Childhood Emotional Abuse in Incarcerated Females: Use of the Personality Assessment Inventory (PAI) in Identifying Complex Trauma Symptomology

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Recommended Citation
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Abstract
Research supports the concept that early, chronic, and interpersonal childhood abuse, specifically childhood emotional abuse, is linked with the development of PTSD symptoms, and especially Complex Posttraumatic Stress Disorder (CPTSD) symptoms (Briere & Rickards, 2007). Childhood abuse is also a risk factor for the development of co-morbid substance use disorders (Najavits et al., 1997). The majority of incarcerated females have experienced childhood abuse (Zlotnick, 1997). Women with Substance Use Disorders who also experience symptoms of CPTSD are a unique population within the prison system. Research indicates that these women could benefit from trauma-informed treatment, taking into account the interaction between past experience, current CPTSD symptoms, and substance use and abuse.

This study examined the relationship between childhood emotional abuse (CEA), CPTSD, and Substance Use Disorders (SUDS) in women in prison. The Personality Assessment Inventory (PAI) was employed to clarify the degree of relation between these constructs and to identify women who would benefit from trauma informed substance and mental health treatment. Data were analyzed for ninety-nine female inmates who completed the Personality Assessment Inventory (PAI) and the Childhood Trauma Questionnaire. Descriptive analyses revealed women who reported moderate to severe CEA experienced significantly higher levels of substance use and higher utilization of mental health treatment before and during incarceration. Group differences in substance use and mental health symptoms were not detected by the PAI. These results demonstrate the PAI’s limited ability in discriminating among levels of CEA, CPTSD, and SUDs in female inmates.

Degree Type
Thesis

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CHILDHOOD EMOTIONAL ABUSE IN INCARCERATED FEMALES: USE OF THE PERSONALITY ASSESSMENT INVENTORY (PAI) IN IDENTIFYING COMPLEX TRAUMA SYMPTOMATOLOGY

A THESIS
SUBMITTED TO THE FACULTY
OF
SCHOOL OF PROFESSIONAL PSYCHOLOGY
PACIFIC UNIVERSITY
HILLSBORO, OREGON
BY
KIMBERLY RIDEOUT
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE IN CLINICAL PSYCHOLOGY
DECEMBER 11, 2009

APPROVED:
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# TABLE OF CONTENTS

Abstract ..............................................................................................................ii

Introduction ...................................................................................................... 1

Substance Use Among Incarcerated Women .............................................3
Childhood Abuse Among Incarcerated Women .................................4
Emotional Abuse ..........................................................................................5
Complex Trauma ............................................................................................6
Childhood Emotional Abuse, Substance Abuse,  
and Complex Trauma Symptoms.........................................................17
Screening Women in Prison for SUDs and CPTSD.........................19

The Present Study .............................................................................................25
Hypothesis of the Current Study .................................................................26

Methods ...........................................................................................................27

Results .............................................................................................................32
Discussion ........................................................................................................42

References ......................................................................................................48

Appendices .....................................................................................................55

Appendix A: List of Tables .........................................................................55

Appendix B: Measures ...............................................................................56

Appendix C: Debriefing Handout .............................................................61
ABSTRACT

Research supports the concept that early, chronic, and interpersonal childhood abuse, specifically childhood emotional abuse, is linked with the development of PTSD symptoms, and especially Complex Posttraumatic Stress Disorder (CPTSD) symptoms (Briere & Rickards, 2007). Childhood abuse is also a risk factor for the development of co-morbid substance use disorders (Najavits et al., 1997). The majority of incarcerated females have experienced childhood abuse (Zlotnick, 1997). Women with Substance Use Disorders who also experience symptoms of CPTSD are a unique population within the prison system. Research indicates that these women could benefit from trauma-informed treatment, taking into account the interaction between past experience, current CPTSD symptoms, and substance use and abuse.

This study examined the relationship between childhood emotional abuse (CEA), CPTSD, and Substance Use Disorders (SUDS) in women in prison. The Personality Assessment Inventory (PAI) was employed to clarify the degree of relation between these constructs and to identify women who would benefit from trauma informed substance and mental health treatment. Data were analyzed for ninety-nine female inmates who completed the Personality Assessment Inventory (PAI) and the Childhood Trauma Questionnaire. Descriptive analyses revealed women who reported moderate to severe CEA experienced significantly higher levels of substance use and higher utilization of mental health treatment before and during incarceration. Group differences in substance use and mental health symptoms were not detected by the PAI. These results demonstrate the PAI’s limited ability in discriminating among levels of CEA, CPTSD, and SUDs in female inmates.

Keywords/subject terms: incarcerated females, childhood emotional abuse, complex trauma, Personality Assessment Inventory, substance abuse
INTRODUCTION

According to the Bureau of Justice Statistics (Sabol & Couture, 2008), there are 115,000 women currently incarcerated in the United States (jail, state prison and federal prison). The rate of female incarceration has increased throughout the past quarter century and is growing faster than the rate of incarceration for males (Battle, Zlotnick, Najavits, Gutierrez, & Winsor, 2003). This increase is likely related to the increase in convictions of females for drug-related offenses (Frost, Greene, & Pranis, 2006). The prevalence of substance use disorders (SUD) in incarcerated women is 60%, making it the most common set of disorders among incarcerated women (Teplin, Abram, & McClelland, 1996). There are also a high percentage of incarcerated women who have experienced childhood abuse or neglect, making it one of the most common forms of trauma reported by this population (Battle et al., 2003). Specifically, a large proportion of these women have experienced chronic trauma, beginning at an early age, and occurring within an interpersonal relationship (Zlotnick, 1997).

There are a heterogeneous group of symptoms that often occur as a result of early, chronic, interpersonal trauma, specifically childhood abuse, that are not sufficiently captured by the Posttraumatic Stress Disorder (PTSD) diagnosis as defined within the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition Text Revision (DSM-IV-TR, American Psychiatric Association, 2000). Affect dysregulation, identity disturbance, relational problems, dissociation, somatization, cognitive disturbances, alteration in perceptions of the perpetrator, and impulsivity are core groups of symptoms indicative of the increased severity and complexity of this syndrome, which has been named Disorders of Extreme Stress Not Otherwise Specified (DESNOS) or Complex Posttraumatic Stress Disorder (CPTSD) (Briere & Spinazzola, 2005; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). For ease of classification, this
syndrome will be referred to as CPTSD throughout this paper. CPTSD is thought to be a product of disorganized attachment and childhood abuse, particularly childhood emotional abuse (CEA; Briere & Rickards, 2007; Pearlman & Courtois, 2005).

Researchers have found that women exposed to chronic trauma such as childhood abuse have an increased likelihood of engaging in substance use, perhaps as a form of self-medication, and an increased likelihood of a SUD diagnosis (Battle et al., 2003; Najavits, Weiss, & Shaw, 1997). Incarcerated women diagnosed with PTSD are more likely than women without a PTSD diagnosis to have a co-morbid substance use disorder (Battle et al., 2003). Few studies have examined the specific relationship between CPTSD and substance use, however, those that have found that women with CPTSD have higher odds of co-morbid SUD, whether incarcerated or in the general population (Cohen & Hien, 2006; Zlotnick, 1997). Due to the high co-morbidity of CPTSD and SUD, many researchers argue the need for treatment addressing how past trauma and substance use disorders interact to affect the functioning of incarcerated women (Cohen & Hien, 2006; Najavits, 2002; Teplin et al., 1996; Zlotnick, 1997).

It is necessary to determine a reliable and accurate way of assessing and identifying women who would benefit from trauma-informed treatment. The Personality Assessment Inventory (PAI; Morey, 1991) is being used with increased frequency in correctional settings to identify inmates who may have mental health problems (Edens & Ruiz, 2008). There are no published studies of the PAI in identifying female inmates with CEA, a type of abuse that may be particularly predictive of CPTSD (Briere & Rickards, 2007; Pearlman & Courtois, 2005). Due to the lack of research in this area, it is necessary to use information obtained from studies of related disorders such as PTSD and Borderline Personality Disorder (BPD). Utilizing results from studies of PTSD and BPD, I am able to hypothesize about the characteristic profiles of
incarcerated females with CEA histories. However, many of the studies of related disorders that I will be utilizing may not generalize fully to the incarcerated female population, therefore, more research is necessary to support using the PAI to identify symptomology of CEA history in incarcerated women. This study seeks to elucidate the complicated relationship between CEA, CPTSD, and SUDs in women in prison by using the PAI, first to clarify the degree of relation between these constructs, and second to identify women who would benefit from trauma informed substance and mental health treatment.

Substance Use Among Incarcerated Women

Between the years of 1985 and 1998 the number of women incarcerated in state or federal prison increased 238% (Battle et al., 2003). Women currently make up 7% of the adult prison population, and their rates of incarceration have increased faster than the rates of incarceration of males. The number of women incarcerated and under state or federal jurisdiction rose 2.5% from 2006 to 2007, whereas the rate of increase for males during this year was 1.5% (Sabol & Couture, 2008). The increase in incarceration of women seems to be related to the increase in drug-related convictions (Frost et al., 2006).

In 1998, drug offenses accounted for 18% of all female arrests, and about half of all female offenders had been using alcohol, drugs, or both at the time of the offense for which they were incarcerated (Greenfeld & Snell, 1999, p. 8). In 1986, one in every eight convicted females was serving time for a drug offense; in 1998 one in every three convicted females was serving time for a drug offense (Battle et al., 2003). In 2004, the Bureau of Justice Statistics estimated that among females under federal jurisdiction, drug use in the month before committing the offense for which they were incarcerated increased by 11 percentage points, from 37% of women in 1997 to 48% of women in 2004 (Mumola & Karberg, 2006). A large percentage of
incarcerated women have problems with substance abuse, likely linked to the increase in women incarcerated for drug-related offenses and those using substances before or during commission of their offense (Battle et al., 2003). Utilizing the Diagnostic Interview Schedule Version III-R (NIMH-DIS-III-R), Teplin, Abram, and McClelland (1996) found that 60% of their population of pre-trial detainees had current drug abuse or dependence. According to this study, incarcerated women are at least seven times more likely to have drug dependence and at least six times more likely to have alcohol dependence than non-incarcerated women. Clearly these studies suggest that a high percentage of female offenders have substance abuse problems prior to or during incarceration.

Childhood Abuse Among Incarcerated Women

While definitions vary, the experience of childhood abuse permeates the lives of incarcerated females, with the majority of women reporting some kind of abuse during their lifetime and almost half of incarcerated females reporting sexual or physical abuse before the age of 18 (Greenfeld & Snell, 1999; Zlotnick, 1997). Specifically, Zlotnick found that 40% of her sample of 85 incarcerated women reported childhood sexual abuse and 55% reported childhood physical abuse before the age of 13. Rates of childhood emotional abuse are often not measured in incarcerated populations, perhaps due to the greater perceived severity of sexual and physical abuse (Briere & Rickards, 2007). However, experience of childhood emotional abuse was reported at 40% in one study of incarcerated females (Battle et al., 2003). Childhood abuse among incarcerated women is often chronic and occurs in the context of an interpersonal relationship, often with a parent or caregiver (Zlotnick, 1997). Throughout the past two decades, research has begun to focus on the potential effects of this long-term, interpersonal abuse.
Emotional Abuse

An examination of the current literature available in the area of emotional abuse illuminates a problem in definition. Emotional abuse has traditionally been very difficult to define. The wording itself has been highly debated, with some studies using the term *psychological abuse*, others preferring *emotional abuse*, and still others using *psychological maltreatment* (O’Hagan, 1995). The differences between these terms are subjective and dependent on the particular authors. However, *psychological maltreatment* was proposed as a more inclusive term, meant to encompass all affective and cognitive aspects of childhood maltreatment. In terms of the specific differences between *psychological abuse* and *emotional abuse*, psychological abuse involves damage or reduction in the child’s development of cognitive faculties and processes while emotional abuse may be defined as sustained inappropriate response to a child’s experience of emotion and their subsequent expression of that emotion by a caregiver. These terms are almost always inclusive of each other, but exceptions have been noted. Childhood emotional abuse has also been defined as caregiver behaviors that are “perceived as being ridiculing, insulting, threatening, blaming, or unpredictable in nature” (Kent, Waller, & Dagnan, 1999, p. 162). It is important to note that the preceding definitions were generated in Western countries and do not take into account cultural or diversity factors, therefore, these definitions may not apply to all family systems. Throughout the current study, the term childhood emotional abuse (CEA) will be used.

Emotional abuse is difficult to define in isolation from other types of abuse. It is assumed that emotional abuse, while being its own construct, is also subsumed within all other forms of abuse, namely sexual and physical (Kent et al., 1999; O’Hagan, 1995). Some authors suggested that studying one form of abuse in isolation is therefore unrealistic, and that the constructs may
be inextricable (Kent et al., 1999). Abuse may also combine in an additive manner, with the more types of abuse being experienced, the greater the impact on the victim (Rorty, Yager, & Rossotto, 1994). Emotional abuse may be difficult to include in studies examining traumatic childhood abuse as emotional abuse does not qualify as a trauma in the current definition of PTSD (Briere & Rickards, 2007).

Despite the difficulties inherent in defining emotional abuse, it is a construct that is critical to the understanding of all types of childhood abuse. Hart, Brassard, Binggeli, and Davidson (2002) reported that emotional abuse occurring alone is associated with negative psychological effects equal to or greater in severity than other forms of abuse. Further, researchers have found that the most common and lasting effects of all types of abuse are correlated with and embedded in the child’s psychological experience. Therefore, childhood emotional abuse may be thought of as a concept comprising some of the most important elements of all types of childhood abuse and is certainly worthy of study in its own right. For the purposes of this study, childhood emotional abuse will be defined in the context of the measure that I will be using to measure this construct, the Childhood Trauma Questionnaire (CTQ: Bernstein & Fink, 1998). The operational definition of childhood emotional abuse that will be used in this study is “verbal assaults on a child’s sense of worth or well-being, or any humiliating, demeaning, or threatening behavior directed toward a child by an older person” (p. 2).

Complex Trauma

Courtois defined the term complex trauma as “a type of trauma that occurs repeatedly and cumulatively, usually over a period of time and within specific relationships and contexts” (2004, p. 412). Van der Kolk, Roth, Pelcovitz, Sunday, and Spinazzola (2005) reviewed the DSM-IV Field Trial for PTSD conducted between 1990 and 1992. One of the main goals of the
field trial was to determine whether victims of chronic interpersonal trauma met criteria for PTSD or whether a separate set of symptoms better captured their presentation. The researchers in the field study clarified the difference between “pure” PTSD and DESNOS through developing a list of 27 symptoms often reported by a sample of participants seeking mental health treatment after exposure to stressful life events, but which were not included in the DSM-III-R PTSD criteria (American Psychiatric Association, 1987). The 27 symptoms were further categorized into the following groups characterized by: “dysregulation of (a) affect and impulses, (b) attention or consciousness, (c) self-perception, (d) perception of the perpetrator, (e) relations with others; (f) somatization, and (g) systems of meaning” (van der Kolk et al., 2005).

Van der Kolk et al. (2005) emphasized important differences found pertaining to the conceptualization of PTSD and DESNOS in the DSM-IV Field Trial as well as in subsequent research. Whereas the majority of participants with DESNOS also met criteria for PTSD, the researchers later found DESNOS in roughly a quarter to a half of trauma victims in civilian and VA sample populations who did not meet criteria for PTSD. The overlap between the constructs of PTSD and DESNOS has raised questions as to whether PTSD and DESNOS are better classified as separate diagnoses or as a single diagnosis with very high comorbidity with other disorders.

Complicating the diagnostic picture further, Courtois (2004) described complex trauma in terms of emotional instability, impulsivity, interpersonal instability, and unstable identity identification. These symptoms are most often associated with Borderline Personality Disorder (BPD), a diagnosis that is reconceptualized by some as an adaptation to chronic childhood abuse and attachment disturbances (Courtois, 2004). Due to the prevalence of childhood sexual and physical abuse in women, reported from 17 to 33% in the general population, and much higher in
incarcerated women (van der Kolk et al., 2005), assessment for complex trauma is necessary and
often overlooked in initial clinical intake interviews. Inappropriate or absent assessment for
complex trauma may result in a potentially stigmatizing BPD label or in a diagnosis of
traditional PTSD that does not accurately capture the person’s constellation of symptoms
(Courtois, 2004; van der Kolk et al., 2005).

Briere and Spinazzola (2005) pointed out that complex trauma likely represents a
heterogeneous group of symptoms that can be clustered for greater ease of assessment. These
authors suggested that complex trauma symptoms could be grouped under the following
headings: (a) altered self-capacities, (b) cognitive disturbance, (c) mood disturbance, (d)
overdeveloped avoidance responses, (e) dissociation, (f) substance abuse, (g) tension reduction,
and (h) somatoform distress. They further recommended that for assessment purposes,
broadband personality and psychopathology measures should be administered first, followed by
a more specific diagnostic test or interview if PTSD or complex trauma is suspected. Finally,
assessments should be given in the specific areas of suspected symptomology based on particular
client presentation and results of the prior testing. Identification of CPTSD may be further aided
by assessing for the presence of childhood abuse.

*Childhood Emotional Abuse and Complex Posttraumatic Stress Disorder*

It is established that childhood abuse relates to CPTSD, however, there is a gap in the
research in regards to the relationship between CEA and the complete constellation of CPTSD
symptoms. There is a plethora of research looking at the relationship between childhood sexual
abuse (CSA) and CPTSD symptoms (Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997).
There also appears to be a fair amount of research exploring childhood physical abuse (CPA) and
the relationship to CPTSD symptoms. Studies combining these two types of childhood abuse in
women with respect to CPTSD symptoms in the general population as well as incarcerated women also exist (Dietrich, 2003; Roth et al., 1997; Zlotnick, 1997). The lack of research exploring the relationship between CEA and CPTSD may be due to some of the difficulties discussed earlier in defining and operationalizing CEA. Another reason for the gap in the literature may be the belief present in much research that emotional abuse is subsumed within CSA and CPA. If either CSA or CPA is present, CEA is also assumed to be present (Kent et al., 1999; O’Hagan, 1995). Roth et al. described childhood sexual and physical abuse as “sharing several characteristics involving terror and captivity at the hands of another that may increase the likelihood of resultant problematic self-regulation, self-definition, interpersonal functioning, and adaptational style” (p. 551). Frightening, terrifying, and unpredictable interpersonal interactions are certainly included in the operationalization of emotional abuse. However, just because portions of some definitions of CSA, CPA, and CEA match up, congruence of experience should not be assumed. Whereas it is easy to understand how CEA is subsumed within CSA and CPA, it is likely there are a percentage of women who experienced only CEA, a population of women that have been neglected in the literature thus far. The research available examining the relationship between CEA and CPTSD focuses on specific symptom clusters from within the larger umbrella of CPTSD.

Briere and Rickards (2007) conducted a study looking specifically at the relationship between emotional abuse and impaired self-capacities. The researchers defined impaired self-capacities as: a) problems accessing and maintaining a stable sense of identity, b) an inability to regulate or tolerate negative emotional states, and c) difficulties in forming and sustaining meaningful relationships with others. These problem clusters represent several core symptom areas in CPTSD. The investigators recruited 417 participants from the norming sample for the
Inventory of Altered Self Capacities (IASC: Briere, 2000). The researchers examined the following three hypothesis with this sample: (a) altered self-capacities were expected to correlate to a greater extent with interpersonal victimization than noninterpersonal trauma, (b) altered self-functioning was expected to be more associated with maltreatment in childhood than in adulthood, and (c) because the development of self-capacities is thought to be based on parent-child emotional attunement, childhood emotional abuse was hypothesized to have a stronger relationship to impaired self-capacities than childhood sexual or physical abuse (p. 498). Altered self-capacities were measured using the IASC and childhood abuse and maltreatment was measured using the Traumatic Events Survey (TES: Elliott, 1992). The results of this study indicated that altered self-capacities were more highly correlated with interpersonal trauma occurring in childhood and that the primary predictors of impaired self-capacities were CEA, emotional nonsupport and CSA. Maternal emotional abuse was found to be a broad predictor of impaired self-capacity symptoms. The results from this study included information pertinent to several distinct clusters within CPTSD which will be addressed later in this literature review.

Due to the fact that only one author has consistently examined CEA in relation to CPTSD, it is necessary to review research examining CEA in relation to other disorders (Briere & Runtz, 1988, 1990; Briere & Rickards, 2007). Kent, Waller, & Dagnan (1999) compared CEA, CSA, and CPA in relation to eating pathology in a sample of 236 female volunteers recruited from undergraduate and nursing classes. Results from this study suggest that CEA may be as good a predictor of eating pathology as CSA and CPA. Particularly, this study found that CEA emerged as the most reliable predictor of general eating-disordered attitudes and behavior. CEA was also perfectly mediated by anxiety and dissociation, which could be viewed as CPTSD symptoms in light of the current study (Kent et al.). The authors of this study concluded that these findings do
not discount the severity and impact of other forms of abuse, rather these results indicate that other forms of abuse will have their greatest impact when involving an emotionally abusive component, supporting the concept of CEA as underlying and unifying all types of abuse.

Other studies have examined the relationship between CEA and non-suicidal self-injury behaviors (NSSI) and the relationship between CEA and later suicide attempts. Glassman, Weierich, Hooley, Deliberto, & Nock (2007) found a strong relationship between CEA and NSSI in a sample of 94 adolescents, aged 12-19 years, recruited from psychiatric clinics, community bulletin boards, newspapers, and the internet. Their analysis revealed that the relation between CEA and engagement in NSSI during adolescence is partially mediated by the presence of a self-critical cognitive style, another possible manifestation of CPTSD. The authors suggest that emotional abuse during a child’s formative years could lead to an internalization of thinking critically about the self. Twomey, Kaslow, & Croft (2000) reviewed a study by Gould, Stevens, Ward, Carlin, Sowell, & Gustafson (1994) exploring the relationship between CEA and later suicide attempts in a sample of 292 patients from a primary care setting. Gould et al. found emotional abuse to be the form of childhood maltreatment second most highly associated with suicide attempts after childhood sexual abuse. The authors of this study advocated for the addition of suicide attempts to the list of problem outcomes that may result from CEA, such as somatization and high risk behaviors like drug use. In addition to the problematic outcomes mentioned in these studies, CEA contributes uniquely to several other symptom clusters of CPTSD.

**Affect Dysregulation**

Affect dysregulation has been defined as “the tendency to have low-threshold, high-intensity emotional reactions followed by a slow return to baseline” (Cloitre, Koenen, Cohen,
Han, 2002, p. 1067). Children usually learn affect regulation in the context of early attachment experiences with parents or caregivers (Pearlman & Courtois, 2005). When a child experiences distress or fear, a parent or caregiver will usually respond with compassion, love, and physical comforting (O’Hagan, 1995). Various researchers suggest that a growing child needs safety, stability, and caretakers who are emotionally present to develop affect regulation skills (Briere & Rickards, 2007). These responses represent the basis for what is considered secure attachment, and inconsistent or lacking responses may be considered emotional abuse.

Temperament has been identified as a base for the development of affect regulation skills in conjunction with secure attachment. Temperament is described as “psychological qualities that display considerable variation among infants, and in addition, have a relatively, but not indefinitely, stable biological basis in the organism’s genotype, even though the inherited physiological processes mediate different phenotypic displays as the child grows” (Kagan, 1989, p. 668). General negative temperamental or emotional reactivity is an identified risk factor in several theories of psychopathology and personality development (Bradley, 2000). Temperament has been studied in inhibited infants and young children, as inhibition is a trait associated with depression and anxiety disorders in families. Inhibition has been found to be relatively stable starting around age seven, but may be modified by early experiences before this age (Kagan, 1989). Research has shown that inhibited individuals may be more sensitive to sensory and affective stimuli, and that inhibition produces more intense and prolonged arousal than in uninhibited individuals (Bradley, 2000). Therefore, it is important to take into account the potential interaction between temperamental factors, unique to every child, and the emotional responsiveness and attentiveness provided by the caregiver when considering experiences of childhood emotional abuse.
Research has found an especially significant impact on the child’s development based on the quality of the mother-child relationship. In the context of secure attachment with the mother, children learn affective coping skills as well as how to appropriately label and interpret emotions (Briere & Rickards, 2007). The attachment process may get off-track if the mother or caregiver is emotionally absent or distant, demeaning or verbally abusive, inconsistent, or dealing with unresolved trauma herself. In these conditions the mother most likely will not serve as a secure base for her children. In these situations, children may become chronically stressed and develop the sense that their environment is intrinsically unsafe (Pearlman & Courtois, 2005). Children who display disorganized attachment often do not know how to regulate strong emotions, and may resort to more primitive coping strategies such as dissociation or other less adaptive behaviors such as substance abuse and dependence (Kent et al., 1999).

Briere and Rickards (2007) found the affect dysregulation symptom cluster of CPTSD to be especially related to CEA perpetrated by a mother figure, and hypothesized that since mothers are expected to be more involved in North American culture, their abusive behavior or absence is likely to have greater emotional impact. Bowlby (1988) has also hypothesized that psychobiological factors may make the mother figure more important to the child than the paternal figure, thus giving the mother greater impact in abusive behaviors. Research from the posttraumatic attachment field suggests that many chronically abused individuals develop insecure, disorganized forms of attachment, characterized by inconsistencies from the mother. Much of the research on the development of Borderline Personality Disorder suggests that it can be specifically predicted from mother-child relational disturbances (Briere & Rickards, 2007; Pearlman & Courtois, 2005).
Problems with affect regulation often persist into adulthood, and coping strategies may evolve as well. These individuals may struggle with affective instability, uncontrolled anger, self-destructiveness, suicidal behavior and sexual recklessness (van der Kolk et al., 1996). Women with these symptoms are often diagnosed with Borderline Personality Disorder and may engage in self-soothing behaviors such as dissociation, self-injury, suicide attempts, and compulsive sexual behavior (Briere, 2002). Dissociation is sometimes categorized as a separate CPTSD symptom cluster, but is also often included under the umbrella of affect dysregulation. Dissociation is defined as “alterations in conscious awareness that arise, in part, from defensive changes in otherwise integrated thoughts, feelings, emotions, and memories” (Briere & Spinazzola, 2005, p. 403). Dissociation may be reflective of the same type of emotional management problem underlying affect dysregulation, and studies reporting on dissociative symptoms will be reviewed in this section. Problems with affect dysregulation are common in prison, in particular with women with histories of childhood abuse. Widom (1989) found that abused or neglected girls were significantly more likely than a community matched sample to have at least one arrest as an adult. Dietrich (2003) studied 93 Canadian inmates, both male and female, and found that incarcerated offenders reported significantly higher levels of dissociation as compared to the general population on three measures of dissociative symptom; the Detailed Assessment of Posttraumatic States (DAPS: Briere, 1998; 2001), the Multidimensional Dissociation Inventory (MDI: Briere, 2002a), and the Somatoform Dissociation Questionnaire (SDQ: Nijenhuis, Spinhoven, Van Dyck, Van der Hart, & Vanderlinden, 1996). Zlotnick (1997) further supported the link between childhood abuse, PTSD symptoms, and women in prison. She found that women prisoners with PTSD were more likely to report histories of childhood abuse as well as higher levels of somatization and dissociation on the Structured Interview for
Measurement of Disorders of Extreme Stress (SIDES: Pelcovitz, van der Kolk, Roth, Mandel, & Kaplan, 1997). Women with child abuse histories also scored significantly higher on measures of affect dysregulation than women who did not report childhood abuse. Many of the same parental or caregiver deficits affect more than emotion regulation and can also lead to disturbances in identity and self-perception.

Identity Disturbance, Self-Perception, and Relational Problems

Briere (2002b) grouped problems with identity, self-perception, and interpersonal relationships under the term impaired “self-capacities,” defined earlier in this review. Emotionally available and perceptive parents or caretakers are believed to provide an environment conducive to the development of a positive and stable sense of self (Briere & Rickards, 2007). When this environment is not provided, children may develop deficits in self-awareness and self-monitoring, as well as experience confusion over identity and a failure to categorize their world in a coherent fashion. This failure in categorization can result in a further breakdown in self-capacity to process and integrate what is happening both in the external world and internally (van der Kolk & Courtois, 2005). In their 2007 study, Briere and Rickards found that emotional abuse from a mother figure was especially related to self-disturbance.

Childhood emotional abuse is usually characterized as interpersonal abuse originating from a parent or caretaker (O’Hagan, 1995). Childhood emotional abuse also often involves inconsistent reactions to a child’s affect and behavior from parents or caregivers. Briere and Rickards (2007) reported that the lack of stability and safety encountered in situations of chronic emotional abuse may severely disrupt the child’s ability to relate to others in an appropriate way and may hinder the development of meaningful relationships with others, leading to patterns characterized by interpersonal conflict. These authors found that relational problems and
interpersonal conflict were again associated with maternal emotional abuse. Interpersonal and relational problems are often heavily influenced by distorted cognitions learned from CEA and carried through adulthood.

*Cognitive Disturbances*

Individuals who have experienced childhood abuse often incorporate skewed or negative experiences into their thought patterns and view of how the world works (van der Kolk et al., 2005). Children who have been emotionally abused may have internalized chronic critical thinking about themselves and the surrounding environment, such as thoughts of hopelessness, helplessness, expectations of rejection, and overestimation of the amount of danger present in the world (Briere & Spinazzola, 2005; Glassman et al., 2007). In adulthood, cognitive disturbances may take the form of expectations of maltreatment and abandonment from others. These expectations are easily activated in adulthood by experiences reminiscent of the original emotionally abusive situation, and may serve to perpetuate feelings of self-hatred, fears of abandonment, and periods of intense emotional dysregulation (Briere & Spinazzola, 2005). This particular symptom cluster of CPTSD resembles the definition of psychological abuse provided by O’Hagan (1995). Psychological abuse can take the form of impeding the development of a moral sense, or corrupting a child, as well slowing or stopping the child’s ability to understand their world in an age appropriate manner. Inability or difficulty understanding the surrounding environment as well as delayed or retarded development of moral sense may make individuals who have experienced CEA more likely to develop problems with substance use and abuse. In fact, all of the CEA-CPTSD related symptom clusters reviewed have been found to be related to a myriad of other problems including depression, impulsive and self-destructive behavior, substance abuse, and eating disorders (Briere & Rickards, 2007; Hien, Cohen, & Campbell,
The behavioral consequences of CPTSD make it likely that many of these women are exposed early in life to substance use and abuse and continue to use throughout their lifetimes.

**Childhood Emotional Abuse, Substance Abuse, and Complex Trauma Symptoms**

Women who have experienced childhood abuse are at a higher risk of developing substance use disorders in addition to the CPTSD symptoms previously mentioned (Briere & Spinazzola, 2005). Whereas no studies have examined the direct link between CEA and SUDs, studies have confirmed the positive correlation between PTSD and SUDs, and have used samples of women who have experienced interpersonal trauma to do so. The majority of women diagnosed with PTSD and a SUD have experienced childhood abuse and are more vulnerable to repeated interpersonal trauma (Hien, et al., 2005). Previous studies have focused on the relationship between childhood sexual and physical abuse, substance abuse, and PTSD symptoms. Two prospective studies looking at CSA and combination CSA/CPA found that women who experienced childhood abuse were at elevated risk for developing psychiatric and substance use disorders, supporting the hypothesis that early abuse often temporally precedes increased substance use (Hein, et. al). As childhood emotional abuse has not been examined in this literature as a separate construct, we can hypothesize that results generalize from CSA and CPA due to the theoretical and empirical inference that CEA is an underlying and unifying concept for all forms of childhood abuse (Kent et al., 1999; O’Hagan, 1995). In terms of explaining the relationship between childhood abuse, substance use and trauma symptoms, researchers have found support for the self-medication hypothesis. This hypothesis states that when an overwhelming traumatic experience (like childhood abuse) occurs, the survivor will
turn to drugs or alcohol to manage the PTSD symptoms, like constant hyper-arousal or intrusive reexperiencing of the event (Battle et al., 2003).

An alternative hypothesis proposes that substance use can alleviate affective numbness in some trauma survivors experiencing CPTSD symptoms through inducing “transient and predictable pleasurable bodily sensations or emotions” (Briere & Spinazzola, 2005, p. 403). As previously mentioned, no specific studies have examined the relationship between childhood emotional abuse, substance use disorders, and CPTSD symptomology. However, Cohen and Hien (2006) examined prevalence of physical and sexual abuse in a sample of 107 women recruited from the community and drug treatment programs. The participants were diagnosed with at least one substance use disorder and experiencing CPTSD symptoms. The authors found 85% of women diagnosed with at least one substance disorder had experienced sexual abuse with a mean age of onset of 13.2, and 94% of the sample had experienced physical abuse with a mean age of onset 12.1 years. 88% of the sample met full criteria for PTSD, and had high levels of PTSD symptoms comparable to clinical complex trauma samples. This sample reported high levels of depression, suicidal ideation, and dissociation, comparable to clinical samples of individuals with histories of childhood abuse. This study also found high levels of impulsivity, somatic complaints, and problems with interpersonal functioning, with 52% of the sample identifying themselves as avoidant of relationships and having a fearful attachment style. This study shows a high rate of co-occurring complex trauma symptoms with PTSD, and substance use disorders.

The research examining PTSD, SUD, and CPTSD in incarcerated women is scarce as this field is just beginning to attract major interest. The existing research has supported a link between PTSD, SUD, and CPTSD. Zlotnick (1997) examined past and current PTSD, past and
current major depression, past alcohol and drug abuse and dependence, Antisocial Personality Disorder, and Borderline Personality Disorder, using the SCID-I and SCID-II, Nonpatient Versions in a sample of 85 female inmates. Complex trauma symptoms were assessed using the Structured Interview for Measurement of Disorders of Extreme Stress (SIDES: Pelcovitz et al., 1997). The results of this study indicated that 40% of the female offenders reported CSA and 55% reported CPA. 65.9% of the sample reported a history of childhood sexual or physical abuse before the age of 13. 48% of the sample met criteria for current PTSD, 20% for lifetime PTSD, and 87% of the sample reported at least one lifetime traumatic event. Subjects with past or current PTSD had a significantly higher frequency of a history of childhood sexual or physical abuse than those without past or current PTSD. Inmates with current or past PTSD were significantly more likely to have co-occurring major depression, past substance use and BPD. Women with reported childhood abuse scored significantly higher on subscale scores indicating complex trauma such as affect dysregulation, dissociation, and somatization. In another recent study examining PTSD, co-morbid polysubstance abuse, and exposure to traumatic events in incarcerated women, Salgado, Quinlan, & Zlotnick (2007) found that women reporting co-morbid PTSD and polysubstance abuse reported higher levels of exposure to traumatic events as well as more complex trauma symptoms such as dissociation and sexual problems.

Screening Women in Prison for SUDs and CPTSD

Taking into account the prevalence of childhood abuse history, SUD, PTSD, and CPTSD symptoms present in many incarcerated females, many researchers have stressed the importance of providing treatment more specifically fitted to the needs of these women (Battle et al., 2003; van Der Kolk & Courtois, 2005; Zlotnick, 1997). In order to better serve this population, inmates with complex trauma symptoms as well as SUD should be identified at intake and directed
through the appropriate channels to receive assessment and treatment that is appropriate and
effective. Currently, no research exists examining the utility of common screening measures in
determining female inmates who may benefit from trauma-informed treatment.

*The Personality Assessment Inventory*

The Personality Assessment Inventory (PAI; Morey, 1991) is being used increasingly in
forensic and correctional settings in identifying psychopathology and personality pathology
(Edens & Ruiz, 2008). The PAI appeals to use in correctional settings for several reasons: it has
a 4\textsuperscript{th} grade reading level, it is more cost-effective than some other measures of psychopathology
due to its reduced administration time, and it has generally solid psychometric qualities. The
PAI is composed of 344 items, with four validity scales, 11 clinical scales, five treatment
consideration scales, and two interpersonal scales (Mozley, Miller, Weathers, Beckham, &
Feldman, 2005). Nine of the clinical scales and one treatment scale have subscales assessing key
components of the construct addressed by the larger scale (McDevitt-Murphy, Weathers, Adkins,
& Daniels, 2005).

There is a dearth of research in using the PAI with incarcerated women, especially in the
identification of women with histories of CEA. Due to this lack of research, we must utilize
research that has examined PAI profiles of related disorders such as PTSD, BPD, and childhood
abuse in aiding the identification of profiles indicative of complex trauma.

*PAI and PTSD*

Individuals with histories of childhood abuse are at increased risk to develop PTSD
(Widom, 1999). This trend likely applies to individuals with a specific history of CEA, as it is
thought that CEA underlies all types of childhood abuse (Kent et al., 1999; O’Hagan, 1995).
Research pertaining to the Anxiety Related Disorders (ARD) subscale on the PAI may provide
useful information in identifying women who have experienced CEA, or childhood abuse in general as it is all likely related to CEA. The ARD-T subscale was developed to measure PTSD symptoms such as re-experiencing and sudden anxiety symptoms (McDevitt-Murphy, Weathers, Flood, Eakin & Benson, 2007). Individuals who score over 80T on the ARD-T subscale are likely to have a PTSD diagnosis according to Morey (1991). The specificity of ARD-T subscale has been supported, as well as the discriminate validity, and diagnostic utility (McDevitt-Murphy et al., 2005; Mozley et al., 2005). Despite the evidence supporting the diagnostic utility of the ARD-T subscale, construct validity seems to be limited by the fact that the scale does not measure the full range of DSM-IV PTSD symptoms, with no items addressing hyperarousal or hypervigilance (Mozley et al.).

Researchers have addressed the utility of the PAI in identifying PTSD in combat veterans as well as in survivors of motor vehicle accidents (Holmes, Williams, & Haines, 2000; Mozley et al., 2005). One study used a community based sample of females and included interpersonal trauma, such as sexual and physical assault (McDevitt-Murphy et al., 2005). This study found significant group differences on seven clinical scales based on classification as PTSD or non-PTSD. The PTSD group scored higher than the non-PTSD group on the Anxiety, Depression, Anxiety-Related Disorders, Somatic Complaints, Paranoia, Borderline Features, Schizophrenia, Nonsupport, and Negative Impression scales. The Alcohol Problems and Drug Problems scales did not reliably differentiate the PTSD and non-PTSD groups, perhaps due to the low prevalence of SUD in the entire sample. The PTSD group also scored significantly lower on the Treatment Rejection (RXR) scale, indicating expression for greater need for help from the PTSD group. This study found that the physiological subscale of the depression scale performed similarly to the ARD-T scale, perhaps indicating symptom overlap between depression and PTSD,
specifically sleep disturbance and anhedonia (McDevitt-Murphy et al.). This study suggests that the PAI is useful in identifying symptoms of complex trauma in a population of women who have experienced, among other traumatic events, interpersonal trauma.

Whereas this study offers some insight into some expected trends in using the PAI to identify women with PTSD and associated symptoms, proceeding with caution is necessary. This was a non-clinical community sample of well-educated, Caucasian women, with no substance abuse or criminal histories; very different from the sample used in the present study. Incarcerated samples tend to have greater ethnic, socioeconomic, and educational diversity, including a greater proportion of women with co-morbid SUD and AXIS II disorders (Battle et al., 2003). The prototypical PAI profile for an individual with a history of CEA and complex trauma has yet to be determined.

PAI and BPD

Research on the prototypical PAI profile of individuals diagnosed with Borderline Personality Disorder may provide important information about what a complex trauma profile might look like. BPD and complex trauma are thought to have similar etiologies based upon disorganized attachment to inconsistent parents or caregivers followed by symptomatology including affect dysregulation, dissociation, tension-reducing behaviors, impulsivity, and interpersonal problems (Briere, 2002; Murray, 1993). Examining BPD PAI profiles may provide some insight into possible scale elevations among individuals with CPTSD.

Several studies have found the Borderline Features (BOR) scale valid and reliable in identifying borderline features as outlined in the DSM-IV (Bell-Pringle, Pate, & Brown, 1997; Stein, Pinsker-Aspen, & Hilsenroth, 2007). This scale was developed to measure four specific elements of the syndrome: Affective Instability (BOR-A), Identity Problems (BOR-I), Negative
Relationships (BOR-N), and Self-Harm (BOR-S). The first three of these are considered “essential features” of Borderline Personality Disorder as described in the DSM-IV (Bell-Pringle et al., p. 132). The BOR scale also assesses for poor control over emotions, intense and combative interpersonal relationships, confusion about identity and self-worth, and impulsivity resulting in self-destructive behavior (Bell-Pringle et al.).

Jacobo, Blais, Baity, & Harley (2007) found concurrent validity of the PAI BOR scale with a Structured Clinical Interviews for DSM–IV for Axis II disorders (SCID-II) diagnosis of BPD. The authors also found that a cutoff score of 65T or above showed the greatest overall utility in identifying patients who met criteria for BPD, though the authors suggest a score of 70T and above to minimize false positives. The BOR group in this sample also scored above 70T on the DEP scale, the ANX scale, ARD scale, and Suicidal Ideation (SUI) scale.

Utilizing findings from research on BPD and the PAI may be helpful in determining prototypical profiles of incarcerated women with CEA histories experiencing complex trauma symptoms. However, as these studies did not specifically examine complex trauma and the PAI, more information is essential.

PAI and child abuse

There are almost no studies examining the use of the PAI in identifying individuals with histories of childhood abuse. Cherepon & Prinzhorn (1994) conducted research with a sample of 91 females admitted to an inpatient psychiatric treatment program or outpatient psychotherapy. They examined differences in the PAI profile between women who did and did not experience childhood abuse. Patients were classified as “abused” or “non-abused” based on information provided in initial clinical interviews. There were significant age differences between the two groups, with the abused group on average six years younger than the non-abused group. This
artifact was controlled for in testing for between-group differences. Childhood abuse was defined broadly in this study as involving sexual or physical abuse, or severe verbal, emotional, or psychological trauma experienced during childhood or adolescence. The abuse sample utilized consisted mostly of inpatients because only two outpatients endorsed the experience of childhood abuse.

Several significant differences were found between the abused and non-abused groups (Cherepon & Prinzhorn, 1994). The abused group presented themselves in a slightly more negative light, and scored significantly higher on the ARD scale and subscales, particularly ARD-T. Abused women also scored significantly higher on scales measuring Phobic Tendencies (ARD-P), Obsessive-Compulsive Tendencies (ARD-O), Paranoia (PAR) and related Experiences of Persecution (PAR-P) and Hypervigilance (PAR-H), and the BOR scale, specifically BOR-A and BOR-N.

This study has many limitations. The sample size used was very small, especially in regard to the number of abused outpatients included, therefore not allowing for the use of multivariate statistics in the analysis of the data. The broad rather than specific definition of abuse makes it difficult to determine the implications of the results, as the outcome could relate to many factors not controlled for. This study also excluded patients with a primary SUD diagnosis. The possible interactions or additive effect of SUD missing from this study is something that cannot be ignored when attempting to generalize from these results.

This research provides possible scale elevations to look for in incarcerated women with a history of CEA, however, the addition of SUD to this data may have change the scale elevations or add more. More research is necessary in utilizing the PAI to detect CEA in women with complex trauma and SUD.
The Present Study

Research supports the concept that early, chronic, and interpersonal childhood abuse, specifically childhood emotional abuse, is linked with the development of PTSD symptoms, and especially CPTSD symptoms (Briere & Rickards, 2007). Childhood abuse is also a risk factor for the development of co-morbid substance use disorders (Najavits et al., 1997). The majority of incarcerated females have experienced childhood abuse (Zlotnick, 1997). Women with SUDs who also experience symptoms of CPTSD are a unique population within the prison system. Research indicates that these women could benefit from trauma-informed treatment, taking into account the interaction between past experience, current CPTSD symptoms, and substance use and abuse. The PAI has been utilized with increased frequency to identify inmates who may benefit from mental health programming; however, no research exists on the use of the PAI with incarcerated females with histories of childhood emotional abuse.

The goal of this study is to examine between-group differences on the PAI between incarcerated women with histories of CEA and women without this history. This study will also attempt to test the PAI’s ability in differentiating between incarcerated women who have histories of CEA and those who do not. This study also aims to explore the relationship between substance use and complex trauma symptoms in this population. Given the lack of research in this area, this study will attempt to provide demographic data for this population as well as address some of the previous limitations by using a large sample size, consistent definitions, and descriptive data regarding childhood emotional abuse. Individuals with primary substance use disorders will be included in the sample.
Hypotheses of the Current Study

1. Female inmates with self-reported early CEA (age <13) histories are expected to have significantly higher levels of psychopathology than female inmates without a history of early CEA. Therefore, it is predicted that the early CEA group will score higher on all PAI clinical scales than the non-early CEA group. After analysis of group differences on all PAI clinical scales, scales and subscales thought to be specifically indicative of complex trauma symptoms will undergo further examination. These scales include: BOR-A (affect dysregulation), BOR-N (identity disturbance), BOR-N (negative relationships), BOR-S (self-destructiveness), NIM (negative self-perception), SOM (somatization), ARD-T (traumatic stress), and DEP (depression).

2. It is hypothesized that a combination of scales that measure the psychological symptoms theoretically linked to complex trauma will distinguish participants with a history of early CEA from those who do not. Those scales include PAI BOR-A (affect dysregulation), BOR-N (identity disturbance), BOR-N (negative relationships), BOR-S (self-destructiveness), NIM (negative self-perception), SOM (somatization), ARD-T (traumatic stress), DEP (depression), ALC (alcohol problems) and DRG (drug problems).

3. Higher levels of PTSD symptoms are expected to be associated with higher levels of drug and alcohol use as measured by the ARD and DRG and ALC scales on the PAI.
METHODS

Participants

Participants in this study were female inmates randomly selected from Coffee Creek Correctional Facility (CCCF) in Oregon. All women incarcerated in Oregon are housed at CCCF. Participants were included in this study if they a) read above the fourth grade level as measured at intake, b) spoke and understood English, and c) had a valid PAI profile. The total sample of women who met these criteria and were selected for this study was 101 individuals.

Participants in the total sample ranged from age 20 to 62. The average age was 36.58 (SD=10.94). The participants were predominantly Caucasian (74.3%), never married (40.6%), and had a GED or high school diploma (45.5%). Property offenses were the most common (42.6%), followed by violent offenses (36.6%). The majority of participants reported using methamphetamine (64.4%) and marijuana (55.4%) regularly before incarceration and 43.6% of participants reported using methamphetamines at the time of their arrest. The drug-offense rates in this sample are lower than reported in national statistics, with only 15.2% of participants serving time for a drug related offense (Greenfeld et al., 1999; Battle et al., 2003). This sample has similar characteristics (age, ethnicity, education level, type of crime) to the incarcerated population as a whole in this prison.

Of the participants randomly selected, 75 (74.3%) reported a history of any CEA between the ages of zero and thirteen on the Childhood Trauma Questionnaire (CTQ) and 26 (25.7%) did not.
Measures

*Personality Assessment Inventory*

The Personality Assessment Inventory (PAI; Morey, 1991) is a 344-item multi-scale self-administered measure designed to provide information regarding diagnosis, treatment planning, and screening for psychopathology. It was developed for individuals’ ages 18 through adulthood who read at least the fourth grade level. The PAI contains 22 non-overlapping full scales, 4 validity scales, 11 clinical scales, 5 treatment consideration scales, and 2 interpersonal scales. The clinical scales are designed to measure: somatic complaints (SOM), anxiety (ANX), anxiety-related disorders (ARD), depression (DEP), mania (MAN), paranoia (PAR), schizophrenia (SCZ), borderline personality features (BOR), anti-social features (ANT), drug problems (DRG) and alcohol problems (ALC). Each clinical scale contains three subscales, except for BOR, which contains four subscales.

The PAI scoring consists of raw scores transformed into T-scores. The mean score for nonpsychiatric populations is 50T with a standard deviation of 10T. A score of 70T is two standard deviations above the mean and are considered clinically significant (Morey). The PAI has shown satisfactory reliability and validity (Morey, 1991; Mozley et al., 2005). In a recent study, Edens and Ruiz (2005) researched the utility of several PAI scales to identify broad mental health diagnostic categories in a sample of prisoners. The results offered support for the utility of the Depression (DEP) scale, the Anxiety-Related Disorders (ARD), the Traumatic Stress (ARD-T) scale in identifying PTSD, and the Drug Problems (DRG) scale in the assessment of mental disorders among prison inmates.
Childhood Trauma Questionnaire

The Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1997) is a 28-item self-report measure designed to screen individuals ages 12 and over for a childhood history of abuse or neglect. The CTQ has five subscales that assess for different types of abuse and neglect. Three scales assess for abuse (Emotional, Physical, Sexual) and two scales assess for neglect (Emotional and Physical). There are five items on each subscale that contain a five-point Likert scale ranging from never true to Very Often True. Subscales score range from 5 (no history of abuse or neglect) to 25 (very extreme history of abuse and neglect). To assess for a minimization response bias, there is a minimization-denial subscale. CTQ has been shown to have good reliability and validity (Bernstein et al., 2003). The CTQ has been used in several studies examining childhood history of abuse or neglect in incarcerated populations (Christopher, Lutz-Zois, & Reinhardt, 2007).

Participant Information Questionnaire

The Participant Information Questionnaire is a 30-item clinician administered questionnaire designed to obtain information about the participant’s demographics, mental health background, and substance use background. The questionnaire contains the following demographic questions: a) age, b) ethnicity, c) marital status, d) number of children, and e) highest level of education completed. Questions about mental health history include: a) history of hospitalization, b) psychiatric medications, and c) history of mental health treatment. The substance use history questions include: a) age substances first used, b) types of substances used, c) length of use for each substance, and d) substance abuse treatment history.
Procedure

All data collection and interviews were completed by two graduate students in clinical psychology. Inmate identification numbers were randomly chosen through the prison’s computer system. Once chosen, the potential participant was asked by investigator if they were interested in participating in a study examining child abuse and substance use among women in prison. Individuals interested in participating were asked to give consent for the researchers to access their mental health records. All inmates entering prison are given a reading and math test during the intake process to determine their reading and math proficiency. The PAI is only administered to inmates determined to read above the 4th grade level (a 4th grade reading level is required to take the PAI). After obtaining consent, the inmate’s file was retrieved and reviewed to determine the validity of the PAI (administered during intake for screening purposes).

If the inmate met inclusion criteria, the research interviewer met with the inmate to explain the nature of the study and obtain informed consent. If the individual agreed to participate, the interview was conducted at that time. The research interview consisted of a demographics questionnaire, the CTQ, and a structured substance abuse history interview, and took about 20 minutes at most.

After the administration of the full interview, inmates were de-briefed. Due to the sensitive nature of the CTQ, a structured debriefing occurred with each inmate. Although inmates were not anticipated to experience a significant emotional response during the interview, the interviewer was prepared to assist participants in returning to baseline emotional functioning through the following structure. First, the nature of the study was explained to each participant, with the option for participants to ask questions. This explanation was followed by reviewing counseling resources available within the prison, if needed. All participants were given a handout
on emotional grounding, a common coping skill used to treat trauma-related disorders. The participant could choose to have the interviewer go over the handout with them, although this was a didactic explanation only. Interviewers did not offer counseling, coping skill practice, or anything else in terms of mental health assistance. Inmates were then instructed to contact a prison officer if they felt the need further assistance. No inmates expressed emotional distress during or at the end of the interview, and no participant asked for or was judged by the researchers to need assistance.
RESULTS

Group Demographics

Demographic profiles for the two CEA comparison groups are presented in Table 1. The two groups were formed by performing a median split on the entire group of data. The median split cut the group at the moderate range of CEA history among the women. A univariate analysis of variance on age revealed no significant differences between the two CEA groups, $F(1, 97) = .05, p = .83$. Chi-square analysis for ethnicity, marital status, and educational level were conducted. No significant differences were found between the two CEA groups (Ethnicity: $X^2(6, N=99) = 4.33, p = .63$; Marital Status: $X^2(4, N = 99) = 6.94, p = .14$; Educational Level: $X^2(4, N=98) = 1.83, p=.77$).

Although there were no differences between the two CEA groups on demographic variables, there were notable differences in substance use and mental health history. A significantly higher proportion of women with moderate-severe CEA histories reported ever using hallucinogens $X^2(1, N=99) = 9.97, p < .01$; ever using methamphetamines $X^2(1, N=99) = 7.17, p < .01$; ever using depressants $X^2(1, N=99) = 6.08, p < .05$; ever using tranquilizers $X^2(1, N=99) = 7.76, p < .01$; and ever using heroin $X^2(1, N=99) = 5.87, p < .05$. A significantly higher proportion of women with moderate-severe CEA also reported that their mother, father, or caregiver abused alcohol or drugs while they were growing up $X^2(1, N=99) = 13.81, p < .01$; that they received mental health treatment before entering prison $X^2(1, N=99) = 6.46, p < .05$; that they received counseling or therapy before entering prison $X^2(1, N=99) = 5.40, p < .05$; and that they received mental health services while in prison $X^2(1, N=99) = 5.89, p < .05$. Overall, the moderate-severe CEA group reported significantly higher levels of substance use and mental health service utilization both before and during incarceration. These differences are not
unexpected given the literature described above regarding the sequelae of childhood emotional abuse.

Table 1

Demographic Profile of Sample by History of Childhood Emotional Abuse

<table>
<thead>
<tr>
<th>Variable</th>
<th>None-Moderate CEA</th>
<th>Moderate-Severe CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=51)</td>
<td>(n=48)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>21-29</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>30-39</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>40-49</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>50-59</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>60-69</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African-American</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Asian-American</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>American-Indian</td>
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<td>3</td>
</tr>
<tr>
<td>Latino</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>White</td>
<td>37</td>
<td>36</td>
</tr>
<tr>
<td>Biracial/Multiracial</td>
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<td>6</td>
</tr>
<tr>
<td>Other</td>
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<td>0</td>
</tr>
<tr>
<td>Marital Status</td>
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<td></td>
</tr>
<tr>
<td>Single</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td>Married</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>Separated</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Divorced</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Widowed</td>
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<td>1</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 8th grade</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>High School/ GED</td>
<td>21</td>
<td>24</td>
</tr>
<tr>
<td>Some College</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Associates Degree</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Bachelors Degree</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Childhood Emotional Abuse in this Sample

Different forms of abuse and neglect were measured using five continuous scales on the CTQ. Possible scores on each scale range from 5 to 25. The means and standard deviations for each of the five scales are reported in Table 2. According to the CTQ manual, scores of 5-8 represent “none” or “minimal” childhood emotional abuse, scores of 9-12 represent “low to moderate” emotional abuse, scores of 13-15 represent “moderate to severe” emotional abuse, and scores greater than 16 represent “severe to extreme” emotional abuse. The mean score on the emotional abuse scale in this sample was 12.38 and the standard deviation was 6.26. The range of scores in this sample was from 4 to 25\(^1\).

The mean of the CEA scale obtained in this sample was higher than the mean CEA scores obtained by several of the standardization samples provided in the manual. For example, the mean CEA of 12.38 in the current sample was higher than the mean of 10.7 for a sample of 53 female adult substance abusers, higher than the mean of 10.6 for a sample of 51 female undergraduate students, and higher than the mean of 9.2 in a sample of 1,187 female HMO members. The mean CEA obtained in this sample was lower than the mean of 13.7 found among 223 female adolescent psychiatric inpatients, lower than the mean of 15.5 obtained from a sample of 17 adult female outpatients, and lower than the mean of 16.1 found among 32 female Fibromyalgia patients.

\(^1\) One participant received a score of 4 due to not responding to one question on the CTQ.
Table 2

*Means and Standard Deviations of CTQ Scales*

<table>
<thead>
<tr>
<th>CTQ Scale</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Abuse</td>
<td>12.38</td>
<td>6.26</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>10.91</td>
<td>6.11</td>
</tr>
<tr>
<td>Sexual Abuse</td>
<td>12.22</td>
<td>7.72</td>
</tr>
<tr>
<td>Emotional Neglect</td>
<td>12.80</td>
<td>5.95</td>
</tr>
<tr>
<td>Physical Neglect</td>
<td>9.31</td>
<td>4.60</td>
</tr>
</tbody>
</table>

Hypothesis I: PAI Clinical Scale Profile Comparison

*PAI Scales: MANOVA*

Data were screened for missing values, extreme outliers and to determine if all assumptions were met for the MANOVA. Examination of the data did not reveal any data entry errors. Two extreme outliers were identified based on Mahalanobis’ distance. Statistical analyses were conducted with the two individuals excluded as taking out these individuals’ data did not significantly reduce the sample size but did improve normality and multivariate homogeneity of variance. Box’s test of equality of covariance matrices was significant; therefore Pillai’s Trace was used to interpret the MANOVA. All Levene’s tests of univariate homogeneity of variance were not significant excepting NIM, therefore the results from the NIM scale should be interpreted with caution.

A one-way multivariate analysis of variance (MANOVA) was conducted to determine the effect of childhood emotional abuse (no abuse to moderate emotional abuse vs. moderate to severe emotional abuse), on the 12 dependent variables measuring psychopathology (PAI Negative Impression Management Scale, Somatic Complaints Scale, Anxiety Scale, Anxiety-
Related Disorders Scale, Depression Scale, Mania Scale, Paranoia Scale, Schizophrenia Scale, Borderline Personality Features Scale, Anti-Social Features Scale, Drug Problems Scale, and Alcohol Problems Scale on the PAI). No significant differences were found between the two childhood emotional abuse groups, Pillai’s Trace = .16, $F_{(12, 86)} = 1.39$, $p = .19$. The multivariate $\eta^2$ based on Pillai’s Trace was .16. Table 3 contains the means and standard deviations on the dependent variables for the two groups.

Table 3

<table>
<thead>
<tr>
<th>PAI Scale</th>
<th>None- Moderate CEA</th>
<th>Moderate-Severe CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>NIM</td>
<td>51.25</td>
<td>7.14</td>
</tr>
<tr>
<td>SOM</td>
<td>53.27</td>
<td>11.07</td>
</tr>
<tr>
<td>ANX</td>
<td>56.65</td>
<td>13.07</td>
</tr>
<tr>
<td>ARD</td>
<td>57.39</td>
<td>14.25</td>
</tr>
<tr>
<td>DEP</td>
<td>60.43</td>
<td>13.39</td>
</tr>
<tr>
<td>MAN</td>
<td>49.88</td>
<td>10.92</td>
</tr>
<tr>
<td>PAR</td>
<td>57.06</td>
<td>12.97</td>
</tr>
<tr>
<td>SCZ</td>
<td>53.10</td>
<td>14.16</td>
</tr>
<tr>
<td>BOR</td>
<td>61.39</td>
<td>13.13</td>
</tr>
<tr>
<td>ANT</td>
<td>60.63</td>
<td>13.68</td>
</tr>
<tr>
<td>DRG</td>
<td>56.76</td>
<td>19.28</td>
</tr>
<tr>
<td>ALC</td>
<td>72.35</td>
<td>23.90</td>
</tr>
</tbody>
</table>

PAI Scales: ANOVAs

Analyses of variance (ANOVA) on the dependent variables were conducted as follow-up tests to the MANOVA. The Bonferroni correction (Tabachnick & Fidell, 1996) was employed to
reduce the chance of Type I errors. Thus, each ANOVA was tested at the .004 level. None of the ANOVAs were significant. The NIM variable was significant at the .01 level but not at the .004 level: $F(1, 97) = 7.24, p < .01, \eta^2 = .07$, however the assumption of homogeneity of variance was violated on this variable. The ANOVAs for the 12 dependent variables are reported in Table 4.

Table 4
One-Way ANOVA results for CEA history

<table>
<thead>
<tr>
<th>PAI Scale</th>
<th>$Df$</th>
<th>$F$</th>
<th>$p$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIM</td>
<td>1</td>
<td>7.24</td>
<td>&lt;.01</td>
<td>.07</td>
</tr>
<tr>
<td>SOM</td>
<td>1</td>
<td>3.86</td>
<td>.05</td>
<td>.04</td>
</tr>
<tr>
<td>ANX</td>
<td>1</td>
<td>3.27</td>
<td>.07</td>
<td>.03</td>
</tr>
<tr>
<td>ARD</td>
<td>1</td>
<td>3.49</td>
<td>.07</td>
<td>.04</td>
</tr>
<tr>
<td>DEP</td>
<td>1</td>
<td>.44</td>
<td>.51</td>
<td>.01</td>
</tr>
<tr>
<td>MAN</td>
<td>1</td>
<td>.39</td>
<td>.53</td>
<td>.00</td>
</tr>
<tr>
<td>PAR</td>
<td>1</td>
<td>1.75</td>
<td>.19</td>
<td>.02</td>
</tr>
<tr>
<td>SCZ</td>
<td>1</td>
<td>1.55</td>
<td>.22</td>
<td>.02</td>
</tr>
<tr>
<td>BOR</td>
<td>1</td>
<td>1.51</td>
<td>.22</td>
<td>.02</td>
</tr>
<tr>
<td>ANT</td>
<td>1</td>
<td>.01</td>
<td>.93</td>
<td>.00</td>
</tr>
<tr>
<td>DRG</td>
<td>1</td>
<td>.01</td>
<td>.93</td>
<td>.00</td>
</tr>
<tr>
<td>ALC</td>
<td>1</td>
<td>3.23</td>
<td>.08</td>
<td>.03</td>
</tr>
</tbody>
</table>

Analysis of PAI scales indicative of complex trauma

A one-way multivariate analysis of variance (MANOVA) was further conducted to evaluate between group differences on scales thought to be particularly indicative of complex trauma. The dependent variables included the NIM scale, the SOM scale, the ARD scale, the DEP scale, and the BOR scale. No significant differences were found between the two childhood
emotional abuse groups, Wilks’ Lambda $= .90$, $F (5, 93) = 2.12$, $p = .07$, $\eta^2 = .10$. The follow-up ANOVAs are the same as those presented in the previous analysis.

*Analysis of PAI subscales indicative of complex trauma*

One-way multivariate analyses of variance (MANOVAs) were further conducted to examine between group differences on subscales thought to be particularly indicative of complex trauma. The first MANOVA examined between group differences on the ARD subscales and was not significant, Wilks’ Lambda $= .92$, $F (3, 95) = 2.65$, $p = .05$, $\eta^2 = .07$. Table 4 contains the means and standard deviations on the dependent variables for the two groups. One-way ANOVAs were conducted as follow-up to the MANOVA. The Bonferroni correction (Tabachnick & Fidell, 1996) was employed to reduce the chance of Type I errors. Thus, each ANOVA was tested at the .017 level. Significant between group differences were found on the ARD-T (traumatic stress) variable, $F (1, 97) = 6.82$, $p < .017$, $\eta^2 = .07$. The ANOVAs for the ARD subscales are reported in Table 4.

One way MANOVAs were further run on the SOM, DEP, and BOR subscale groups. Table 4 contains the means and standard deviations on the dependent variables for the two groups. No significant between group differences were found on the SOM subscales, Wilks’ Lambda $= .95$, $F (3, 95) = 1.60$, $p = .19$, $\eta^2 = .05$. No significant differences were found on the DEP subscales, Wilks’ Lambda $= .92$, $F (3, 95) = 2.69$, $p = .05$, $\eta^2 = .08$. No significant differences were found on the BOR subscales, Wilks’ Lambda $= .97$, $F (4, 94) = .84$, $p = .51$, $\eta^2 = .03$. Follow-up ANOVAs were conducted for each group of subscales and none of the subscales showed significant between group differences. However, several of the subscales would have been significant if not for the Bonferroni correction. For example, the SOM-H (Health Concerns) variable, $F (1, 97) = 3.96$, $p = .05$, $\eta^2 = .04$, and the DEP-P (Physiological) variable, $F (1, 97) =$
4.65, \( p = .03, \eta^2 = .05 \), would have demonstrated significant between group differences if not for the Bonferroni correction. The ANOVAs for the PAI subscales are reported in Table 5.

Table 5

Means and Standard Deviations on the Dependent Variables for the Two Groups

<table>
<thead>
<tr>
<th>None-Moderate CEA</th>
<th>Moderate-Severe CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ARD Scales</strong></td>
<td></td>
</tr>
<tr>
<td>ARD-T</td>
<td>60.24 16.36</td>
</tr>
<tr>
<td>ARD-P</td>
<td>53.35 11.05</td>
</tr>
<tr>
<td>ARD-O</td>
<td>52.76 12.17</td>
</tr>
<tr>
<td><strong>SOM Scales</strong></td>
<td></td>
</tr>
<tr>
<td>SOM-C</td>
<td>54.12 13.01</td>
</tr>
<tr>
<td>SOM-S</td>
<td>54.65 11.88</td>
</tr>
<tr>
<td>SOM-H</td>
<td>50.31 8.91</td>
</tr>
<tr>
<td><strong>DEP Scales</strong></td>
<td></td>
</tr>
<tr>
<td>DEP-C</td>
<td>58.53 13.20</td>
</tr>
<tr>
<td>DEP-A</td>
<td>58.55 14.29</td>
</tr>
<tr>
<td>DEP-P</td>
<td>57.65 11.11</td>
</tr>
<tr>
<td><strong>BOR Scales</strong></td>
<td></td>
</tr>
<tr>
<td>BOR-A</td>
<td>53.10 14.34</td>
</tr>
<tr>
<td>BOR-I</td>
<td>59.59 11.31</td>
</tr>
<tr>
<td>BOR-N</td>
<td>63.08 13.00</td>
</tr>
<tr>
<td>BOR-S</td>
<td>62.16 16.06</td>
</tr>
</tbody>
</table>

Hypothesis II: Predictive Power of PAI Scales

As there were no significant between group differences on any of the PAI scales, a discriminant analysis to test the predictive power of specific scales was not run. However, due to
the poor fit obtained from dividing this continuous data into two groups, correlations were run between the continuous CEA variable and the PAI scales. The Negative Impression Management (NIM), $r = .22, p = .03$, and Drug Problems (DRG), $r = .22, p = .03$, scales were positively and significantly correlated with CEA. Based on the results of the correlations, a standard multiple regression analysis using the enter method was conducted to determine the abilities of the NIM and DRG scales in predicting CEA. The results of this analyses indicated that the model explaining the most variance in CEA retained only the NIM scale, $R^2 = .05, F(1, 97) = 4.97, p = .03$, with the DRG scale dropping out of significance. Results of the regression are displayed in Table 6.

Table 6

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$B$</th>
<th>$SE B$</th>
<th>$\beta$</th>
<th>$t$</th>
<th>Bivariate $r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIM</td>
<td>.15</td>
<td>.07</td>
<td>.22</td>
<td>2.23</td>
<td>.22</td>
</tr>
</tbody>
</table>

Hypothesis III: Correlation of PTSD Symptoms and PAI Substance Use Scales

My third hypothesis was that higher levels of PTSD symptoms would be associated with higher levels of drug and alcohol use as measured by the ARD, DRG, and ALC scales. This hypothesis was supported. Correlations were examined between the CTQ CEA score and the PAI scales of interest. The correlation between emotional abuse and the DRG scale was $r = .22, p = .03$. The correlation between emotional abuse and the ALC scale was $r = .04, p = .73$. These correlations indicate that as emotional abuse scores on the CTQ increased so did elevations on the Drug Problems scale but these scores did not covary with the Alcohol Problems scale. The ARD scale, indicative of traumatic stress, was significantly correlated with all other PAI clinical
scales including the ALC and DRG scales, demonstrating that women who obtained higher scores on the ARD scale also obtained higher scores on the Alcohol and Drug Problems scales. The correlations between the ARD scale and all other scales in this sample were very similar to those obtained with the PAI normative sample, with the exception of the ALC and DRG scales. The correlation between ARD and ALC was .14 in the normative sample and the correlation between ARD and DRG was .18 in the normative sample (Morey, 1991). The higher correlations between these variables in this sample support the hypothesis that PTSD symptoms as detected by ARD are associated with higher levels of drug and alcohol use. The bivariate correlations are reported in Table 7.

Table 7

<table>
<thead>
<tr>
<th>PAI Scales</th>
<th>Bivariate r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIM</td>
<td>.68</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>SOM</td>
<td>.43</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>ANX</td>
<td>.76</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>DEP</td>
<td>.61</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>MAN</td>
<td>.44</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>PAR</td>
<td>.60</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>SCZ</td>
<td>.63</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>BOR</td>
<td>.72</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>ANT</td>
<td>.22</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>ALC</td>
<td>.31</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>DRG</td>
<td>.34</td>
<td>&lt;.01</td>
</tr>
</tbody>
</table>
**DISCUSSION**

**Description of Results**

The goals of this study were to investigate the relationship between childhood emotional abuse, complex trauma symptomology, and substance use utilizing the PAI in a sample of incarcerated women. It was hypothesized that women who experienced a greater degree of CEA would demonstrate a higher level of overall psychopathology and a significantly higher level of complex trauma as measured by the PAI than women who did not experience CEA. Further, it was hypothesized that higher levels of PTSD would be associated with higher levels of drug and alcohol abuse as measured by the PAI.

Only a portion of the hypotheses of this study were supported. In contrast to the findings of previous research (Briere & Rickards, 2007; Gould et al. 1994; Kent et al. 1999), women who experienced higher levels of CEA did not endorse higher levels of overall psychopathology as measured by the PAI when compared to women who did not experience more severe CEA. Women with more severe histories of CEA did not score significantly higher on any of the main PAI clinical scales. The NIM scale scores were significantly higher in the more severe CEA group before correcting for Type I error. It is important to note that many of the results approached statistical significance and would have been significant except for the Bonferroni correction.

In terms of the second part of Hypothesis I; the CEA groups did not differ in regard to specific PAI scales thought to be predictive of complex trauma symptomology. This result was unexpected as past researchers have found associations between elevations on specific PAI scales such as ARD and BOR in conjunction with clinical manifestation of these disorders (Jacobo et al., 2007; McDevitt-Murphy et al., 2005; Mozley et al., 2005). However, women with
histories of moderate to severe CEA did score significantly higher on the ARD-T (traumatic stress) subscale, indicating that some of the PAI questions having to do very specifically with the experience of traumatic events did differentiate between these two groups of women.

Due to the fact that the CEA variable was not conducive to between group comparisons, correlations and a multiple regression were conducted. These analyses indicated that as NIM and DRG scores increased so did scores on the CEA scale, revealing the expected connection between substance use and CEA. This is also expected given the higher rates of substance abuse reported by the women who experienced higher levels of CEA. However, when using NIM and DRG to predict CEA, only NIM maintained as a significant predictor of variance in CEA. Therefore, the only scale on the PAI significantly related to how the women responded to the CTQ was the Negative Impression Management scale.

The third hypothesis in this study was supported as data showed the expected relationship between the DRG, ALC, and ARD variables. Women who endorsed greater levels of PTSD symptoms on the PAI also endorsed greater levels of substance use and problems on the PAI.

It is important to note that although the expected between group differences were not found in the part of this study utilizing the PAI, the descriptive data did show results in the expected direction. Women with moderate to severe CEA endorsed significantly higher levels of substance use and mental health service utilization on the Participant Information Questionnaire. Higher levels of substance use and higher levels of mental health service utilization were expected for women who had experienced higher levels of CEA and both make sense in terms of complex trauma symptomology.

Although most of the results of this study did not prove to be statistically significant, clinical significance was also considered. In the PAI manual, Morey (1991) states that the majority of
people living in the community will respond in a way such that their T-score is below 60T, and that “98% of nonclinical subjects will have scores below 70T” (p. 11). Therefore, T-scores above 70T represent a very substantial deviation from typical adults living in the community. Morey also provides information pertaining to typical profiles obtained by various populations. Within the current sample, there were differences in the mean scores on several of the PAI scales in the expected direction. In particular, women with moderate to severe CEA had higher mean scores on all clinical scales than women with low to moderate CEA with the exception of the Antisocial Features scale. Women with moderate to severe CEA scored one standard deviation or more above the non-clinical female standardization sample on several PAI scales. These scales include the ANX scale, the ARD scale, the DEP scale, the PAR scale, the BOR scale, the ANT scale and the ALC scale. Women who reported low to moderate CEA scored one standard deviation or more above the non-clinical sample on the DEP scale, the BOR scale, the ANT scale, and the ALC scale. Therefore, although not statistically significant, it is evident that the women in the sample used in this study were experiencing more distress in many more areas than the non-clinical sample. Some of this may have to do with the fact that all of the women in this sample were incarcerated, for example, the across the board elevation of the ANT scale is not particularly surprising.

Implications

These results are surprising in the context of the body of literature examining CEA and adult psychopathology. It is possible that the groups were simply not different in their levels of overall psychopathology when taking into account their CEA histories. However, this seems unlikely due to the fact that other self-report data revealed trends in the expected direction. Women with higher levels of CEA endorsed greater substance use and mental health service use. This
information leads to an examination of the PAI and its usefulness in identifying women with CEA histories. It is possible that the PAI is not an appropriate measure to use in detecting overall levels of psychopathology in a sample of incarcerated women, and although it is being employed with greater frequency in forensic and correctional settings, there is little research in this area. It is also possible that this measure is too broad to detect the symptomology of interest in this study. For example, the ARD-T (traumatic stress) subscale did detect a difference between the two CEA groups; however, this difference was not picked up by the main ARD scale, perhaps due to clouding by the other subscales.

It is also interesting to consider the types of complex trauma symptoms sought in this study. In general, the symptoms this study focused on were largely internalizing, such as depression, somatization, identity problems, and traumatic stress. However, substance use is also considered to be a core symptom of CPTSD, it is just externalized in form. It may be that some of the women in this sample who experienced CEA expressed symptoms in a more externalized form. Cognitive distortions as well as affect dysregulation could certainly lead people to actions that are against the law. This entire sample was incarcerated, suggesting they all had some externalized behavioral problems, but behavioral problems were not otherwise assessed.

Overall, it is clear that women in prison with CEA histories do have increased mental health and substance use treatment needs. It appears that these women are already utilizing mental health services at greater frequency than those women who did not experience CEA, but it is not clear if these women are finding treatment that is taking into account their abuse histories, their substance use problems, and their current posttraumatic symptoms.
Limitations

There were several limitations to the current study. The first limitation is the sample size used in this study. The sample of 99 individuals included in the analyses may not have been large enough to detect a small or even medium effect size. A power analysis indicated that a sample of 116 individuals would have been necessary to detect a medium effect and a sample of 270 individuals would have been necessary to detect a small effect size. There were also a very large number of dependent variables included in this study. A MANOVA was used to help control for Type I error, and further employing the Bonferroni correction required a higher level of significance in detecting possible between group differences.

One important factor to consider is the nature of the sample in terms of their responses to the CEA items on the CTQ. The CEA variable in this sample was based upon a continuous score which was then divided into categories based on cut-off scores provided in the CTQ manual. Based on these cut-off scores, this sample of women did not divide clearly into two or three groups. The statistics utilized in this study were adjusted for the CEA distribution; however, it is important to note that some of the raw data obtained in this study did not fit into planned statistical analyses.

Another limitation lies in the use of the CTQ to measure childhood emotional abuse. This instrument was chosen for its ease of administration and because it was a self-report measure. It was hoped that the self-report would facilitate more honest answers from the women. This measure also eliminated the need for the interviewer to ask directly about potentially traumatic childhood experiences. However, upon conducting the interviews, several women asked questions about some of the items and seemed confused by the wording on the questionnaire. The CTQ contains some questions containing double negatives, and these questions seemed
especially confusing to the women completing the questionnaire. While the full range of childhood emotional abuse scores were obtained using this measure within this sample, it is possible that the confusion over question wording affected how some women responded to some of the items.

Directions for Future Research

Overall, the results of this study did not support the use of the PAI in identifying complex trauma symptomology in women with CEA histories. However, this study does clarify the need for further research into women in prison who have experienced childhood abuse, substance use disorders, and posttraumatic stress symptomology. Briere & Spinazzola (2005) suggested the use of a broadband personality measure to screen initial levels of PTSD and then further assess individuals showing elevations on scales indicative of complex trauma. This suggestion makes sense in theory as a way to screen out individuals who are not in need of treatment focusing on childhood abuse and trauma, however, this study indicates that the PAI may not be a good measure for this task. Future research may uncover a better broadband personality measure for use in initial screening. Researchers may also want to consider assessing for externalized manifestations of CPTSD. Information on type of offense, behavioral problems in adolescence, and behavioral problems in prison may be important in further distinguishing individuals with possible CPTSD. Future research should examine possible links between different types of offenses, CEA history, and CPTSD symptoms. For example, as substance abuse is an established externalized symptom of CPTSD, there may be potential in more closely examining the histories and symptoms of women convicted of substance related offenses.
References


Bell-Pringle, V., Pate, J., & Brown, R. (1997). Assessment of Borderline Personality Disorder using the MMPI-2 and the Personality Assessment Inventory. *Assessment, 4*, 131-139.


Appendix A. List of Tables

Table 1. Demographic Profile of Sample by History of Childhood Emotional Abuse

Table 2. Means and Standard Deviations of CTQ Scales

Table 3. Means and Standard Deviations on the Dependent Variables for the Two Groups

Table 4. One-Way ANOVA results for CEA history

Table 5. Means and Standard Deviations on the Dependent Variables for the Two Groups (Subscales)

Table 6. Coefficients for Model Variables

Table 7. Bivariate Correlations for the Anxiety Related Disorders (ARD) scale and other PAI scales
Appendix B: Measures

Participant Information Questionnaire - Demographics

Participant Number: I / E __________

Today’s Date: __________

Age: __________

1) What is your ethnicity?
   1- African American
   2- Asian American
   3- American Indian/Alaska Native
   4- Latino
   5- White/Caucasian
   6- Biracial/Multiracial
   7- Other

2) What is your marital status?
   1- Single/Never Married
   2- Married
   3- Separated
   4- Divorced
   5- Widowed

3) How many children under age 18 do you have? _______
   * include legally adopted.

4) How many years of school have you completed? _______
   *total number of years starting in 1st grade.

5) What is the highest degree you have completed?
   1- Less than 8th grade
   2- High School/GED Diploma
   3- Some College
   4- Associates Degree/Technical School
   5- Bachelors Degree
   6- Masters Degree
   7- Doctorate Degree

6) Were you ever placed in foster care as a child (under 18)?
   1- Yes
   2- No

-Administer CTQ-

Substance Use and Mental Health History
1) I am now going to ask you about what types of drugs you may have used in the past.

<table>
<thead>
<tr>
<th>Type</th>
<th>Have you ever used?</th>
<th>Did you use it at least once a week for at least a month?</th>
<th>Did you use the drug in the month before your offense?</th>
<th>Were you using the drug at the time of your offense?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Marijuana (Pot, Weed, Cannabis, Hashish)</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2- Any Hallucinogens like Ecstasy or LSD (Acid, MDMA, PCP, Peyote, Mushrooms, Psychedelics)</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3- Cocaine or Crack</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4- Any stimulants like speed or meth</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*include amphetamines and methamphetamines</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5- Methamphetamines (Crank, Crystal, Ice)</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6- Any depressants, including Barbiturates, Tranquilizers and Quaalude</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7- Taken Tranquilizers like Xanax or Valium not as prescribed</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8- Heroin</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9- Street methadone</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10- Other opiates, like OxyContin, Vicodin, Darvon (Demerol, Percodan, Oxycodone, Morphine, Codeine)</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>type:_______________</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>11- Alcohol</td>
<td>Y/N</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>12- Inhalants <em>(Huffing, Laughing Gas, Whippets)</em></td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13- Injectable Drugs</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14- none</td>
<td>Y/N</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**SKIP TO #6**

Anything else that I didn’t list? 

2) How old were you when you first used drugs or alcohol? ____
   *including substances given to child

3) Not including prison, have you ever received alcohol or drug treatment?
   
   1- Yes 
   How many times ____
   How many inpatient programs have you attended? ____
   How many outpatient programs have you attended? ____
   *not including AA/NA

   2- No 

4) Have you ever received drug or alcohol treatment in prison?
   
   1- Yes 
   How many times ____

   2- No 

5) How important do you consider treatment for drug or alcohol abuse during your incarceration?
   
   1- Not at all important
   2- Somewhat important
   3- Important
   4- Extremely important

**Start HERE if no history of substance abuse:**

6) Did your mother or father (or caregiver) abuse alcohol or drugs while you were growing up?
   
   1- Yes 
   Who?
   Mother ____
   Father ____
   Other caregiver ____

   2- No 

7) Are you currently taking any prescribed psychiatric medications?
1- Yes
2- No (If NO skip to #11)
3- Don’t know

8) What are you currently taking? (clarify meds by cross referencing chart)
_______________________________________________________________
_______________________________________________________________

9) What is the primary reason?
1- Depression
2- Anxiety (any anxiety disorder)
3- Mania
4- Hallucinations/Psychosis
5- Problems with sleeping
6- Mood swings (Bipolar)
7- Attention/Concentration (ADHD/ADD)
8- Aggression/Anger
9- Pain
10- Other ______________

10) Before entering prison were you ever prescribed psychiatric medications? As an adult.
1- Yes
2- No
3- Don’t know

11) Did you ever receive mental health treatment before entering prison? As an adult.
1- Yes
What types?
    Counseling or Therapy, including group therapy____
    Psychiatric Care____
    Residential Treatment/Day Treatment____
    Overnight hospital stay____
2- No

12) Are you currently receiving mental health or BHS services (case management, psychiatrist, group therapy, individual therapy)?
1- Yes
2- No (IF NO, ASK #13)

13) Have you ever received mental health or BHS services while in prison?
1- Yes
2- No
Thank you for taking the time to complete this interview with me. In this interview, you were asked several questions about childhood abuse as well as substance use and your mental health history. In this study we are looking at how childhood abuse and substance use affect scores on the Personality Assessment Inventory (one of the assessments you completed at intake). This study will help us better identify individuals who may benefit from treatment that takes into account childhood abuse and substance use.

The Oregon Department of Corrections offers treatment to inmates dealing with mental health problems. Behavioral Health Services (BHS) can be contacted by sending an inmate communication form.

Please remember that the DOC does not have access to the results of the tests that you just took. This is for research purposes only, and the information about you will not be shared with anyone else. The DOC may learn about the general results of the study where everyone’s results are summarized, but no particular inmate’s results could ever be identified or used in any way to affect your time here.

This handout is for you to keep. It is about grounding yourself when you are dealing with emotionally painful feelings. If you would like, we can go over this handout together.

**Demographic Information From Chart**

Mental Health Level (from chart): ______________________

Type of Crime Committed? (from chart) _____________________________

Problems resulting from alcohol or drug use in year prior to incarceration (from chart):
1- Serious depression
2- Serious anxiety or tension
3- Hallucinations
4- Difficulty understanding/concentrating/remembering
5- Thoughts of suicide
6- Serious problems at school or work
7- Serious problems with friends
8- Serious problems with family
9- Problems with the police
10- Arrests
11- Difficulty controlling violent behavior

Diagnoses given at intake:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

IRMA score:

math: ______ reading: _____

Current Psychiatric Medications:
Appendix C: Debriefing Handout

Using Grounding to Detach from Emotional Pain

WHAT IS GROUNDING?

Grounding is a set of simple strategies to detach from emotional pain (e.g., drug cravings, self-harm impulses, anger, sadness). Distraction works by focusing outward on the external world, rather than inward toward the self. You can also think of it as “distraction,” “centering,” “a safe place,” “looking outward,” or “healthy detachment.”

WHY DO GROUNDING?

When you are overwhelmed with emotional pain, you need a way to detach so that you can gain control over your feelings and stay safe. As long as you are grounding, you cannot possible use substances or hurt yourself! Grounding “anchors” you to the present and to reality.

Many people with PTSD and substance abuse struggle with feeling either too much (overwhelming emotions and memories) or too little (numbing and dissociation). In grounding, you attain a balance between the two: conscious of reality and able to tolerate it. Remember that pain is a feeling; it is not who you are. When you get caught up in it, it feels like you are your pain, and that is all that exists. But it is only one part of your experience—the others are just hidden and can be found again through grounding.

Guidelines

- Grounding can be done any time, any place, anywhere, and no one has to know.
- Use grounding when you are faced with a trigger, enraged, dissociating, having a substance craving, or whenever your emotional pain goes above 6 (on a 0-10 scale). Grounding puts healthy distance between you and these negative feelings.
- Keep your eyes open, scan the room, and turn the light on to stay in touch with the present.
- Rate your mood before and after grounding, to test whether it worked. Before grounding, rate your level of emotional pain (0-10, where 10 means “extreme pain”). Then rerate it afterward. Has it gone down?
- No talking about negative feelings or journal writing— you want to distract away from negative feelings, not get in touch with them.
- Stay neutral— avoid judgments of “good” and “bad.” For example, instead of “The walls are blue; I dislike blue because it reminds me of depression,” simply say “The walls are blue” and move on.
- Focus on the present, not the past or future.
- Note that grounding is not the same as relaxation training. Grounding is much more active, focuses on distraction strategies, and is intended to help extreme negative feelings. It is believed to be more effective than relaxation training for PTSD.

WAYS OF GROUNDING

Three major ways of grounding are described below—mental, physical, and soothing. “Mental” means focusing your mind; “physical” means focusing on your senses (e.g., touch, hearing); and “soothing” means talking to yourself in a very kind way. You may find that one type works better for you, or all types may be helpful.

Mental Grounding
• **Describe your environment in detail**, using all of your senses—for example, “The walls are white; there are five pink chairs; there is a wooden bookshelf against the wall…” Describe objects, sounds, textures, colors, smells, shapes, numbers, and temperature. You can do this anywhere. For example, on the subway: “I’m on the subway. I’ll see the river soon. Those are the windows. This is the bench. The metal bar is silver. The subway map has four colors.”

• **Play a “categories” game with yourself.** Try to think of “types of dogs,” “jazz musicians,” “states that begin with ‘A,’” “cars,” “TV shows,” “writers,” “sports,” “songs,” or “cities.”

• **Do an age progression.** If you have regressed to a younger age (e.g., 8 years old), you can slowly work your way back up (e.g., “I’m now 9; I’m now 10; I’m now 11…”) until you are back to your current age.

• **Describe an everyday activity in great detail.** For example, describe a meal that you cook (e.g., “First I peel the potatoes and cut them into quarters; then I boil the water; then I make an herb marinade of oregano, basil, garlic, and olive oil…”).

• **Imagine.** Use an image: Glide along on skates away from your pain; change the TV channel to get to a better show; think of a wall as a buffer between you and your pain.

• **Say a safety statement.** “My name is ________; I am safe right now. I am in the present, not in the past. I am located in _________; the date is __________.”

• **Read something, saying each word to yourself.** Or read each letter backwards so that you focus on the letters and not on the meaning of the words.

• **Use humor.** Think of something funny to jolt yourself out of your mood.

• **Count to 10 or say the alphabet, very s … l … o … w … l … y.**

**Physical Grounding**

• **Run cool or warm water over your hands.**

• **Grab tightly onto your chair as hard as you can.**

• **Touch various objects around you:** a pen, keys, your clothing, the table, the walls. Notice textures, colors, materials, weight, temperature. Compare objects you touch: Is one colder? Lighter?

• **Dig your heels into the floor—literally “grounding” them!** Notice the tension centered in your heels as you do this. Remind yourself that you are connected to the ground.

• **Carry a grounding object in your pocket—** a small object (a small rock, clay, a ring, a piece of cloth or yarn) that you can touch whenever you feel triggered.

• **Jump up and down.**

• **Notice your body:** the weight of your body in the chair; wiggling your toes in your socks; the feel of your back against the chair. You are connected to the world.

• **Stretch.** Extend your fingers, arms, or legs as far as you can; roll your head around.

• **Clench and release your fists.**

• **Walk slowly, noticing each footstep,** saying “left” or “right” with each step.

• **Eat something, describing the flavors** in detail to yourself.

• **Focus on your breathing,** noticing each inhale and exhale. Repeat a pleasant word to yourself on each inhale (e.g., a favorite color, or a soothing word such as “safe” or “easy”).

**Soothing Grounding**

• **Say kind statements,** as if you were talking to a small child— for example, “You are a good person going through a hard time. You’ll get through this.”

• **Think of favorites.** Think of your favorite color, animal, season, food, time of day, TV show.

• **Picture people you care about** (e.g., your children), and look at photographs of them.

• **Remember the words to an inspiring song, quotation, or poem** that makes you feel better (e.g., the AA Serenity Prayer).
• **Remember a safe place.** Describe a place that you find very soothing (perhaps the beach or mountains, or a favorite room); focus on everything about that place- the sounds, colors, shapes, objects, textures.
• **Say a coping statement:** “I can handle this,” “This feeling will pass.”
• **Plan a safe treat for yourself,** such as a piece of candy, a nice dinner, or a warm bath.
• **Think of things you are looking forward to in the next week** - perhaps time with a friend, going to a movie, or going on a hike.

**WHAT IF GROUNDING DOES NOT WORK?**

Grounding does work! But, like any other skill, you need to practice to make it as powerful as possible. Below are suggestions to help make it work for you.

• **Practice as often as possible,** even when you don’t need it, so that you’ll know it by heart.
• **Practice faster.** Speeding up the pace gets you focused on the outside world quickly.
• **Try grounding for a looooonnnnngggg time (20-30 minutes).** And repeat, repeat, repeat.
• **Try to notice which methods you like the best** - physical, mental, or soothing grounding methods, or some combination.
• **Create your own methods of grounding.** Any method you make up may be worth much more than those you have read here, because it is *yours*.
• **Start grounding early in a negative mood cycle.** Start when substance craving just starts or when you have just started having a flashback. Start before anger gets out of control.
• **Make up an index card** on which you list your best grounding methods and how long to use them.
• **Have others assist you in grounding.** Teach friends or family about grounding, so that they can help guide you with it if you become overwhelmed.
• **Prepare in advance.** Locate places at home, in your car, and at work where you have materials and reminders for grounding.
• **Create a cassette tape of a grounding message** that you can play when needed. Consider asking your therapist or someone close to you to record it if you want to hear someone else’s voice.
• **Think about why grounding works.** Why might it be that by focusing on the external world, you become more aware of an inner peacefulness? Notice the methods that work for you- why might those be more powerful for you than other methods?
• **Don’t give up!**

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