaviors (Hahn et al., 2022; Miller & Racine, 2020). A more recent study by Jin and colleagues (2022) modeled the indirect effect of emotion dysregulation between PTSD and risky post-trauma behaviors. It also may be that PTSD interacts with mechanisms (i.e., coping self-efficacy, emotion regulation) to predict substance use (Mahoney et al., 2022). Considering the predictive role of PTSD in this path may be worthwhile when examining emotion regulation and risk engagement among incarcerated women. A next step would be to examine whether emotion regulation affects the association between PTSD and risk behaviors and substance use.

Associations among Interpersonal Violence, Substance Use, and Risky Behaviors

Experiences of lifetime interpersonal violence did not significantly predict substance use when controlling for other variables, contrary to previous research. This contrasts with existing research that has identified interpersonal violence as a correlate of substance use among incarcerated (Green et al., 2016; Lynch et al., 2012; Tripodi & Pettus-Davis, 2013) and non-incarcerated (Carbone-López et al., 2006; Reynolds et al., 2012) samples. In addition, there were not significant indirect effects of emotion regulation or trauma coping self-efficacy on substance

use, inconsistent with hypotheses 2 and 3. Although interpersonal violence, mechanisms, and substance use were significantly correlated, all outcome variables were more strongly correlated with PTSD symptoms. It may be that PTSD explains more variance as a predictor in these paths. As such, it is clear from the literature that those with PTSD and psychological distress are more likely to use substances (Brack, 2018; Leeies et al., 2010; Miranda et al., 2002) and may predict substance use above and beyond trauma exposure (Haller & Chassin, 2014). In addition, Bonn-Miller and colleagues (2011) found that difficulties in emotion regulation mediated PTSD symptom severity and marijuana use coping motives. While it is important to include experiences of interpersonal violence in study designs, it may be fruitful to examine a similar model using substance use and risky behaviors as the outcomes.

It is possible that examining polysubstance use might help us to better understand the presentation of substance use among incarcerated women. It may be that increased violence, PTSD, and difficulties with mechanisms lead to increased substance use to cope but doesn't necessarily result in substance use symptoms/disorder(s). Symptoms or diagnosis based on one substance may not adequately capture distress or impairment due to overall substance use. It is common for incarcerated women to report using several substances (Proctor, 2012; Smith et al., 2020). Women in the current study reported symptoms on the most problematic substance, but use of multiple substances may exacerbate symptom distress and/or impairment. In a study among women in prison with comorbid PTSD and SUD, women with polysubstance dependence reported increased substance severity, trauma exposure history, and PTSD symptoms compared to women using a single substance (Salgado et al., 2007). Incarcerated individuals also may have different coping patterns and mental health correlates based on profile analysis of polysubstance use (Bunting et al., 2020). This may also be tied to the specific trauma-related symptom

presentation (Dworkin et al, 2018). If we consider that women may self-medicate with a range of substances and for a range of distress, it would not make sense that substance use coping is entirely captured by the proposed model. Given the strong ties to interpersonal violence and offending, it may be advantageous to examine polysubstance use in future studies to capture a fuller range of distress as it relates to coping. Including other details such as class, frequency, or chronicity of substance use may be additionally useful to further understand context and trajectory of using substances in response to trauma exposure.

Interpersonal violence significantly predicted risky behaviors in this study. After experiencing interpersonal trauma, women may engage in risky behaviors in the pursuit of attaining goals perceived to be related to recovery (e.g., engaging in risky sexual behaviors to secure money or regain control) while tempering distressing emotions, as general strain theory might suggest. There is limited research that has investigated the impact of interpersonal violence on risky behaviors, particularly among incarcerated women. Some work has shown different forms of interpersonal violence are associated with various risk behaviors such as risky sexual behaviors (Lang et al., 2003), gambling (Ledgerwood & Wilsosevich, 2015), and eating disorders (Madowitz et al., 2015) among women in the general population, but no known study included a similarly comprehensive assessment of risky behaviors with system-involved women. Results from the present study underscore the importance of considering the links between interpersonal violence and risk behaviors given that many of these behaviors (e.g., sex offenses, reckless behaviors), and other previously unstudied behaviors (e.g., stealing, reckless driving) map on to behaviors labeled as criminal.

There were no significant indirect effects of emotion regulation and trauma coping self-efficacy on the relation between interpersonal violence and risky behaviors, inconsistent with

hypotheses 2 and 3. It may be warranted in future studies to understand the extent to which specific risk behaviors are differently related to poly-victimization, emotion regulation, and trauma coping self-efficacy. Some work has indicated that PTSD is also related to risky behaviors (Ledgerwood & Wilsosevich, 2015; Madowitz et al., 2015). In addition, future research may choose to utilize other aspects of the RISQ measure that were not assessed in this project, such as functional impairment, age of onset, and reasons for behaviors. Furthermore, while it is a strength to include a broad measure of risky behaviors, binning the RISQ due to large skew and kurtosis may have limited the predictive utility of this measure. For example, women with 300 and 3000 risky behaviors are grouped in the same bin. Finally, Cronbach's alpha was acceptable ($\alpha = .67$), but not ideal suggesting this measure may not be a reliable assessment of risky behaviors.

Several other explanations exist for the broad lack of significant indirect effects. In the current study, interpersonal violence included cumulative experiences of physical, sexual, and witnessed violence in adulthood and childhood. While previous research has argued for assessment of cumulative exposure to trauma (Hamby, 2014; Yalch & Rickman, 2021), and it is a strength of the current project to include a comprehensive measure of interpersonal trauma, it may be that specific types of interpersonal violence should be examined separately to understand unique variance attributed to outcomes. One study showed that physical partner violence was the strongest predictor of substance use compared to other forms of intimate partner violence (Yalch & Richman, 2021). Research has also identified sexual violence as an important predictor for substance use (Lang et al., 2003) and various risky behaviors (Kiefer et al., 2021; Power et al., 2016; Van Dorn et al., 2005). It is less understood how witnessing interpersonal violence on its own impacts substance use and risky behaviors. One study found that exposure to sexual abuse

had higher odds ratio of substance use compared to exposure to domestic violence, such that directly experiencing sexual abuse increased the risk of substance use more so than witnessing violence (Fuller-Thomson et al., 2016). Multiple more recent studies with incarcerated women group experiences into sexual assault, physical assault, and witnessed violence or separate experiences between childhood and adulthood violence (Karlsson & Zielinski, 2020; Lynch et al., 2017; Radatz & Wright, 2017; Zhao et al., 2022). This is especially important given that childhood and adulthood experiences of violence have different trajectories as they relate to mental health and substance use outcomes (Saxena & Messina, 2021; Wolff et al., 2022; Zhao et al., 2022). While this was attempted in the current study by utilizing a latent factor, it was insignificant and did not support hypothesis 1. An important next step will be to measure whether specific types of violence are associated with risk behaviors and substance use while continuing to consider the role of PTSD.

It also is likely that other mechanisms besides emotion regulation and trauma coping self-efficacy may explain the relations between interpersonal violence and substance use and risky behaviors. Trauma-related shame is one potential factor, as it has been shown to be significantly related to interpersonal violence (Aakvaag et al., 2016; DeCou et al., 2018) and PTSD (DeCou et al., 2021). Significant indirect effects of trauma-related shame have been found on the relations between PTSD symptoms and facets of impulsivity (Forkus et al., 2022) as well as emotions-focused disengagement (Held et al., 2015). Incarcerated women may experience difficulties regulating trauma-related shame, which may lead to maladaptive coping and risk outcomes. Other potential mechanisms closely related to experiences of trauma and key outcomes may include post-traumatic growth (Stump & Smith, 2008; Whaley & Mesidor, 2021), impulsivity (Morris et al., 2020), or sensation-seeking (Hauffa et al., 2011). It should also be noted that

measures for the mediating mechanisms were administered during incarceration and participants were asked to rate current experiences. As jail is often a more stable, sober environment and women are removed temporarily from strains, it may be that levels of emotion regulation and trauma coping self-efficacy were rated differently than what would be rated outside of jail in natural environments.

Limitations

There are some important limitations of this study. Though the study design did account for temporal order between lifetime exposure to interpersonal violence and past year substance use and risky behaviors, there was overlap in assessing current emotion regulation, trauma coping self-efficacy, and probable PTSD with the dependent variables. However, the proposed model testing indirect effects is supported by existing theory and longitudinal research where trauma-related experiences including emotion regulation and trauma coping self-efficacy precipitated substance use and risk behaviors (Agnew, 1992; Benight & Bandura, 2004; Dingle et al., 2018; Warren et al., 2007). Due to the measures being administered at the same time in this study, causal relationships cannot be determined. Longitudinal research that utilizes time between assessment of mechanisms and outcomes would shed further light on the directional associations among these variables. In addition, interpersonal violence was summed as a cumulative score and does not include complete range of experiences or distinguish different forms of interpersonal violence. Another limitation of the current study is generalizability. Findings reported in this project are unique to incarcerated women and may not generalize to other populations. In addition, many of the results in this study are novel and should be replicated in other incarcerated samples as well as other populations.

Implications

There are several implications of the current study. Given the high rates of interpersonal violence exposure across childhood and adulthood, PTSD, risk behaviors, and substance use, and the significant association between interpersonal violence and risky behavior, it is important to consider alternatives to incarceration in responding to criminal involvement. For instance, the sequential intercept model outlines different intercept points for interventions across stages of criminal justice proceedings (Munetz & Griffin, 2006). To direct referral to alternatives to incarceration and intervention efforts, it may be helpful to screen all women in the criminal justice system for traumatic experiences as well as mental health problems and correlates. This may assist with referring women to mental health or drug courts, diversion programs, implementing treatment services in jails, and increase referrals and access to resources post-incarceration. Gaining access to treatment and other services prior, during, and post incarceration may serve as a protective factor against further development of negative mental health experiences and maladaptive coping strategies. Further, access to service utilization may help to alleviate mental health distress associated with reoffending, which may be especially key in rural incarcerated populations.

Furthermore, these results underscore the importance of offering and utilizing trauma-informed programming and treatment for incarcerated women. Data from this study supports previous findings that PTSD symptoms are associated with more difficulties with emotion regulation and less trauma coping self-efficacy while cumulative interpersonal violence was associated with emotion dysregulation and risky behaviors. Including both exposure to violence and PTSD in the model allows us to examine associations previously identified in the literature between interpersonal violence and mechanisms as well as between PTSD and mechanisms. In

this study, PTSD had stronger associations with emotion regulation and trauma coping self-efficacy. This is important to note as PTSD can be targeted and reduced by treatment.

Based on significant main effect results of probable PTSD predicting to emotion regulation and difficulties with emotion regulation, evidence-based treatments that include interventions related to emotion regulation and trauma coping self-efficacy may be of particular interest for those experiencing more severe PTSD symptoms. In addition, as lower trauma coping self-efficacy predicted higher substance use severity, targeting skills related to improving self-efficacy may be beneficial for women with SUDs. It may be advantageous to prioritize services that target trauma-related symptoms and substance use concurrently. Addressing these mechanisms in treatment may help to decrease substance use, and in turn, may also lend toward decreasing rate of recidivism for these women.

Overall, the current study identified several significant relations. Interpersonal violence significantly predicted emotion dysregulation and engaging in risky behaviors. Probable PTSD diagnosis predicted emotion dysregulation and trauma coping self-efficacy. Lastly, trauma coping self-efficacy negatively predicted substance use. This study builds on budding research on incarcerated women's engagement in risky behaviors, the relative contributing impact of interpersonal violence and PTSD diagnosis and understanding how trauma-related precipitating factors and maladaptive outcomes are partially explained by critical key skills. These findings suggest the importance of understanding vulnerabilities that incarcerated women experience and may inform entry and reentry into the criminal justice system. These data may also inform efforts to develop and implement screening processes for women with the goal of connecting higher risk women to services and treatment.

References

- Aakvaag, H. F., Thoresen, S., Wentzel-Larsen, T., Dyb, G., Røysamb, E., & Olff, M. (2016). Broken and guilty since it happened: A population study of trauma-related shame and guilt after violence and sexual abuse. *Journal of affective disorders*, 204, 16-23.
- Abram, K. M., Teplin, L. A., & McClelland, G. M. (2003). Comorbidity of severe psychiatric disorders and substance use disorders among women in jail. *American Journal of Psychiatry*, 160(5), 1007-1010.
- Adams, S., Leukefeld, C. G., & Peden, A. R. (2008). Substance abuse treatment for women offenders: A research review. *Journal of Addictions Nursing*, 19, 61–75.
doi:10.1080/10884600802111648.
- Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology*, 30(1), 47-88.
- Agnew, R. (2001). Building on the foundation of general strain theory: Specifying the types of strain most likely to lead to crime and delinquency. *Journal of Research in Crime and Delinquency* 38, 361.
- Agnew, R., & White, H. R. (1992). An empirical test of general strain theory. *Criminology*, 30(4), 475-500.
- Anderson, J. D., Pitner, R. O., & Wooten, N. R. (2020). A gender-specific model of trauma and victimization in incarcerated women. *Journal of Human Behavior in the Social Environment*, 30(2), 191-212.
- Asberg, K., & Renk, K. (2012). Substance use coping as a mediator of the relationship between trauma symptoms and substance use consequences among incarcerated females with childhood sexual abuse histories. *Substance Use & Misuse*, 47(7), 799-808.

- Augsburger, M., & Maercker, A. (2020). Associations between trauma exposure, posttraumatic stress disorder, and aggression perpetrated by women. A meta-analysis. *Clinical Psychology: Science and Practice*, 27(1), e12322.
- Bandura, A. National Inst of Mental Health. (1986). Social foundations of thought and action: A social cognitive theory.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A. (2001). *Social cognitive theory: An agentic perspective*. *Annual Review of Psychology*, Vol. 52 (pp. 1-26). Palo Alto: Annual Reviews, Inc.
- Baranyi, G., Cassidy, M., Fazel, S., Priebe, S., & Mundt, A. P. (2018). Prevalence of posttraumatic stress disorder in prisoners. *Epidemiologic reviews*, 40(1), 134-145.
- Barlow, M. R., Turow, R. E. G., & Gerhart, J. (2017). Trauma appraisals, emotion regulation difficulties, and self-compassion predict posttraumatic stress symptoms following childhood abuse. *Child Abuse & Neglect*, 65, 37-47.
- Benight, C. C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behaviour Research and Therapy*, 42(10), 1129-1148.
- Benight, C. C., & Cieslak, R. (2011). Cognitive factors and resilience: How self-efficacy contributes to coping with adversities. In S. M. Southwick, B. T. Litz, & D. Charney (Eds.), *Resilience and Mental Health: Challenges Across the Lifespan* (pp. 45-55). Cambridge; Cambridge University Press.
- Benight, C. C., & Midboe, A. (2002). Coping self-efficacy as a target variable in the treatment of psychological distress in domestic violence survivors. *Unpublished manuscript*.

- Benight, C. C., Shoji, K., James, L. E., Waldrep, E. E., Delahanty, D. L., & Cieslak, R. (2015). Trauma Coping Self-Efficacy: A context-specific self-efficacy measure for traumatic stress. *Psychological Trauma: Theory, Research, Practice, and Policy*, 7(6), 591.
- Blais, A. R., & Weber, E. U. (2006). A domain-specific risk- taking (DOSPRT) scale for adult populations. *Judgment and Decision Making*, 1, 33-47.
- Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The posttraumatic stress disorder checklist for DSM-5 (PCL-5): Development and initial psychometric evaluation. *Journal of Traumatic Stress*, 28(6), 489-498.
- Bloom, B., & Covington S. (2008). Addressing the mental health needs of women offenders. In R. Gido and L. Dalley (Eds.). *Women's Mental Health Issues Across the Criminal Justice System*. Columbus, OH: Prentice Hall.
- Bonanno, G. A., & Burton, C. L. (2013). Regulatory flexibility: An individual differences perspective on coping and emotion regulation. *Perspectives on Psychological Science*, 8(6), 591-612.
- Bonn-Miller, M. O., Vujanovic, A. A., Boden, M. T., & Gross, J. J. (2011). Posttraumatic stress, difficulties in emotion regulation, and coping-oriented marijuana use. *Cognitive Behaviour Therapy*, 40(1), 34-44.
- Bovin, M. J., Marx, B. P., Weathers, F. W., Gallagher, M. W., Rodriguez, P., Schnurr, P. P., & Keane, T. M. (2016). Psychometric properties of the PTSD checklist for diagnostic and statistical manual of mental disorders—fifth edition (PCL-5) in veterans. *Psychological Assessment*, 28(11), 1379.

- Bowles, M. A., DeHart, D., & Webb, J. R. (2012). Family influences on female offenders' substance use: The role of adverse childhood events among incarcerated women. *Journal of Family Violence, 27*(7), 681-686.
- Brack, N. (2018). *A Model of Post-traumatic Symptoms, Negative Affect, Coping Use Motivations, Substance Use, and Substance Use Consequences in Incarcerated Inmates*. University of Colorado Colorado Springs.
- Brady, K. T., Back, S. E., & Coffey, S. F. (2004). Substance abuse and posttraumatic stress disorder. *Current Directions in Psychological Science, 13*(5), 206-209.
- Brereton, A., & McGlinchey, E. (2020). Self-harm, emotion regulation, and experiential avoidance: A systematic review. *Archives of Suicide Research, 24*(sup1), 1-24.
- Briere, J., Agee, E., & Dietrich, A. (2016). Cumulative trauma and current posttraumatic stress disorder status in general population and inmate samples. *Psychological trauma: Theory, Research, Practice, and Policy, 8*(4), 439.
- Broidy, L., & Agnew, R. (1997). Gender and crime: A general strain theory perspective. *Journal of research in crime and delinquency, 34*(3), 275-306.
- Bronson, J., Stroop, J., Zimmer, S., & Berzofsky, M. (2020). Drug Use, Dependence, and Abuse Among State Prisoners and Jail Inmates, 2007-2009. Office of Justice Programs, U.S. Department of Justice. Retrieved from <https://bjs.ojp.gov/content/pub/pdf/dudaspi0709.pdf>.
- Buchanan, M., Murphy, K., Martin, M. S., Korchinski, M., Buxton, J., Granger-Brown, A., Hanson, D., Hislop, G., Macauley, A.C., & Martin, R. E. (2011). Understanding incarcerated women's perspectives on substance use: Catalysts, reasons for use, consequences, and desire for change. *Journal of Offender Rehabilitation, 50*(2), 81-100.

- Bunting, A. M., Oser, C., Staton, M., & Knudsen, H. (2020). Polysubstance use patterns among justice-involved individuals who use opioids. *Substance use & misuse*, 55(13), 2165-2174.
- Bureau of Justice Statistics (2009). Female prisoners under State or Federal jurisdiction. Corrections Statistical Analysis Tool, www.bjs.gov.
- Burns, E. E., Fischer, S., Jackson, J. L., & Harding, H. G. (2012). Deficits in emotion regulation mediate the relationship between childhood abuse and later eating disorder symptoms. *Child Abuse & Neglect*, 36(1), 32-39.
- Carbone-López, K., Kruttschnitt, C., & Macmillan, R. (2006). Patterns of intimate partner violence and their associations with physical health, psychological distress, and substance use. *Public health reports*, 121(4), 382-392
- Carson, E.A. (2020). *Prisoners in 2019*. Washington, DC: Bureau of Justice Statistics.
- Catanzaro, S. J., & Mearns, J. (1990). Measuring generalized expectancies for negative mood regulation: Initial scale development and implications. *Journal of Personality Assessment*, 54, 546–563.
- Chesney, S. A., & Gordon, N. S. (2017). Profiles of emotion regulation: Understanding regulatory patterns and the implications for posttraumatic stress. *Cognition and Emotion*, 31(3), 598-606.
- Chilcoat, H. D., & Breslau, N. (1998). Investigations of causal pathways between PTSD and drug use disorders. *Addictive Behaviors*, 23(6), 827–840. doi:10.1016/s0306-4603(98)00069-0
- Cloitre, M., Khan, C., Mackintosh, M. A., Garvert, D. W., Henn-Haase, C. M., Falvey, E. C., & Saito, J. (2019). Emotion regulation mediates the relationship between ACES and

- physical and mental health. *Psychological Trauma: Theory, Research, Practice, and Policy*, 11(1), 82.
- Cloitre, M., Miranda, R., Stovall-McClough, K. C., & Han, H. (2005). Beyond PTSD: Emotion regulation and interpersonal problems as predictors of functional impairment in survivors of childhood abuse. *Behavior Therapy*, 36(2), 119–124. doi:10.1016/s0005-7894(05)80060-7
- Cole, D. A. (1987). Utility of confirmatory factor analysis in test validation research. *Journal of Consulting and Clinical Psychology*, 55(4), 584.
- Cook, S. L., Smith, S. G., Tusher, C. P., & Raiford, J. (2005). Self-reports of traumatic events in a random sample of incarcerated women. *Women & Criminal Justice*, 16(1-2), 107–126. doi:10.1300/j012v16n01_05
- Dalsklev, M., Cunningham, T., Dempster, M., & Hanna, D. (2021). Childhood physical and sexual abuse as a predictor of reoffending: A systematic review. *Trauma, Violence, & Abuse*, 22(3), 605-618.
- Davenport, M. (2014). *Predictors of readiness to change and self-efficacy among ex-offenders during reentry*. Trevecca Nazarene University.
- DeCou, C. R., Kaplan, S. P., Spencer, J., & Lynch, S. M. (2018). Trauma-related shame, sexual assault severity, thwarted belongingness, and perceived burdensomeness among female undergraduate survivors of sexual assault. *Crisis*.
- DeCou, C. R., Lynch, S. M., Cole, T. T., & Kaplan, S. P. (2015). Coping self-efficacy moderates the association between severity of partner violence and PTSD symptoms among incarcerated women. *Journal of Traumatic Stress*, 28(5), 465-468.

- DeCou, C. R., Lynch, S. M., Weber, S., Richner, D., Mozafari, A., Huggins, H., & Perschon, B. (2021). On the association between trauma-related shame and symptoms of psychopathology: a meta-analysis. *Trauma, Violence, & Abuse*, 15248380211053617.
- DeHart, D. D. (2008). Pathways to prison: Impact of victimization in the lives of incarcerated women. *Violence Against Women*, 14(12), 1362-1381. doi: 10.1177/1077801208327018.
- DeHart, D., Lynch, S., Belknap, J., Dass-Brailsford, P., & Green, B. (2014). Life history models of female offending. *Psychology of Women Quarterly*, 38, 138–151. doi:10.1177/0361684313494357.
- Deschenes, E. P., Owen, B., & Crow, J. (2007). Recidivism among female prisoners: Secondary analysis of the 1994 BJS recidivism data set. Long Beach: California State University.
- Dingle, G. A., Neves, D. D. C., Alhadad, S. S., & Hides, L. (2018). Individual and interpersonal emotion regulation among adults with substance use disorders and matched controls. *British Journal of Clinical Psychology*, 57(2), 186-202.
- Dore, G., Mills, K., Murray, R., Teesson, M., & Farrugia, P. (2012). Post-traumatic stress disorder, depression and suicidality in inpatients with substance use disorders. *Drug and Alcohol Review*, 31(3), 294-302.
- Dworkin, E. R., Wanklyn, S., Stasiewicz, P. R., & Coffey, S. F. (2018). PTSD symptom presentation among people with alcohol and drug use disorders: Comparisons by substance of abuse. *Addictive behaviors*, 76, 188–194.
<https://doi.org/10.1016/j.addbeh.2017.08.019>
- Edwards, C., Dunham, D. N., Ries, A., & Barnett, J. (2006). Symptoms of traumatic stress and substance use in a non-clinical sample of young adults. *Addictive Behaviors*, 31(11), 2094-2014. doi:10.1016/j.addbeh.2006.02.009

- Eftekhari, A., Zoellner, L. A., & Vigil, S. A. (2009). Patterns of emotion regulation and psychopathology. *Anxiety, Stress, & Coping*, 22(5), 571-586.
- Ehring, T., & Quack, D. (2010). Emotion regulation difficulties in trauma survivors: The role of trauma type and PTSD symptom severity. *Behavior Therapy*, 41(4), 587-598.
- Elhai, J. D., Gray, M. J., Kashdan, T. B., & Franklin, C. L. (2005). Which instruments are most commonly used to assess traumatic event exposure and posttraumatic effects?: A survey of traumatic stress professionals. *Journal of Traumatic Stress*, 18, 541–545.
<http://dx.doi.org/10.1002/jts.20062>
- Erickson, M., Shannon, K., Sernick, A., Ranville, F., Martin, R. E., & Krusi, A. (2019). Women, incarceration and HIV: a systematic review of HIV treatment access, continuity of care and health outcomes across incarceration trajectories. *AIDS (London, England)*, 33(1), 101.
- Falsetti, S. A., Resnick, H. S., Resick, P. A., & Kilpatrick, D. G. (1993). The modified PTSD symptom scale: a brief self-report measure of posttraumatic stress disorder. *The Behavior Therapist*.
- Fazel, S., Yoon, I. A., & Hayes, A. J. (2017). Substance use disorders in prisoners: an updated systematic review and meta-regression analysis in recently incarcerated men and women. *Addiction*, 112(10), 1725-1739.
- Fehrenbacher, A. E., Park, J. N., Footer, K. H., Silberzahn, B. E., Allen, S. T., & Sherman, S. G. (2020). Exposure to police and client violence among incarcerated female sex workers in Baltimore City, Maryland. *American Journal of Public Health*, 110(S1), S152-S159.

- Forbes, C. N., Tull, M. T., Rapport, D., Xie, H., Kaminski, B., & Wang, X. (2020). Emotion dysregulation prospectively predicts posttraumatic stress disorder symptom severity 3 months after trauma exposure. *Journal of Traumatic Stress, 33*(6), 1007-1016.
- Forkus, S. R., Contractor, A. A., Raudales, A. M., & Weiss, N. H. (2022). The influence of trauma-related shame on the associations between posttraumatic symptoms and impulsivity facets. *Psychological Trauma: Theory, Research, Practice, and Policy*. Advance online publication. <https://doi.org/10.1037/tra0001288>
- Fox, H. C., Axelrod, S. R., Paliwal, P., Sleeper, J., & Sinha, R. (2007). Difficulties in emotion regulation and impulse control during cocaine abstinence. *Drug and Alcohol Dependence, 89*(2-3), 298-301.
- Fuller-Thomson, E., Roane, J. L., & Brennenstuhl, S. (2016). Three types of adverse childhood experiences, and alcohol and drug dependence among adults: An investigation using population-based data. *Substance Use & Misuse, 51*(11), 1451-1461.
- Gallagher, M. W., Long, L. J., & Phillips, C. A. (2019). Hope, optimism, self-efficacy, and posttraumatic stress disorder: A meta-analytic review of the protective effects of positive expectancies. *Journal of Clinical Psychology, 76*(3), 329-355.
- Ganem, N. M. (2010). The role of negative emotion in general strain theory. *Journal of Contemporary Criminal Justice, 26*(2), 167-185.
- Glasner-Edwards, S., Tate, S. R., McQuaid, J. R., Cummins, K., Granholm, E., & Brown, S. A. (2007). Mechanisms of action in integrated cognitive-behavioral treatment versus twelve-step facilitation for substance-dependent adults with comorbid major depression. *Journal of Studies on Alcohol and Drugs, 68*(5), 663-672.

- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual review of psychology*, 60, 549-576.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, 26(1), 41-54.
- Gratz, K. L., & Roemer, L. (2008). The relationship between emotion dysregulation and deliberate self-harm among female undergraduate students at an urban commuter university. *Cognitive Behaviour Therapy*, 37(1), 14-25.
- Gratz, K. L., & Tull, M. T. (2010). The relationship between emotion dysregulation and deliberate self-harm among inpatients with substance use disorders. *Cognitive Therapy and Research*, 34(6), 544-553.
- Greco, R., & Curci, A. (2017). Does the general strain theory explain gambling and substance use? *Journal of Gambling Studies*, 33(3), 919-936.
- Green, B. L., Dass-Brailsford, P., Hurtado de Mendoza, A., Mete, M., Lynch, S. M., DeHart, D. D., & Belknap, J. (2016). Trauma experiences and mental health among incarcerated women. *Psychological Trauma: Theory, Research, Practice, and Policy*, 8, 455-463.
<http://dx.doi.org/10.1037/tra0000113>.
- Green, B. L., Miranda, J., Daroowalla, A., & Siddique, J. (2005). Trauma exposure, mental health functioning, and program needs of women in jail. *Crime & Delinquency*, 51(1), 133-151.
- Gold, A. K., Stathopoulou, G., & Otto, M. W. (2020). Emotion regulation and motives for illicit drug use in opioid-dependent patients. *Cognitive Behaviour Therapy*, 49(1), 74-80.

- Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2(3), 271-299.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85, 348–362.
- Hahn, A. M., Hahn, C. K., Simons, R. M., & Simons, J. S. (2022). History of rape moderates the pathways from emotion dysregulation to alcohol and risky sex outcomes among college women. *Psychological trauma: theory, research, practice, and policy*, 14(5), 786.
- Haller, M., & Chassin, L. (2014). Risk pathways among traumatic stress, posttraumatic stress disorder symptoms, and alcohol and drug problems: a test of four hypotheses. *Psychology of Addictive Behaviors*, 28(3), 841.
- Hauffa, R., Brahler, E., Biesold, K. H., Tagay, S., & Roth, M. (2011). *PTSD and sensation seeking tendency to risk behavior as protective or risk factor*. LEIPZIG UNIV (GERMANY).
- Hayes, S. C., Strosahl, K., Wilson, K. G., Bissett, R. T., Pistorello, J., Toarmino, D., Polusny, M. A., Dykstra, T.A., Batten, S.V., Bergan, J., Stewart, S.H., Zvolensky, M.J., Eifert, G.H., Bond, F.W., Forsyth, H.P., Karekla, M., & Mccurry, S.M. (2004). Measuring experiential avoidance: A preliminary test of a working model. *The Psychological Record*, 54, 553–578.
- Hamby, S. (2014). Intimate partner and sexual violence research: Scientific progress, scientific challenges, and gender. *Trauma, Violence, & Abuse*, 15(3), 149-158.

- Hawn, S. E., Cusack, S. E., & Amstadter, A. B. (2020). A systematic review of the self-medication hypothesis in the context of posttraumatic stress disorder and comorbid problematic alcohol use. *Journal of Traumatic Stress*, 33(5), 699-708.
- Heath, N. L., Joly, M., & Carsley, D. (2016). Coping self-efficacy and mindfulness in non-suicidal self-injury. *Mindfulness*, 7(5), 1132-1141.
- Hedtke, K. A., Ruggiero, K. J., Fitzgerald, M. M., Zinzow, H. M., Saunders, B. E., Resnick, H. S., & Kilpatrick, D. G. (2008). A longitudinal investigation of interpersonal violence in relation to mental health and substance use. *Journal of consulting and clinical psychology*, 76(4), 633.
- Held, P., Owens, G. P., & Anderson, S. E. (2015). The interrelationships among trauma-related guilt and shame, disengagement coping, and PTSD in a sample of treatment-seeking substance users. *Traumatology*, 21(4), 285–292. <https://doi.org/10.1037/trm0000050>
- Henry, B. F. (2020). Typologies of adversity in childhood & adulthood as determinants of mental health & substance use disorders of adults incarcerated in US prisons. *Child Abuse & Neglect*, 99, 104251.
- Hoge, C. W., Riviere, L. A., Wilk, J. E., Herrell, R. K., & Weathers, F. W. (2014). The prevalence of post-traumatic stress disorder (PTSD) in US combat soldiers: a head-to-head comparison of DSM-5 versus DSM-IV-TR symptom criteria with the PTSD checklist. *The Lancet Psychiatry*, 1(4), 269-277.
- Howard, R., Karatzias, T., Power, K., & Mahoney, A. (2017). From childhood trauma to self-harm: An investigation of theoretical pathways among female prisoners. *Clinical Psychology & Psychotherapy*, 24(4), 942-951.

- Huebner, B. M., DeJong, C., & Cobbina, J. (2010). Women coming home: Long-term patterns of recidivism. *Justice Quarterly*, 27, 225–254. doi:10.1080/07418820902870486.
- Jauregui, P., Estévez, A., & Urbiola, I. (2016). Pathological gambling and associated drug and alcohol abuse, emotion regulation, and anxious-depressive symptomatology. *Journal of Behavioral Addictions*, 5(2), 251-260.
- Jin, L., Keegan, F. S., Weiss, N. H., Alghraibeh, A. M., Aljomaa, S. S., Almuhayshir, A. R., & Contractor, A. A. (2022). Examining indirect effects of emotion dysregulation between PTSD symptom clusters and reckless/self-destructive behaviors. *Psychological Trauma: Theory, Research, Practice, and Policy*, 14(4), 688–695. <https://doi.org/10.1037/tra0001118>
- Johnson, K. A., & Lynch, S. M. (2013). Predictors of maladaptive coping in incarcerated women who are survivors of childhood sexual abuse. *Journal of Family Violence*, 28, 43-52.
- Joon Jang, S. (2007). Gender differences in strain, negative emotions, and coping behaviors: A general strain theory approach. *Justice Quarterly*, 24(3), 523-553.
- Jones, M. S., Worthen, M. G., Sharp, S. F., & McLeod, D. A. (2017). Bruised inside out: The adverse and abusive life histories of incarcerated women as pathways to PTSD and illicit drug use. *Justice Quarterly*, 35(6), 1004-1029.
- Kadden, R. M., & Litt, M. D. (2011). The role of self-efficacy in the treatment of substance use disorders. *Addictive Behaviors*, 36(12), 1120-1126.
- Karlsson, M. E., & Zielinski, M. J. (2020). Sexual victimization and mental illness prevalence rates among incarcerated women: A literature review. *Trauma, Violence, & Abuse*, 21(2), 326-349.

- Khan, M. R., Wohl, D. A., Weir, S. S., Adimora, A. A., Moseley, C., Norcott, K., Duncan, J., Kaufman, J.S., & Miller, W. C. (2008). Incarceration and risky sexual partnerships in a southern US city. *Journal of Urban Health*, 85(1), 100-113.
- Kang-Brown, J., & Subramanian, R. (2017) *Out of sight: The growth of jails in rural America*. New York, NY: Vera Institute of Justice. Retrieved from <https://www.vera.org/publications/out-of-sight-growth-of-jails-rural-america>
- Kaplan, S. (2018). Interpersonal violence, internal attributions, and social reactions as predictors of PTSD in women in jail. *Unpublished dissertation*.
- Kaysen, D., Dillworth, T. M., Simpson, T., Waldrop, A., Larimer, M. E., & Resick, P. A. (2007). Domestic violence and alcohol use: Trauma-related symptoms and motives for drinking. *Addictive Behaviors*, 32(6), 1272-1283.
- Kerig, P. K. (2018). Polyvictimization and girls' involvement in the juvenile justice system: Investigating gender-differentiated patterns of risk, recidivism, and resilience. *Journal of Interpersonal Violence*, 33(5), 789-809.
- Khantzian, E. J. (1997). The self-medication hypothesis of substance use disorders: A reconsideration and recent applications. *Harvard review of psychiatry*, 4(5), 231-244.
- Khoury, L., Tang, Y. L., Bradley, B., Cubells, J. F., & Ressler, K. J. (2010). Substance use, childhood traumatic experience, and posttraumatic stress disorder in an urban civilian population. *Depression and anxiety*, 27(12), 1077-1086.
- Kiefer, R., Goncharenko, S., Contractor, A. A., DePina, M. Z., & Weiss, N. H. (2021). Posttraumatic stress disorder symptoms moderate the relation between childhood sexual abuse and disordered eating in a community sample. *International journal of eating disorders*, 54(10), 1819-1828.

- Kober, H. (2014). Emotion regulation in substance use disorders.
- Konecky, E. M., & Lynch, S. M. (2019). Cumulative trauma exposure, emotion regulation, and posttraumatic stress disorder among incarcerated women. *Journal of Traumatic Stress, 32*(5), 806-811.
- Kring, A. M., Smith, D. A., & Neale, J. M. (1994). Individual differences in dispositional expressiveness: The development and validation of the Emotional Expressivity Scale. *Journal of Personality and Social Psychology, 66*, 934–949.
- Kuo, C., Johnson, J., Rosen, R. K., Wechsberg, W., Gobin, R. L., Reddy, M. K., Peabody, M., & Zlotnick, C. (2014). Emotional dysregulation and risky sex among incarcerated women with a history of interpersonal violence. *Women & Health, 54*(8), 796-815.
- Lang, A. J., Rodgers, C. S., Laffaye, C., Satz, L. E., Dresselhaus, T. R., & Stein, M. B. (2003). Sexual trauma, posttraumatic stress disorder, and health behavior. *Behavioral Medicine, 28*(4), 150-158
- Ledgerwood, D. M., & Milosevic, A. (2015). Clinical and personality characteristics associated with post traumatic stress disorder in problem and pathological gamblers recruited from the community. *Journal of Gambling Studies, 31*(2), 501-512.
- Leeies, M., Pagura, J., Sareen, J., & Bolton, J. M. (2010). The use of alcohol and drugs to self-medicate symptoms of posttraumatic stress disorder. *Depression and Anxiety, 27*(8), 731-736.
- Luszczynska, A., Benight, C. C., & Cieslak, R. (2009). Self-efficacy and health-related outcomes of collective trauma: A systematic review. *European Psychologist, 14*(1), 51-62.

- Lynch, S. M., DeHart, D. D., Belknap, J. E., Green, B. L., Dass-Brailsford, P., Johnson, K. A., & Whalley, E. (2014). A multisite study of the prevalence of serious mental illness, PTSD, and substance use disorders of women in jail. *Psychiatric services*, 65(5), 670-674.
- Lynch, S.M., DeHart, D., Belknap, J., Green, B., Dass-Brailsford, P., Johnson, K.J. & Wong, M.M. (2017). An examination of the associations among victimization, mental health, and offending in women. *Criminal Justice & Behavior*, 44, 796-814.
doi:10.1177/0093854817704452
- Lynch, S. M., Fritch, A., & Heath, N. M. (2012). Looking beneath the surface: The nature of incarcerated women's experiences of interpersonal violence, treatment needs, and mental health. *Feminist Criminology*, 7, 381–400. doi:10.1177/1557085112439224.
- Lynch, S., & Heath, N. (2017). Predictors of incarcerated women's postrelease PTSD, depression, and substance-use problems. *Journal of Offender Rehabilitation*, 56(3), 157-172.
- MacNeil, L., Esposito-Smythers, C., Mehlenbeck, R., & Weismore, J. (2012). The effects of avoidance coping and coping self-efficacy on eating disorder attitudes and behaviors: A stress-diathesis model. *Eating Behaviors*, 13(4), 293-296.
- Madowitz, J., Matheson, B. E., & Liang, J. (2015). The relationship between eating disorders and sexual trauma. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, 20(3), 281-293.
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods*, 1(2), 130–149. <https://doi.org/10.1037/1082-989X.1.2.130>

- Mahoney, C. T., Cestodio, V., Porter, K. J., & Marchant, K. M. (2022). The moderating roles of emotion regulation and coping self-efficacy on the association between PTSD symptom severity and drug use among female sexual assault survivors. *Psychological Trauma: Theory, Research, Practice, and Policy*. Advance online publication. <https://doi.org/10.1037/tra0001194>
- Mahoney, C. T., Lynch, S. M., & Benight, C. C. (2021). The indirect effect of coping self-efficacy on the relation between sexual violence and PTSD symptoms. *Journal of interpersonal violence, 36*(21-22), 9996-10012.
- Mallik-Kane, K., & Visser, C. A. (2008). *Health and prisoner reentry: How physical, mental, and substance abuse conditions shape the process of reintegration* (p. 82). Washington, DC: Urban Institute Justice Policy Center
- McClanahan, S. F., McClelland, G. M., Abram, K. M., & Teplin, L. A. (1999). Pathways into prostitution among female jail detainees and their implications for mental health services. *Psychiatric services, 50*(12), 1606-1613.
- McHugo, G., Caspi, Y., Kammerer, N., Mazelis, R., Jackson, E., Russell, L., Clark, C., Liebschutz, J., & Kimerling, R. (2005). The assessment of trauma history in women with co-occurring substance abuse and mental disorders and a history of interpersonal violence. *Journal of Behavioral Health Services & Research, 32*, 113-127.
- McKee, S. A., & Hilton, N. Z. (2019). Co-occurring substance use, PTSD, and IPV victimization: Implications for female offender services. *Trauma, Violence, & Abuse, 20*(3), 303-314.
- McLean, C. P., & Foa, E. B. (2017). Emotions and emotion regulation in posttraumatic stress disorder. *Current Opinion in Psychology, 14*, 72–77. doi:10.1016/j.copsyc.2016.10.006

- Merikangas, K. R., & McClair, V. L. (2012). Epidemiology of substance use disorders. *Human genetics*, 131(6), 779-789.
- Messman-Moore, T. L., Walsh, K. L., & DiLillo, D. (2010). Emotion dysregulation and risky sexual behavior in revictimization. *Child Abuse & Neglect*, 34(12), 967-976.
- Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy*, 28(6), 487-495. doi:10.1016/0005-7967(90)90135-6
- Miles, S. R., Menefee, D. S., Wanner, J., Teten Tharp, A., & Kent, T. A. (2016). The relationship between emotion dysregulation and impulsive aggression in veterans with posttraumatic stress disorder symptoms. *Journal of Interpersonal Violence*, 31(10), 1795-1816.
- Miller, A. E., & Racine, S. E. (2020). Emotion regulation difficulties as common and unique predictors of impulsive behaviors in university students. *Journal of American College Health*, 1-9.
- Miranda Jr, R., Meyerson, L. A., Long, P. J., Marx, B. P., & Simpson, S. M. (2002). Sexual assault and alcohol use: Exploring the self-medication hypothesis. *Violence and Victims*, 17(2), 205-217.
- Morris, V. L., Huffman, L. G., Naish, K. R., Holshausen, K., Oshri, A., McKinnon, M., & Amlung, M. (2020). Impulsivity as a mediating factor in the association between posttraumatic stress disorder symptoms and substance use. *Psychological trauma: theory, research, practice, and policy*, 12(6), 659.
- Munetz, M., & Griffin, P. (2006). Use of the sequential intercept model as an approach to decriminalization of people with serious mental illness. *Psychiatric Services*, 57, 544-549.

- Muthen, L. K., & Muthen, L. K. (1998-2012). *Mplus User's Guide (7th ed.)*. Los Angeles, California: Muthen & Muthen.
- Naragon-Gainey, K., McMahon, T. P., & Chacko, T. P. (2017). The structure of common emotion regulation strategies: A meta-analytic examination. *Psychological Bulletin*, 143(4), 384.
- Norman, S. B., Tate, S. R., Anderson, K. G., & Brown, S. A. (2007). Do trauma history and PTSD symptoms influence addiction re- lapse context? *Drug and Alcohol Dependence*, 90, 89–96.
- Ouimette, P., & Brown, P. J. (Eds.). (2003). *Trauma and substance abuse: Causes, consequences, and treatment of comorbid disorders*. American Psychological Association. <https://doi.org/10.1037/10460-000>
- Ozer, E. M., & Bandura, A. (1990). Mechanisms governing empowerment effects: a self-efficacy analysis. *Journal of Personality and Social Psychology*, 58(3), 472.
- Padgett, J. K., & Tremblay, P. F. (2020). Gender differences in aggression. *The Wiley Encyclopedia of Personality and Individual Differences: Personality Processes and Individual Differences*, 173-177.
- Pelissier, B., & Jones, N. (2006). Differences in motivation, coping style, and self-efficacy among incarcerated male and female drug users. *Journal of Substance Abuse Treatment*, 30(2), 113-120.
- Pencea, I., Munoz, A. P., Maples-Keller, J. L., Fiorillo, D., Schultebrasucks, K., Galatzer-Levy, I., Rothbaum, B.O., Ressler, K.J., Stevens, J.S., Michopoulos, V., & Powers, A. (2020). Emotion dysregulation is associated with increased prospective risk for chronic PTSD development. *Journal of Psychiatric Research*, 121, 222-228.

- Peteet, B., Staton, M., Miller-Roenigk, B., Carle, A., & Oser, C. (2018). Rural incarcerated women: HIV/HCV knowledge and correlates of risky behavior. *Health Education & Behavior, 45*(6), 977-986.
- Piquero, N. L., Fox, K., Piquero, A. R., Capowich, G., & Mazerolle, P. (2010). Gender, general strain theory, negative emotions, and disordered eating. *Journal of Youth and Adolescence, 39*(4), 380-392.
- Poole, J. C., Kim, H. S., Dobson, K. S., & Hodgins, D. C. (2017). Adverse childhood experiences and disordered gambling: Assessing the mediating role of emotion dysregulation. *Journal of Gambling Studies, 33*(4), 1187-1200.
- Power, J., Gobeil, R., Beaudette, J. N., Ritchie, M. B., Brown, S. L., & Smith, H. P. (2016). Childhood abuse, nonsuicidal self-injury, and suicide attempts: An exploration of gender differences in incarcerated adults. *Suicide and Life-Threatening Behavior, 46*(6), 745-751.
- Prefit, A. B., Căndea, D. M., & Szentagotai-Tătar, A. (2019). Emotion regulation across eating pathology: A meta-analysis. *Appetite, 143*, 104438.
- Proctor, S. L. (2012). Substance use disorder prevalence among female state prison inmates. *The American Journal of Drug and Alcohol Abuse, 38*(4), 278-285.
- Radatz, D. L., & Wright, E. M. (2017). Does polyvictimization affect incarcerated and non-incarcerated adult women differently? An exploration into internalizing problems. *Journal of Interpersonal Violence, 32*(9), 1379-1400.
- Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385-401.
- doi:10.1177/014662167700100306

- Radomski, S. A., & Read, J. P. (2016). Mechanistic role of emotion regulation in the PTSD and alcohol association. *Traumatology*, 22(2), 113.
- Raine, A., Dodge, K., Loeber, R., Gatzke-Kopp, L., Lynam, D., Reynolds, C., Stouthamer-Loeber, M., & Liu, J. (2006). The reactive–proactive aggression questionnaire: Differential correlates of reactive and proactive aggression in adolescent boys. *Aggressive Behavior*, 32, 159-171. doi:10.1002/ab.20115
- Reynolds, M., Nayak, S., & Kouimtsidis, C. (2012). Intrusive memories of trauma in PTSD and addiction. *The Psychiatrist*, 36(8), 284-289. doi:10.1192/pb.bp.111.037937
- Roaldset, J. O., Linaker, O. M., & Bjørkly, S. (2012). Predictive validity of the MINI suicidal scale for self-harm in acute psychiatry: A prospective study of the first year after discharge. *Archives of Suicide Research*, 16, 287-302. doi:10.1080/13811118.2013.722052
- Roberton, T., Daffern, M., & Bucks, R. S. (2014). Maladaptive emotion regulation and aggression in adult offenders. *Psychology, Crime & Law*, 20(10), 933-954.
- Sadeh, N.⁺ & Baskin-Sommers, A.⁺ (2017). Risky, impulsive, and self-destructive behavior Questionnaire (RISQ): A validation study. *Assessment*, 24(8), 1080-1094. ⁺*Authors contributed equally to this work.*
- Salgado, D. M., Quinlan, K. J., & Zlotnick, C. (2007). The relationship of lifetime polysubstance dependence to trauma exposure, symptomatology, and psychosocial functioning in incarcerated women with comorbid PTSD and substance use disorder. *Journal of Trauma & Dissociation*, 8(2), 9-26.

- Saxena, P., Grella, C. E., & Messina, N. P. (2016). Continuing care and trauma in women offenders' substance use, psychiatric status, and self-efficacy outcomes. *Women & Criminal Justice, 26*(2), 99-121.
- Saxena, P., & Messina, N. (2021). Trajectories of victimization to violence among incarcerated women. *Health & Justice, 9*, 1-12.
- Schumacker, R. E., & Lomax, R. G. (2016). *A beginner's guide to structural equation modeling* (4th ed.). New York: Routledge Academic.
- Schwarzer, R., & Fuchs, R. (1995). Changing risk behaviors and adopting health behaviors: The role of self-efficacy beliefs. *Self-efficacy in Changing Societies, 259*, 288.
- Seligowski, A. V., Lee, D. J., Bardeen, J. R., & Orcutt, H. K. (2015). Emotion regulation and posttraumatic stress symptoms: A meta-analysis. *Cognitive Behaviour Therapy, 44*(2), 87-102.
- Senbanjo, R., Wolff, K. I. M., Marshall, E. J., & Strang, J. (2009). Persistence of heroin use despite methadone treatment: poor coping self-efficacy predicts continued heroin use. *Drug and Alcohol Review, 28*(6), 608-615.
- Sheehan, D. V., & Lecrubier, Y. (1992-2016). The Mini International Neuropsychological Interview (MINI).
- Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., Hergueta, T., Baker, R., & Dunbar, G. C. (1998). The Mini-International Neuropsychiatric Interview (MINI): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *Journal of Clinical Psychiatry, 59*(2), 22-33.
- Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Janavs, J., Weiller, E., Keskiner, A., Schinka, J., Knapp, E., Sheehan, M. F., & Dunbar, G. C. (1997). The validity of the Mini

- International Neuropsychiatric Interview (MINI) according to the SCID-P and its reliability. *European Psychiatry*, 12(5), 232-241.
- Shepherd, L., & Wild, J. (2014). Emotion regulation, physiological arousal and PTSD symptoms in trauma-exposed individuals. *Journal of Behavior Therapy and Experimental Psychiatry*, 45(3), 360-367.
- Simpson, S. S., Yahner, J. L., & Dugan, L. (2008). Understanding women's pathways to jail: Analysing the lives of incarcerated women. *Australian & New Zealand Journal of Criminology*, 41(1), 84-108.
- Smith, K. E., Archuleta, A., Staton, M., & Winston, E. (2020). Risk factors for heroin use following release from jail or prison in adults in a Central Appalachian state between 2012-2017. *The American Journal of Drug and Alcohol Abuse*, 46(4), 485-497.
- Spitzer, R. L., Williams, J. B., Gibbon, M., & First, M. B. (1992). The structured clinical interview for DSM-III-R (SCID). *Archives of General Psychiatry*, 49(8), 624-9.
- Stevens, N. R., Gerhart, J., Goldsmith, R. E., Heath, N. M., Chesney, S. A., & Hobfoll, S. E. (2013). Emotion regulation difficulties, low social support, and interpersonal violence mediate the link between childhood abuse and posttraumatic stress symptoms. *Behavior Therapy*, 44(1), 152-161.
- Stice, E. (2002). Risk and maintenance factors for eating pathology: a meta-analytic review. *Psychological Bulletin*, 128(5), 825.
- Stump, M. J., & Smith, J. E. (2008). The relationship between posttraumatic growth and substance use in homeless women with histories of traumatic experience. *American Journal on Addictions*, 17(6), 478-487.

- Substance Abuse and Mental Health Services Administration. (2022). *Key substance use and mental health indicators in the United States: Results from the 2021 National Survey on Drug Use and Health* (HHS Publication No. PEP22-07-01-005, NSDUH Series H-57). Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. <https://www.samhsa.gov/data/report/2021-nsduh-annual-national-report>.
- Tangney, J. P., Folk, J. B., Graham, D. M., Stuewig, J. B., Blalock, D. V., Salatino, A., Blasko, B.B., & Moore, K. E. (2016). Changes in inmates' substance use and dependence from pre-incarceration to one year post-release. *Journal of Criminal Justice*, 46, 228-238.
- Tobar-Santamaria, A., Kiefer, R., Godin, J., Contractor, A. A., & Weiss, N. H. (2021). Sexual victimization and disordered eating among community individuals: The influence of negative and positive emotion dysregulation. *Eating behaviors*, 43, 101567.
- Torrecillas, F. L., Cobo, M. T., Delgado, P., & Ucles, I. R. (2015). Predictive capacity of self-efficacy in drug dependence and substance abuse treatment. *Journal of Psychology and Clinical Psychiatry*, 2(3), 1-7.
- Trestman, R. L., Ford, J., Zhang, W., & Wiesbrock, V. (2007). Current and lifetime psychiatric illness among inmates not identified as acutely mentally ill at intake in Connecticut's jails. *Journal of the American Academy of Psychiatry and the Law Online*, 35(4), 490-500.
- Tripodi, S. J., & Pettus-Davis, C. (2013). Histories of childhood victimization and subsequent mental health problems, substance use, and sexual victimization for a sample of incarcerated women in the US. *International Journal of Law and Psychiatry*, 36(1), 30-40.

- Tusher, C., and Cook, S. (2010). Comparing revictimization in two groups of marginalized women. *Journal of Interpersonal Violence*, 25(10), 1893-1911.
- Ullman, S. E., Relyea, M., Peter-Hagene, L., & Vasquez, A. L. (2013). Trauma histories, substance use coping, PTSD, and problem substance use among sexual assault victims. *Addictive Behaviors*, 38(6), 2219-2223.
- Van Dorn, R. A., Mustillo, S., Elbogen, E. B., Dorsey, S., Swanson, J. W., & Swartz, M. S. (2005). The effects of early sexual abuse on adult risky sexual behaviors among persons with severe mental illness. *Child Abuse & Neglect*, 29(11), 1265-1279.
- Vasilenko, S. A., Evans-Polce, R. J., & Lanza, S. T. (2017). Age trends in rates of substance use disorders across ages 18–90: Differences by gender and race/ethnicity. *Drug and alcohol dependence*, 180, 260-264.
- Walsh, K., DiLillo, D., & Scalora, M.J. (2011) The cumulative impact of sexual revictimization on emotion regulation difficulties: An examination of female inmates. *Violence Against Women*, 17, 1103-1118.
- Wamser-Nanney, R., Walker, H. E., & Nanney, J. T. (2020). Sexual assault, posttraumatic stress symptoms, and indices of aggression among women. *Journal of Traumatic Stress*, 33(6), 1121-1129.
- Wamser-Nanney, R., Walker, H. E., & Nanney, J. T. (2019). Trauma exposure, posttraumatic stress disorder, and aggression among civilian females. *Journal of Interpersonal Violence*, 0886260519860894.
- Warren, J. I., Stein, J. A., & Grella, C. E. (2007). Role of social support and self-efficacy in treatment outcomes among clients with co-occurring disorders. *Drug and Alcohol Dependence*, 89(2-3), 267-274.

- Weathers, F. W., Litz, B. T., Keane, T. M., Palmieri, P. A., Marx, B. P., & Schnurr, P. P. (2013). *The PTSD Checklist for DSM-5 (PCL-5) – Standard* [Measurement instrument]. Available from <https://www.ptsd.va.gov/>
- Weiss, N. H., Bold, K. W., Sullivan, T. P., Armeli, S., & Tennen, H. (2017). Testing bidirectional associations among emotion regulation strategies and substance use: a daily diary study. *Addiction, 112*(4), 695-704.
- Weiss, N. H., Forkus, S. R., Contractor, A. A., Darosh, A. G., Goncharenko, S., & Dixon-Gordon, K. L. (2019). Do difficulties regulating positive emotions contribute to risky sexual behavior? A path analysis. *Archives of Sexual Behavior, 48*(7), 2075-2087.
- Weiss, N. H., Tull, M. T., Anestis, M. D., & Gratz, K. L. (2013). The relative and unique contributions of emotion dysregulation and impulsivity to posttraumatic stress disorder among substance dependent inpatients. *Drug and Alcohol Dependence, 128*(1-2), 45-51.
- Westermeyer, J., Yargic, I., & Thuras, P. (2004). Michigan assessment-screening test for alcohol and drugs (MAST/ AD): Evaluation in a clinical sample. *American Journal on Addictions, 13*, 151-162. doi:10.1080/10550490490435948
- Westphal, M., Aldao, A., & Jackson, C. (2017). Emotion dysregulation in comorbid posttraumatic stress disorder and substance use disorders: A narrative review. *Military Psychology, 29*(3), 216-233.
- Whaley, A. L., & Mesidor, J. K. (2021). Implications of posttraumatic growth for the treatment of comorbid substance abuse among survivors of traumatic experiences. *Journal of Substance Abuse Treatment, 126*, 108289.
- Wheaton, B., Muthen, B., Alwin, D. F., & Summers, G. F. (1977). Assessing reliability and stability in panel models. *Sociological methodology, 8*, 84-136.

- Williams, A. D., Grisham, J. R., Erskine, A., & Cassedy, E. (2012). Deficits in emotion regulation associated with pathological gambling. *British Journal of Clinical Psychology, 51*(2), 223-238.
- Wolfe, J., Kimerling, R., Brown, P., Chrestman, K., & Levin, K. (1997). *The Life Stressor Checklist-Revised (LSC-R)* [Measurement instrument]. Available from <http://www.ptsd.va.gov>
- Wolff, N., Aizpurua, E., Sánchez, F. C., & Peng, D. (2022). Childhood abuse classes for incarcerated men and women: are there unique gender patterns in abuse classes? *Journal of Interpersonal Violence, 37*(9-10), NP6355-NP6383.
- Wolff, N., Frueh, B. C., Shi, J., Gerardi, D., Fabrikant, N., & Schumann, B. E. (2011). Trauma exposure and mental health characteristics of incarcerated females self-referred to specialty PTSD treatment. *Psychiatric Services, 62*(8), 954–8.
doi:10.1176/appi.ps.62.8.954
- World Health Organization. (1990). Composite International Diagnostic Interview (CIDI), Version 1.0. Geneva, Switzerland.
- Wortmann, J. H., Jordan, A. H., Weathers, F. W., Resick, P. A., Dondanville, K. A., Hall-Clark, B., Foa, E.B., Young-McCaughan, S., Yarvis, J.S., Hembree, E.A., Mintz, J., Peterson, A.L., & Litz, B. T. (2016). Psychometric analysis of the PTSD Checklist-5 (PCL-5) among treatment-seeking military service members. *Psychological Assessment, 28*(11), 1392.
- Yalch, M. M., & Rickman, S. R. (2021). Association between intimate partner violence subtypes and post-traumatic stress disorder symptoms and hazardous substance use. *Journal of Interpersonal Violence, 08862605211021963*.

- Yamamoto, M., Mori, T., & Ushiki, J. (2013). Relationship between recidivism and self-efficacy among inmates of drug-related offences. *Japanese Journal of Alcohol Studies & Drug Dependence*, 48(6), 445-453.
- Zeng, Z. (2020). Jail inmates in 2018. U.S. Department of Justice, *Bureau of Justice Statistics Bulletin*, NCJ 251210.
- Zhao, Q., Arévalo, S. P., O'Brien, J., & Li, W. (2022). Patterns of Interpersonal Violence Experience and Their Association with Mental Health and Substance Use Problems among Women with Incarceration Histories: A Multidimensional Longitudinal Study. *Journal of Family Violence*, 1-16.

Table 1
Demographics of participants

Demographic Variable	N	Percent
Ethnicity		
White/Caucasian/European-American	131	72.8%
Native American/Indian	21	11.7%
Hispanic/Latina	14	7.8%
Multi-racial	12	6.7%
Native Hawaiian/Pacific Islander	1	.6%
Middle Eastern/North African	1	.6%
Sexual Orientation		
Heterosexual/straight	124	68.9%
Bisexual	37	20.6%
Lesbian/gay	11	6.1%
Pansexual	7	3.9%
Asexual	1	.6%
Marital Status		
Single	66	36.7%
In a relationship	53	29.4%
Married	25	13.9%
Divorced	16	8.9%
Separated	11	6.1%
Widowed	1	.6%
Level of Education		
Completed less than 6 th grade	1	.6%
Completed 8 th grade	4	2.2%
Some high school	39	21.7%
Completed high school	43	23.9%
Completed GED	34	18.9%
Technical degree	8	4.4%
Some college	41	22.8%
Graduated college	9	5.0%
Some graduate school	0	0%
Completed a graduate program	1	.6%
Employment status		
Unemployed	79	43.9%
Employed part-time	25	13.9%
Employed full-time	67	37.2%
Retired	0	0%
Other	9	5.0%
Income		
Less than \$10,000 per year	83	46.1%
\$10,000-\$14,999 per year	28	15.6%
\$15,000-\$24,999 per year	25	14.0%
\$25,000-\$49,999 per year	26	14.5%
\$50,000-\$74,999 per year	9	5.0%

Over \$75,000 per year	7	3.9%
Religious Affiliation		
Non-Denominational	60	33.3%
Catholic	23	12.8%
LDS	22	12.2%
Buddhist	4	2.2%
Protestant	3	1.7%
Muslim	1	.6%
Other	12	6.7%
None	55	30.6%
Offense (<i>totaled from up to 3 current legal charges</i>)		
Drug possession/abuse	137	76.0%
DUI	20	22.2%
Larceny/theft	35	19.5%
Drug manufacturing/selling	28	15.5%
Assault/battery/DV	23	12.8%
Burglary	16	8.9%
Fraud/forgery	8	4.5%
Driving violation	5	2.9%
Weapons offense	4	2.3%
Property damage/vandalism	2	1.2%
Disorderly conduct/Disturbing the peace	1	.6%
Murder/Manslaughter	0	0%
Sex/lewd conduct	0	0%
Prostitution	0	0%
Arson	1	.6%
Other	8	4.5%

Table 2
Descriptive statistics for variables of interest

Variable	Mean/%	SD	Min-Max	Skewness	Kurtosis
LSC-R: 9 IPV items	18.30	13.58	0-54	.579	-.54
Witnessed domestic violence	3.53/72.2%	2.62	0-6	-.33	-1.67
Witnessed attack	1.72/48.3%	2.23	0-6	1.01	-.53
Physical attack by unknown other	.82/32.2%	1.56	0-6	2.23	4.35
Physical attack in childhood	2.57/58.9%	2.65	0-6	.34	-1.69
Physical attack in adulthood	3.36/72.8%	2.61	0-6	-.18	-1.73
Forced sexual touching in childhood	1.80/47.2%	2.43	0-6	.96	-.85
Forced sexual touching in adulthood	1.35/40.6%	2.09	0-6	1.42	.58
Sexual assault in childhood	1.51/39.4%	2.30	0-6	1.23	-.18
Sexual assault in adulthood	1.67/50.6%	2.19	0-6	1.06	-.39
PCL-5 total	37.82	20.73	0-80	-.06	-.90
Score > 32	57.20%	-	0-1	-.31	-1.93
Score < 33	42.20%	-	0-1	-	-
DERS	89.62	24.41	36-180	.38	.02
CSE-T	43.63	11.82	9-63	-.32	-.51
MINI SUD	8.1	3.76	0-11	-1.20	.04
RISQ Total	178.90	434.90	0-4,847	7.64	76.13
Aggression	6.48	18.35	0-210	8.27	86.34
Gambling	47.59	176.64	0-2014	8.81	90.79
Risky sex	8.09	42.07	0-379	7.83	64.16
Self-harm	24.95	204.50	0-2,694	12.62	164.69
Impulsive eating	31.08	108.19	0-730	4.97	25.93
Recklessness	43.39	121.18	0-970	5.40	33.48
Binned variable	-	-	1-5	.03	-1.30

Note. LSC-R = Life Stressors Checklist-Revised; PCL-5 = Posttraumatic Stress Disorder for the DSM-5; DERS = Difficulties in Emotion Regulation Scale; CSE-T = Trauma Coping Self-Efficacy; MINI SUD = Mini International Neuropsychiatric Interview 7.0., Substance Use Disorder module; RISQ = Risky, Impulsive, and Self-Destructive Behavior Questionnaire.

Table 3
Correlations between identified variables

Measure	1	2	3	4	5	6
1. LSC-R: IPV items	-	-	-	-	-	-
2. PCL-5	.361**	-	-	-	-	-
3. DERS	.311**	.505**	-	-	-	-
4. CSE-T	-.200**	-.404**	-.562**	-	-	-
5. MINI SUD	.187*	.197**	.284**	-.269**	-	-
6. RISQ (Binned)	.317**	.093	.147*	-.023	-.023	-

**Correlation is significant at the .01 level, *correlation is significant at the .05 level

Note. LSC-R = Life Stressors Checklist-Revised; PCL-5 = Posttraumatic Stress Disorder for the DSM-5; DERS = Difficulties in Emotion Regulation Scale; CSE-T = Trauma Coping Self-Efficacy; MINI SUD = Mini International Neuropsychiatric Interview 7.0., Substance Use Disorder module; RISQ = Risky, Impulsive, and Self-Destructive Behavior Questionnaire.

Table 4
Final model summary

Measurement Model Description	Estimate (β)	S.E.	Est./S.E.	p-value
IPV by:				
Childhood unwanted sexual touching	.622***	.075	8.345	< .001
Adulthood unwanted sexual touching	.642***	.077	8.312	< .001
Childhood sexual abuse	.645***	.072	8.953	< .001
Adulthood sexual abuse	.649***	.070	9.277	< .001
Witnessed domestic violence	.477***	.078	6.115	< .001
Witnessed attack	.512***	.077	6.616	< .001
Experienced physical attack by stranger	.490***	.087	5.650	< .001
Childhood physical violence	.555***	.073	7.605	< .001
Adulthood physical violence	.563***	.069	8.150	< .001
Structural Model Description				
<i>Main effects</i>				
IPV to DERS	.184*	.082	2.241	.025
IPV to CSET	-.098	.096	-1.020	.308
PTSD to DERS	.431***	.062	6.927	< .001
PTSD to CSET	-.367***	.071	-5.151	< .001
IPV to MINI SUD	.100	.095	1.051	.293
IPV to RISQ	.350**	.103	3.382	.001
DERS to MINI SUD	.126	.084	1.494	.135
DERS to RISQ	.084	.082	1.024	.306
CSE-T to MINI SUD	-.161*	.079	-2.046	.041
CSE-T to RISQ	.107	.083	1.292	.196
Age to MINI SUD	-.281**	.075	-2.899	.004
Structural Model Description				
<i>Indirect effects</i>				
DERS on IPV and MINI SUD	.023	LLCI	ULCI	
DERS on IPV and RISQ	.015	-.007	.070	
CSE-T on IPV and MINI SUD	.016	-.015	.057	
CSE-T on IPV and RISQ	-.010	-.016	.056	
		-.052	.012	

$X^2(78) = 117.768, p = .0024$

RMSEA = .053

CFI = .952; TLI = .936

SRMR = .057

* $p < .05$, ** $p < .01$, *** $p < .001$

Note. Estimates are standardized. LSC-R = Life Stressors Checklist-Revised; PCL-5 = Posttraumatic Stress Disorder for the DSM-5; DERS = Difficulties in Emotion Regulation Scale; CSE-T = Trauma Coping Self-Efficacy; MINI SUD = Mini International Neuropsychiatric Interview 7.0., Substance Use Disorder module; RISQ = Risky, Impulsive, and Self-Destructive Behavior Questionnaire.

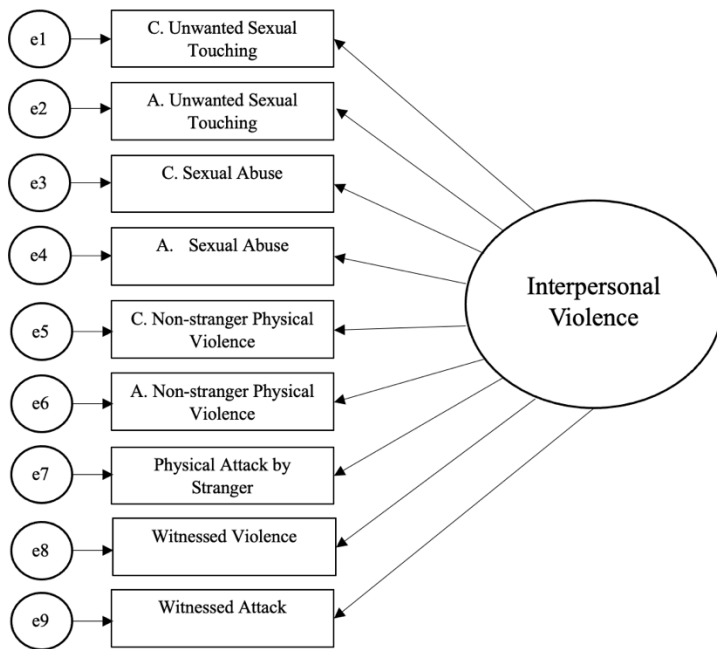


Figure 1. Hypothesized measurement model.
 Note: A.= Adult, C.= Child or before age 16.

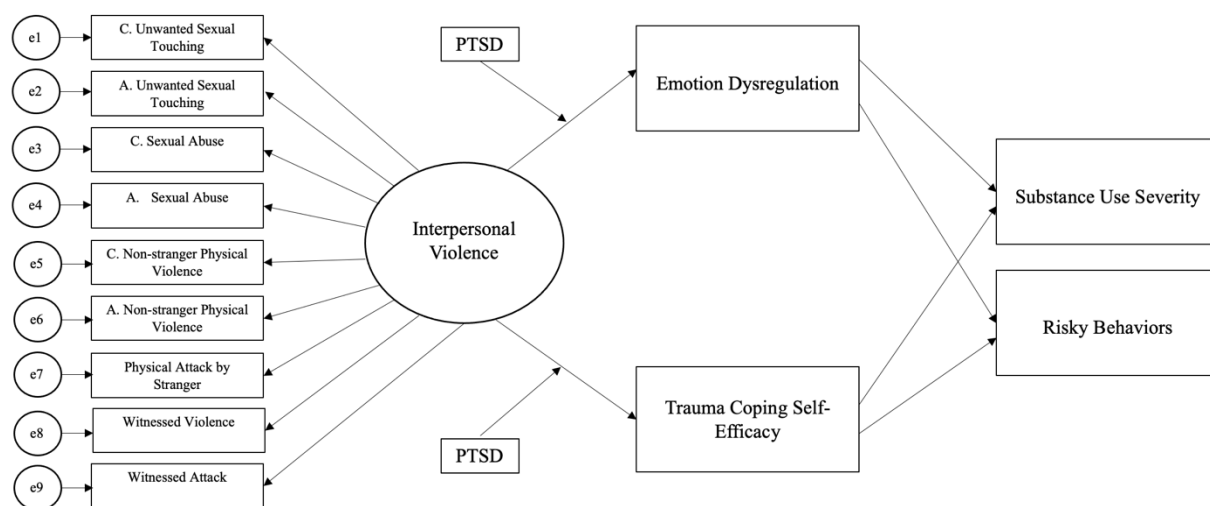


Figure 2. Hypothesized structural model.

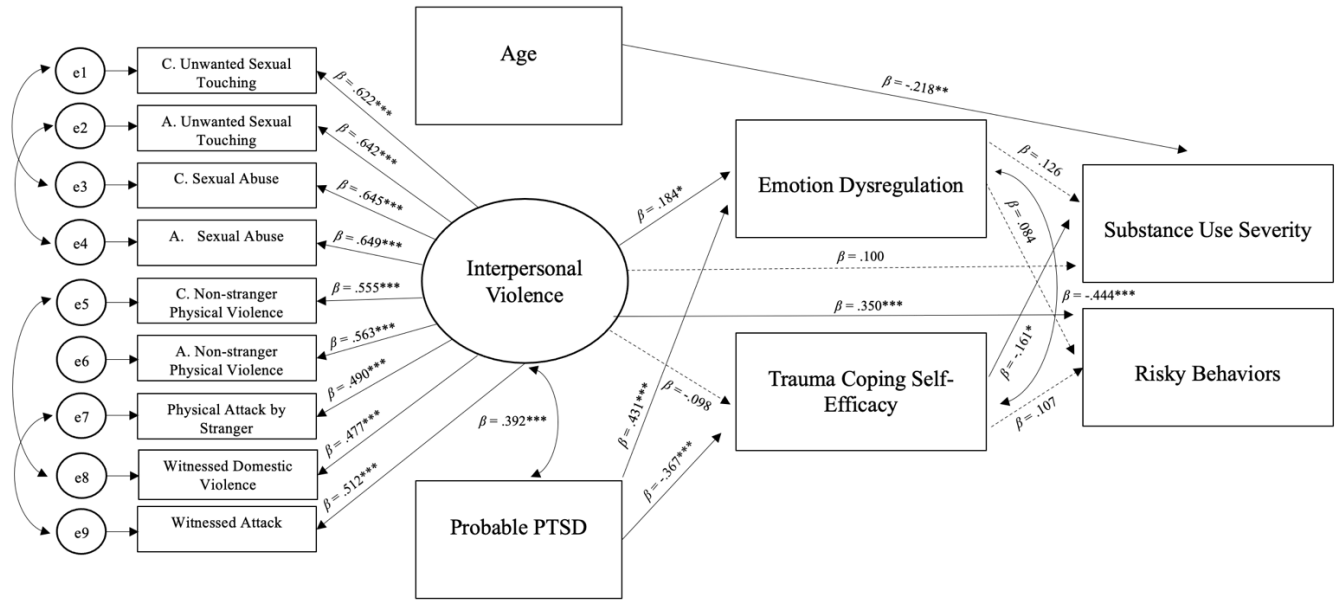


Figure 3. Final model.

APPENDICES

APPENDIX A

DEMOGRAPHICS QUESTIONNAIRE

The biographical information on this page will be used to generate descriptive information about 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. **What is your sexual orientation?**
 a. Heterosexual
 b. Homosexual
 c. Bisexual
 d. Asexual
 e. Other _____

4. **What is your race or ethnic background? (indicate all that apply)**

 a. White/Caucasian/European-American
 b. Hispanic/Latinx
 c. African-American/Black
 d. Asian-American/Asian
 e. Native Hawaiian/Pacific Islander
 f. Middle Eastern/North African
 g. Native American/American Indian
 h. Multi-racial
 i. Other _____

5. **Highest level of Education Completed:**

 a. Less than grade 6
 b. Completed 8th grade
 c. Some high school

- d. Completed high school
- e. GED
- f. Technical degree
- g. Some college
- h. College graduate
- i. Some graduate school
- j. Completed a graduate program

6. What is your religious preference/affiliation?

- | | |
|-------------------------------------|---|
| ☐ Protestant | ☐ Jewish |
| ☐ Catholic | ☐ Muslim |
| ☐ Buddhist | ☐ Non-denominational |
| ☐ Hindu | ☐ LDS |
| ☐ Other | ☐ None |

7. What is your employment status?

- a. Unemployed
- b. Employed part-time
- c. Employed full-time
- d. Retired
- e. Other _____

8. Which of the following best represents your total household income before taxes in the past year?

- a. Less than \$10,000 per year
- b. \$10,000-\$15,000
- c. \$15,000-\$25,000
- d. \$25,000-\$50,000
- e. \$50,000-\$75,000
- f. Over \$75,000

9. What is your current relationship/marital status?

- a. Single
- b. In a relationship
- c. Married
- d. Divorced
- e. Separated
- f. Widowed

10. How old were you when you used substances (e.g., illicit substances) for the first time?

- 11.** What was the first substance (i.e., illicit drug) you ever used?

- 12.** On what date were you incarcerated? _____

- 13.** What is the legal charge(s) for which you are currently incarcerated?

- 14.** Are you currently waiting for trial/sentencing? ____ Yes / ____ No, already sentenced

- 11b.** If sentenced, how long is your current sentence?

- 15.** 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:

_____ times

Vandalism or trespassing: _____ times

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)

APPENDIX C

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

APPENDIX D

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 E

DERS

Please answer the following questions about your emotions and feelings.

1	2	3	4	5
Almost never	Sometimes	About half the time	Most of the time	Almost Always
(0-10%)	(11-35%)	(36-65%)	(66-90%)	(91-100%)

1. I am clear about my feelings.
2. I pay attention to how I feel.
3. I experience my emotions as overwhelming and out of control.
4. I have no idea how I am feeling.
5. I have difficulty making sense out of my feelings.
6. I am attentive to my feelings.
7. I know exactly how I am feeling.
8. I care about what I am feeling.
9. I am confused about how I feel.
10. When I'm upset, I acknowledge my emotions.
11. When I'm upset, I become angry with myself for feeling that way.
12. When I'm upset, I become embarrassed for feeling that way.
13. When I'm upset, I have difficulty getting work done.
14. When I'm upset, I become out of control.
15. When I'm upset, I believe that I will remain that way for a long time.
16. When I'm upset, I believe that I'll end up feeling very depressed.
17. When I'm upset, I believe that my feelings are valid and important.

18. When I'm upset, I have difficulty focusing on other things.
19. When I'm upset, I feel out of control.
20. When I'm upset, I can still get things done.
21. When I'm upset, I feel ashamed with myself for feeling that way.
22. When I'm upset, I know that I can find a way to eventually feel better.
23. When I'm upset, I feel like I am weak.
24. When I'm upset, I feel like I can remain in control of my behaviors.
25. When I'm upset, I feel guilty for feeling that way.
26. When I'm upset, I have difficulty concentrating.
27. When I'm upset, I have difficulty controlling my behaviors.
28. When I'm upset, I believe there is nothing I can do to make myself feel better.
29. When I'm upset, I become irritated with myself for feeling that way.
30. When I'm upset, I start to feel very bad about myself.
31. When I'm upset, I believe that wallowing in it is all I can do.
32. When I'm upset, I lose control over my behaviors.
33. When I'm upset, I have difficulty thinking about anything else.
34. When I'm upset, I take time to figure out what I'm really feeling.
35. When I'm upset, it takes me a long time to feel better.
36. When I'm upset, my emotions feel overwhelming.

APPENDIX F

MINI

J. SUBSTANCE DEPENDENCE / ABUSE (NON-ALCOHOL)

(➔ MEANS : GO TO THE DIAGNOSTIC BOXES, CIRCLE NO IN ALL DIAGNOSTIC BOXES, AND MOVE TO THE NEXT MODULE)

Now I am going to show you / read to you a list of street drugs or medicines.

- | | | | | |
|----|---|---|---------|-----|
| J1 | a | In the past 12 months, did you take any of these drugs more than once, to get high, to feel elated, to get "a buzz" or to change your mood? | ➔
NO | YES |
|----|---|---|---------|-----|

CIRCLE EACH DRUG TAKEN:

Stimulants: amphetamines, "speed", crystal meth, "crank", "rush", Dexedrine, Ritalin, diet pills.**Cocaine:** snorting, IV, freebase, crack, "speedball".**Narcotics:** heroin, morphine, Dilaudid, opium, Demerol, methadone, Darvon, codeine, Percodan, Vicodin, OxyContin.**Hallucinogens:** LSD ("acid"), mescaline, peyote, psilocybin, STP, "mushrooms", "ecstasy", MDA, MDMA.**Phencyclidine:** PCP ("Angel Dust", "PeaCe Pill", "Tranq", "Hog"), or ketamine ("special K").**Inhalants:** "glue", ethyl chloride, "rush", nitrous oxide ("laughing gas"), amyl or butyl nitrate ("poppers").**Cannabis:** marijuana, hashish ("hash"), THC, "pot", "grass", "weed", "reefer".**Tranquilizers:** Quaalude, Seconal ("reds"), Valium, Xanax, Librium, Ativan, Dalmane, Halcion, barbiturates, Miltown, GHB, Roofinal, "Roofies".**Miscellaneous:** steroids, nonprescription sleep or diet pills. Cough Medicine? Any others?

SPECIFY THE MOST USED DRUG(S): _____

WHICH DRUG(S) CAUSE THE BIGGEST PROBLEMS?: _____

FIRST EXPLORE THE DRUG CAUSING THE BIGGEST PROBLEMS AND MOST LIKELY TO MEET DEPENDENCE / ABUSE CRITERIA.

IF MEETS CRITERIA FOR ABUSE OR DEPENDENCE, SKIP TO THE NEXT MODULE. OTHERWISE, EXPLORE THE NEXT MOST PROBLEMATIC DRUG.

J2 Considering your use of (NAME THE DRUG / DRUG CLASS SELECTED), in the past 12 months:

- | | | | |
|-----------------------------|--|----|-----|
| a | Have you found that you needed to use much more (NAME OF DRUG / DRUG CLASS SELECTED) to get the same effect that you did when you first started taking it? | NO | YES |
| b | When you reduced or stopped using (NAME OF DRUG / DRUG CLASS SELECTED), did you have withdrawal symptoms (aches, shaking, fever, weakness, diarrhea, nausea, sweating, heart pounding, difficulty sleeping, or feeling agitated, anxious, irritable, or depressed)? Did you use any drug(s) to keep yourself from getting sick (withdrawal symptoms) or so that you would feel better? | NO | YES |
| IF YES TO EITHER, CODE YES. | | | |
| c | Have you often found that when you used (NAME OF DRUG / DRUG CLASS SELECTED), you ended up taking more than you thought you would? | NO | YES |
| d | Have you tried to reduce or stop taking (NAME OF DRUG / DRUG CLASS SELECTED) but failed? | NO | YES |
| e | On the days that you used (NAME OF DRUG / DRUG CLASS SELECTED), did you spend substantial time (>2 HOURS), obtaining, using or in recovering from the drug, or thinking about the drug? | NO | YES |
| f | Did you spend less time working, enjoying hobbies, or being with family or friends because of your drug use? | NO | YES |
| g | If (NAME OF DRUG / DRUG CLASS SELECTED) caused you health or mental problems, did you still keep on using it? | NO | YES |

ARE 3 OR MORE J2 ANSWERS CODED YES?

SPECIFY DRUG(S): _____

* IF YES, SKIP J3 QUESTIONS, MOVE TO NEXT DISORDER.
"DEPENDENCE PREEMPTS ABUSE" IN DSM IV TR.

NO YES *

**SUBSTANCE DEPENDENCE
CURRENT**

Considering your use of (NAME THE DRUG CLASS SELECTED), in the past 12 months:

- J3 a Have you been intoxicated, high, or hungover from (NAME OF DRUG / DRUG CLASS SELECTED) more than once, when you had other responsibilities at school, at work, or at home? Did this cause any problem?

NO YES

(CODE YES ONLY IF THIS CAUSED PROBLEMS.)

- b Have you been high or intoxicated from (NAME OF DRUG / DRUG CLASS SELECTED) more than once in any situation where you were physically at risk (for example, driving a car, riding a motorbike, using machinery, boating, etc.)?
- c Did you have legal problems more than once because of your drug use, for example, an arrest or disorderly conduct?
- d If (NAME OF DRUG / DRUG CLASS SELECTED) caused problems with your family or other people, did you still keep on using it?
- e Did you experience a craving, urge, or strong desire to use (name of drug)?

NO YES

NO YES

NO YES

NO YES

ARE 1 OR MORE J3 ANSWERS CODED YES?

SPECIFY DRUG(S): _____

NO YES

**SUBSTANCE ABUSE
CURRENT**

		B	C
		How many times have you done this in the past 12 months ?	How old were you the first time?
	Behavior	# past 12 months	Age
Ex.	<i>Driven a car while intoxicated</i>	2	18
Ex.	<i>Jumped out of a plane</i>		
1	Shoplifted things		
2	Drove 30mph or faster over the speed limit		
3	Bet on sports, horses, or other animals		
6	Impulsively bought stuff you did not need & won't use		
7	Had unprotected sex with someone you just met or didn't know well		

SUBID: _____

0	1	2	3	4
Strongly Disagree	Somewhat Disagree	Equally Disagree/Agree	Somewhat Agree	Strongly Agree

		B	C
		How many times have you done this in the past 12 months ?	How old were you the first time?
Behavior		# past 12 months	Age
8	Gotten in a physical fight		
9	Thought about killing yourself		
10	Had sex for money or drugs		
14	Attacked someone with a weapon, such as a knife or gun		
15	Punched or hit someone with a fist or object		
16	Cut, burned, or hurt yourself on purpose without trying to die		
17	Lost more money than you could afford gambling		
18	Threatened to physically hurt someone		
19	Threatened someone with a weapon, such as a knife or gun		

Continue on to NEXT PAGE

SUBID: _____

0	1	2	3	4
Strongly Disagree	Somewhat Disagree	Equally Disagree/Agree	Somewhat Agree	Strongly Agree

		B	C
		How many times have you done this in the past 12 months?	How old were you the first time?
	Behavior	# past 12 months	Age
21	Destroyed or vandalized property		
23	Paid for sex		
25	Robbed someone		
26	Tried to kill yourself		
28	Had difficulty stopping eating		
29	Been in 2 or more sexual relationships at the same time		
30	Bought expensive items you could not afford on the spur of the moment		
32	Played lotteries, card games for money, or went to the casino		
33	Gambled illegally (not part of a legal business, using a bookie)		
35	Ate a lot of food when not hungry		
36	Had a plan to kill yourself		
37	Ran red lights or ignored stop signs		
38	Stole money		