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Vocational Readiness: The Effect of Pre-Prison and Incarceration-Based Trauma on Cognitive Appraisals and Self-Perceptions of Incarcerated Women

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DEDICATION

I would like to dedicate my dissertation research to my father, William M. Dykes Sr. You have been a constant reminder of what can be achieved in one's life time with hard work, perseverance and care for humanity. You are sorely missed each and every day.

Additionally, I dedicate my dissertation work to Debra "Ann" Whetstone-Miller and her dedication to increasing awareness of systemic lupus erythematosus (Lupus). You began this journey with me and I wish you were here with us today. You, too, are missed my long time friend.

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ABSTRACT

The number of women incarcerated in the United States has grown at an alarming rate. This research study presents a conceptual framework for examining pre-prison and incarceration-based trauma and its effects on cognitive appraisals and self-perceptions. Literature from psychology, feminist psychology and neuropsychiatry are integrated to discuss how pre-prison trauma creates pathways to crime for females, how incarceration serves as a form of traumatization (or retraumatization), how the social dynamics of the prison environment potentially exacerbates mental health issues (i.e., PTSD, anxiety, depression), how this negatively affects a female inmates vocational readiness—the ability to obtain and maintain employment once engaged in the re-entry process. Implications for intervention development are discussed.

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LIST OF ABBREVIATIONS

CEA.....Childhood Emotional Abuse

CEN.....Childhood Emotional Neglect

CPA.....Childhood Physical Abuse

CPN.....Childhood Physical Neglect

CSA.....Childhood Sexual Abuse

CTQ.....Child Trauma Questionnaire

DASS ..... Depression Anxiety Stress Scale

DCI..... Dayton Correctional Institution

GED ..... General Education Development

IBT .....Incarceration-Based Trauma

IPV ..... Intimate Partner Violence

NEPRC.....NorthEast Pre-release Center

ODRC .....Ohio Department of Rehabilitation Center

ORW .....Ohio Reformatory for Women

PPT..... Pre-Prison Trauma

PTCI..... Post Traumatic Cognitions Inventory

PTSD.....Posttraumatic Stress Disorder

SES..... Socio-Economic Status

TEQ.....Trauma Events Questionnaire

WPP ..... Work Potential Profile

CHAPTER 1

INTRODUCTION

The role that trauma plays in the lives of incarcerated women has been the focus of many studies (e.g., Chesney-Lind, 1997; Covington, 1998; DeHart, 2008; Dirks, 2004; Eliason et al., 2005; Flemke, 2009; O'Brien, 2001; O'Brien, 2006; Richie, 2001; Reichert, Adams, Bostwick, 2010; Salisbury & Voorhis, 2009). The factors that contribute to female criminal behavior and subsequent incarceration are quite varied. However, the most commonly reported factors are childhood and adult sexual and physical abuse (Bradley & Davino, 2002; Chesney-Lind, 1997; Reichert et al., 2010; Richie, 2001). Empirical research reveals a significant relationship between these forms of trauma and incarcerated females "pathways" into crime (DeHart, 2008; Salisbury et al., 2009).

Recent statistics suggest that upward of 60 percent of incarcerated women are exposed to trauma prior to incarceration (Dirks, 2004; Heney & Kristiansen, 1998; Reichert, Adams, Bostwick, 2010; Richie, 2001) with 99 percent of incarcerated women reporting at least one traumatic event during their life time (Cook, Smith, Tusher & Raiford, 2005). In fact, incarcerated women's experiences with interpersonal violence (childhood and adult sexual and physical abuse) surpasses the number of women in the general population exposed to these forms of trauma (Browne, Miller & Manguin, 1999; Chesney-Lind, 1997; Mouzos & Makkai, 2004). Prior exposure to interpersonal violence may negatively affect a woman's cognitive appraisals and self-perceptions, which are potentially exacerbated through the incarceration process (Dirks, 2004; C. Haney, 2001;

L. Haney, 2004; Kubiak, 2004; O'Brien, 2001; O'Brien, 2006). The previous decade saw a substantial increase in the use of incarceration as a form of control and punishment. Here, drug policies implemented to address the war on drugs have contributed to a large female prisoner population (Bradley et al., 2002; Chesney-Lind, 1997; Petersilia, 2003). Given that a large proportion of incarcerated females are likely to experience trauma prior to incarceration, and given that this may negatively affect her cognitive appraisals and self-perceptions, it is important to examine, in a more comprehensive manner, the role that incarceration plays in further traumatizing them.

Recent studies have begun to examine how the prison environment acts as an additional stressor, retraumatizing female inmates who already have extensive trauma histories (Clark, 2001; Dirks, 2004; Douglas, Plugge & Fitzpatrick. 2009; C. Haney, 2001; L. Haney, 2004; Progrebin & Dodge, 2001; Soffer & Ajzenstadt, 2010). Given the potential for retraumatization, it is imperative that gender-sensitive penal facilities be considered (Bloom & Covington, 1998; Bloom, Owen, & Covington, 2003). Gender-sensitive facilities limit practices and policies that may increase or add to mental and physical suffering. These practices include screening for sexual abuse and other forms of violence that the inmate may have been exposed to prior to incarceration (Penal Reform International & Association for the Prevention of Torture, (2013), p. 12). The need to limit additional exposure to trauma and to provide treatment relevant to managing the influence of trauma on cognitive appraisals and self-perceptions is a necessary process for recovery and post-release adjustment. In particular, securing viable employment in order to meet one's basic needs and establish independence from potentially abusive situations is a necessary component for successful reentry.

PURPOSE OF STUDY

The purpose of this dissertation is to examine how trauma prior to incarceration and incarceration-based affect females' cognitive appraisals and self-perceptions and ultimately, how this affects her vocational readiness. In this dissertation, vocational readiness is defined as the ability to fulfill the performance expectations associated with obtaining and maintaining employment.

SIGNIFICANCE OF STUDY

The examination of the effects of trauma on cognitive appraisals and self-perceptions may indicate that incarcerated women with chronic and/or multiple trauma experiences will have higher levels of trauma-related cognitions and higher levels of PTSD symptom severity. Research suggests that symptoms related to PTSD impairs psychological functioning contributing to difficulty in managing pre-employment screenings, interviews and the daily expectations and responsibilities of work-related activities (Matthews et al., 2009). These findings support a need for a more gender-sensitized prison environment and trauma-focused treatment prior to release (van Wormer, 2010).

This dissertation research may enhance clinical social work practice and advance social work education and research by providing current feedback and advancement in working with prison populations exposed to chronic and/or multiple traumas. This work transcends the female incarcerated population to working with military personnel and victims of national disasters to automobile accidents and/or home invasions. These types of traumatic events disrupt psychological functioning and can impair physical functioning creating barriers to vocational readiness.

CHAPTER 2

THEORETICAL FRAMEWORK THAT INFORMED THIS PROJECT

In this dissertation, concepts from Emotional Processing Theory (Foa & Kozak, 1986), Social Cognitive Theory (Bandura, 1989) and Herman's (1992) research on Complex Trauma are used to examine the effects that trauma has on the cognitive appraisals and self-perceptions of incarcerated women. Cognitive appraisals are referred to as "habitual interpretations of experiences and events in terms of their meaning for an individual" (Matthews, Harris, & Cumming, 2009, p. 1577). Moreover, self-perception is used to refer to an individual's behaviors, thought processes and attitudes in response to a traumatic event. Maladaptive cognitive appraisals and negative self-perceptions are often the result of trauma-related fear that result in feelings of self-blame and guilt, not being safe in the world and/or seeing oneself as incompetent (Moser et al., 2007).

Foa and Kozak (1986) suggest that specific pathological fear structures are the basis of PTSD and other anxiety-based disorders (Becker et al., 2010; Norrholm, Jovanovic, Olin et al., 2010). Fear is represented in memory structures consisting of stimulus, response, and meaning (Rauch et al., 2006). This tripartite structure serves as a roadmap for behavioral responses – namely, avoidance of risk and harm (Rauch et al., 2006). Foa and Kozak's (1986) Emotional Processing Theory (EPT) expanded this concept through the introduction of pathological fear structures that are considered different than "normal fear structures." Pathological fear structures, as they contend, are distinguished by their strong response (e.g., maladaptive cognitive appraisals and

negative self-perceptions) and overall resistance to change. These structures do not reflect reality, and often affect how and individual attends to and processes new information. Social Cognitive Theory (SCT) is also relevant to understanding the effects that trauma has on the cognitive appraisals and self-perceptions of incarcerated women. This theory represents a three-way reciprocal interaction between personal factors, the environment, and behavior (Bandura, 1989). Bandura posits that cognitive guidance is necessary as one receives new information and acquires new skills. However, such guidance dissipates once this process becomes a natural response – that is, part of the human consciousness. For Foa and Kozak (1986), pathological fear structures can become a part of the human consciousness, thus, affecting not only how one processes information, but also how one perceives her self-efficacy. Bandura (1989) posits that an individual's belief system influences motivation, emotion and behavior. Ultimately, these belief systems become self-aiding (i.e., reinforcing the notion that one is capable of controlling events) or self-hindering (i.e., reinforcing the notion that one is incapable of controlling events).

Equally important, exposure to any amount of trauma may disturb the continuity of self (Herman, 1992). The fragmenting of one's self happens through a systematic process of questioning one's ideals and values—ideals and values that have traditionally provided a rationale for one's existence. This process may cause the self to become unrecognizable (Herman, 1992). Janoff-Bulman and Frieze (1983) refer to this process as "cognitive baggage," which they define as "assumptions and expectations" about "self" and the "world" that are no longer recognizable or valid after a traumatic event. This inability to recognize personal indicators that confirm the existence of self may

result in a fragmented self. The fragmented self may interfere with the ability to engage in future-oriented behavior (i.e., setting goals and planning activities, obtaining employment) (Janoff-Bulman & Frieze, 1983). For example, following a single traumatic event one may respond by saying "I am not myself" (Herman, 1992, p. 386). On the other hand, survivors of multiple, prolonged and/ or chronic trauma may lose the sense that "self" exists. This fragmentation of the self becomes more complex in individuals exposed to childhood trauma (Herman, 1992; Phillips & Daniluk, 2004).

Taken together, emotional processing theory, social cognitive theory and Herman's (1992) research on complex trauma demonstrates the effect of cognitions on human agency (i.e., belief in one's ability to affect change in her environment). Human agency can be negatively influenced by the existence of pathological fear structures. For example, incarcerated women often experience trauma prior to incarceration (e.g., childhood and/ or adult sexual/physical assault; intimate partner violence), which may create pathological fear structures that impede their agency (Bandura, 1989; Becker et al., 2010). These maladaptive cognitive appraisals may lead to negative self-perceptions, which are reinforced by internal messages that she is not capable of protecting herself and/ or making good life decisions. It may also lead to a fragmented self. In fact, it may be the existence of these negative cognitive structures that lead to criminal behavior, and is then further compromised by the norms, values and behaviors of the prison environment (Clark, 2001; Hackett, 2009; C. Haney, 2001; Wolff et al., 2007).

The culmination of trauma and the adjustment to the prison environment may exacerbate maladaptive cognitive appraisals by increasing the incarcerated female's

vulnerability to developing PTSD. In this dissertation research, I will explore this issue, as well as how this may negatively affect her vocational readiness.

CONCEPTUAL MODEL

Figure 1 presents a conceptual model that outlines the effect of trauma on the cognitive appraisals and self-perceptions of incarcerated women. To provide trauma-specific treatment mental health professionals must have a "big picture" perspective of this issue. Examining the effect of trauma through the lens of the proposed model may help mental health professionals become more cognizant of the potential roadblocks to vocational readiness and post release adjustment. This dissertation is organized around the conceptual model presented in Figure 1. As will be discussed, *Pre-Prison Trauma* **(**e.g., childhood and adult sexual/ physical abuse, intimate partner violence, adult sexual/ physical assault**)** represents many of the *Pathways to Crime*. Prior pathological responses to childhood sexual and physical abuse may contribute to the formation of *Maladaptive cognitive appraisals and Negative self-perceptions.* In actuality, such abuse may lead to increased vulnerability to the development of PTSD*PTSD Symptoms*, with *Maladaptive cognitive appraisals and Negative self-perceptions* being precursors to this. Moreover, a *severe pathological response* may lead to *Criminal behavior*, and ultimately, to *Incarceration***.**

The norms, values and behaviors endemic to the prison environment may lead to *Incarceration-Based Trauma (IBT).* In this dissertation, IBT refers to the socio-environmental aspects of the prison environment (e.g., sexual/ physical assault/trauma, victim and/or witness, isolation, separation from family/children, lack of privacy, robbery/theft, and bullying) that leads to psychological distress (Boxer et al, 2009; Clark,

2001; Hackett, 2009; C. Haney, 2001; Islam-Zwart et al., 2004; Wolff et al., 2007). Incarcerated women with prior trauma histories may experience the prison environment as an additional traumatic event (i.e., *retraumatization*) (Boxer, 2009; Hackett, 2009; Islam-Zwart et al., 2004), which may further impair *Maladaptive cognitive appraisals and Negative self-perceptions***.** This may also exacerbate prior symptoms of PTSD/*PTSD Symptoms***.** Women without prior trauma histories may experience the prison environment as a *Traumatic* event (Dirks, 2004) that may lead to *Maladaptive cognitive appraisals and Negative Self-perceptions*. This, of course, could lead to PTSD/*PTSD Symptoms.* Lack of *Trauma specific treatment protocol* or *Inadequate trauma specific protocol* for *Trauma-related cognitions* may lead to *Diminished psychological functioning* (Strauser & Lustig, 2001) and *Diminished post release adjustment* (Petersilia, 2003), culminating in *Unsuccessful reentry*.

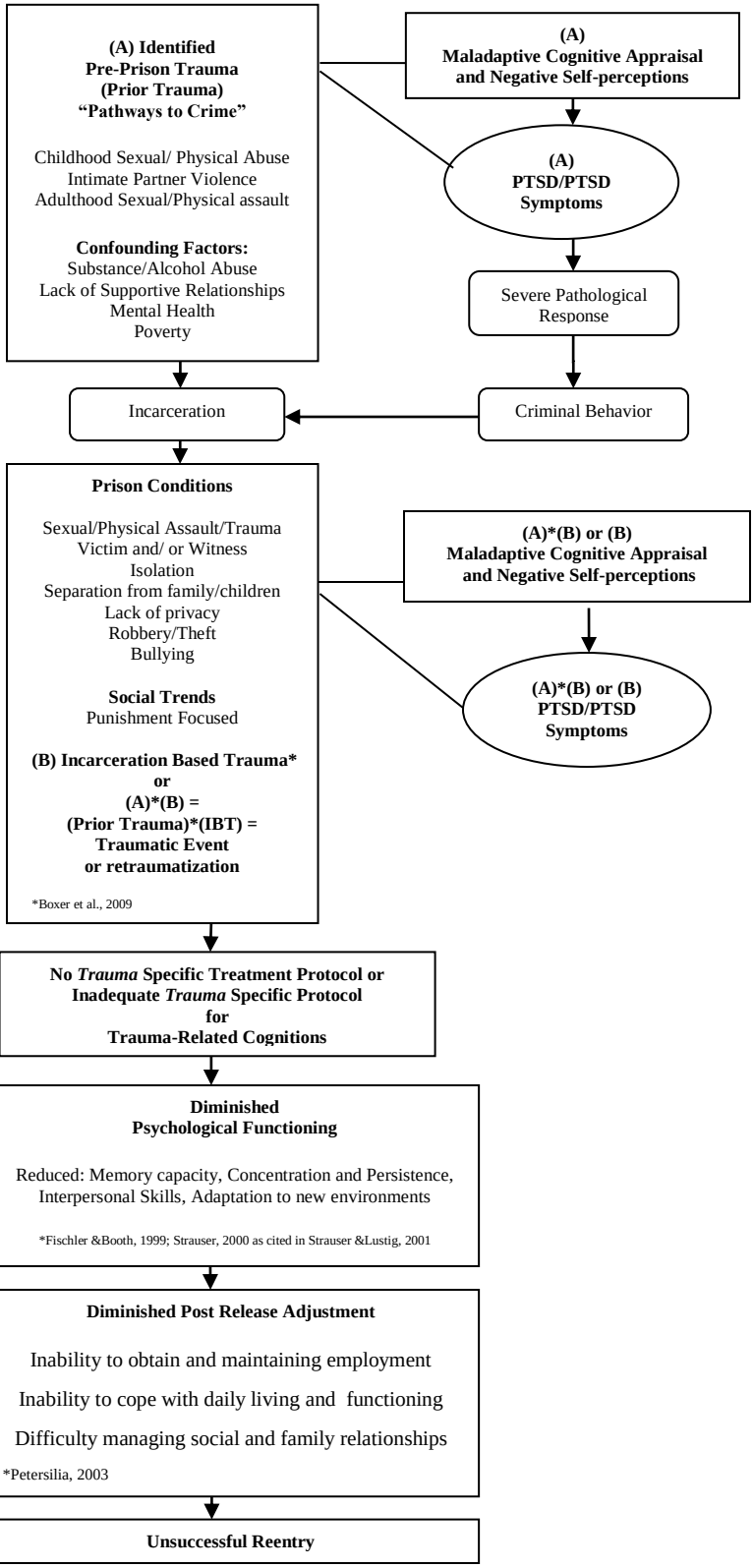


Figure 2.1 CONCEPTUAL MODEL

CHAPTER 3

LITERATURE REVIEW

Previous research suggests that a significant relationship exists between childhood sexual and physical abuse and adult pathological disorders (e.g., PTSD, major depressive disorders, anxiety disorders) (Berlinear & Elliot, 2002; Briere & Runtz, 1993; Finkelhor, 1990; Kolko, 2002; Neumann, Houskamp, Pollock, & Briere, 1996; Polusny & Follette, 1995). Moreover, a recent study conducted by Flory, Yehuda, Passarelli and Sievers (2012) alludes to a genetic risk factor in the development of PTSD in response to childhood trauma. Flory et al. (2012) study showed that PTSD was six times more likely to occur when childhood trauma and a family history of a major depressive disorder existed. Bowels, DeHart and Webb (2012) suggest that the presence of a mentally ill caregiver is one family risk factor that may negatively affect "physical and psychological well-being" of incarcerated women creating pathways to female offending.

Browne, Miller and Manguin (1999) investigated the prevalence of trauma among incarcerated women prior to imprisonment. The study reported that "59 percent of incarcerated women were exposed to childhood sexual abuse, 70 percent were exposed to physical abuse by a caregiver, 49 percent experienced rape as an adult and 75 percent of adult abuse was by and intimate partner" (p. 124). Figure 1 underscores the role that pre-prison trauma plays in setting the stage for incarceration. In fact, the prevalence of childhood sexual abuse and adult rape rank high among the traumas most often reported among incarcerated females (Islam-Zwart & Vik, 2004).

PRIOR TRAUMA IN THE LIVES OF INCARCERATED FEMALES

According to a Bureau of Justice Statistics (BJS) special report, 55.3 percent of females in local jails across the United States (convicted/ non-convicted) reported they were victims of sexual and physical abuse in the past (James, 2002). These statistics are significant because they point to additional factors that may contribute to pathways to crime for women. The majority of incarcerated women are young, poor, and living in communities where mental health resources are scarce (Austin, 2001; Greenfield et al., 1999; O'Brien et al., 2001; Richie, 2001). Women of lower socio-economic status often lack strong support systems and have limited access to financial, medical and mental health resources, which are critical to recovering from abuse and/ or trauma. These factors, coupled with the intensity and severity of abuse, may impede some women's ability to leave abusive relationships, to protect their children from abuse, and/ or to receive adequate medical and mental health care (Richie, 2001).

Compared to adult victims of physical abuse, victims of childhood sexual abuse experience a greater number and variety of pathological symptoms (i.e., anxiety, depression, hyper arousal) (Becker et al., 2010; Briere & Elliot, 2003). Such symptomology can have a negative effect on the victim's cognitive appraisals and self-perceptions (Jacobs, 2005; Moser, Hajcak, Simons, and Foa, 2007; Nixon & Bryant, 2005; Norrholm et al., 2010). For example, a victim of childhood sexual abuse may develop pathological fear structures that affect her perceptions of reality. She may then begin to view herself as not being competent and/ or safe in the world (Becker et al., 2010; Moser et al., 2007; Norrholm et al., 2010). Such fear structures are created by a

traumatic event, and each subsequent trauma is situated into this pre-constructed structure.

Research has mainly examined the effects that trauma has on cognitive appraisals and self-perceptions of children and juveniles (Boxer, Middlemass, & Delorenzo, 2009). However, because incarcerated females are much more prone to experience childhood sexual abuse (compared to the general population), it is important to inquire about the role that trauma has on their cognitive appraisals and self-perceptions. For incarcerated women, with prior trauma histories, the prison environment may be experienced as an additional stressor resulting in retraumatization. Multiple and/ or chronic exposure to trauma may increase opportunities for the development of maladaptive cognitive appraisals, negative self-perceptions and self-fragmentations. Previous research suggests a significant relationship between negative cognitions about one's self, gender and presenting symptoms in relation to anxiety (Moser et al., 2007).

TRAUMA, COGNITIVE APPRAISALS, SELF-PERCEPTIONS AND PTSD

Foa and Kozak (1986) provide a theoretical framework that explicates the construction and maintenance of fear structures. Such structures influence how a female processes information after she experiences a traumatic event. In fact, the ability to process information is further diminished with each traumatic event. According to recent cognitive models of trauma response, maladaptive appraisals of traumatic events determine how an individual will adapt to her environment (Ehlers & Clark, 2000). A commonly reported response to trauma is self-blame, which may result in a diminished self-worth and an acceptance of mistreatment in interpersonal relationships. According to emotional processing theory, such trauma may create pathological fear structures, which

would cause a female to process information in a distorted way (e.g., blaming herself for the abuse). It could be that this pathological response is the result of prolonged maladaptive appraisals.

Prolonged maladaptive appraisals increase the likelihood that trauma responses will become negative. Thus, the longer the negative response exists, the greater the chances for developing PTSD/PTSD symptoms (Nixon et al., 2005). Moser et al. (2007) showed a positive correlation between maladaptive cognitive appraisals and negative self-perceptions. Furthermore, they provide evidence of increased maladaptive cognitive appraisals and negative self-perceptions resulting in PTSD/PTSD symptoms among female participants in their study.

The hippocampus has been cited as occupying an influential role in resilience or vulnerability to PTSD (Flemke, 2009). In particular, Flemke (2009) contends that in a traumatic event, trauma-related memories become trapped in the right hemisphere of the brain, unable to crossover to the left hemisphere where reasoning and logic takes place. The inability of the brain to dismantle trauma-related fear structures increases the chance for the development of PTSD and/ or PTSD symptoms after a single traumatic event (Flemke, 2009). In contrast, exposure to multiple traumas over an extended period of time increases the likelihood for the development of complex PTSD resulting in dissociation. Multiple personality disorder, an extreme form of dissociation, is often seen in victims of prolonged and severe child abuse (Herman, 1992). Incarcerated women, often the survivors of severe and prolonged child abuse, may continue to view an abusive parent as kind and loving in spite of the abusive behavior (Shengold, 1989). Although this type of dissociation may be an adaptive response to the unbearable trauma, the

inability to disavow the negative fear structure through the process of reasoning and logic will maintain a false reality. The persistence of the false reality may lead to the development of maladaptive cognitive appraisals and negative self-perceptions increasing the chances for the development of PTSD and /or complex PTSD.

Overall, previous studies indicate a greater need for research and services designed to better understand gender-based differences in trauma responses. Given that incarcerated women often experience interpersonal violence prior to incarceration, as well as trauma specific to the prison environment, it is important that more research focus on understanding the role that trauma plays in the formation of maladaptive cognitive appraisals and negative self-perceptions in the lives of incarcerated women. In this study, PTSD symptom severity was measured to determine level of psychological distress and severity of PTSD symptomology.

PROFILES OF INCARCERATED WOMEN—PATHWAYS INTO CRIME

The number of women incarcerated between 1995 and 2005 increased by 57 percent. Females on probation also increased by 52 percent during that same period of time (Harrison & Beck, 2006). Conversely, the Bureau of Justice Statistics (BJS), at year-end 2009, reported a slight decrease (0.6 percent) in the rate of incarceration for women (Guerino, Harrison & Sabol, 2010). Moreover, the number of inmates released from prison surpassed the number of inmates that entered prison during the same period of time [2009] (Guerino et al., 2010). The increase in the number of women returning to their communities supports the need for trauma specific treatment for PTSD and/ or PTSD symptoms. A study conducted by Reichert and Bostwick (2010) reported that 83

percent of incarcerated women (N=136) surveyed stated that PTSD symptoms had been a source of distress in the previous month.

Traditionally, the study of crime has focused on how and why men engage in criminal behavior; nevertheless, women comprise a significant proportion of the incarcerated population (Petersilia, 2003; Richie, 2001; Salisbury et al., 2009). Research has shown that the following are pathways to female imprisonment: 1) Prior trauma (e.g., childhood sexual and physical assault, intimate partner violence (IPV) and adult sexual/physical assault); 2) Abuse of alcohol and illicit drugs; 3) Lack of mental health treatment; and 4) Poverty and lack of financial security (Daly, 1994; DeHart, 2008; Salisbury et al., 2009; Richie, 2001).

Bloom and Covington (1998) provide a comprehensive analysis of the female offender and the way she differs from her male counterpart. First, incarcerated females are less likely to have been incarcerated because of a violent crime. That being said, it is important to recognize that a female's proclivity toward aggression may be a personal choice. As mentioned earlier, females are more likely to experience these forms of victimization. Moreover, in state correctional facilities 46.5 percent of incarcerated females reported physical abuse as a child, 39 percent reported sexual abuse and 28 percent reported both physical and sexual abuse prior to 18 years of age. In federal correction facilities 32.3 percent of incarcerated females reported physical abuse, 22.8 percent reported sexual abuse and 15.1 percent reported both physical and sexual abuse prior to 18 years of age. In addition, 61.3 percent of incarcerated women reported abuse as an adult by an intimate partner in state correctional facilities and 66.3 in federal facilities (Harlow, 1999). Because of this earlier exposure to trauma, it is possible that

many incarcerated women have developed pathological fear structures that affect how they process information about themselves and others. Thus, new and threatening information only exacerbates their maladaptive cognitive appraisals and self-perceptions. Imprisonment may be experienced as an additional threat for women with prior trauma histories. In fact, the loss of freedom, lack of privacy and separation from children, family, friends and community ties may be experienced as a form of retraumatization for incarcerated women.

Second, Greenfeld and Snell (1999) reported that 61 percent of incarcerated females use alcohol and illicit drugs to alleviate symptoms related to anxiety, depression and PTSD. Although, the use of alcohol and illicit drugs may be a protective strategy, it may also indicate prior trauma. Several studies reported a positive correlation between alcohol dependence and women's experiences with sexual assault (Brier & Zaidi, 1989; Schaefer, Evans, & Stern, 1985; Winfield, George, Swartz, & Blazer, 1990). For example, Schaefer, Evans and Stern, (1985) compared 100 women receiving treatment for alcoholism with a non-alcohol control group. Their findings suggested that women who were being treated for alcoholism were significantly more likely to have experienced sexual abuse compared to the control group. It seems plausible to suggest that because of prior trauma, and because of the development of pathological fear structures, maladaptive cognitive appraisals may lead these women to engage in destructive coping strategies that further makes them vulnerable to continued abuse and/ or incarceration.

Third, Richie (2001) contends that incarcerated women are often young, poor, and reside in low income communities where mental health services are limited (DeHart, 2008; Bloom, Owen & Covington, 2004, Richie, 2001). While this points to a lack of

mental health service utilization prior to incarceration, it also necessitates a greater need to examine the comprehensiveness of mental health services provided to women prisoners. Experiencing trauma makes incarcerated women more vulnerable to developing PTSD/ PTSD symptoms (Maloney, van den Bergh & Moller, 2009). Strauser and Lustig (2001) refer to the importance of correctly diagnosing and treating PTSD and/ or PTSD symptoms, and how the misdiagnosis and mistreatment of trauma may actually increase the symptomology of mental illness. However, mental health services provided in prisons have not kept pace with the increase in the female prison population (Manderscheid, Gravesande & Goldstrom, 2004). Qualitative interviews of incarcerated females' experiences with interpersonal violence confirm the lack of treatment for symptomology related to trauma and victimization (Richie, 2001). More specifically, in Richie's study, the majority of incarcerated women suffered from undiagnosed psychological disorders. The lack of attention given to violence, trauma, and PTSD and/ or PTSD symptoms in the lives of incarcerated women increases the likelihood that they will continue to experience unresolved issues connected to trauma and abuse (Bill 1998; Lynch, Heath, Matthews, Cepeda, 2012; Richie, 2001). This also makes vocational readiness and post-release adjustment more difficult and increases the likelihood of unsuccessful reentry.

Fourth, poverty is a risk factor with 60 percent of incarcerated women unemployed at the time of arrest (Greenfeld & Snell, 1999). These figures are inflated by an even larger number of incarcerated females who are unskilled and undereducated (Bloom et al., 1998, DeHart, 2008; Richie, 2001). A connection between poverty, addiction and women's involvement in illegal activities has been identified in recent

works (Bowles et al., 2012; Covington, 1998; O'Brien & Young, 2006; Richie, 2001). In fact, incarcerated women returning to their communities often contend with previously established relationships that supported a criminal identity that involved prostitution and drug abuse (Graham & Wish, 1994; Henriques, 2006). These factors may hinder a female ex-offenders ability to make substantial changes that may improve her chances for recovery.

The lack of financial security, due to being unemployed or underemployed, may increase the likelihood of dependence on an abusive intimate partner. This results in continued trauma and victimization, thus, limiting the female's ability to leave an unsafe environment. In fact, such dependence on abusive relationships only exacerbates maladaptive cognitive appraisals and negative self-perceptions (Foa & Kozak; 1986; Moser et al., 2007).

INCARCERATION-BASED TRAUMA (IBT) AND FEMALE INCARCERATION

For women, the prison experience is distinctive. Women are more often the primary caregivers of their children. Moreover, of the 200,000 females incarcerated in the United States, over 75 percent were responsible for children prior to their incarceration (Haney, 2004). It is estimated that seven out of 10 women in state, federal or local jails including probation are responsible for minor children (Greenfeld & Snell, 1999). Unlike men in prison, incarcerated women are more often unable to rely on a spouse or significant other to provide a home for their children (Dodge & Progrebin, 2001; Rafter, 1985). The fear of losing custody of their children further exacerbates psychopathological symptoms related to PTSD (i.e., anxiety, depression, etc.).

Despite the plethora of research supporting the existence of traumatic experiences in the lives of incarcerated females, only recently has there been a comprehensive examination of the effects of the penal environment on post-release adjustment (Boxer et al., 2009). Extant research alludes to the prison environment as being one of violence (e.g., Boxer, 2009). For example, Wolff, Blitz, Shi, Siegel and Bachman (2007) reported that one out of every 10 inmates had been victims of physical assault within a six month period. In general, inmates typically live under the threat of physical and sexual assault, theft, robbery and property damage. In fact, prison violence may go under-reported due to the threat of retaliation from "snitching" (Wolff et al., 2007).

Correctional officers often report less violence than inmates. Overall, the actual account of violence that female inmates are exposed to is difficult to ascertain because many inmates are afraid to report prison violence out of fear of retaliation by other inmates and/or staff (Boxer et al., 2009). In 1995 it was reported that over 5,000 females were sexually assaulted in prison (Alarid, 2000; Islam-Zwart, 2004; Wolff et al., 2007). The opportunities for sexual assault are heightened by the lack of privacy, which is characteristic of the prison environment (Clark, 2001; C. Haney, 2001). Moreover, the loss of privacy may decrease a female's sense of self-worth (Clark, 2001), thus, exacerbating her maladaptive cognitive appraisals and self-perceptions that may already have existed from prior trauma (C. Haney, 2001).

Prison-induced stressors may lead to physical and psychological distress, which I refer to as Incarceration-Based Trauma (IBT) in Figure 1. The lack of control the female inmate has over her environment (i.e., who she shares her cell with, cramped, tight deteriorating living space, when she goes to bed or wakes up, when she eats and what she

eats, physical assault, and witnessing a violent crime) is a significant prison stressor that may lead to retraumatization for women with prior trauma histories (Boxer, 2009; Hackett, 2009; Herman, 1992; Islam-Zwart et al., 2004), and to initial trauma for women without prior trauma exposure (Dirks, 2004). With this in mind, it is important to also recognize that some women with prior trauma may find prison a place of safety (Chesney-Lind, 1997; Covington, 1998; Bradley & Davino, 2002; Henriques & Jones-Brown, 2000).

Given that research shows a long standing negative impact of trauma and prolonged stress on the psychological processes of individuals (Moser et al., 2007; Strauser & Lustig, 2001), and given that at least 60 percent of the incarcerated female population have experienced pre-prison trauma (childhood and adult abuse) (Chesney-Lind, 1997) and approximately 99 percent have experienced at least one traumatic event (Cook, Smith, Tusher & Raiford, 2005), it seems reasonable to posit the following three hypotheses. First, Incarceration-based trauma (IBT) is a form of retraumatization for incarcerated women with a history of trauma and victimization. Thus, IBT creates pathological fear structures, or aggravates already existing structures – which only strengthens the inmate's maladaptive cognitive appraisals and negative self-perceptions. This is the case because, as suggested by social cognitive theory and emotional processing theory, these fear structures becomeself-hindering, thus, increasing fragmentation of self and eroding the inmate's self-efficacy. As mentioned, the prison environment can decrease the female inmate's self-efficacy by making her feel that she cannot protect herself or control her environment.

Second, past trauma coupled with IBT, may lead to PTSD, Complex PTSD (or PTSD symptomology), further exacerbating trauma-related maladaptive cognitive appraisals and negative self-perceptions. The longer the inmate is incarcerated, the more her fear structures become inculcated and the more prone she becomes to PTSD symptomology and self-fragmentation. Third, IBT may act as a primary trauma for incarcerated women without identified past trauma and victimization histories. Clearly, some women have maladaptive cognitive appraisals prior to prison and prison only exacerbates it. Yet, for other females, their prison experience may be what causes the maladaptive cognitive appraisals and negative self-perceptions.

There is a lack of treatment for symptomology associated with trauma, such as PTSD, during incarceration. This lack of treatment results in an increase in PTSD symptomology. Research suggests that untreated PTSD leads to verbal and memory impairment (Quereshi et al., 2011), learning impairments (Yehuda et al., 2005), and attentional dysfunction (Jenkins et al., 2000). Such impairments can serve as roadblocks to vocational readiness and post-release adjustment.

PRISON HOUSING SECURITY LEVELS

The prison classification system—a system used to determine housing security level for new inmates—may also contribute to retraumatization. However, the current classification system—created for male correctional facilities—is a risk-based system that does not take into consideration incarcerated women's needs (Farr, 2000; Salisbury, Van Voorhis & Spiropoulos, 2009) or the fact that women are traditionally incarcerated for less violent crimes (Bloom, Owen & Covington, 2003). Recent studies examining gender-responsive needs reported a relationship between incarcerated women's finances,

educational level, living conditions, substance use/ abuse and reentry outcomes (DeHart, 2008; Richie, 2001; Voorhis, Wright, Salisbury & Bauman, 2010).

Prison misconduct has been cited as one reason for incarcerated women's placement in maximum or medium (or mid-maximum) security housing (Salisbury et al., 2009). Prison strip search and/ or pat down procedures, whether performed by male or female security personnel, may trigger an aggressive reaction in response to prior "sexual traumatization" (Heney & Kristiansen, 1998, p. 31) without the use of gender-sensitive practices that involves screening for prior trauma and talking the female inmate through the process (Penal Reform International and Association for the Prevention of Torture (2013). Sexual traumatization refers to the effects of childhood sexual trauma on shaping a child's sexual development (Heney & Kristiansen, 1998). This may suggest that women exposed to childhood trauma—a large percentage of incarcerated women—are more likely to be assessed and classified as a trouble-maker and housed in maximum security housing—not eligible to receive trauma-related treatment or employment and education services. These factors may contribute to women with childhood abuse experiences having higher levels of negative trauma-related cognitions and a lower level of vocational readiness. Salisbury et al. (2009) research is part of a pilot study and further examination is needed for conclusive results. However, the inclusion of housing security levels as a control variable in the proposed dissertation may provide an opportunity to increase knowledge in the area of prison classification systems in relation to trauma-related cognitions, PTSD, vocational readiness and post-release adjustment.

THE EFFECT OF PTSD ON VOCATIONAL READINESS AND POST-RELEASE ADJUSTMENT

Effectively addressing the commanding presence of PTSD in the lives of incarcerated women will increase the likelihood she will be mentally and emotionally prepared to address family, employment and community obligations upon reentry. Mechanic, (2004) and Scott-Tilley, Tilton and Sandel (2010) note that PTSD is one of the most frequently documented mental health consequences of violence against women. The concept of PTSD embodies the physiological and psychological responses experienced after a traumatic event. Although the threat is physically no longer present, the trauma continues to produce symptoms of distress that may contribute to a decrease in the ability to function (Briere and Jordan, 2004; Mechanic, 2004).

In conjunction with these clinical findings, Strauser, (2000) suggests that PTSD symptomology affect an individual's ability to effectively engage in 4 important areas of vocational functioning: "(a) understanding and memory; (b) concentration and persistence; (c) social interaction; and (d) adaptation" (p. 28). It is typical for individuals with persistent PTSD symptoms to be unemployed or underemployed; the severity of PTSD symptoms increases the longevity of employment difficulties (Jackson, Davidson & Hughes, 1999; Matthews & Chinnery, 2005; Matthews, 2006; Zlotnick, Franklin & Zimmerman, 2002). Such findings necessitate a more comprehensive treatment strategy for incarcerated women.

Oftentimes, mental health treatment received in prison is not adequate to meet the needs of trauma survivors experiencing symptoms related to trauma and/ or complex trauma. Mental health providers tend to address the periphery of symptoms attributed to

abuse, such as anxiety and depression. The number of inmates receiving mental health treatment once incarcerated is as few as 11 percent; furthermore, trauma-related mental health treatment is even less available in correctional facilities (Quina & Brown, 2007). Inadequate treatment of PTSD may intensify PTSD symptoms, creating conflict between the individual and the environment. Applying this to the prison environment, the conflict may be attributed to stressors inside the prison walls (e.g., misconduct, sexual and physical abuse, lack of privacy) and extend to vocational readiness and post-release adjustment during reentry (i.e., gaining employment, re-uniting with children and family, re-engaging with community members). Keim, Strauser and Malesky (2000) noted that individuals in the general public who do not receive treatment for PTSD (over 50%) continue to experience symptoms that cause distress, negatively influencing their quality of life. The rate of PTSD for incarcerated women is three times the number for women in the general population (Kessler, 1995; Zlotnick et al., 2002) and trauma-related treatment is a rarity in prison. This would indicate that a large number of incarcerated women are experiencing distress from untreated PTSD. When PTSD symptoms are not treated, the severity of maladaptive cognitive appraisals and negative self-perceptions are intensified and, ultimately, may negatively affect the inmate's psychological functioning (Matthews, 2006; Moser et al., 2007; Strauser & Lustig, 2001), vocational readiness and post release adjustment (Petersilia, 2003).

Nevertheless, it is clear that survivors of traumatic events experience a disruption in one’s beliefs system that affects how one processes information as the continuity of self is fractured (Herman, 1992). Trauma survivors—upward toward 60 percent of

incarcerated women—must receive trauma specific treatment to increase vocational readiness and encourage successful reentry outcomes.

VOCATIONAL READINESS

Literature reporting on the needs of incarcerated women consistently refers to the prevalence of trauma in their lives (Richie, 2001). On the other hand, very little attention has been given to the role of cognitive appraisals and self-perceptions on incarcerated females' reentry outcomes. This dissertation proposes to move beyond the pervasiveness of trauma to examine the premise that maladaptive cognitive appraisals and negative self-perceptions impede vocational readiness. Vocational readiness, a term used in vocational rehabilitation literature, refers to the skills necessary to compete in the current work environment (Strauser & Lustig, 2001).

The globalization of the economy demands a competitive workforce that has the ability to develop "cognitive, interpersonal and critical thinking skills" (Strauser & Lustig, 2001, p. 26). This entails, the ability to understand and remember detailed instructions (Memory); the ability to carry out work-related tasks and meet production requirements (Concentration and Persistence); the ability to get along with co-workers, customers and supervisors (Interpersonal Skills); and the ability to adapt to a new and/ or changing environment (Adaptation) (Strauser & Lustig, 2001).

A survey of employers revealed that only 5-10 percent of the future workforce, without a college degree, will have jobs that do not require advanced cognitive and interpersonal skills Holzner (1996). Likewise, research indicates that individuals with psychiatric disorders often lack work experience and education and training opportunities. These short-comings are compounded by a fragmented work history with

multiple jobs and limited familiarity with navigating the job market (Ford, 1995). PTSD, a psychiatric disorder that disproportionately affects women, accounts for a large number of the disabled population (Moser et al., 2007; Strauser & Lustig, 2001). Research indicates that "disabled individuals, especially women, report more incidents of trauma, abuse and violence in comparison to their non-disabled peers" (Watson-Armstrong, O'Rourke & Schatzlein, 1999, p. 26).

VOCATIONAL READINESS AND TRAUMA-RELATED COGNTIONS

As previously mentioned, the existence of PTSD may create major barriers to vocational readiness. The inability to attain and maintain employment may result in financial insecurity for incarcerated women with extensive trauma histories. In a recent study, survivors with significant PTSD symptomology showed decreased work potential in comparison to accident survivors without PTSD symptoms (Matthews et al., 2009). In fact, after controlling for PTSD severity, a correlation between negative trauma-related cognitions about the self, world and work potential existed. Trauma-related cognitions about the world describe negative cognitions related to fear about one's safety or feelings of not being safe in the world, and the existence or non-existence of trust. Moreover, this study indicated that trauma-related cognitions about self were related to feelings of incompetence (not being able to protect one's self), and to PTSD severity. However, the relationship between trauma-related cognitions and PTSD severity associated with blame was not significant in this study. On the other hand, previous research has shown that when accident survivors blame themselves for the accident, the survivors returned to

work earlier, showed increased work potential[1] and faster post injury psychological adjustment (Brewin, 1984; Matthews et al., 2009; Rusch et al., 2003).

Trauma-related cognitions about blame refer to one's tendency to blame herself for the traumatic event. The correlation between blame and work potential may indicate that one's ability to believe that there was something she could have done to stop the traumatic event may allude to a sense of control over one's environment—allowing for faster recovery. Therefore, there may be a unique relationship between blame and being a survivor of unintentional trauma/harm versus intentional/deliberate/ calculated trauma/harm. The prevalence of trauma and PTSD symptoms in the lives of incarcerated women calls attention to the importance of these statistics and reinforces the significance of vocational readiness for female inmates preparing to reenter the workforce.

SOCIAL TRENDS, REENTRY AND TREATMENT ISSUES

The challenges facing prisoners returning to their communities have proven overwhelming, as seven out of 10 prisoners are re-incarcerated within 3 years of release (Mallik-Kane & Visher, 2008). The current trend toward punishment of prisoners, instead of rehabilitation, has become a major culprit impeding post-release adjustment (Austin, 2001). Although every state has a pre-reentry program, they tend to be in multiple formats, ranging from two years to two weeks prior to release (Austin, 2001). Petersilia (2003) reports that the number of participants in prison programs are "distressingly low," with only 13 percent of federal inmates and 8 percent of state inmates having completed a pre-release reentry program. The result has been an increase

[1] The term vocational readiness will be used in this dissertation in reference to work potential.

in the number of ex-offenders who are not prepared to reenter society (Manza & Uggen, 2004). In fact, the majority of prisoners receive no preparation beyond minimal financial support ($25.00 - $200.00) and a bus ticket back to their communities (Austin, 2001). Access to stable housing, employment and substance abuse and mental health treatment are basic but essential ingredients for improving prisoner reentry. Research suggests that successful attempts to reduce recidivism depend largely on whether a released prisoner's multiple needs are addressed—which include housing, drug treatment, mental health services, vocational training, opportunities for employment, and family and parent counseling (Cullen & Gendreau, 2000; Richie, 2001).

The effect of trauma on the psychological processes of female ex-offenders suggests a need for comprehensive treatment for survivors of trauma and victimization to improve vocational readiness and post release adjustment. This dissertation will examine how trauma prior to incarceration affect females' cognitive appraisals and self-perceptions, how multiple traumatic events may disturb the continuity of self versus the effect of a single traumatic event, how this creates pathways to crime, how recent social trends regarding punishment and rehabilitation may lead to further trauma for incarcerated females, and ultimately, how this affects her vocational readiness.

CHAPTER 4

DATA AND METHODS

This study posits five (5) Aims. Explanation of the preliminary analysis for each Aim and Hypothesis is delineated in this chapter.

I. Aim 1: to examine the scope of trauma-related cognitions associated with pre-prison trauma.

Hypothesis 1.1:Pre-prison trauma will be the best predictor of trauma-related cognitions relative to demographics (age, race and ses)

Hypothesis 1.2: Childhood sexual abuse will be the best predictor of trauma-related cognitions than the combination of childhood sexual abuse and demographics

Hypothesis 1.3: The combination of adult trauma and childhood trauma (i.e. pre-prison trauma) will be better predictors of trauma-related cognitions than adult trauma alone

Hypothesis 1.4: Childhood sexual abuse will be the best predictor of trauma-related cognitions relative to childhood emotional abuse/neglect and/ or physical abuse/neglect

II. Aim 2: to examine the scope of trauma-related cognitions associated with Incarceration-based trauma.

Hypothesis 2.1: The combination of incarceration-based trauma and pre-prison trauma experiences will be the best predictors of trauma-related cognitions than Incarceration-based trauma alone

Hypothesis 2.2: Incarcerated women with severe incarceration-based trauma will have higher levels of trauma-related cognitions than incarcerated women with mild incarceration-based trauma

III. Aim 3: to examine the relationship between trauma-related cognitions and PTSD symptom severity.

Hypothesis 3.1: Incarcerated women with Severe PTSD symptoms will have higher levels of trauma-related cognitions than incarcerated women with mild PTSD symptoms

Hypothesis 3.2: PTSD symptoms will be the best predictor of trauma-related cognitions than depression, stress and/ or anxiety

IV. Aim 4: to examine the relationship between trauma-related cognitions and security housing levels.

Hypothesis 4.1: Incarcerated women residing in No-minimum (No-min) security level housing will have higher trauma-related cognitions than incarcerated women residing in minimum (Min) security level housing

Hypothesis 4.2: No-minimum (No-min) security level housing with Incarceration-based trauma and pre-prison trauma will be the best predictor of trauma-related cognitions than the combination of minimum (Min) security housing with IBT and PPT

Hypothesis 4.3: No-minimum (No-min) security level housing with CSA will be the best predictor of trauma-related cognitions (TRC) than Minimum (Min) security level housing with CSA

Hypothesis 4.4: No-minimum (No-min) security housing with PTSD symptoms will be the best predictors of trauma-related cognitions (TRC) than Minimum security housing with PTSD symptoms

Hypothesis 4.5: No-minimum security housing with childhood emotional abuse/neglect and physical abuse/neglect and childhood sexual abuse will be the best predictor of trauma-related cognitions than Minimum security housing with childhood emotional abuse/neglect and physical abuse/neglect and childhood sexual abuse

V. Aim 5: to examine the effect of pre-prison trauma, IBT, PTSD symptoms, Trauma-related cognitions, and Security housing levels on vocational readiness.

Hypothesis 5:1: Incarcerated women housed in no-minimum security level housing will have a lower potential for vocational readiness than incarcerated women housed in minimum security level housing

Hypothesis 5:2: Incarcerated women with severe Pre-prison trauma (PPT) will have a lower potential for vocational readiness than incarcerated women with mild pre-prison trauma (PPT)

Hypothesis 5:3: Incarcerated women with severe incarceration-based trauma (IBT) will have a lower potential for vocational readiness than incarcerated women with mild incarceration-based trauma (IBT)

Hypothesis 5:4: Incarcerated women with severe PTSD symptoms will have a lower potential for vocational readiness than incarcerated women with mild PTSD symptoms

Hypothesis 5:5: Incarcerated women with severe Trauma-related Cognitions (TRC) will have a lower potential for vocational readiness than incarcerated women with mild trauma-related cognitions (TRC)

Hypothesis 5:6a: Trauma-related cognitions about self will be a better predictor of vocational readiness (Freedom from barriers, coping, intellectual ability) than trauma-related cognitions about the world and blame

Hypothesis 5:6b: Trauma-related cognitions about self will be a better predictor of vocational readiness in the area of Motivation than trauma-related cognitions about the world and blame.

Hypothesis 5:6c: Trauma-related cognitions about self will be a better predictor of vocational readiness in the area of physical abilities than trauma-related cognitions about the world and blame

RESEARCH METHODS AND DESIGN

In this study, trauma-related cognitions were examined as a proxy for cognitive appraisals and self-perceptions. A cross-sectional research design was employed to examine the relationship between trauma-related cognitions and the vocational readiness of incarcerated women. Data was collected using survey instruments measuring exposure to traumatic events (Pre-prison trauma and Incarceration-based trauma), trauma-related cognitions, PTSD severity and vocational readiness. An instrument was developed to measure Incarceration Based Trauma (IBT).

STUDY SETTING

Participants were drawn from three Ohio correctional facilities: 1) Dayton Correctional Institution (DCI), 2) Ohio Reformatory for Women (ORW), and 3) Northeast Pre-release Center (NEPRC).

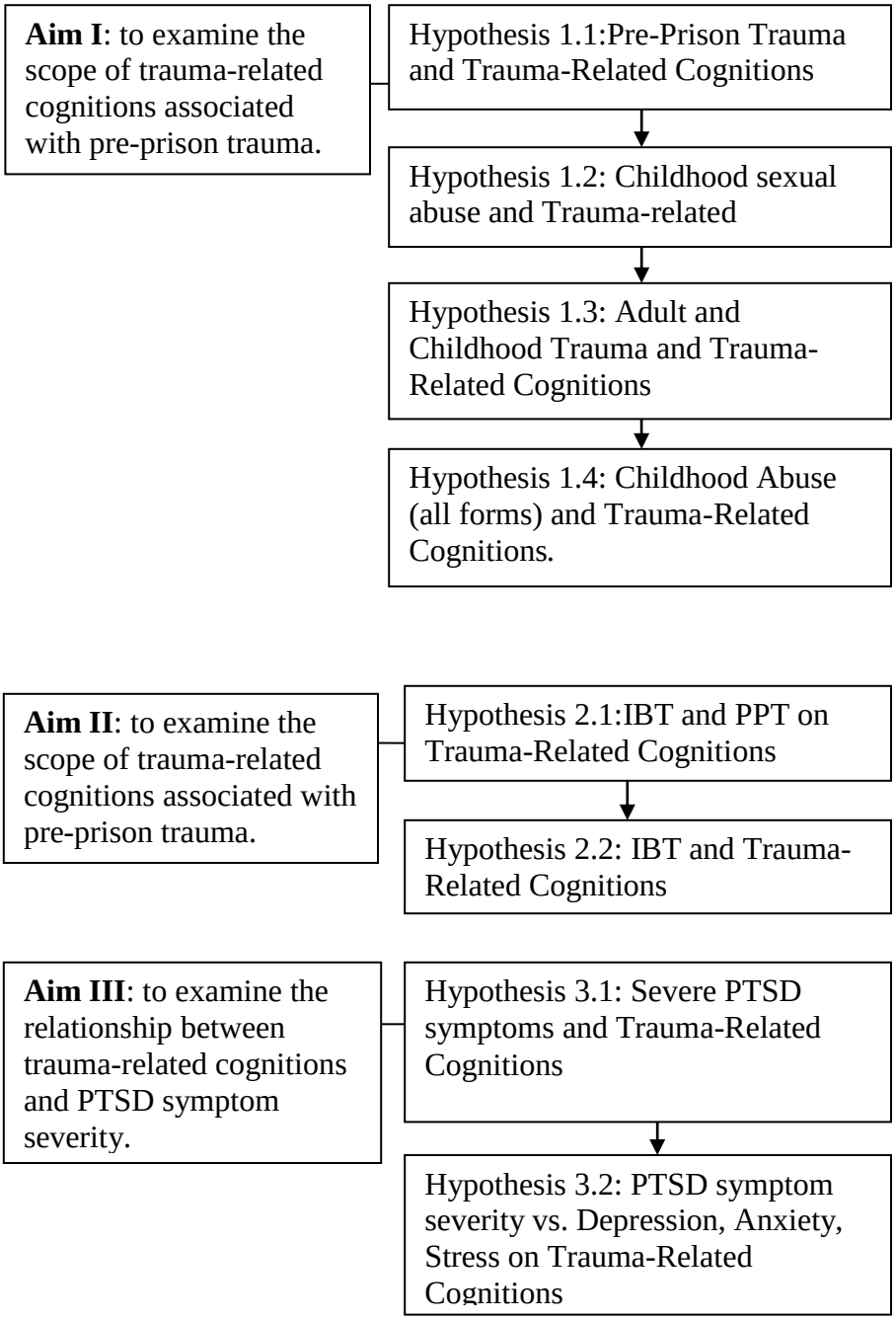
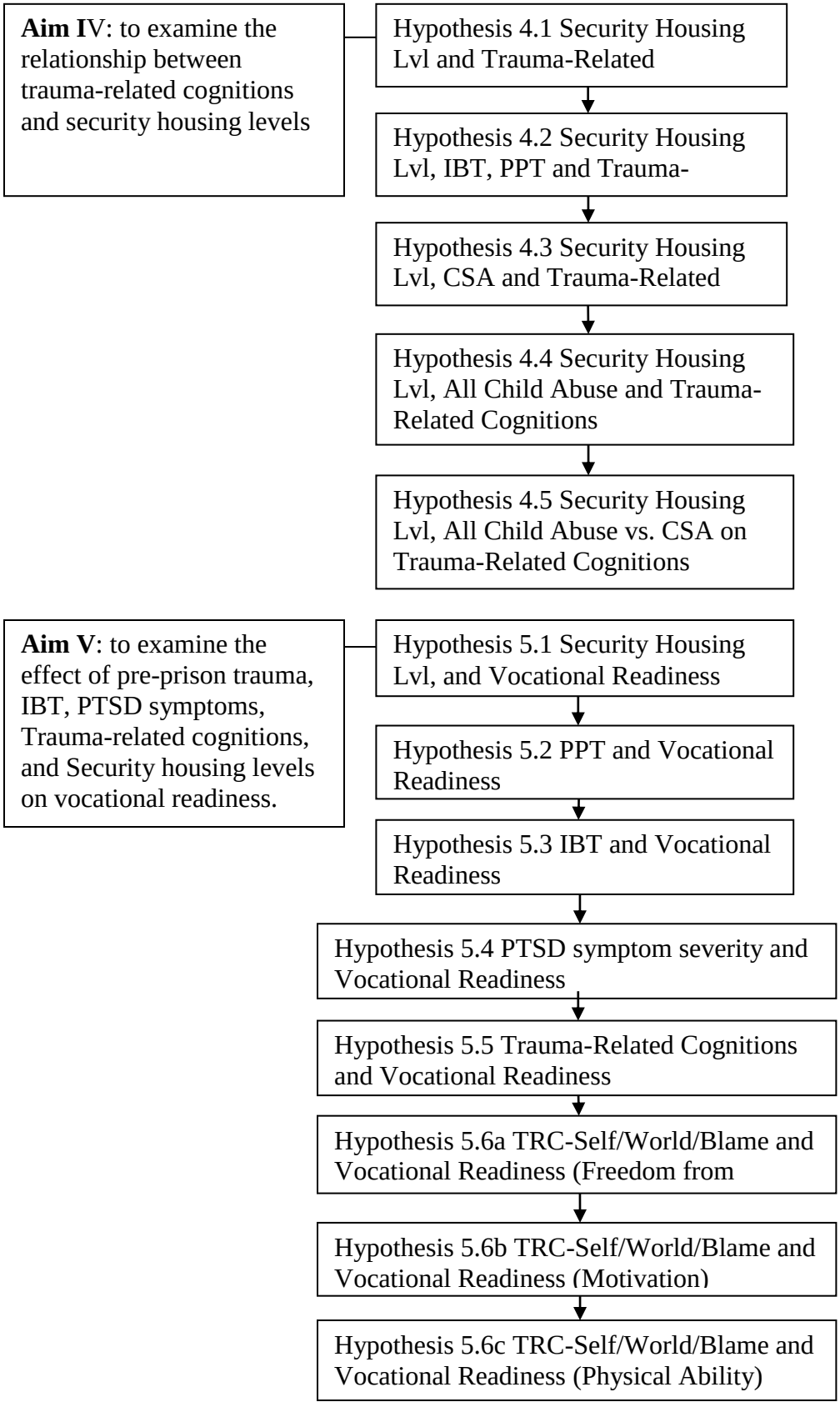


Figure 4.1 provides a simplified flow chart of the aims and hypotheses.


Aim IV: to examine the relationship between trauma-related cognitions and security housing levels
Hypothesis 4.1 Security Housing Lvl and Trauma-Related
Hypothesis 4.2 Security Housing Lvl, IBT, PPT and Trauma-
Hypothesis 4.3 Security Housing Lvl, CSA and Trauma-Related
Hypothesis 4.4 Security Housing Lvl, All Child Abuse and Trauma-Related Cognitions
Hypothesis 4.5 Security Housing Lvl, All Child Abuse vs. CSA on Trauma-Related Cognitions
Aim V: to examine the effect of pre-prison trauma, IBT, PTSD symptoms, Trauma-related cognitions, and Security housing levels on vocational readiness.
Hypothesis 5.1 Security Housing Lvl, and Vocational Readiness
Hypothesis 5.2 PPT and Vocational Readiness
Hypothesis 5.3 IBT and Vocational Readiness
Hypothesis 5.4 PTSD symptom severity and Vocational Readiness
Hypothesis 5.5 Trauma-Related Cognitions and Vocational Readiness
Hypothesis 5.6a TRC-Self/World/Blame and Vocational Readiness (Freedom from
Hypothesis 5.6b TRC-Self/World/Blame and Vocational Readiness (Motivation)
Hypothesis 5.6c TRC-Self/World/Blame and Vocational Readiness (Physical Ability)

Dayton Correctional Institution

Dayton Correctional Institution (DCI) is a women's prison located in the Northwest region of Ohio. DCI was established in 1987 and occupies 75 acres within the inner city limits of Dayton, Ohio.

The total inmate population, as of July 2014, totaled 928 inmates (White, N =592, Black, N = 327, and Other, N = 9). There are four security levels with 301 female inmates secured in level 1 housing, 377 female inmates in level 2 housing, 245 female inmates in level 3 housing and 4 female inmates in level 4 housing, supported by 133 security staff. Each correctional facility provides unique programs under the jurisdiction of the Ohio Department of Rehabilitation and Corrections (ODRC). The unique program specific to DCI is the Release Preparation and Reentry Program Preparing Offenders for a successful reentry into the community (ODRC, 2014).

Ohio Reformatory for Women

Dayton Correctional Institution (DCI) is a women's prison located in the Northwest region of Ohio. DCI was established in 1987 and occupies 75 acres within the inner city limits of Dayton, Ohio. The total inmate population, as of July 2014, totaled 928 inmates (White, N =592, Black, N = 327, and Other, N = 9). There are four security levels with 301 female inmates secured in level 1 housing, 377 female inmates in level 2 housing, 245 female inmates in level 3 housing and 4 female inmates in level 4 housing, supported by 133 security staff. Each correctional facility provides unique programs under the jurisdiction of the Ohio Department of Rehabilitation and Corrections (ODRC). The unique program specific to DCI is the Release Preparation and Reentry Program Preparing Offenders for a successful reentry into the community (ODRC, 2014).

The Ohio Reformatory for Women (ORW) is a women's prison located in the Northwest region of Ohio. It is located approximately 135 miles from the Dayton Correctional Institution in the rural community of Marysville, Ohio. ORW was established in 1976 and occupies 257.8 acres. Although, DCI and ORW are in close proximity to one another, there's a stark difference in the setting, grounds, facility, and number of female inmates served. These differences extend to the quality and number of unique programs offered. ORW houses a total of 2, 516 female inmates (White, N = 2,017, Black, N = 482, and other, N = 17). There are four housing security levels with 1, 343 female inmates secured in level 1 housing, 915 female inmates secured in level 2 housing, 257 female inmates secured in level 3 housing, 0 female inmates secured in level 4 housing and one female on death row at ORW as of August 2014. One female inmate was secured on death row in July of 2013 and was included in the sample population during data collection. Unique programs that are specific to ORW are: The Short Term Offender Unit, the Therapeutic Community program, Mom and Kids Day and Achieving Baby Success. The Short Term Offender Unit is designed to work with new female inmates with short-term sentences (i.e., 90 days or less); the Therapeutic Community program (TC) provides long-term alcohol and drug treatment (6-12 months). Mom and Kids Day is a program that supports families with a goal to promote family bonding prior to a female inmate returning home. In addition, ORW established, Achieving Baby Success (ABC's), the first and only nursery program within an institution. The program provides female inmates an opportunity to bond with their infants during the first few months of life. This program provides pregnant female inmates the opportunity to maintain custody of their children after giving birth. ORW

also operates a reintegration center. Female inmates that qualify for this program are also allowed to work off the prison grounds for 8-12 hours a day. The intent of the program is to provide the experience of maintaining a work-life balance upon reentry (Ohio Department of Rehabilitation and Corrections, 2013).

NorthEast Pre-Release Center

NorthEast Pre-Release Center (NEPRC) is located in the North East region of Ohio. It was established in 1988 and maintains 14 acres in downtown Cleveland, Ohio. There are a total of 86 security staff with a population of 517 female inmates (White, N = 353, Black, N = 162, other, N = 2). There are three housing security levels; however, at the time of this study, the study sample occupied either level 1 or level 2 housing security levels.

NEPRC's facility operates a reintegration center. The Unique programs specific to this facility include the Mosaic program, Moving On, Money Smart, and the Faith Based Reintegration Program. Mosaic is a trauma treatment program. The intent of this program is to help female inmates make connection between their trauma histories, addiction and their subsequent incarceration. Moving On assists in the development of interpersonal skills and social resources prior to reentry. Money Smart teaches basic money management skills (saving money, procuring a credit card, use of credit re-building credit). The Faith Based Reintegration Program is for offenders and their support network (family, friends, mentors, sponsors, etc.). The program provides programming in the areas of spiritual, emotional, family and social needs for female inmates. The female inmates work with volunteers to develop a three year reentry

program. During this time period female inmates are provided opportunities to re-establish personal relationships with family in multiple settings.

HOUSING SECURITY LEVEL CLASSIFICATION

The Ohio correctional facilities in this study were classified by housing security levels. Level 1's are typically held within a single perimeter fence with little or sporadic supervision. As the levels increased, the level of supervision increased. Thus, level 4's and 5's are high/max security. This classification represents inmates that have engaged in violent crimes, displayed disruptive behavior, riotous actions and considered a threat to the security of the correctional institutions. Level 5's include the criteria for level 4's with the additional feature of invoking others to commit crimes and/or engage in violent, disruptive behaviors. Level 5's were not represented in this study. Security levels may also impact housing placement, job placement and participation in rehabilitation programs (Ohio Department of Rehabilitation and Corrections, 2013). In this study the housing security level variable was dichotomized to create a categorical variable (minimum/no-minimum). Levels 1 and 2 constitute "minimum" security housing and levels 3 and 4 constitute "no-minimum" security housing.

Table 4.1 describes the prison and housing security levels of the respondents sampled in this study. As can be seen, 28.9% (n = 24) of female inmates in the Dayton Correctional Institution (DCI) were secured in minimum security housing and 59 (71.1%) secured in no-minimum security housing. Ohio Reformatory for Women (ORW) had 77 (67.5%) female inmates housed at a minimum security level and 37 (32.5%) housed at a no-minimum security level. NorthEast Pre-Release Center has 30 (83.3) at minimum security housing and 6 (16.7%) at no-minimum security. The total number of female

inmates in the study sample was 131 (56.20%) and 102 (43.89%). As can be seen in Table 1.1, a chi-square test of independence was employed to examine the association between prison facilities, minimum and no-minimum housing security levels. There was a statistically significant association between prisons and housing security levels, $\chi^2(2) = 41.83$, $p < .001$.

Table 4.1

Chi-Square Analyses of Respondents by Prison and Security Level

Prison Security Level*	Dayton Correctional Institution (DCI)	Ohio Reformatory for Women (ORW)	NorthEast Pre-Release Center (NEPRC)	Total
	n (%)	n (%)	n (%)	n (%)
Minimum Security	24(28.9%)	77(67.5%)	30(83.3%)	131(56.20%)
No-Minimum Security	59(71.1%)	37(32.5%)	6(16.7%)	102(43.89%)

*Note.*Minimum Security*: Security Level (1A and 1B); *No-Minimum Security* Level (2A, 2B, 3, 4A, 4B, OD [death row]). *X^2 (2) = 41.83, p < .001. Numbers in parentheses represent percentages by column. *p < .05, **p < .01, ***p < .001*

As shown, female inmates at DCI were more likely to be housed in no-minimum security level housing than female inmates at ORW and NEPRC. There was a moderate to large effect between prison facilities and housing security levels (*Phi* = .424).

SAMPLING PROCEDURE

A stratified random sampling procedure was utilized. The strata used in the study was housing security level 1-4. [(DCI (n = 185/response rate: 47.6%), ORW (n = 140/response rate: 88.6%) and NEPRC (n = 65/response rate: 58.5%)]. Each correctional facility provided a list of all female inmates grouped by housing security level in an Excel file. A stored random value was used to develop a list of incarcerated females per security levels per prison facility. The total population from each facility was as follows:

DCI (N = 888), ORW (N = 2483) and NEPRC (N = 621). The goal was to create a list that had 150 participants in DCI, 100 in ORW, and 50 in NEPRC. An oversample list of participants was chosen from each prison facility to increase the chance of getting the targeted number of participants. The final list of randomly selected inmates [(DCI (n = 185), ORW (n = 140) and NEPRC (n = 65)] were provided to the prison facilities two months prior to data collection.

Data collection took place within a span of one week in July 2013. Correctional officers escorted the participants to various large spaces within each prison. Typical spaces utilized were cafeterias, libraries and large conference rooms. Often group sizes ranged from 20-40 in all prisons. Seating allowed a modicum of privacy during the survey period. Survey completion times ranged from 20-30 minutes. Prior to each session, respondents were informed that participation was voluntary and that they could discontinue the process at any time. Female inmates on death row and/or residing in level 4 security housing levels were allowed to complete the surveys sitting one-on-one with researcher at Dayton Correctional Institution. There was one female inmate on death row at the Ohio Reformatory for Women that was included in the stratified random sample. For group analyses a dichotomous variable was created. The minimum housing security level consisted of security levels one through two (i.e., 1, 1A, 2, 2A, 2B); no minimum housing security level consisted of security levels three through four and death row (i.e., 3, 4A, 4B, OD).

STUDY SAMPLE

The actual sample was smaller than the randomly selected list. The sample size in this study was (N = 250). Of the three correctional facilities surveyed, the largest group

of respondents were from the Ohio Reformatory for Women (ORW) (n = 124), the second largest group of respondents were from the Dayton Correctional Institution (DCI) (n = 88), and the smallest group was from the NorthEast Pre-Release Center (NEPRC) (n = 38). According to Altman (1991), this sample size is considered adequate for multiple regression models if the N is at least 10 times the maximum number of independent variables in the model. Descriptive statistics are presented in Tables 4.2, 4.3 and 4.4. The age range was 18-73 years. As can be seen, female inmates between the ages of 40-49 (32.2%) followed by 29 or younger (31.8%) represented the majority of the sample population. The respondents in this study included 152 White female inmates (62%), followed by 50 Black female inmates (20.4%), 18 Bi-racial (7.3%), 13 Native American/Pacific Islander (5.3%) and 12 Hispanic (4.9%) respectively.

Table 4.2

Demographics and Chi-Square Analyses: Age and Race by Prison

	Dayton Correctional Institution (DCI)	Ohio Reformatory for Women (ORW)	NorthEast Pre-Release Center (NEPRC)	Total
	n (%)	n (%)	n (%)	n (%)
Respondents	88(35.2%)	124(49.6%)	38(15.2%)	250(100%)
Age				
29 or less	30(35.7%)	42(34.7%)	4(11.8%)	76(31.8%)
30 - 39	4(4.8%)	6(5.0%)	0(0.0%)	10(4.2%)
40 - 49	34(40.5%)	30(24.8%)	13(38.2%)	77(32.2%)
50 - 59	14(16.7%)	28(23.1%)	11(32.4%)	53(22.2%)
60 or more	2(2.4%)	15(12.4%)	6(17.6%)	23(9.6%)
Race				
White	37(43%)	98(97.7%)	17(47.2%)	152(62%)
Black	31(36%)	11(8.9%)	8(22.2%)	50(20.4%)

Bi-Racial	8(9.3%)	8(6.5%)	2(5.6%)	18(7.3%)
Native Amer/Pac Is.	4(4.7%)	5(4.1%)	4(11.1%)	13(5.3%)
Hispanic	6(7.0%)	1(0.8%)	5(13.9%)	12(4.9%)

Note. Race: $\chi^2(8) = 45.066$, $p < .001$. *Numbers in parentheses represent percentages by column. *p < .05, **p < .01, ***p < .001; Age:* $\chi^2(8) = 21.52$, $p = .006$. Numbers in parentheses represent percentages by column. **p < .05, **p < .01, ***p < .001*

The mean age was 36 years. As shown in Table 4.2, a series of chi-square tests for association were conducted between prisons and race of female inmates and between prisons and age of female inmates. For race, five cells had an expected count less than five (33.3%). Due to the violation of the expected cell count and a larger than 2x2 model, the result of the likelihood ratio test was examined. The association between prisons and race was statistically significant, $\chi^2(8) = 45.12$, $p < .001$. Moreover, there was a moderate effect between race and prison facilities (*Cramer's V* = .303).

Table 4.3

Respondents by Education Level and Income (SES)

	Dayton Correctional Institution (DCI)	Ohio Reformatory for Women (ORW)	NorthEast Pre-Release Center (NEPRC)	Total
	n (%)	n (%)	n (%)	n (%)
Educational Level				
Elementary/Middle	16(18.6%)	8(6.7%)	6(16.7%)	30(12.4%)
High School/GED	39(45.3%)	44(36.7%)	11(30.6%)	94(38.4%)
Some college/Cert.	9(33.7%)	33(45.8%)	13(36.1%)	85(35.1%)
Degree (Associates, Bachelors, Masters or Professional Degree)	2(2.3%)	25(20.8%)	6(16.7%)	33(13.6%)
Annual Income				
No Income	69(78.4%)	80(64.5%)	28(73.7%)	177(70.8%)
1,500 – 13, 000	4(4.5%)	11(8.9%)	4(10.5%)	19(7.6%)
13, 001 – 26, 000	8(9.1%)	14(11.3%)	3(7.9%)	25(10.0%)

26, 001 – 39, 000	4(4.5%)	11(8.9%)	2(5.3%)	17(6.8%)
39, 001 – 52, 000	3(3.4%)	4(3.2%)	1(2.6%)	8(3.2%)
52, 001 or more	0(0.0%)	4(3.2%)	0(0.0%)	4(1.6%)

For age, three cells had an expected count less than five (20%). There was a statistically significant association between prison facilities and age, $\chi^2(8) = 21.52$, $p = .006$. There was also a small effect between prison facilities and age of female inmates (*Phi* = .212).

Table 4.3 presents a summary of education and income prior to incarceration. As can be seen, 177 (70.8%) respondents reported no annual income. Ninety-four (38.4%) incarcerated women in this study completed high school or earned a GED (General Education Development) certificate. Eighty-five (35.1%) respondents had some college education or earned a professional certification (i.e., HVAC, horticulture, cosmetology etc.). Thirty-three (13.6%) respondents earned a college degree (Associates, Bachelors, Masters or Professional Degree (i.e., Pharmacist)).

Table 4.4

Respondents by Relationship and Parental Status

	Dayton Correctional Institution (DCI)	Ohio Reformatory for Women (ORW)	NorthEast Pre-Release Center (NEPRC)	Total
	n (%)	n (%)	n (%)	n (%)
Relationship Status				
Single/Never Married	48(56.5%)	40(33.1%)	11(30.6%)	99(40.9%)
Married	9(10.6%)	31(25.6%)	6(16.7%)	46(19%)
Divorced/Legally Separated	13(15.3%)	20(16.5%)	11(30.6%)	44(18.2%)

Living with Significant Other/Domestic Partnership	12(14.1%)	26(21.5%)	7(19.4%)	45(18.6%)
Widowed	3(3.5%)	4(3.3%)	1(2.8%)	8(3.3%)
Parental Status				
Were your children living with you prior to incarceration?	43(55.1%)	58(53.2%)	17(60.7%)	118(54.9%)

A substantial number (n = 99) of incarcerated women in this study reported being single and/ or never married (40.9%). Two hundred-one (82.4%) respondents reported having children. Of the 118 respondents that reported having children, 54.9% were living with their children prior to incarceration. Table 4.4 presents a summary of relationship and parental status. During incarceration caregivers of incarcerated women's children were most often identified as being "other family members" (46.3%). Table 4.5 presents a summary of child care providers for children of incarcerated women.

Table 4.5

Child Care Providers for Children of Incarcerated Women

	Dayton Correctional Institution (DCI)	Ohio Reformatory for Women (ORW)	NorthEast Pre-Release Center (NEPRC)	Total
Spouse/Partner	8(9.4%)	18(14.8%)	8(22.9%)	34(14.0%)
Other Family Members and/ or Friends	48(56.5%)	52(42.6%)	12(34.3%)	112(46.3%)
Government Agency/Adopted	4(4.7%)	8(6.6%)	1(2.9%)	13(5.4%)
Adults	9(10.6%)	19(15.6%)	7(20.0%)	35(14.5%)
Deceased	2(2.4%)	0(0.0%)	1(2.9%)	3(1.2%)
Doesn't know where their Children are	0(0.0%)	0(0.0%)	2(5.7%)	2(0.8%)
Does Not Apply	14(16.5%)	25(20.5%)	4(11.4%)	43(17.8%)

4.3 SURVEY INSTRUMENTS

The survey apparatus entailed questions from six distinct questionnaires assessing five areas related to the extent of exposure to trauma and victimization, PTSD symptoms and trauma-related cognitions.

Pre-prison Trauma:

Pre-prison trauma is identified by two measures: 1) the Trauma Events Questionnaire (TEQ) measures Adult Trauma and 2) the Childhood Trauma Questionnaire (CTQ) measures Childhood Trauma. Higher score equates higher levels of trauma on both scales.

a. Traumatic Events Questionnaire (TEQ) is an eleven item self-report questionnaire that assesses nine traumatic events. These include: fires and/or explosions, farm accidents, adult rape/sexual assault, natural disasters, violence, adult and childhood abuse and witnessing serious injury and/or experiencing serious injury, unexpected death of a loved one and other life threatening situations (Vrana & Lauderbach, 1994, p. 292). A 7-point likert scale was used to assess each question ["1" (not at all) to "7" (extremely)]. Total number of experiences and severity of experiences are assessed. Test-retest intervals assessed the number of events ($r = 0.91$); occurrence of certain events ($r = 0.72$); and life threatening events ($r = 1.0$) to ascertain reliability (Lauterbach & Vrana, 1996). Individuals reporting at least one traumatic event detailed significantly more depression, anxiety, and PTSD symptomology than those who did not report exposure to any traumatic events. Traumatic events were a significant predictor of depression, anxiety, and PTSD symptom severity (Vrana & Lauderbach, 1994).

For the purpose of this study a modified version of the *Trauma Events Questionnaire (TEQ)* was used. Questions 1-3 and 7-9 was limited to traumatic events experienced only as an adult; question 4 addressing childhood trauma was eliminated. Question 10 was eliminated that addressed "any other traumatic event." As can be seen in table 1.6, the reliability for TEQ in this study is.90.

b. Childhood Trauma Questionnaire (CTQ) is a 28 item self-report questionnaire that assesses five areas in relation to childhood victimization (sexual abuse, emotional abuse, emotional neglect, physical abuse and physical neglect). The measurement also includes a minimization/denial scale to detect under-reporting of incidents of trauma and victimization (Bernstein, Fink, Handelsman, & Foote, 1994). The test-retest coefficient was calculated close to 0.80 over a 3.5 month period. Factor analyses on the five-factor CTQ model showed structural invariance (unchanging) which demonstrates good validity (Bernstein, Fink, Handelsman, & Foote, 1994).

In this study, information about childhood traumatic events was determined by answers from the Childhood Trauma Questionnaire (CTQ). In previous studies, reliability for the CTQ was good, demonstrating high internal consistency scores. All abuse categories, (Sexual Abuse, Emotional Neglect, Emotional Abuse, and Physical Abuse) had reported coefficients of .93-.95, .88-92, .84-.89, and .81-.86, respectively. The reliability score for the "physical neglect subscale" was not available. For this study, the reliability scores were: Physical Neglect (r = .79), Sexual Abuse (r = .95), Emotional Neglect (r = .87), Emotional Abuse (r = .86) and Physical Abuse (r = .87). For group analyses, scores from the TEQ and the CTO were combined. The median score was used as the cut-off points [(*md* = 134); *25th percentile: 96; 50th percentile: 134; 75th percentile:*

188] to establish mild pre-prison trauma and severe pre-prison trauma. Previous research supports the use of the median if the distribution is symmetric (normal) and the first and third quartiles are approximately halfway from the median (Siddharth, 2011). Although, forming group analyses (dichotomizing) decreases power and may lead to false positives; the continuous variable for pre-prison trauma (and all other groups) were used in regression analyses providing comparisons between group and continuous results. Note: Group variables and/ or split file(s) were used only in regard to independent sample analyses.

2. Vocational Readiness:

The Work Potential Profile measured Vocational Readiness (VR). In this study, scores were reversed coded. A higher Work Potential Profile (WPP) score indicates a lower potential for employment success. Only extremes or significant deviations from the central tendency of the response scale were scored. This scoring is in line with the guidelines for the General Health Questionnaire (Goldberg, 1978; Matthews et al., 2009).

Work Potential Profile [WPP] (Rowe, 2004) is a criterion-referenced instrument used in the initial assessment of long-term unemployed individuals and individuals who have experienced difficulty securing employment. The *WPP* measures: coping, freedom from major barriers, social resources, intellectual abilities, motivation and physical abilities. Additionally, the scale collects information in the areas of support and needs, strengths and weaknesses for employment, occupational planning, individual developmental and current training and intervention needs. Vocational readiness (work potential profile [WPP]) includes the following sub-categories: Coping, which measures client characteristics that may interfere with employment (general satisfaction, time

sense/use, self-image, self-discipline, anxiety and stress), freedom from barriers (preoccupation with health, agitation, aggression, depression, pervasive distrust), social resources (attitude toward others and social skills), and intellectual abilities (communication and literacy, technology use numeracy and problem solving, motivation (work motivation, intrinsic motivation, extrinsic motivation, need for status) and physical ability.

The first component was used, in this study, to measure work potential. The second component was used to identify motivation. Motivation includes areas that measure intrinsic motivation, extrinsic motivation, work motivation and need for status. Motivation refers to an individual process that may channel and maintain behavior toward a goal. The motive is the conscious reason one provides for herself that drives action toward completion of a goal. This reason can be unconscious (Rowe, 2004, p. 32). A third component was identified as physical ability (Matthews et al., 2009). The second and third components were used for additional analysis in the area of work motivation and physical abilities (Rowe, 2004). For the purpose of this study a modified version of the WPP was used to address concerns surrounding time needed for completion of the survey. The modified version utilized 148 items and the language was adjusted to meet the needs of the study sample. The full version of the scale consisted of 171 items. Questions were proportionately removed from sections.

In previous studies, reliability estimates indicated a test–retest reliability range for scale scores of 0.83 to 0.96. The sample was comprised of employed and unemployed persons (N=358) across a 5-7 week interval. Construct validity was determined using factor analysis in five separate studies of employed and unemployed persons:

unemployed (N=275), unemployed >2 years (N=121), employed (N=83), employed professional (N=61) and all groups (N=358) (Australian Bureau of Statistics, 2004; Rowe, 2004; Matthews et al., 2009). Consistency across studies implies high construct validity. For example, work potential, accounted for 43% of the total variance (range: 38.3–44.6%).

3. PTSD Symptom Severity:

PTSD symptom severity was measured by the Posttraumatic Diagnostic Scale (PDS) and the Depression, Anxiety and Stress Scale (DASS-21). A higher score indicated an increased level in PTSD symptom severity.

a. Posttraumatic Diagnostic Scale (PDS) (Foa, 1995; Foa et al., 2007) is a self-report measure that consists of 31 questions. This scale assesses the number of traumatic events experienced. Additionally, it measures Posttraumatic Stress severity by symptoms present, as well as which symptoms bothered the individual the most during the previous month. In previous studies, only questions 1-17 for the diagnosis of PTSD were scored. Validity scores indicated satisfactory agreement between the PDS and a clinical structured interview method (kappa=.62/82 percent agreement). A 4-point likert scale rates PTSD symptoms from "0" (not at all) to "3" (almost always) (Moser et al., 2007). In previous studies, the PDS demonstrated overall excellent internal consistency (r = .92); symptom subscales (.78-.84). Test-retest scores demonstrated an 87 percent agreement between diagnosis and symptom severity. In this study, the PDS overall reliability was (r =.94); the symptom subscales were not used in this study. Additionally, a dichotomous variable (0 = mild PTSD; 1 = severe PTSD) was created for group analyses. The cut-off points for mild PTSD and severe PTSD were constructed from the clinical scoring

guidelines that accompanied the scale (10 or less = mild; 1-20 = moderate; 21-35 moderate to severe; 36 or greater = severe). Mild and moderate scores were combined to construct "mild PTSD" and moderate to severe and severe scores were combined to construct "sever PTSD."

b. Depression, Anxiety and Stress (DASS-21) (Lovibond & Lovibond, 1995) provide scores for three (3) subscales (Depression, Anxiety and Stress). The subscales are used to identify symptoms related specifically to depression and anxiety, allowing for a more accurate measurement of PTSD severity. Moreover, the DASS-21 has the capability to discern between anxiety and mood disorders (Moser et al., 2007). This instrument assesses negative affect using a 4-point Likert scale with a rating scale from "0" (did not apply to me at all) to "3" (applied to me very much) (Moser et al., 2007). In previous studies, the reliability scores indicated a high internal consistency for individual and total scale scores in a non-clinical sample. The individual and total scale scores are as follows: Depression scale (.88), Anxiety scale (.82), and the stress scale (.90) and total scale score (.93) (Henry & Crawford, 2005). The DASS has shown "excellent psychometric properties" in clinical (Anthony et al., 1998; Moser et al., 2007, p. 1043) and non-clinical samples (Clara et al., 2001; Moser et al., 2007, p. 1043). For the purpose of this study, language was modified to meet the needs of the study sample. The reliability scores for this study are Depression (r = .91), Anxiety (r = .88) and Stress (r = .88).

4. Trauma-related cognitions:

The PTCI was used to measure trauma-related cognitions. A higher score indicated higher levels of negative trauma-related cognitions.

a. Posttraumatic Cognitions Inventory (PTCI) (Foa et al., 1999) assesses trauma-related beliefs and thoughts associated with traumatic events. A 7-point Likert scale ranging from 0 (totally disagree) to 3 (totally agree) measures the level of trauma-related cognitions in three (3) areas consisting of negative cognitions about *Self* (PTCI-Self; 21 items; helplessness and alienation), *World* (PTCI-World; 7 items; lack of trust and ideas that the world is not safe) and *Blame* (PTCI-Blame; 5 items; belief that the traumatic event occurred because of something he or/she did or did not do). In previous studies, reliability scores for the PTCI ranged from good to very good. The scores for the three subscales are negative cognitions about *self* (r = .97); negative cognitions about the *world* (r = .88); and *self-blame* (r = .86). Test-retest on the total scale from a sub-sample (3-week) garnered .85 (Foa et al., 1999). In previous studies, validity of PTCI was based on a factor analysis (three factor structure). The first factor explained 48.5 percent of the variance, the second factor an additional 4 percent, and the third factor 3.4 percent. Stability of this three factor structure was validated across three samples. Scores on the PTCI were found to correctly classify traumatized individuals 86 percent of the time discriminating between those with PTSD from those who do not have PTSD (Foa et al., 1999). The reliability scores for the PTCI in this study was for Trauma-related cognitions [total PTCI) (r = .95)] and the following subscales: negative cognitions *self* (r = .94), negative cognitions *world* (r = .90) and *self-blame* (r = .68).

5. Incarceration Based Trauma (IBT):

Incarceration-Based Trauma Scale (IBTS) was used to measure incarceration based traumatic experiences indicated in previous literature. This is a self-developed scale. The reliability, validity and internal consistency of the IBTS were tested in this

study. The higher the score on the IBTS indicates higher levels of incarceration–based trauma (IBT).

a. Incarceration Based Trauma (IBT) assesses prison experiences that contribute to stress and/ or distress in the lives of incarcerated women in relation to the prison environment and/ or being imprisoned (i.e., separation from children/ family). A 5-point Likert scale ranging from Strongly Disagree to Strongly Agree measures the number of traumatic experiences associated with the prison environment. The questionnaire includes 24 items. The first seven items were on demographics. Questions 8-22 addressed trauma experienced and/ or associated with imprisonment. The reliability score for this scale was (r = .70). Moreover, a dichotomous variable was created for group analyses. As a self-developed scale the cut-off points were established by using the median score from the sample population (*md* = 41.00; *m* = 40.94). The lowest and highest possible score for this scale was 14 and 70; the lowest score in this study was 22 and the highest score was 70.

I. Aim 1: Hypotheses (4)

Hypothesis 1.1:Pre-prison trauma will be the best predictor of trauma-related cognitions relative to demographics (age, race and ses)

Multiple Regression analysis were applied to examine how pre-prison trauma (PPT), demographics (SES, Age, Race) and prison facilities predicted trauma-related cognitions (TRC). The degree of relationship were assessed by observing the proportion of variance in trauma-related cognitions associated with pre-prison trauma when holding constant demographics.

Trauma-related Cognitions (TRC) = Pre-Prison Trauma (PPT) + Age+ +Race+ SES + Prisons

Hypothesis 1.2: *Childhood sexual abuse will be a better predictor of trauma-related cognitions than the combination of childhood sexual abuse and demographics (age, race and ses)*

Hierarchical Regression were conducted to examine how Childhood Sexual Abuse (CSA) predicts trauma-related cognitions (TRC) while controlling for demographics and prison facilities. Block 1 (one) includes demographics over which the individual does not have control to change (Age, Race). The amount of variance accounted for by Block 1 associated with TRC was observed. Block 2 includes two additional demographics where the individual has little or some control (SES). The amount of additional variance accounted for by Block two that may be associated with TRC over and above the variance accounted for by Block one were examined. Block three includes all demographics from Blocks one and two. The unstandardized and standardized coefficients were examined for the significance levels of each of the variables. The amount of variance over and above the amount account for by previous block entries were examined for the change in R squared.

Block 1: Trauma-related Cognitions= CSA + prisons

Block 2: Trauma-related Cognitions =CSA + Age + Race + prisons

Block 3: Trauma-related Cognitions = CSA + Age+ Race+ SES + prisons

Hypothesis 1.3: *The combination of adult trauma and childhood trauma (i.e. pre-prison trauma) will be better predictors of trauma-related cognitions than adult trauma alone*

Hierarchical Regression were used to examine how Adult Trauma only and demographics predict trauma-related cognitions (TRC). Demographic variables (*Age, Race, SES*) and prison facilities were added to the model as control variables. Block 1 includes *Adult Trauma*. The amount of variance, accounted for by Block 1 associated

with TRC were observed. Block 2 includes *Childhood Trauma.* The amount of additional variance accounted for by Block 2 that may be associated with TRC over and above the variance accounted for by Block one were examined. Block three includes *Adult and Childhood Trauma* and demographics. The unstandardized and standardized coefficients were examined for the significance levels of each of the variables. The amount of variance over and above the amount account for by previous block entries were examined for the change in R squared.

Block 1: Trauma-related Cognitions = Adult Trauma + prisons

Block 2: Trauma-related Cognitions = Pre-Prison Trauma + prisons

Block 3: Trauma-related Cognitions = Pre-Prison Trauma + Age+ Race+ SES + prisons

Hypothesis 1.4: *Childhood sexual abuse will be the best predictor of trauma-related cognitions relative to childhood emotional abuse/neglect and/ or physical abuse/neglect*

Two multiple regression analyses were conducted to examine how Childhood Emotional Abuse/Neglect (CEA/CEN) and Childhood Physical Abuse/Neglect (CPA/CPN) and Childhood Sexual Abuse (CSA), demographics (*Age, Race, SES*) and prison facilities predict trauma-related cognitions (TRC). Specifically, the first model was used to examine how CEA/CEN and CPA/CPN and demographics variables predict trauma-related cognitions. The second model was used to examine how Childhood Sexual Abuse (CSA) and demographic variables predict trauma-related cognitions. The degree of relationship (1st Model) was assessed by observing the proportion of variance in trauma-related cognitions associated with *CEA/CEN + CPA/CPN* when holding demographics constant. The degree of relationship (2nd Model) was assessed by observing the proportion of variance in trauma-related cognitions associated with *CSA* when holding demographics constant.

1st Model: Trauma-related Cognitions=CEA/CEN + CPA/CPN + Age+ Race+ SES

2nd Model: Trauma-related Cognitions =CSA+ Age+ Race+ SES

II. Aim 2: Hypotheses (2).

Hypothesis 2.1: *The combination of incarceration-based trauma and pre-prison trauma experiences will be better predictors of trauma-related cognitions than Incarceration-based trauma alone*

Hierarchical Regression will be used to examine how Incarceration-based trauma (IBT), Pre-prison trauma (PPT), demographic and prison facilities predict trauma-related cognitions. Demographic variables (*Age, Race, SES*) will be added to the model as control variables. Block 1 (one) includes *IBT*. The amount of variance, accounted for by Block one (1), associated with TRC will be observed. Block two includes *IBT and PPT*. The amount of additional variance accounted for by Block two that may be associated with TRC over and above the variance accounted for by Block 1 (one) will be examined. Block three includes *IBT and PPT* and demographics. The unstandardized and standardized coefficients will be examined for the significance levels of each of the variables. The amount of variance over and above the amount account for by previous block entries will be examined for the change in R squared.

Block1: Trauma-related Cognitions =IBT + prisons

Block 2: Trauma-related Cognitions = IBT+PPT + prisons

Block 3: Trauma-related Cognitions = IBT+PPT+ Age+ Race+ SES + prisons

Hypothesis 2.2: *Incarcerated women with severe incarceration-based trauma will have higher levels of trauma-related cognitions than incarcerated women with mild incarceration-based trauma*

A T-test will be used to determine if Incarceration-based trauma [(severe IBT; Group 0) and (mild IBT; Group1)] differ on means scores for trauma-related cognitions.

Severe IBT (Group 0)/Mild IBT (Group 1)

III. Aim 3: Hypotheses (2).

Hypothesis 3.1: *Incarcerated women with severe PTSD will have higher levels of trauma-related cognitions than incarcerated women with mild PTSD*

A T-test will be used to determine if Posttraumatic Stress Disorder [(Severe PTSD; Group 0) and (Mild PTSD; Group 1)] differ on means scores for trauma-related cognitions.

Severe PTSD (Group 0)/Mild PTSD (Group 1)

Hypothesis 3.2: *PTSD will be the best predictor of trauma-related cognitions than depression, stress and/ or anxiety*

Hierarchical Regression will be used to examine how Posttraumatic Stress Disorder (PTSD), Depression, Anxiety and Stress symptoms (not related to mood disorders), demographics and prison facilities predict trauma-related cognitions. Demographic variables (*Age, Race, SES*) will be added to the model as control variables. Block one includes *PTSD*. The amount of variance, accounted for by Block one associated with TRC will be observed. Block two includes *PTSD and Depression, Anxiety and Stress* symptoms *(not related to mood disorders).* The amount of additional variance accounted for by Block two that may be associated with TRC over and above the variance accounted for by Block one will be examined. Block three includes *PTSD and Depression, Anxiety and Stress* symptoms and demographics. The unstandardized and standardized coefficients will be examined for the significance levels of each of the variables. The amount of variance over and above the amount account for by previous block entries will be examined for the change in R squared.

Block 1: Trauma-related Cognitions =PTSD + prisons

Block 2: Trauma-related Cognitions = PTSD+ Depression, Anxiety, Stress + prisons

Block 3: Trauma-related Cognitions = PTSD+ Depression, Anxiety, Stress + Age+ Race+ SES +prisons

IV. Aim 4: hypotheses (5)

Hypothesis 4.1: *Incarcerated women residing in no-minimum (No-min) security level housing will have higher levels of trauma-related cognitions than incarcerated women residing in minimum (Min) security level housing*

A T-test will be used to determine if Security Housing Levels [(Minimum; Group 0) and (No-minimum; Group 0)] differ on mean scores for trauma-related cognitions.

No-Minimum (Group 0)/Minimum (Group 1)

Hypothesis 4.2*: No-minimum (No-min) security level housing with Incarceration-based trauma and pre-prison trauma, will be a better predictor of trauma-related cognitions than minimum (Min) security housing with IBT and PPT*

Two (2) multiple regression analyses will be conducted to examine how Housing security level (No-min/Min), Incarceration-based trauma (IBT), Pre-prison trauma (PPT), demographics (Age, Race, SES) and prison facilities predict trauma-related cognitions (TRC). Specifically, the first model will be used to examine how Housing security level (No-min), Incarceration-based trauma (IBT), Pre-prison trauma (PPT) and demographics predict trauma-related cognitions. The second model will be used to examine how Housing security level (Min), IBT, PPT and demographics predict trauma-related cognitions. The degree of relationship (1st Model) will be assessed by observing the proportion of variance in trauma-related cognitions associated with Housing security level (No-min), Incarceration-based trauma (IBT) and Pre-prison trauma (PPT) when holding demographics constant. The degree of relationship (2nd Model) will be assessed by observing the proportion of variance in trauma-related cognitions associated with Housing security level (Min), IBT and PPT and when holding demographics constant.

1st Model: Trauma-related Cognitions= No-min/Housing Security Level + IBT + PPT + Age + Race + SES

2nd Model: Trauma-related Cognitions = Min/Housing Security Level +IBT +PPT Age + Race + SES

Hypothesis 4.3: *No-minimum (No-min) security level housing with CSA will be the best predictor of trauma-related cognitions (TRC) than Minimum (Min) security level housing with CSA*

1st Model: Trauma-related Cognitions= No-min +CSA + Age + Race+ SES + prisons

2nd Model: Trauma-related Cognitions = Min + CSA + Age + Race+ SES + prisons

Two multiple regression analyses will be conducted to examine how women housed in No-minimum (No-min) or Minimum (Min) Security Housing, Childhood Sexual Abuse (CSA), demographics (*Age, Race, SES,*) and prison facilities predict trauma-related cognitions (TRC). Specifically, the first model will be used to examine how No-minimum Security Housing, CSA and demographics predict trauma-related cognitions. The second model will be used to examine how Minimum Security Housing, CSA and demographics predict trauma-related cognitions. The degree of relationship (1st Model) will be assessed by observing the proportion of variance in trauma-related cognitions associated with Min Security Housing and CSA when holding demographics constant. The degree of relationship (2nd Model) will be assessed by observing the proportion of variance in trauma-related cognitions associated with No-minimum Security Housing and CSA when holding demographics constant.

Hypothesis 4.4: *No-minimum (No-min) security housing with PTSD will be the best predictors of trauma-related cognitions (TRC) than Minimum (Min) security housing with PTSD*

Two (2) multiple regression analyses will be conducted to examine how women housed in Min/No-min Security Housing, PTSD, demographics (*Age, Race, SES*) and prison

facilities predict trauma-related cognitions (TRC). Specifically, the first model will be used to examine how PTSD, No-min Security Housing and demographics predict trauma-related cognitions. The second model will be used to examine how PTSD, Minimum Security Housing and demographics predict trauma-related cognitions. The degree of relationship (1st Model) will be assessed by observing the proportion of variance in trauma-related cognitions associated with Minimum Security Housing and PTSD when holding demographics constant. The degree of relationship (2nd Model) will be assessed by observing the proportion of variance in trauma-related cognitions associated with No Min Security Housing and PTSD when holding demographics constant.

1st Model: Trauma-related Cognitions= No-min +Severe PTSD + Age + Race+ SES + prisons

2nd Model: Trauma-related Cognitions = Min + Mild PTSD + Age+ Race+ SES + prisons

Hypothesis 4.5: *No-minimum security housing with childhood emotional abuse/neglect and physical abuse/neglect and childhood sexual abuse will be the best predictor of trauma-related cognitions than Minimum security housing with childhood emotional abuse/neglect and physical abuse/neglect and childhood sexual abuse*

Two multiple regression analyses will be conducted to examine how Security Housing Levels (Min/No-min), Childhood Emotional Abuse/Neglect (CEA/CEN) and Childhood Physical Abuse/Neglect (CPA/CPN) and Childhood Sexual Abuse (CSA), demographics (*Age, Race, SES,*) and prison facilities predict trauma-related cognitions (TRC). Specifically, the first model will be used to examine how CEA/CEN and CPA/CPN and CSA and demographics predict trauma-related cognitions. The second model will be used to examine how CEA/CEN and CPA/CPN and CSA and demographics predict trauma-related cognitions. The degree of relationship (1st Model) will be assessed by observing the proportion of variance in trauma-related cognitions associated with *CEA/CEN and*

CPA/CPN and CSA when holding demographics constant. The degree of relationship (2nd Model) will be assessed by observing the proportion of variance in trauma-related cognitions associated with CEA/CEN and CPA/CPN and CSA when holding demographics constant.

1st Model: Trauma-related Cognitions= No-Min + CEA/CEN + CPA/CPN + CSA +Age + Race+ SES + prisons

2nd Model: Trauma-related Cognitions = Min + CEA/CEN + CPA/CPN + CSA +Age+ Race+ SES + prisons

V. Aim 5: Hypotheses (5)

Hypothesis 5:1: *Incarcerated women housed in no-minimum security level housing will be have a lower potential for vocational readiness than incarcerated women housed in minimum security level housing*

T-test will be used to determine if Security Housing Levels [(Minimum; Group 1) and (No-minimum; Group 0)] differ on means scores for vocational readiness.

No-minimum (Group 0)/ Minimum (Group 1)

Hypothesis 5:2: *Incarcerated women with severe Pre-prison trauma (PPT) will have a lower potential for vocational readiness than incarcerated women with mild pre-prison trauma (PPT)*

A T-test will be used to determine if Pre-prison Trauma [(Severe PPT; Group 0) and (Mild PPT; Group 1)] differ on means scores for vocational readiness.

Severe PPT (Group 0)/ Mild PPT (Group 1)

Hypothesis 5:3*: Incarcerated women with severe incarceration-based trauma (IBT) will have a lower potential for vocational readiness than incarcerated women with mild incarceration-based trauma (IBT)*

A T-test will be used to determine if Incarceration-based Trauma [(Severe IBT; Group 0) and (Mild IBT; Group 1)] differ on means scores for vocational readiness.

Severe IBT(Group 0)/Mild IBT (Group 1)

Hypothesis 5:4: Incarcerated women with severe PTSD will have a lower potential for vocational readiness than incarcerated women with mild PTSD

A T-test will be used to determine if Posttraumatic Stress Disorder [(Severe PTSD; Group 0) and (Mild PTSD; Group 1)] differ on means scores for vocational readiness.

Severe PTSD (Group 0)/Mild PTSD (Group 1)

Hypothesis 5:5*: Incarcerated women with severe Trauma-related Cognitions (TRC) will have a lower potential for vocational readiness than incarcerated women with mild trauma-related cognitions (TRC)*

A T-test will be used to determine if Trauma related Cognitions [(Severe TRC; Group 0) and (Mild TRC; Group 1)] differ on means scores for vocational readiness.

Severe TRC (Group 0)/Mild TRC (Group 1)

Hypothesis 5:6a*: Trauma-related cognitions about self will be a better predictor of vocational readiness (1st component—Freedom from barriers, coping, intellectual ability) than trauma-related cognitions about the world and blame*

Hypothesis 5:6b: *Trauma-related cognitions about self will be a better predictor of vocational readiness in the area of (2nd component—Work motivation) than trauma-related cognitions about the world and blame.*

Hypothesis 5:6c: *Trauma-related cognitions about self will be a better predictor of vocational readiness in the area of (3rd component—physical abilities) than trauma-related cognitions about the world and blame*

Three (3) Multiple Regression analyses will be applied to examine how trauma-related cognitions, demographics (Age, and Race, SES) and prison facilities predict vocational readiness. The degree of relationship will be assessed by observing the proportion of variance in vocational readiness associated with trauma-related cognitions about self, the world and self-blame when holding constant demographics.

1st Model: Vocational Readiness/1st component=Trauma-related Cognitions (Self)+Trauma-related Cognitions (World + Blame) + prisons + age + race + ses

2ndModel:Vocational Readiness/2nd component + prisons + age + race + ses

3rd Model: Vocational Readiness/3rd component=Trauma-related Cognitions (Self)+Trauma-related Cognitions (World + Blame) + prisons + age + race + ses

CHAPTER 5

RESULTS

5.1 OVERVIEW

The results section is divided into five parts. These sections are organized by the following five aims: Aim 1: to examine the scope of trauma-related cognitions (TRC) associated with pre-prison trauma (PPT); Aim 2: to examine the scope of trauma-related cognitions associated with Incarceration-based trauma IBT); Aim 3: to examine the relationship between trauma-related cognitions and posttraumatic stress disorder (PTSD) symptom severity; Aim 4: to examine the relationship between trauma-related cognitions and security housing levels and; Aim 5: to examine the effect of pre-prison trauma, IBT, PTSD, Trauma-related cognitions and security housing levels on vocational readiness (VR).

5.2 ANALYSES

This study used regression analyses and independent sample t-tests to examine five aims associated with trauma-related cognitions and pre-prison trauma, incarceration-based trauma, childhood trauma, adult trauma, PTSD, prison housing security levels, correctional facilities and vocational readiness. Descriptive statistics (means, standard deviations, Chronbach alpha [reliability], skewness, kurtosis and correlations) were performed for all variables central to the study and all major scales.

Table 5.1 shows the distribution for all measures in this study. As can be seen, the first component of vocational readiness (i.e., WPP) had a wide range of scores and a

positively skewed distribution. The work potential profile (WPP) sub-categories for Coping" had a slight positive skew and the sub-category labeled "Intellectual Abilities" had a wide spread of scores and a positive skewed distribution.

Table 5.1

Descriptive Statistics for All Scales in the Study

Measure	N	M	SD	r	Sk	Ku
1. Trauma-related Cognitions (TRC)	245	10.41	3.63	.95	.016	-.627
Negative Cognitions (Self)	245	2.84	1.36	.94	.468	-.716
Self-Blame (Blame)	245	3.04	1.44	.68	.261	-.921
Negative Cognitions (World)	245	4.52	1.54	.90	-.383	-.626
2. PTSD severity (PDS)	247	19.47	13.07	.94	.268	-.947
3. Depression/Anxiety/Stress (DASS)	245	59.08	40.28	.95	.344	-.761
DASS Subscales						
Depression	245	14.63	11.18	.91	.428	-.737
Anxiety	245	12.48	10.81	.88	.618	-.734
Stress	245	31.97	21.23	.88	.327	-.717
4. Pre-prison Trauma (PPT)	247	142.96	59.10	.89	.403	-.582
5. Adult Trauma (TEQ)	241	80.53	49.20	.90	.157	-.570
6. Childhood Trauma (CTQ)	247	59.46	23.57	.84	.247	-.983
CTQ Subscales						
Emotional Abuse	247	13.32	5.99	.86	.154	-1.081
Physical Abuse	247	11.49	6.13	.87	.684	-.772
Sexual Abuse	246	12.32	7.76	.95	.501	-1.323
Emotional Neglect	247	9.94	4.43	.87	.311	-.924
Physical Neglect	247	9.62	4.42	.75	.821	-.243
7. Incarceration-Based Trauma (IBT)	230	40.94	8.42	.70	.242	-.139
8. Vocational Readiness (WPP)	250	75.41	6.12	.86-.93*	-.313	2.04

Measure	N	M	SD	r	Sk	Ku
WPP Subscales						
*Coping	250	25.72	2.58	*r* (.96)	-.378	1.47
*Freedom from Barriers	250	16.49	4.33	*r* (.93)	.483	-.546
*Social Resources	250	16.03	2.24	*r* (.86)	-.356	.195
*Intellectual Abilities	250	17.18	1.91	*r* (.86)	-2.71	10.51
Motivation	249	20.89	2.69	*r* (.83)	-.438	.713
Physical Ability	250	34.35	6.51	*r* (.94)	.154	.974

Note: Vocational Readiness is a composite of the WPP subscales that make up the 1st component (i.e., Coping, Freedom from Barriers, Social Resources and Intellectual Abilities).

Table 5.2 shows the correlations between trauma-related cognition's and the main study variables. Trauma-related cognitions is the significant outcome variable for this study; thus, it was important to examine how this variable correlates with other variables in the study. As can be seen, there was a statistically significant positive correlation at the .01 level between trauma-related cognition's and all of the main study variables except for vocational readiness, which was statistically significant at the .05 level.

Table 5.2

Bivariate Correlations

Measure	1	2	3	4	5	6	7	8
1. Trauma-related cognitions (TRC)	1.00							
2. PTSD severity (PTSD)	.634**	1.00						
3. Depression/Anxiety/Stress (DASS)	.687**	.679**	1.00					
4. Adult Trauma (TEQ)	.301**	.498**	.381**	1.00				

Measure	1	2	3	4	5	6	7	8
5. Childhood Trauma (CTQ)	.339**	.415**	.314**	.290**	1.00			
6. Pre-Prison Trauma (PPT)	.368**	.544**	.428**	.942**	.577**	1.00		
7. Incarceration-Based Trauma (IBT)	.344**	.365**	.381**	.279**	.195**	.308**	1.00	
8. Vocational Readiness (WPP)	.125*	.238**	.265**	.206**	.013	.159*	.253**	1.00

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

Table 5.3 presents results from one-way ANOVAs conducted to determine if differences existed between prison facilities (DCI, ORW, NEPRC) on vocational readiness (WPP score), pre-prison trauma, posttraumatic stress disorder (PDS), trauma-related cognitions (PTCI), depression, anxiety and stress scale (DASS-21) and Incarceration-based trauma (IBT). Although, outliers were assessed by boxplot's and Shapiro-Wilk's tests for normality on prison facilities (DCI, ORW, NEPRC), the values for skewness and kurtosis indicated that the data does not significantly depart from normal.

As mentioned earlier, the sample for each prison was unequal, which could potentially increase any negative effects if there were violations of assumptions. An analysis of variance on the PTCI scores indicated a statistically significant variation among prison facilities [Welch's $F(2, 97.81) = 4.61$, $p < .05$)] and a violation of the assumption of the homogeneity of variances [Levene's ($p < .01$)]. A post hoc Tukey test showed that NEPRC differed significantly from ORW ($p < .01$) and DCI ($p < .05$). Median scores were presented in conjunction with the mean and standard deviation scores for further analysis. (DCI: mdn = 10.71,m = 10.59, sd = 3.03; ORW: mdn = 10.61, m = 10.76, sd = 3.94; NEPRC: mdn = 9.14, m = 8.77, sd = 3.48). Moreover, the

depression, anxiety and stress scores (DASS-21) indicated statistically significant mean differences between prison facilities [$F(2, 242) = 4.21$, $p < .05$]. The assumption of homogeneity of variances was not violated [Levene's ($p = .181$)].

Table 5.3

Summary of ANOVA Analyses for Mean Differences between Prisons on Main study Variables

Major Variables	(DCI) n=88 *m(sd)*	(ORW) n=124 *m(sd)*	(NEPRC) n=38 *m(sd)*	*F*	*p*
TRC	10.59(3.03)	10.76(3.94)	8.77(3.48)	4.49	.012*
PDS	19.91(13.20)	20.43(13.30)	15.22(11.34)	2.37	.096
DASS-21	63.74(41.34)	61.04(40.57)	41.84(32.62)	4.21	.016*
TEQ	84.74(56.09)	80.03 (45.48)	72.22(43.62)	0.83	.438
CTQ	62.02(24.21)	57.90(23.41)	58.76(22.72)	0.80	.452
PPT	150.57(64.26)	140.27(56.34)	134.30(55.09)	1.24	.291
IBT	40.83(9.64)	41.41(7.36)	39.50(9.01)	0.70	.496
WPP	75.27(5.89)	75.61(6.20)	75.10(6.54)	0.88	.134

In this study, the socio-economic status variable was a composite of education and income prior to incarceration. One-hundred seventy-seven female inmates reported no income prior to incarceration. That being said, low socio-economic status may consist of no income with an earned college degree or high income with low educational attainment. Two-hundred and six female inmates were classified as low socio-economic status. As can be seen, in Table 5.4, a chi-square test for association was conducted between prison facilities and socio-economic status of female inmates. Two cells have an expected count less than five (22.0%). Due to the violation of the expected cell count and a larger than 2x2 model the result of the likelihood ratio test was examined. The association between prison facilities and socio-economic status was not statistically

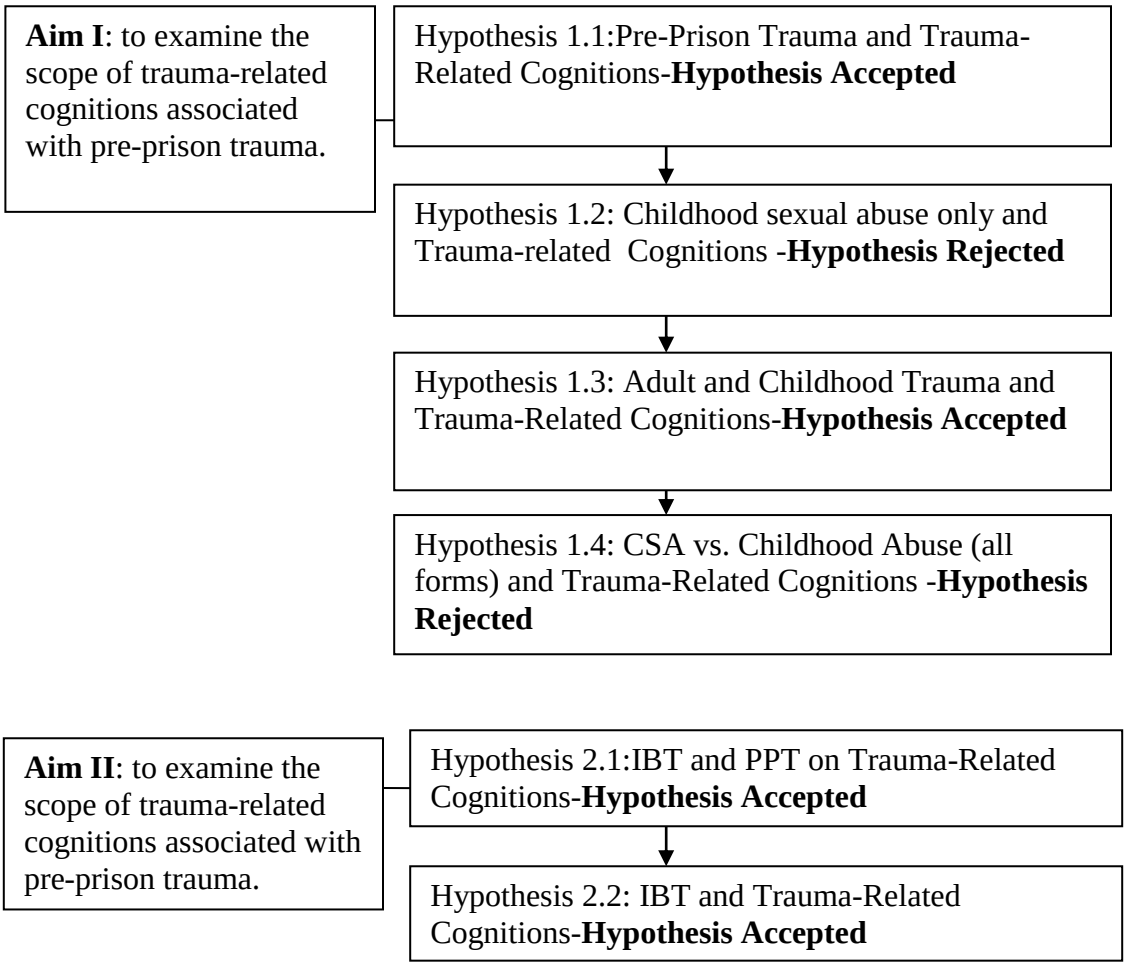
significant, $\chi^2(4) = 6.902$, $p = .141$. The null hypothesis was accepted. There was no association between the prison facilities and socio-economic status of female inmates.

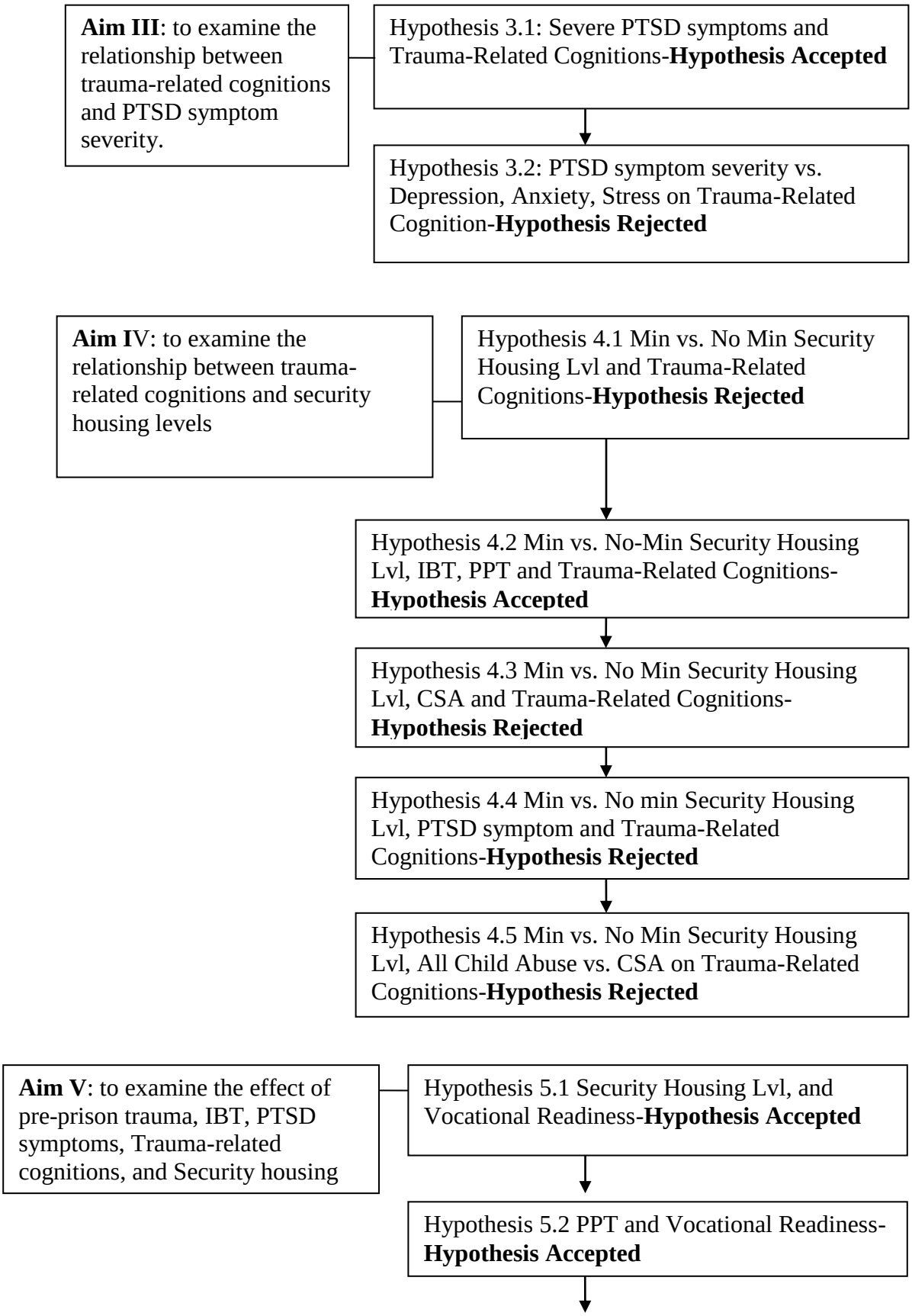
Table 5.4

Results of Chi-square Test for socio-economic status by prisons

SES	DCI n(%)	ORW n(%)	NEPRC n(%)	Total n(%)
Low SES	78(37.9%%)	95(46.1%)	33(16.0%)	206(100.0%)
Middle SES	7(28.0%)	15(60.0%)	15(60.0%)	25(100.0%)
High SES	3(15.8%)	14(73.7%)	2(10.5%)	19((100.0%)

Note. $\chi^2(4) = 6.902$, $p = .141$. Numbers in parentheses represent percentages by column. *$p < .05$, **$p < .01$, ***$p < .001$




Aim III: to examine the relationship between trauma-related cognitions and PTSD symptom severity.
Hypothesis 3.1: Severe PTSD symptoms and Trauma-Related Cognitions-**Hypothesis Accepted**
Hypothesis 3.2: PTSD symptom severity vs. Depression, Anxiety, Stress on Trauma-Related Cognition-**Hypothesis Rejected**
Aim IV: to examine the relationship between trauma-related cognitions and security housing levels
Hypothesis 4.1 Min vs. No Min Security Housing Lvl and Trauma-Related Cognitions-**Hypothesis Rejected**
Hypothesis 4.2 Min vs. No-Min Security Housing Lvl, IBT, PPT and Trauma-Related Cognitions-**Hypothesis Accepted**
Hypothesis 4.3 Min vs. No Min Security Housing Lvl, CSA and Trauma-Related Cognitions-**Hypothesis Rejected**
Hypothesis 4.4 Min vs. No min Security Housing Lvl, PTSD symptom and Trauma-Related Cognitions-**Hypothesis Rejected**
Hypothesis 4.5 Min vs. No Min Security Housing Lvl, All Child Abuse vs. CSA on Trauma-Related Cognitions-**Hypothesis Rejected**
Aim V: to examine the effect of pre-prison trauma, IBT, PTSD symptoms, Trauma-related cognitions, and Security housing
Hypothesis 5.1 Security Housing Lvl, and Vocational Readiness-**Hypothesis Accepted**
Hypothesis 5.2 PPT and Vocational Readiness-**Hypothesis Accepted**

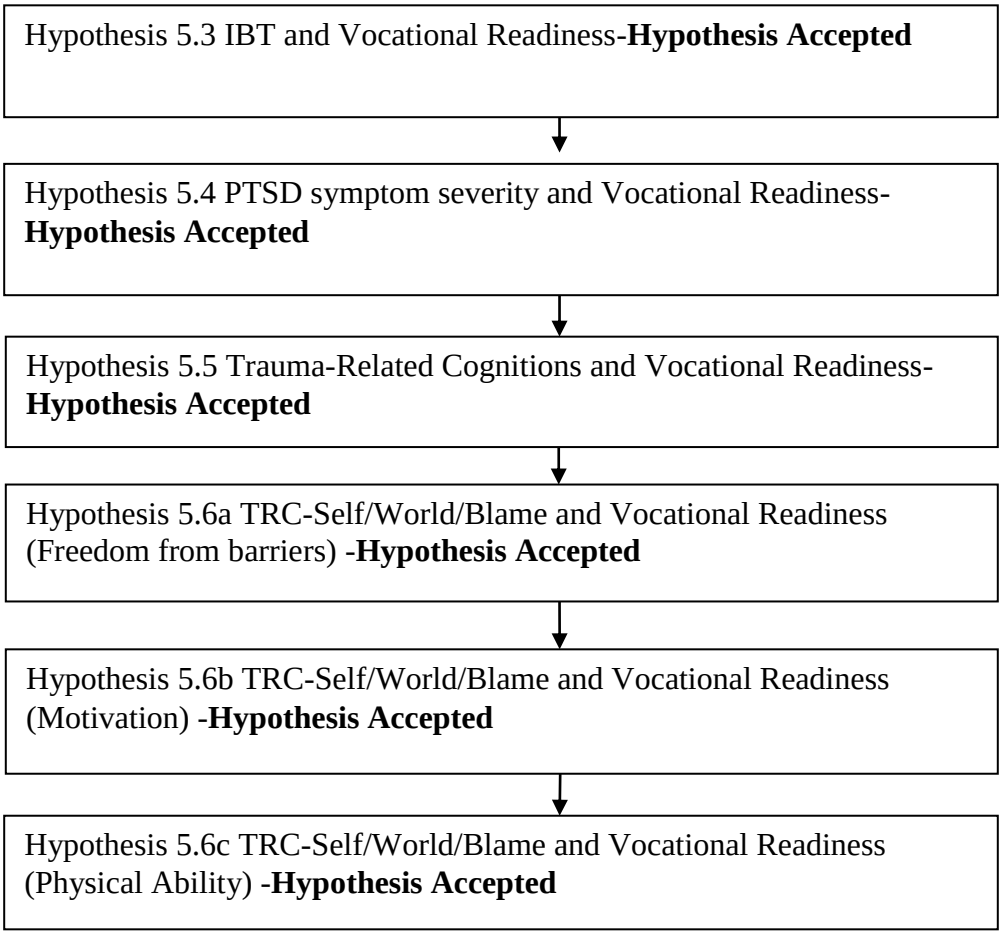


Figure 5.1 The figure provides a simplified flow chart of the aims and hypotheses accepted and rejected.

I. TRAUMA-RELATED COGNITIONS AND PRE-PRISON TRAUMA

This section examined the relationship between trauma-related cognitions associated with pre-prison trauma. In this study, pre-prison trauma (PPT) was a composite variable of the Child Trauma Questionnaire (CTQ) and the Trauma Events Questionnaire (TEQ) and represents incarcerated women's exposure to trauma during childhood and as an adult.

Hypothesis 1.1:Pre-prison trauma will be the best predictor of trauma-related cognitions relative to demographics (age, race and ses).

A multiple linear regression was conducted to examine how pre-prison trauma, demographics (age, race and socio-economic status) and prison facilities predicted

trauma-related cognitions experienced by incarcerated women (Table 5.5). Overall, the independent variables in the model were statistically significant predictors of trauma-related cognitions [Model F (9, 227) = 5.35, $p < .001$], and accounted for 17.5% of the variance. Higher levels of trauma-related cognitions were primarily predicted by higher levels of pre-prison trauma ($\beta = .34$, $p < .001$). Lower levels of trauma-related cognitions were associated with being an older female inmate ($\beta = -.12$, $p < .05$) and being housed at NEPRC ($\beta = -.15$, $p < .05$) compared to female inmates housed at ORW, holding all other independent variables constant. Other demographic variables in the model were not significant predictors of trauma-related cognitions. Overall, Hypothesis 1.1 is supported.

Table 5.5

Multiple Regression Analysis for Predictors of Trauma-related Cognitions Associated with Pre-Prison Trauma and demographics

DV:TRC	*IV*	*β*	*t*	*p*
	Pre-prison trauma	.339	5.52	.001**
	Age	-.124	-2.02	.047*
	SES	-.01	-0.15	.881
	NEPRC	-.154	-2.31	.022*
	DCI	-.055	-0.79	.428
	Black	-.060	-0.89	.375
	Hispanic	-.072	-1.14	.257
	Bi-racial	-.033	-0.52	.602
	Native Amer/Pacif Is	.027	0.43	.665

*Note. Model F(9, 227) = 5.35, p < .001; R^2 = 17.5, *p < .05, **p < .01, ***p < .001*

Hypothesis 1.2: Childhood sexual abuse will be a better predictor of trauma-related cognitions than the combination of childhood sexual abuse and demographics

A hierarchical regression analysis was employed to examine whether childhood sexual abuse predicted trauma-related cognitions above and beyond the combination of childhood sexual abuse, demographics (age, race, ses) and prison facilities. Table 5.6 illustrates the results of the model. Childhood sexual abuse and prison facilities were entered into the first block (baseline model), followed by age in the second block. Race and socio-economic status were added to the third block (full model). In the first block, childhood sexual abuse and prison facilities were statistically significant predictors of trauma-related cognitions [Model F(3, 232) = 6.30, p <.001], and accounted for 7.5% of the variance. Adding age in the second block explained an additional 2.1% of the variance (ΔR^2 = .021, p < .01), after controlling for the variance explained by childhood sexual abuse and prison facilities [Model F(4, 231) = 6.14, p < .001]. The addition of race and socio-economic status in the third model did not significantly change the variance (ΔR^2 = .013, ns) explained by childhood sexual abuse, prison facilities, and age. Thus, Hypothesis 1.2 is rejected because the best model that predicts trauma-related cognitions in female inmates is the model containing childhood sexual abuse (β = .22, p = .001), prison facilities ([NEPRC] β = -.17, p < .05), and age (β = -.15, p < .05) as independent variables.

Table 5.6

Hierarchical Regression Analysis for Predictors of Trauma-related Cognitions Associated with Childhood Sexual Abuse and Trauma-related Cognitions and demographics

DV:TRC	*IV*	*β*	*t*	*p*	*R*	ΔR^2
Block 1:	CSA	.204	3.22	.001***	.075	---
	NEPRC	-.199	-3.01	.003**		
	DCI	-.044	-0.67	.505		
Block 2:	CSA	.217	3.44	.001***	.096	.021**
	NEPRC	-.174	-2.61	.010**		
	DCI	-.061	-0.93	.355		
	Age	-.149	-2.31	.022*		
Block 3:	CSA	.215	3.44	.001***	.109	.012
	NEPRC	-.156	-2.26	.025*		
	DCI	-.028	-0.39	.695		
	Age	-.146	-2.25	.026*		
	Black	-.077	-1.11	.270		
	Hispanic	-.085	-1.27	.204		
	Bi-racial	-.008	-0.12	.908		
	NativAmer/PacIs	.036	0.55	.582		
	SES	-.022	-0.34	.738		

Note. *Block 1:F(3, 232) = 6.30, p <.001, R^2 = .075,; Block 2: F(4, 231) = 6.14, p < .001; R^2 = .096, R^2 Change = .021; Block 3: F(9, 226) = 3.06, p = .002, R^2 = .109, R^2 Change = .013; *p < .05, **p < .01, ***p < .001*

Hypothesis 1.3: The combination of adult trauma and childhood trauma (i.e. pre-prison trauma) will be better predictors of trauma-related cognitions than adult trauma alone.

A hierarchical regression analysis was employed to examine whether adult trauma predicted trauma-related cognitions above and beyond the combination of childhood trauma, adult trauma, demographics (age, race, ses) and prison facilities. Table 5.7 illustrate the results of the model. Adult trauma and prison facilities were entered into the first block (baseline model), followed by childhood trauma in the second block. Age, race and socio-economic status were added to the third block (full model). In the first block, adult trauma and prison facilities were statistically significant predictors of trauma-related cognitions [Model $F(3, 227) = 8.88$, $p < .001$], and accounted for 11% of the variance. Adding childhood trauma in the second block explained an additional 7% of the variance ($\Delta R^2 = .070$, $p < .001$), after controlling for the variance explained by adult trauma and prison facilities [Model $F(4, 226) = 11.951$, $p < .001$)]. The addition of age, race and socio-economic status in the third model did not significantly change the variance ($\Delta R^2 = .024$, ns) explained by adult trauma, childhood trauma and prison facilities. Therefore, Hypothesis 1.3 is accepted because the best model that predicts trauma-related cognitions in female inmates is the model containing childhood trauma ($\beta = .28$, $p < .001$), adult trauma ($\beta = .21$, $p < .001$) and prison facilities [NEPRC] ($\beta = -.19$, $p < .05$) as independent variables.

Table 5.7

Hierarchical Regression Analysis for Predictors of Trauma-related Cognitions associated with adult and child trauma and demographics

DV:TRC	*IV*	*β*	*t*	*p*	*R*	ΔR^2
Block 1:	Adult Trauma	.276	4.38	.001***	.105	---
	DCI	-.052	-0.78	.434		
	NEPRC	-.173	-2.62	.009**		
Block 2:	Adult Trauma	.205	3.27	.001***	.175	.070***
	DCI	-.076	-1.19	.235		
	NEPRC	-.189	-2.99	.003**		
	Child Trauma	.275	4.37	.001***		
Block 3:	Adult Trauma	.191	3.02	.003**	.198	.024
	DCI	-.061	-.876	.382		
	NEPRC	-.154	-2.33	.021*		
	Child Trauma	.282	4.41	.001***		
	Age	-.130	-2.09	.038*		
	SES	-.007	-0.11	.911		
	Black	-.062	-0.93	.352		
	Hispanic	-.067	-1.05	.297		
	Bi-racial	-.020	-0.32	.753		
	NativAmer/PacIs	.020	0.32	.752		

Note. *Block 1:F(3, 227) = 8.88, p <.001, R^2 = .105, Block 2: F(4, 226) = 11.95, p < .001; R^2 = .175, R^2 Change = .070; Block 3: F(10, 220) = 5.44, p <.001, R^2 = .198, R^2 Change = .024; *p < .05, **p < .01, ***p < .001*

Hypothesis 1.4: Childhood sexual abuse will be the best predictor of trauma-related cognitions relative to childhood emotional abuse/neglect and/ or physical abuse/neglect.

A multiple linear regression was conducted to examine how childhood trauma, demographics (age, race and socio-economic status) and prison facilities predicted trauma-related cognitions experienced by incarcerated women (Table 5.8). Overall, the independent variables in the model were statistically significant predictors of trauma-related cognitions [Model $F(13, 222) = 3.92$, $p < .001$)], and accounted for approximately 18.7% of the variance. Higher levels of trauma-related cognitions were primarily predicted by higher levels of childhood emotional abuse ($\beta = .29$, $p < .01$). Lower levels of trauma-related cognitions were associated with being an older female inmate ($\beta = -.140$, $p < .05$) and being housed at NEPRC correctional facility ($\beta = -.163$, $p < .05$) compared to being housed at ORW correctional facility, holding all other independent variables constant. Other demographic variables in the model were not statistically significant. Therefore, Hypothesis 1.4 is rejected because childhood emotional abuse is a better predictor of trauma-related cognitions than childhood sexual abuse.

Table 5.8

Multiple Regression Analysis for Predictors of Trauma-related Cognitions Associated with Childhood Trauma and demographics

DV:TRC	*IV*	*β*	*t*	*p*
	CSA	.068	0.97	.335
	CEA	.286	2.97	.003**
	CEN	.042	0.46	.644
	CPA	-.082	-0.89	.375
	CPN	.089	0.97	.330
	Age	-.140	-2.21	.028*
	Black	-.058	-0.86	.390
	Hispanic	-.061	-0.95	.344
	Bi-racial	.008	0.13	.894
	Native Amer/Pacif Is	.024	0.38	.707
	SES	-.013	-0.20	.845
	NEPRC	-.163	-2.44	.016*
	DCI	-.044	-0.63	.528

Note. *$F(13, 222) = 3.92$, $p < .001$, $R^2 = 18.7$; *$p < .05$, **$p < .01$, ***$p < .001$*

II. TRAUMA-RELATED COGNITIONS AND INCARCERATION-BASED TRAUMA

This section examined the relationship between trauma-related cognitions associated with incarceration-based trauma. The responses to the Incarceration-Based Trauma Scale (IBTS) were used to measure prison experiences of female inmates. As mentioned earlier, dummy coding was utilized to better understand how the mean differences in the correctional facilities variable would influence analysis results.

Hypothesis 2.1: The combination of incarceration-based trauma and pre-prison trauma experiences will be better predictors of trauma-related cognitions than Incarceration-based trauma alone

A hierarchal regression analysis was employed to examine whether incarceration-based trauma predicted trauma-related cognitions above and beyond the combination of incarceration-based trauma and pre-prison trauma, demographics (age, race, socio-economic status) and prison facility. Table 5.9 illustrate the results of the model. Incarceration-based trauma (IBT) and prison facilities were entered into the first block (baseline model) followed by pre-prison trauma (PPT) in the second block. Age, race and socio-economic status were added to the third block (full model). In the first block, incarceration-based trauma and prison facilities were statistically significant predictors of trauma-related cognitions [Model $F(3, 221) = 14.89$, $p < .001$)] and accounted for 16.8% of the variance. Adding pre-prison trauma in the second block, explained an additional 4.6% of the variance ($\Delta R^2 = .046$, $p < .05$), after controlling for the variance explained by incarceration-based trauma and prison facilities [Model $F(4, 220) = 15.02$, $p < .001$)]. The addition of age, race and socio-economic status in the third block did not significantly change the variance ($\Delta R^2 = .025$, ns), explained by incarceration-based trauma, pre-prison trauma and prison facilities. Therefore, Hypothesis 2.1 is accepted because the best model that predicts trauma-related cognitions in female

inmates is the model containing incarceration-based trauma (β = .30, p < .001), pre-prison trauma (β = .23, p < .001) and prison facilities [NEPRC] (β = -.14, p < .05) as independent variables.

Table 5.9

Hierarchical Regression Analysis for Predictors of Trauma-related Cognitions Associated with Incarceration-Based Trauma, Pre-Prison Trauma and demographics

DV:TRC	*IV*	*β*	*t*	*p*	*R*	ΔR^2
Block 1:	IBT	.378	6.12	.001***	.168	---
	NEPRC	-.127	-1.96	.051		
	DCI	-.025	-0.39	.700		
Block 2:	IBT	.298	4.65	.001***	.215	.046***
	NEPRC	-.140	-2.22	.027*		
	DCI	-.050	-0.80	.424		
	PPT	.231	3.60	.001***		
Block 3:	IBT	.308	4.69	.001***	.240	.025
	NEPRC	-.108	-1.64	.103		
	DCI	-.043	-0.63	.527		
	PPT	.213	3.27	.001***		
	Age	-.123	-2.00	.047*		
	Black	-.063	-0.97	.335		
	Hispanic	-.060	-0.93	.356		
	Bi-racial	-.024	-0.39	.700		
	NativAmer/PacIs	.023	0.38	.706		
	SES	-.064	-0.99	.322		

Note. *Block 1:F(3, 221) = 14.89, p <.001, R^2 = .168; Block 2: F(4, 220) = 15.02, p < .001; R^2 = .215, R^2 Change = .046; Block 3: F(10, 214) = 6.74, p <.001, R^2 = .240, R^2 Change = .025; *p < .05, **p < .01, ***p < .001*

Hypothesis 2.2: Incarcerated women with severe incarceration-based trauma will have higher trauma-related cognitions than incarcerated women with mild incarceration-based trauma

An independent samples t-test was conducted to determine if women with severe incarceration-based trauma have higher levels of trauma-related cognitions. There was a statistically significant difference between the mean scores for mild incarceration-based trauma (M = 9.31, SD = 3.26, N = 121) and severe incarceration-based trauma (M = 11.47, SD = 3.67, N = 124) conditions; $t(243) = -4.87$, $p < .001$, $d = 0.64$ (Table AA2.2). The effect size (d =.64) exceeds Cohen's (1988) standard for a medium (.5) effect size. The null hypothesis is rejected. The results suggest that there is a positive relationship between higher levels of incarceration-based trauma and higher levels of trauma-related cognitions.

Table 5.10

t-Test Analysis for Trauma-related Cognitions Associated with Incarceration-based Trauma

	Mild IBT		Severe IBT		
Measure	M	SD	M	SD	t
Trauma-related cognitions	9.31	3.26	11.47	3.67	-4.87***

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

III. TRAUMA-RELATED COGNITIONS AND POSTTRAUMATIC STRESS DISORDER

This section will examine the relationship between trauma-related cognitions associated with posttraumatic stress disorder. The responses to the posttraumatic Diagnostic Scale (PDS) was used to measure symptoms related to the level of posttraumatic stress

disorder (PTSD). Dummy coding was utilized to form the mild PTSD and severe PTSD groups.

Hypothesis 3.1: Incarcerated women with Severe PTSD will have higher trauma-related cognitions than incarcerated women with mild PTSD

An independent samples t-test was conducted to determine if incarcerated women with severe PTSD have higher levels of trauma-related cognitions. There was a statistically significant difference in the mean scores for mild posttraumatic stress disorder (M = 8.66, SD = 3.03, N = 134) and severe posttraumatic stress disorder (M = 12.52, SD = 3.16, N = 111); $t(243) = 9.76$, $p < .001$, $d = 1.25$ (Table 5.11). The effect size (d = 1.25) exceeds Cohen's (1988) standard for a large (1.0) effect size. The null hypothesis is rejected. The results suggest that there is a positive relationship between higher levels of posttraumatic stress disorder and higher levels of trauma-related cognitions.

Table 5.11

t-Test Analysis for Trauma-related Cognitions Associated with Posttraumatic Stress Disorder

	Mild PTSD		Severe PTSD		
Measure	M	SD	M	SD	t
Trauma-related cognitions	8.66	3.03	12.52	3.16	9.76***

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

Hypothesis 3.2: PTSD will be a better predictor of trauma-related cognitions than depression, stress and/ or anxiety

A hierarchal regression analysis was employed to examine whether posttraumatic stress disorder predicted trauma-related cognitions above and beyond depression, stress and/ or anxiety, demographics (age, race, socio-economic status) and prison facilities. Table 5.12 illustrates the results of the model. Posttraumatic stress disorder and prison facilities were entered into the first block (baseline model) followed by depression, anxiety, and stress in the second block. Age, race and socio-economic status were added to the third block. In the first block, posttraumatic stress disorder and prison facilities were statistically significant predictors of trauma-related cognitions [Model $F(3, 231) = 51.25$, $p < .001$)] and accounted for 40% of the variance. Adding depression, stress and anxiety in the second block explained an additional 16.8% of the variance ($\Delta R^2 = .168$, $p < .001$), after controlling for the variance explained by posttraumatic stress disorder and prison facilities [Model $F(6, 228) = 49.84$, $p < .001$)]. The addition of age, race and socio-economic status in the third model did not significantly change the variance ($\Delta R^2 = .019$, ns) explained by posttraumatic stress disorder, depression, stress, anxiety and prison facilities. Therefore, Hypothesis 3.2 is rejected because the best model that predicts trauma-related cognitions in female inmates is the model containing posttraumatic stress disorder ($\beta = .32$, $p < .001$), depression ($\beta = .40$, $p < .001$), stress ($\beta = .35$, $p < .001$), anxiety ($\beta = -.25$, $p < .01$) and prison facilities as independent variables. The prison facilities variable was not significant in this model.

Table 5.12

Hierarchical Regression Analysis for Predictors of Trauma-related Cognitions Associated with PTSD, Depression, Anxiety and Stress and demographics

DV:TRC	*IV*	*β*	*t*	*p*	*R*	ΔR^2
Block 1:	PDS	.610	11.88	.001***	.400	---
	NEPRC	-.111	-2.06	.041		
	DCI	-.027	-0.50	.620		
Block 2:	PDS	.317	5.28	.001***	.567	.168***
	NEPRC	-.059	-1.29	.200		
	DCI	-.030	-0.65	.516		
	DASS-D	.397	5.66	.001***		
	DASS-S	.351	3.91	.001***		
	DASS-A	-.246	-2.74	.007**		
Block 3:	PDS	.318	5.25	.001***		
	NEPRC	-.037	-0.77	.443		
	DCI	-.030	-0.58	.563		
	DASS-D	.412	5.87	.001***	.586	.019
	DASS-S	.362	4.03	.001***		
	DASS-A	-.268	-2.97	.003**		
	Age	-.077	-1.72	.087		
	Black	.036	0.75	.455		
	Hispanic	-.079	-1.72	.086		
	Bi-racial	-.044	-0.99	.323		
	NativAmer/PacIs	.045	0.98	.327		
	SES	.024	0.51	.610		

Note. *Block 1:F(3, 231) = 51.25, p <.001, R^2 = .400; Block 2: F(6, 228) = 49.84, p < .001; R^2 = .567, R^2 Change = .168; Block 3: F(12, 222) = 26.23, p <.001, R^2 = .586, R^2 Change = .019; *p < .05, **p < .01, ***p < .001*

IV. TRAUMA-RELATED COGNITIONS AND SECURITY HOUSING LEVELS

This section examined the relationship between trauma-related cognitions associated with security housing levels.

Hypothesis 4.1: Incarcerated women residing in no-minimum (No-min) security level housing will have higher trauma-related cognitions than incarcerated women residing in minimum (Min) security level housing

An independent samples t-test was conducted to determine if incarcerated women residing in no-min security level housing have higher levels of trauma-related cognitions. There was not a statistically significant difference in the mean scores for no minimum security housing (M = 10.41, SD = 3.67, N = 102) and minimum security housing (M = 10.45, SD = 3.53, N = 130); $t(230) = -.08$, $p = .934$, $d = .01$ (Table 5.13). The effect size ($d = .01$) was below the Cohen's (1988) standard for a small (.2) effect size. The null hypothesis is accepted. The data suggests that there is no difference between no minimum and minimum housing security levels and trauma-related cognitions.

Table 5.13

t-Test Analysis for Trauma-related Cognitions Associated with security housing levels

	No Min		Min		
Measure	M	SD	M	SD	t
TRC	10.41	3.67	10.45	3.53	-.083

Hypothesis 4.2: No-minimum (No-min) security level housing with Incarceration-based trauma and pre-prison trauma will be the better predictors of trauma-related cognitions than the combination of minimum (Min) security housing with IBT and PPT

In the first model, a multiple linear regression was conducted to examine how incarceration-based trauma and pre-prison trauma with demographics (age, race and socio-economic status) and prison facility predicted trauma-related cognitions experienced by incarcerated women residing in no-minimum security housing level (Table 5.14). Overall, the independent variables in the model were statistically significant predictors of trauma-related cognitions [Model $F(10, 82) = 5.58$, $p < .001$], and accounted for 41% of the variance. Higher levels of trauma-related cognitions were primarily predicted by higher levels of incarceration-based trauma ($\beta = .30$, $p < .01$) and pre-prison trauma ($\beta = .26$, $p < .01$). Lower levels of trauma-related cognitions were associated with being an older female inmate ($\beta = -.25$, $p < .01$) and being housed at NEPRC ($\beta = -.25$, $p < .05$) compared to being housed at ORW correctional facility holding all other independent variables constant. Other demographic variables in the model were not statistically significant predictors of trauma-related cognitions.

Table 5.14

Multiple Regression Analysis for Predictors of Trauma-related Cognitions Associated with No Minimum security housing levels, incarceration-based trauma, pre-prison trauma and demographics

DV: TRC	*IV*	*β*	*t*	*p*
	IBT	.30	3.17	.002**
	Pre-Prison Trauma	.26	2.68	.009**
	Age	-.25	-2.89	.005**
	Black	.04	0.46	.650

Hispanic	.02	1.80	.858
Bi-racial	-.13	-1.40	.165
NativAmer/PacIs	.05	0.59	.559
SES	-.01	-0.06	.949
NEPRC	-.25	-2.61	.011*
DCI	-.18	-1.87	.066

Note. *F(11, 82) = 5.58, p = <.001; R^2 = .41; *p < .05, **p < .01, ***p < .001*

In the second model, a multiple linear regression was conducted to examine how incarceration-based trauma and pre-prison trauma with demographics (age, race and socio-economic status) and prison facilities predicted trauma-related cognitions experienced by incarcerated women in minimum security housing level (Table 5.15). Overall, the independent variables in the model were statistically significant predictors of trauma-related cognitions [Model F(10, 112) = 3.10, p < .01], and accounted for 22% of the variance. Higher levels of trauma-related cognitions were primarily predicted by higher levels of incarceration-based trauma (β = .28, p < .01). Pre-prison trauma and demographics were not statistically significant in this model. As noted above, Hypothesis 4.2 is supported.

Table 5.15

Multiple Regression Analysis for Predictors of Trauma-related Cognitions Associated with Minimum security housing levels, incarceration-based trauma, pre-prison trauma and demographics

DV:TRC	*IV*	*β*	*t*	*p*
	IBT	.28	2.85	.005**
	Pre-Prison Trauma	.14	1.50	.136
	Age	.03	0.32	.748
	Black	-.16	-1.81	.074
	Hispanic	-.10	-1.16	.247

Bi-Racial	.12	1.41	.161
NativAmer/PacIs	.01	0.08	.935
SES	-.11	-1.14	.255
NEPRC	-.12	-1.25	.214
DCI	.12	1.28	.203

Note. *$F(10, 112) = 3.10$, $p = .002$; $R^2 = 21.7$; *$p < .05$, **$p < .01$, ***$p < .001$*

Hypothesis 4.3: No-minimum (No-min) security level housing with CSA will be a better predictor of trauma-related cognitions (TRC) than Minimum (Min) security level housing with CSA

In the first model, a multiple linear regression was conducted to examine how childhood sexual abuse with demographics (age, race and socio-economic status) and prison facilities predicted trauma-related cognitions experienced by incarcerated women housed in no-minimum security housing level (Table 5.16). Overall, the results of the model were statistically significant predictors of trauma-related cognitions [Model $F(9, 90) = 2.40$, $p < .05$) and accounted for 19.4% of the variance. Lower levels of trauma-related cognitions were primarily predicted by being an older female inmate ($\beta = -.27$, $p < .01$) and being housed at NEPRC ($\beta = -.30$, $p < .05$) compared to being housed at ORW holding all other independent variables constant. Other demographic variables in the model were not statistically significant predictors of trauma-related cognitions.

Table 5.16

Multiple Regression Analysis for Predictors of Trauma-related Cognitions Associated with No Minimum Security Housing Levels and Childhood Sexual Abuse

DV:TRC	*IV*	*β*	*t*	*p*
	Childhood Sexual Abuse	.06	.59	.557
	Age	-.27	-2.85	.005**
	Black	.07	0.61	.541
	Hispanic	.02	0.20	.845
	Bi-racial	-.13	-1.25	.216
	NativeAmer/PI	.11	1.07	.287
	SES	-.04	-0.38	.707
	NEPRC	-.30	-2.86	.005**
	DCI	-.16	-1.47	.145

Note. *$F(9, 90) = 2.40$, $p = .017$; $R^2 = .194$; *$p < .05$, **$p < .01$, ***$p < .001$*

In the second model, a multiple linear regression was conducted to examine how childhood sexual abuse and demographics (age, race, socio-economic status) and prison facility predicted trauma-related cognitions experienced by incarcerated women residing in minimum housing security levels. (Table 5.17). Overall, the independent variables in the model were statistically significant predictors of trauma-related cognitions [Model $F(9, 116) = 2.92$, $p = .004$)] and accounted for approximately eighteen percent (18.4%) of the variance. Higher levels of trauma-related cognitions were primarily associated with higher levels of childhood sexual abuse ($\beta = .26$, $p < .001$). Lower levels of trauma-related cognitions were associated with being a Black female inmate ($\beta = -.41$, $p < .01$) in comparison to being a white female inmate holding all other independent variables constant. Hypothesis 4.3 is rejected because the independent variable, childhood sexual

abuse, was not a statistically significant predictor of trauma-related cognitions for female inmates residing in no-minimum security housing.

Table 5.17

Multiple Regression Analysis for Predictors of Trauma-related Cognitions Associated with Minimum Security Housing Levels and Childhood Sexual Abuse

DV:TRC	*IV*	*β*	*t*	*p*
	Childhood Sexual Abuse	.26	2.94	.004**
	Age	.01	0.15	.885
	Black	-.20	-2.22	.028*
	Hispanic	-.17	-1.94	.054
	Bi-racial	.14	1.66	.100
	NativeAmer/PI	.01	0.15	.880
	SES	.00	0.04	.965
	NEPRC	-.15	-1.59	.116
	DCI	.11	1.15	.253

Note. *$F(9, 116) = 2.92$, $p = .004$; $R^2 = .184$; *$p < .05$, **$p < .01$, ***$p < .001$*

Hypothesis 4.4: No-minimum (No-min) security housing with PTSD will be the best predictors of trauma-related cognitions (TRC) than Minimum security housing with PTSD

In the first model, a multiple linear regression was conducted to examine how posttraumatic stress disorder, demographics (age, race, socio-economic status) and prison facility predicted trauma-related cognitions experienced by incarcerated women residing in no-minimum security housing (Table 5.18). Overall, the independent variables in the model were statistically significant [Model $F(9, 91) = 7.01$, $p < .001$)], and accounted for 40.9% of the variance. Higher levels of trauma-related cognitions were primarily predicted by higher levels of posttraumatic Stress Disorder symptoms ($\beta = .49$,

p < .001). Lower levels of trauma-related cognitions were associated with being housed at NEPRC (β = -.22, p < .05) in comparison to ORW holding all other independent variables constant. Other demographic variables in the model were not statistically significant predictors of trauma-related cognitions.

Table 5.18

Multiple Regression Analysis for Predictors of Trauma-related Cognitions Associated with No Minimum security housing levels and Posttraumatic Stress Disorder

DV:TRC	*IV*	*β*	*t*	*p*
	PTSD	.49	5.68	.001***
	Age	-.16	-1.87	.065
	Black	.13	1.37	.173
	Hispanic	-.03	-0.30	.173
	Bi-racial	-.08	-0.95	.343
	NativeAmer/PI	.07	0.84	.402
	SES	-.00	-.00	.995
	NEPRC	-.22	-2.43	.017*
	DCI	-.15	-1.65	.102

Note. *$F(9, 91) = 7.01$, $p < .001$; $R^2 = .409$; *p < .05, **p < .01, ***p < .001*

In the second model, a multiple linear regression was conducted to examine how posttraumatic stress disorder, demographics (age, race, socio-economic status) prison facility predicted trauma-related cognitions experienced by incarcerated women residing in minimum security housing (Table 5.19). Overall, the independent variables in the model were statistically significant [Model F(9, 116) = 10.99, p < .001)] and accounted for 46% of the variance. Higher levels of trauma-related cognitions were primarily predicted by higher levels of posttraumatic Stress Disorder (β = .62, p < .001). Demographics and prison facilities were not statistically significant in this model.

Overall, Hypothesis 4.4 is rejected because the effect of posttraumatic stress disorder symptoms on female inmates housed in minimum security housing is predicted to have a larger effect on trauma-related cognitions than for female inmates residing in no-minimum security housing and explains a larger portion of the variance in trauma-related cognitions.

Table 5.19

Multiple Regression Analysis for Predictors of Trauma-related Cognitions Associated with Minimum security housing levels and Posttraumatic Stress Disorder

DV:TRC	*IV*	*β*	*t*	*p*
	PTSD	.62	8.50	.001***
	Age	.03	0.35	.724
	Black	-.13	-1.76	.081
	Hispanic	-.08	-1.11	.270
	Bi-racial	.07	1.02	.312
	NativeAmer/PI	.04	0.57	.573
	SES	.08	1.05	.298
	NEPRC	-.06	-0.82	.414
	DCI	.13	1.75	.082

Note. *$F(9, 116) = 10.99$, $p < .001$; $R^2 = .460$; *$p < .05$, **$p < .01$, ***$p < .001$*

Hypothesis 4.5: No-minimum security housing with childhood emotional abuse/neglect and physical abuse/neglect and childhood sexual abuse will be the best predictor of trauma-related cognitions than Minimum security housing with childhood emotional abuse/neglect and physical abuse/neglect and childhood sexual abuse

In the first model, a multiple linear regression was conducted to examine how childhood emotional and physical abuse, childhood emotional and physical neglect, childhood sexual abuse, demographics (age, race, socio-economic status) and prison

facilities predicted trauma-related cognitions experienced by incarcerated women residing in no-minimum security level housing (Table 5.20). Overall, the independent variables in the model were statistically significant [Model $F(13, 86) = 2.46$, $p < .01$)] and accounted for 27.1% of the variance. Lower levels of trauma-related cognitions were primarily predicted by being an older female inmate ($\beta = -.22$, $p < .05$) and being housed at NEPRC ($\beta = -.28$, $p < .01$) in comparison to ORW holding all other dependent variables constant.

Table 5.20

Multiple Regression Analysis for Predictors of Trauma-related Cognitions Associated with No-Minimum security housing levels and childhood emotional abuse/neglect and physical abuse/neglect and childhood sexual abuse.

DV:TRC	*IV*	*β*	*t*	*p*
	Child Emotional Abuse	.19	1.17	.247
	Child Physical Abuse	.15	0.98	.330
	Child Emotional Neglect	.04	0.31	.756
	Child Physical Neglect	.02	0.15	.878
	Child Sexual Abuse	-.16	-1.31	.193
	Age	-.22	-2.26	.026*
	Black	.06	0.50	.616
	Hispanic	.03	0.26	.796
	Bi-racial	-.08	-0.85	.398
	NativAmer/PacIs	.08	0.80	.427
	SES	-.01	-0.08	.938
	NEPRC	-.28	-2.67	.009**
	DCI	-.16	-1.45	.150

Note. *$F(13, 86) = 2.46$, $p = .007$; $R^2 = .271$; *$p < .05$, **$p < .01$, ***$p < .001$*

In the second model, a multiple linear regression was conducted to examine how childhood emotional and physical abuse, childhood emotional and physical neglect, childhood sexual abuse, demographics (age, race, socio-economic status) and prison facilities predicted trauma-related cognitions experienced by incarcerated women residing in minimum security level housing (Table 5.21). Overall, the independent variables in the model were statistically significant [Model $F(13, 112) = 3.10$, $p < .001$)] and accounted for 26.5% of the variance. Higher levels of trauma-related cognitions were primarily predicted by higher levels of childhood emotional abuse ($\beta = .37$, $p < .01$) and childhood sexual abuse ($\beta = .20$, $p < .05$). Lower levels of trauma-related cognitions were associated with higher levels of childhood physical abuse ($\beta = -.31$, $p < .05$) holding all other independent variables constant. Other demographic variables in the model were not statistically significant predictors of trauma-related cognitions. Overall, Hypothesis 4.5 is rejected because childhood abuse for female inmates residing in minimum security housing was a better predictor of trauma-related cognitions in comparison to female inmates residing in no-minimum security housing.

Table 5.21

Multiple Regression Analysis for Predictors of Trauma-related Cognitions Associated with Minimum security housing levels and childhood emotional abuse/neglect and physical abuse/neglect and childhood sexual abuse.

DV:TRC	*IV*	*β*	*t*	*p*
	Child Emotional Abuse	.37	2.66	.009**
	Child Physical Abuse	-.31	-2.53	.013*
	Child Emotional Neglect	-.00	-0.02	.988
	Child Physical Neglect	.12	0.98	.329
	Child Sexual Abuse	.20	2.13	.036*
	Age	-.02	-0.21	.836

Black	-.16	-1.85	.067
Hispanic	-.14	-1.61	.111
Bi-racial	.16	1.90	.059
NativAmer/PacIs	.02	0.23	.819
SES	.02	0.27	.791
NEPRC	-.12	-1.29	.199
DCI	.10	1.12	.267

Note. *$F(13, 112) = 3.10$, $p < .001$; $R^2 = .265$; *$p < .05$, **$p < .01$, ***$p < .001$*

V. VOCATIONAL READINESS

This section examined the impact of security housing levels, PTSD, and trauma-related cognitions on the vocational readiness of incarcerated women. Responses from the Work Potential Profile (WPP) were used to assess vocational readiness. The items on this scale represent barriers to vocational readiness. Thus, a higher score on this scale indicates a lower potential for employment success.

Hypothesis 5:1: Incarcerated women housed in no-minimum security level housing will have a lower potential for vocational readiness than incarcerated women housed in minimum security level housing

An independent samples t-test was conducted to determine if incarcerated women residing in no-min security level housing have lower vocational readiness. There was not a statistically significant difference in the mean scores for no minimum security level housing (M = 75.99, SD = 6.60, N = 102) and minimum security level housing (M = 75.41, SD = 5.32, N = 131); $t(231) = .741$, $p = .460$, $d = .10$ (Table 5.22). The effect size ($d = .10$) was below the Cohen's (1988) standard for a small (.20) effect size. The null

hypothesis failed to be rejected. The data shows that there is no difference in no minimum and minimum security housing on vocational readiness.

Table 5.22

t-Test Analysis for Vocational Readiness Associated with security housing levels

	No Min		Min		
Measure	M	SD	M	SD	t
Vocational Readiness	75.99	6.60	75.41	5.32	.460

Hypothesis 5:2: Incarcerated women with severe pre-prison trauma (PPT) will have a lower potential for vocational readiness than incarcerated women with mild pre-prison trauma (PPT)

An independent samples t-test was conducted to determine if incarcerated women with severe pre-prison trauma have a lower potential for vocational readiness. There was a statistically significant difference in the mean scores for mild pre-prison trauma (M = 74.60, SD = 5.76, N = 133) and severe pre-prison trauma (M = 76.55, SD = 6.01, N = 114); $t(245) = 2.60$, $p = .01$, $d = .33$ (Table 5.23). The effect size ($d = .33$) is between Cohen's (1988) standard for small (.2) and medium effect sizes (.5). The null hypothesis is rejected. The means for PPT are different. Female inmates with severe pre-prison trauma demonstrated a lower potential for vocational readiness than those who had mild pre-prison trauma.

Table 5.23

t-Test Analysis for Vocational Readiness Associated with pre-prison trauma

	Mild PPT		Severe PPT		
Measure	M	SD	M	SD	t
Vocational Readiness	74.60	5.76	76.55	6.01	-2.60

Hypothesis 5:3: Incarcerated women with severe incarceration-based trauma (IBT) will have a lower potential for vocational readiness than incarcerated women with mild incarceration-based trauma (IBT)

An independent samples t-test was conducted to determine if incarcerated women with severe incarceration-based trauma have a lower potential for vocational readiness. There was a statistically significant difference in the mean scores for mild incarceration-based trauma (M = 74.74, SD = 5.25, N = 122) and severe incarceration-based trauma (M = 76.06, SD = 6.81, N = 128); t(248) = -1.71 p = .01, d = .22 (Table 5.24). The effect size (d = .22) was small based on Cohen's (1988) standard for small (.2) effect sizes. The null hypothesis is rejected. The means for severe and mild IBT are not the same. Female inmates with severe incarceration-based trauma demonstrated a lower potential for vocational readiness than those who had mild incarceration-based trauma.

Table 5.24

t-Test Analysis for Vocational Readiness Associated with incarceration-based trauma

	Mild IBT		Severe IBT		
Measure	M	SD	M	SD	t
Vocational Readiness	74.60	5.76	76.55	6.01	-2.60

Hypothesis 5:4: Incarcerated women with severe PTSD will have a lower potential for vocational readiness than incarcerated women with mild PTSD

An independent samples t-test was conducted to determine if incarcerated women with severe PTSD have a lower potential for vocational readiness. There was a statistically significant difference in the mean scores for mild PTSD (M = 74.41, SD = 5.56, N = 136) and severe PTSD (M = 76.82, SD = 6.16, N = 136); t(245) = 3.23, p = .001, d = .41 (Table 5.25). The effect size (d = .41) is between small (.2) and medium effect sizes (.5) based on Cohen's (1988) standard. The null hypothesis is rejected. The means for severe and mild PPT are not the same. Female inmates with severe pre-prison trauma demonstrated a lower potential for vocational readiness than those who had mild pre-prison trauma.

Table 5.25

t-Test Analysis for Vocational Readiness Associated with PTSD

	Mild PTSD		Severe PTSD		
Measure	M	SD	M	SD	t
Vocational Readiness	74.60	5.76	76.55	6.01	-2.60

Hypothesis 5:5: Incarcerated women with severe Trauma-related Cognitions (TRC) will have a lower potential for vocational readiness than incarcerated women with mild trauma-related cognitions (TRC)

An independent samples t-test was conducted to determine if incarcerated women with severe trauma-related cognitions have a lower potential for vocational readiness. There was a statistically significant difference in the mean scores for mild trauma-related cognitions (M = 74.77, SD = 5.69, N = 122) and severe trauma-related cognitions (M = 76.40, SD = 5.97, N = 122); $t(242) = -2.19$, $p < .05$, $d = .28$ (Table 5.26). The effect size (d = .28) was more than the Cohen's (1988) standard for small (.2) effect sizes. The null hypothesis is rejected. Female inmates with severe trauma-related cognitions demonstrated a lower potential for vocational readiness than those who had mild pre-prison trauma.

Table 5.26

Summary of t-Test Analysis for Vocational Readiness Associated with trauma-related cognitions

	Mild TRC		*Severe TRC*		
Measure	M	SD	M	SD	t
Vocational Readiness	74.78	5.69	76.40	5.97	-2.19

Hypothesis 5:6a: Trauma-related cognitions about self will be a better predictor of vocational readiness (Freedom from barriers, coping, intellectual ability) than trauma-related cognitions about the world and blame

In the first model, a multiple linear regression was conducted to examine how trauma-related cognitions, demographics (age, race and socio-economic status) and prison facilities predicted vocational readiness (Table 5.27). Overall, the independent variables in the model were not statistically significant predictors of vocational readiness [$F(11, 225) = 1.69$, $p = .077$)]. The hypothesis is accepted. Trauma-related cognitions in relation to self is a better predictor of a lower potential for vocational readiness in the area of freedom from barriers, coping and intellectual ability.

Table 5.27

Multiple Regression Analysis for Predictors of Vocational Readiness/Freedom from Barriers Associated with Trauma-related Cognitions about self, world and self-blame

DV:VR Freedom from barriers	*IV*	*β*	*t*	*p*
	TRC: Self	.252	2.46	.015*
	TRC: World	-.079	-0.89	.372
	TRC: Self Blame	-.039	-0.47	.637
	Age	-.118	-1.75	.081
	Black	-.024	-0.33	.740
	Hispanic	-.070	-1.02	.310
	Bi-racial	.115	1.72	.086
	Native Amer/Pacif Is	-.025	-0.38	.705
	SES	-.058	-0.85	.398
	NEPRC	.036	0.45	.618
	DCI	-.008	-0.11	.910

Note. *$F(11, 225) = 1.69$, $p = .077$; $R^2 = .076$; *$p < .05$, **$p < .01$, ***$p < .001$*

Hypothesis 5:6b: Trauma-related cognitions about self will be a better predictor of vocational readiness in the area of Motivation than trauma-related cognitions about the world and blame.

In the second model, a multiple linear regression was conducted to examine how trauma-related cognitions, demographics (age, race and socio-economic status) and prison facilities predicted vocational readiness for incarcerated women in the area of motivation (Table 5.28). Overall, the independent variables in the model were statistically significant predictors of vocational readiness [Model $F(11, 224) = 3.35$, $p < .001$) and accounted for approximately 14.1% of the variance. Vocational readiness in the area of motivation was primarily predicted by higher levels of trauma related cognitions about self ($\beta = .31$, $p < .01$). The predicted value of vocational readiness is lower for female inmates who describe themselves as black ($\beta = -.17$, $p < .05$) or Hispanic ($\beta = -.13$, $p < .05$) than female inmates who describe themselves as being white. The hypothesis is accepted. Trauma-related cognitions in relation to self is a better predictor of a lower potential for vocational readiness in the area of motivation.

Table 5.28

Multiple Regression Analysis for Vocational Readiness/Motivation Associated with Trauma-related Cognitions

DV:VR Motivation	*IV*	*β*	*t*	*p*
	TRC: Self	.311	3.17	.002**
	TRC: World	-.034	-0.40	.693
	TRC: Self Blame	-.046	-0.58	.562
	Age	.018	.280	.780
	Black	-.167	-2.40	.017*
	Hispanic	-.133	-2.01	.046*
	Bi-racial	.049	0.76	.450
	Native Amer/Pacif Is	-.118	-1.838	.067
	SES	-.050	-0.76	.450
	NEPRC	-.016	-0.23	.815
	DCI	.005	0.70	.945

Note. *$F(11, 224) = 3.35$, $p < .001$; $R^2 = .141$; *$p < .05$, **$p < .01$, ***$p < .001$*

Hypothesis 5:6c: Trauma-related cognitions about self will be a better predictor of vocational readiness in the area of physical abilities than trauma-related cognitions about the world and blame.

In the third model, a multiple linear regression was conducted to examine how trauma-related cognitions, demographics (age, race and socio-economic status) and prison facilities predicted vocational readiness in the area of abilities (Table 5.29). Overall, the independent variables in the model were statistically significant predictors of vocational readiness in the area of physical abilities [$F(11, 225) = 6.91$, $p < .001$)] and accounted for approximately 25.3% of the variance. Lower vocational readiness in the area of abilities was primarily predicted by higher levels of trauma related cognitions

about self (β = -.37, p < .001), being an older female inmate (β = -.31, p < .001). Higher vocational readiness was predicted by higher levels of socio-economic status (β = .22, p < .001). The hypothesis is accepted. Trauma-related cognitions in relation to self is a better predictor of a lower potential for vocational readiness in the area of physical abilities.

Table 5.29

Multiple Regression Analysis for Predictors of Vocational Readiness/Physical Abilities Associated with Trauma-related Cognitions

DV:VR Abilities	*IV*	*β*	*t*	*p*
	TRC: Self	-.371	-4.03	.001***
	TRC: World	.059	0.74	.463
	TRC: Self Blame	-.010	-0.13	.894
	Age	-.305	-5.05	.001***
	Black	-.049	-0.75	.452
	Hispanic	-.011	-0.18	.856
	Bi-racial	-.023	-0.38	-.376
	Native Amer/Pacif Is	.028	0.47	.639
	SES	.221	3.62	.001***
	NEPRC	-.060	-0.92	.358
	DCI	-.119	-1.78	.076

Note. *$F(11, 225) = 6.912$, $p < .001$; $R^2 = .253$; *p < .05, **p < .01, ***p < .001*

DISCUSSION

The purpose of this dissertation was to examine how trauma in the lives of incarcerated women [prior to incarceration and indicative to the prison environment] may lead to the development of trauma-related cognitions and a lower potential for vocational readiness. Figure 1 outlines the conceptual framework that undergirds this study. This dissertation examined various aspects of this conceptual model by exploring the following aims: Aim 1: to examine the scope of trauma-related cognitions (TRC) associated with pre-prison trauma (PPT); Aim 2: to examine the scope of trauma-related cognitions associated with incarceration-based trauma (IBT); Aim 3: to examine the relationship between trauma-related cognitions and posttraumatic stress disorder (PTSD) symptom severity; Aim 4: to examine the relationship between trauma-related cognitions and security housing levels; and Aim 5: to examine the effect of pre-prison trauma, incarceration-based trauma, PTSD, trauma-related cognitions and security housing levels on vocational readiness.

AIM I FINDINGS: TRAUMA RELATED COGNTIONS AND PRE-PRISON TRAUMA

Pre-prison trauma increased the levels of trauma-related cognitions in incarcerated females. For incarcerated females in this study, trauma-related cognitions were best predicted by their experiences with childhood and adult trauma (i.e., pre-prison trauma), by their age, and by the specific prison setting that they were housed in. Higher levels of both childhood and adulthood trauma were associated with increased levels of trauma-related cognitions. This was a consistent finding across all regression analyses, suggesting that trauma-related studies should focus on both types of pre-prison trauma in

female inmates. The findings also consistently showed that older female inmates had lower levels of trauma-related cognitions than younger female inmates. In this study, 183 female inmates were 40 years of age or older, with 10 female inmates identified as being 30-39 years of age, and 66 female inmates as 29 years or less. Clearly, female inmates over 40 make up the largest portion of the sample population. That being said, this difference in trauma-related cognitions may be the result of older female inmates being isolated for a longer period of time from prior external sources of trauma; thus, they may have found prison to be a place of safety after years of abuse (Chesney-Lind, 1997; Covington, 1998; Bradley & Davino, 2002; Henriques & Jones-Brown, 2000). An alternative explanation for this age-difference could be attributed to coping ability and resilience. A previous study (Cappeliez & Robitaille, 2010) identified a mediating relationship between coping, positive reminiscence (positive self-reflections) and improved psychological well-being related to an increase in age. For older female inmates [in comparison to younger female inmates], a myriad of life experiences may provide additional opportunities to reflect on what was "good" in one's life—in spite of adverse events—leading to improved coping ability and life satisfaction. It may be this ability to engage in positive reminiscence that resulted in lower trauma-related cognitions in older female inmates in this study.

Another consistent finding across all regression analyses was that the specific prison setting that female inmates were housed was associated with levels of trauma-related cognitions. Female inmates in this study were housed in Dayton Correctional Institution, Ohio Reformatory for Women and the NorthEast Pre-Release Center (NEPRC). However, across all analyses, females housed at NEPRC had significantly

lower levels of trauma-related cognitions than did those housed in the other two facilities. One explanation for this is that inmates at NEPRC receive trauma-informed care during incarceration. This appeared to significantly decrease their levels of trauma-related cognitions. This also suggests that all prisons should provide trauma-informed care prior to release from prison. Not only would this decrease female inmates' level of trauma-related cognitions, but would also improve their vocational readiness ability upon returning to their community.

Childhood trauma encompasses a host of experiences, including child sexual abuse, child emotional abuse, child emotional neglect, child physical abuse and child physical neglect. In this study, a female's experiences with childhood sexual abuse increased her levels of trauma-related cognitions in prison. Although, many studies have focused on the prevalence of childhood sexual abuse, simultaneous examination of multiple forms of childhood trauma showed that childhood emotional abuse was a better predictor of trauma-related cognitions than childhood sexual abuse. Previous studies have suggested that childhood emotional abuse should be considered as an entity in itself—able to occur independently from other forms of childhood abuse (Garbarino, Guttman & Seeley, 1986). The findings in this study suggest that child emotional abuse, along with child sexual abuse, should both be looked at as separate entities when examining female inmates' experiences with trauma. The high prevalence of childhood emotional abuse in this sample may be indicative of the family environment in which childhood sexual abuse and/ or all other forms of childhood trauma take place. Future studies should examine the role of emotional abuse as a response to traumatic events. This information may assist future social work practitioners in the development of

guidelines to assess emotional abuse within the family environment; specifically, when there appears to be no physical indicators of trauma and abuse.

AIM II FINDINGS: TRAUMA-RELATED COGNITIONS AND INCARCERATION-BASED TRAUMA

Incarceration-based trauma increased the levels of trauma-related cognitions in incarcerated females**.** Specifically, female inmates who indicated experiencing severe levels of incarceration-based trauma had higher levels of trauma-related cognitions than those who experienced mild levels of incarceration-based trauma. Incarceration-based trauma may be due to multiple factors, including separation from children, family and friends, lack of privacy, noise, sexual and/ or physical assault, bullying, witnessing a violent crime, theft of personal property, etc. One key factor that may contribute to IBT is that many female inmates are mothers. In this study, 201 (82.4%) female inmates identified themselves as mothers, and 193 (96%) strongly agreed or agreed with the response, "I experience feelings of guilt and frustration about being separated from my children." These statistics suggest that separation from children may be an important contributor of incarceration-based trauma for female inmates.

Pre-prison trauma added to the prediction of trauma-related cognitions over and above what was accounted for by incarceration-based trauma. These results are consistent with prior research (e.g., Haney, 2004), and suggests that female inmates exposed to trauma prior to imprisonment may experience retraumatization during incarceration. This study adds to previous research in that a measure for IBT was developed and tested to show this effect. Theoretically, the results of this study suggest that incarceration-based trauma should be treated like other forms of trauma, and that it may lead to the development of pathological fear structures that contribute to the development of trauma-

related cognitions. Trauma-related cognitions left untreated increases the opportunity for the development of PTSD and/ or PTSD related symptoms, which could negatively affect a female inmate's vocational readiness.

Incarceration-based trauma did not reduce the significance of prison type. As with the previous analyses, the type of facility (i.e., NorthEast Pre-release Center) was associated with a decrease in trauma-related cognitions. Future studies and programs should focus on the development of gender-sensitive programs and services within penal institutions prior to incarceration, and about the impact that trauma-informed therapy potentially has in reducing trauma-related cognitions associated with PPT and IBT, and PTSD symptom severity in female inmates.

AIM III FINDINGS. TRAUMA-RELATED COGNITIONS AND POSTTRAUMATIC STRESS DISORDER

Post-traumatic stress disorder symptomology increased the levels of trauma-related cognitions in incarcerated females**.** Specifically, female inmates in this study who rated as having severe PTSD had significantly higher levels of trauma-related cognitions than those inmates who rated as having mild PTSD. These results are consistent with previous findings that examined the relationship between trauma-related cognitions and PTSD among college students (Foa et al., 200), and between trauma-related cognitions and PTSD among accident survivors (Mathews et al., 2007). This study, however, adds to the literature by showing this pattern in female inmates. Moreover, these results support the need for trauma-informed care for female inmates prior to engaging in the re-entry process.

Hierarchical regression analyses indicated that PTSD was not the only important factor that influenced trauma-related cognitions. After controlling for PTSD symptom

severity, the symptoms in which PTSD manifests in the human psyche such as depression, stress and/ or anxiety were also associated with trauma-related cognitions. Specifically, higher levels of depression and stress were associated with higher levels of trauma-related cognitions. In contrast, an increase in anxiety was related to lower levels of trauma-related cognitions. In this study, anxiety was measured by the presence of physical hyperarousal activity (i.e., fear, panic attacks). Physical hyperarousal symptoms may be indicative of chronic PTSD. Female inmates with prior trauma experiences may continue to experience PTSD symptomology, although the immediate threat has dissipated.

It is important to note that prison type (NorthEast Pre-release Center) was not significant in models examining the relationship between PTSD and trauma-related cognitions. This is important because female inmates housed at NorthEast Pre-release Center receive trauma-informed care. This seemed to reduce the effects of pre-prison trauma and incarceration-based trauma on trauma-related cognitions; however, this was not the case for PTSD. As alluded to earlier, untreated trauma-related cognitions increase the development of PTSD. PTSD may become chronic with additional exposure to trauma (i.e., retraumatization). These findings may suggest that the provision of trauma-informed care, without addressing trauma associated with the penal environment (IBT), may retraumatize female inmates leading to the development of chronic PTSD symptoms.

AIM IV FINDINGS. TRAUMA-RELATED COGNITIONS AND SECURITY HOUSING LEVELS

Security housing levels had a complex relationship to trauma-related cognitions in incarcerated females**.** Security housing levels often dictate whether a female inmate may

have access to programming and treatment protocol that may provide support during the reentry process (i.e., trauma-informed care) (Nixon, 2005). For instance, in this study trauma-informed care was only accessible to female inmates residing at NorthEast Pre-release Center. NorthEast Pre-release Center only houses female inmates classified at the minimum security housing level. This is evident in the analyses in Aim 4, which show that prison-type is a significant predictor of trauma-related cognitions for females housed only in no-minimum security housing.

In this study, there were no mean differences in trauma-related cognitions between incarcerated women residing in no-minimum and minimum security housing. However, further analyses suggested that other key study variables need to be taken into account. For instance, for female inmates residing in no-minimum security housing, pre-prison trauma and incarceration-based trauma increased their levels of trauma-related cognitions. In contrast, IBT was the only significant predictor of trauma-related cognitions for female inmates residing in minimum security housing. This finding may suggest that female inmates residing in minimum security housing may be first time offenders and/ or, this may have been her first time incarcerated in a federal facility. These findings may re-affirm the importance of trauma-informed care and the need for a gender-sensitive penal environment to decrease exposure to incarceration-based trauma. Age was not a contributor to the development of higher trauma-related cognitions in female inmates housed in minimum security level housing; however, lower levels of trauma-related cognitions were associated with older female inmates housed in no-minimum security level housing. Moreover, higher levels of trauma-related cognitions were associated with higher levels of IBT and PPT in no-minimum security level

housing. This may suggest that female inmates in no-minimum security housing may have had extensive trauma histories prior to incarceration (PPT), have experienced trauma related to the penal environment (IBT), and are not eligible for programs and support services that may address trauma-related cognitions associated to these forms of trauma.

For minimum security housing levels, childhood sexual abuse, childhood emotional abuse and childhood physical abuse were all significant predictors of trauma-related cognitions. These results, however, were not significant for female inmates residing in no-minimum security housing levels. Further examination of the relationship between minimum security housing and trauma-related cognitions indicated that childhood sexual abuse was a strong predictor of higher levels of trauma-related cognitions and that being a black female inmate was a better predictor of lower levels of trauma-related cognitions in comparison to other race ethnicities in this study. The significance of pre-prison trauma—specifically, childhood trauma—for female inmates in minimum security housing lends support to the conceptual framework for this study in that it suggests that pre-prison trauma may indeed be associated with criminal activities and subsequent incarceration.

The inclusion of housing security levels as a control variable in this study may provide an opportunity to increase knowledge in the area of prison classification systems in relation to trauma-related cognitions, PTSD symptom severity, vocational readiness and ultimately, post-release adjustment. Future studies should continue to examine the role that housing security levels play in understanding female inmates' experiences with

trauma and the effect of security housing classifications on access to programs and services that may assist with the reentry process.

AIM V FINDINGS. VOCATIONAL READINESS

Female inmates residing in minimum security housing did not differ from those residing in no-minimum security housing on their mean scores for vocational readiness. Further analyses, however, suggested that other key study variables need to be taken into account. Severe pre-prison trauma, severe incarceration-based trauma, severe trauma-related cognitions, and severe PTSD symptoms were associated with lower potentials for vocational readines**s.** The prevalence of severe trauma, trauma-related cognitions and severe PTSD symptoms suggests that without trauma-informed care, the ability to engage in work related activities may be difficult. These short-comings, compounded by a fragmented work history with multiple jobs and limited familiarity with navigating the job market (Ford, 1995) may provide additional roadblocks to achieving vocational readiness.

Trauma-related cognitions are negative thoughts about the self (e.g., feelings of helplessness and alienation), world (e.g., lack of trust that the world is safe), and blame (e.g., traumatic event occurred because of something I did or did not do). This study showed that different types of trauma influence the levels and magnitude of trauma-related cognitions in incarcerated females. As a consequence, it was important to examine how the three components of trauma-related cognitions predict vocational readiness.

In this study, trauma-related cognitions associated with "self" contributed to a lower potential for vocational readiness (i.e., Work Potential). Vocational readiness ability was determined by the results of the first component of the Work Potential Profile

(WPP). The first component consists of the following: freedom from barriers (i.e., preoccupation with health, agitation, aggression, depression, resentment, pervasive distrust and delusions), coping (i.e., self-image, stress and anxiety, self-discipline, general satisfaction and time sense/use) and social resources (i.e., attitude toward others and social skills). Trauma-related cognitions about the world and self-blame were not associated with vocational readiness. These findings align with previous research (Moser et al., 2007).

Higher trauma-related cognitions for Black and Hispanic females were associated with a lower potential for vocational readiness in comparison to White female inmates. These results may be related to the type of correctional facility—custodial or reformatory. Women of color are typically housed in custodial settings with few rehabilitative services and/ or programs in comparison to White female inmates.

The third component measures vocational readiness in the area of physical abilities. Higher trauma-related cognitions about self and being an older female inmate was associated with a lower potential for vocational readiness. Higher trauma-related cognitions were associated with a higher socio-economic status and a higher potential for vocational readiness. These results may suggest that female inmates with a higher socio-economic status prior to incarceration may have been the recipients of higher quality and timely healthcare than female inmates with a lower socio-economic status prior to incarceration leading to enhanced physical abilities.

LIMITATIONS OF STUDY

One limitation of this study is that it is cross-sectional, thus, causal conclusions cannot be drawn. Second, the study's reliance on memory in recording traumatic events

is a limitation because female inmates may not have accurately remembered events. Moreover, these questions could have potentially triggered negative emotions in some participants, which could have influenced their recall of events. Third, although coping and resilience were not addressed in this study beyond the connection to the significance of age in analysis results, both coping behaviors and resilience are factors that may contribute to the effect of traumatic experiences on trauma-related cognitions — notwithstanding the availability of family support.

Fourth, the vocational readiness scale (Work Potential Profile) was adapted to meet the requirements of the Ohio Department of Rehabilitation and Corrections and the University of South Carolina Institutional Review Board (IRB). The decrease in the number of questions may have resulted in a loss of information. Fifth, the theoretical viewpoint of this study is grounded in a psychological perspective; thus, criminological and sociological perspectives do not heavily inform the conceptual framework. Nevertheless, it is an essential part of the discussion for mental health professionals working therapeutically with women in the criminal justice system to recognize the psychological variations in trauma responses.

This study focused solely on female inmates and their experiences. The dynamics described in this dissertation could be different for male inmates. Future studies should investigate the effects of trauma on trauma-related cognitions of male inmates and the influence of the chivalry hypothesis on sentencing irregularities between male and female inmates. Historically, men have received longer sentences than females committing the same crime. This tends to be true, specifically, in relation to sex crimes. However, recent trends in the area of sexual offenders are seeing a decrease in these differences

(Embry & Lyons, 2012). In addition to sentencing discrepancies, further investigation into the effects of trauma indicative to the prison environment on male inmates and how this may negatively impact vocational readiness and the impact on incarcerated males as husbands, partners and fathers.

Finally, this dissertation research focus is limited to examining trauma from a deficit lens. However, it is recognized that women may respond to trauma in distinctly different ways. Women may respond with a sense of empowerment and determination to survive that may discourage criminal activity. Likewise, the discussion fails to examine responses of women without prior experiences with adult and/ or childhood abuse experiences who choose a criminal lifestyle as a personal choice not as a response to trauma. It was not the intention to create a characterization of women with trauma histories as helpless beings destined to follow a pathway to prison without a sense of right and wrong. Rather, the goal was to highlight the importance of recognizing the prevalence of trauma in the lives of incarcerated women and how these experiences may create barriers to vocational readiness is pertinent to the reentry process.

Despite these limitations, the findings from this study are important and contribute to theory and research in the area of incarcerated females experiences with trauma.

THEORETICAL IMPLICATIONS

Herman's theory on complex trauma suggests that exposure to any amount of trauma may disturb the continuity of self. This fragmentation of the self becomes more complex in individuals exposed to multiple, chronic and/or prolonged trauma; in particular, childhood sexual abuse (Herman, 1992; Phillips & Daniluk, 2004). Trauma-related cognitions associated with "self" interferes with one's ability to engage in future-oriented behavior, such as setting goals and obtaining employment (Janoff-Bulman &

Frieze, 1983). In this study, childhood sexual abuse was strongly associated with trauma-related cognitions; however, an association was not established between trauma-related cognitions and feelings of being safe in the world and /or feelings of guilt and/ or self-blame. These results align with previous research that identified a relationship between negative trauma-related cognitions (Moser et al., 2007) about "self" and PTSD symptom severity. However, in contrast, a study examining the effect of trauma-related cognitions and PTSD symptom severity on work potential in accident survivors (Matthews et al., 2009) found negative trauma-related cognitions were associated with self, world and self-blame. For incarcerated females in this study, higher trauma-related cognitions about self (not self-blame or world) were associated with a lower potential for vocational readiness. Perhaps, the dissimilarity in these findings suggest that there may be differences associated with being an accident survivor (non human-induced) versus being a survivor of personal victimization (human-induced). It may be that trauma believed to be accidental not only causes one to question the existence and capabilities of self, but also contemplate one's safety in the world in addition to feelings of self-blame and guilt. For incarcerated women, the most significant forms of trauma were associated with personal violations to self—human induced (i.e., childhood and adult sexual and physical abuse—*pre-prison trauma*). Without an external non-human factor to associate with the traumatic event—as with an accident—one's self-perception may be further challenged. In this study, the self was a better predictor of trauma-related cognitions than safety in the world and/ or self-blame and guilt.

Bandura (1989) posits that an individual's belief system influences motivation, emotion and behavior. Ultimately, these belief systems become self-aiding or self-

hindering. In this study, trauma-related cognitions in relation to self and being a black and/ or Hispanic female in comparison to being a white female was associated with a lower potential for vocational readiness in the area of "motivation." Rowe (2004) describes the work motivation variable as a measurement of intrinsic and extrinsic motivation. Most important, work motivation is most influenced by financial need, work importance and social factors (p. 32). It is clear from previous studies that a relationship exists between poverty, limited social resources, limited familial support system, and lack of mental health resources within communities and incarceration for women. However, in spite of these references, it may be more likely that for women of color in this study, the type of institution they are incarcerated in has contributed to these differences. For instance, historically, women of color have been viewed as not having the rehabilitative potential as their White counterparts. Subsequently, Black women were more often housed in a custodial facility and White women—considered more suitable for rehabilitative services—were housed at reformatory facilities (Freedman, 1981; Rafter, 1985). In this study, the majority of Black and Hispanic females are housed at a custodial facility and the majority of white females are housed at a reformatory facility (Table 4.2). These statistics may provide an explanation of the significance of Black and Hispanic females work motivation scores being associated with lower vocational readiness. The environment of a custodial setting is one of limited rehabilitative resources available to refute self-hindering belief systems that influence motivation as put forth by social cognitive theory.

In sum, the relationship between trauma-related cognitions, pre-prison and incarceration-based trauma, trauma-related cognitions in relation to the self, world and

self-blame, the development of PTSD symptom severity and general affective disorder symptoms such as, depression, stress and anxiety's impact on vocational readiness ability supports a need for trauma-informed care prior to engaging in the reentry process.

IMPLICATIONS FOR SOCIAL WORK RESEARCH AND INTERVENTIONS

In this study, the prevalence of trauma experienced prior to incarceration and in relation to the prison environment was supported. Specifically, childhood sexual abuse was a strong predictor of trauma-related cognitions as referenced in prior studies. However, the overall effect of childhood emotional abuse on trauma-related cognitions presented new information that may suggest the need for a social work agenda to address emotional abuse as a pertinent factor that undergirds and/ or contributes to the development of trauma-related cognitions associated with multiple forms of trauma. Moreover, the differences in trauma-related cognitions associated with prison type supports the need for gender-sensitive penal institutions to decrease the negative effects of the prison environment on incarceration-based trauma. As alluded to in prior studies, and supported by the results in this study, retraumatization is a major contributor to the development of severe PTSD symptoms. The lack of trauma-informed care and a prison environment that maintains and reinforces practices that retraumatizes female inmates leads to chronic PTSD and/or PTSD symptoms. Although incarcerated women residing at NorthEast Pre-release center [the only facility in this study that provides trauma-informed care] consistently demonstrated lower levels of trauma-related cognitions, PTSD symptom severity remained unchanged, irrespective to prison type. These results suggest that the provision of trauma-informed care, bereft of gender-sensitive changes to the penal environment, may not be effective in decreasing PTSD symptoms. Additionally, Trauma-informed care was not provided to female inmates residing in no-

minimum security housing levels, although this group showed the highest level of trauma-related cognitions. These results suggest a need for social work interventions for female inmates residing in no-minimum security housing levels where trauma-informed services are not available although, trauma experiences are more prevalent.

Untreated trauma exposure and subsequent trauma-related cognitions lends to the development of chronic PTSD and/ or severe PTSD symptoms. In this study severe PTSD symptoms were associated with a lower potential for vocational readiness. As referenced earlier, PTSD symptoms can become chronic in the face of retrauatization and negative trauma-related cognitions associated with self.

Self-fragmentation is the result of questioning one's ideals and values that can affect the ability to interact within societal boundaries and interpersonal relationships. Without trauma-informed treatment one can become a prisoner of the traumatic experience outside the prison walls. It is pertinent to social work research and education to advance the work of trauma-related cognitions, gender-sensitive penal institutions and how experiences with trauma and victimization may impede an incarcerated female's ability to obtain and maintain viable employment, interact with peers and/or co-workers in a work setting, manage every day stressors and comprehend work-related instructions and safety measures.

Because incarcerated women often experience trauma prior to incarceration, as well as during incarceration, it is particularly important that future research focus on the role that trauma plays in the lives of this vulnerable population. In particular, it is important to understand how the culmination of traumatic events over the span of a life time can negatively affect the trauma-related cognitions of incarcerated women, creating

barriers to vocational readiness. The ability of incarcerated women to establish financial security increases the chances that she will not return to an abusive relationship and will be able to provide for her and her children's basic needs. Clearly, vocational readiness is a concern worth giving more attention to in terms of post-release adjustment for female ex-offenders.

To reduce the effects of trauma in the lives of incarcerated women, social workers, can become instrumental in the facilitation of organizational changes in the penal environment. SAMHSA presents "Five Intercept Points" as a place to begin to effect change. The five points are addressed within this section. Intercept points are defined as opportunities to begin the recovery process from traumatic experiences (Hyde, 2012).

1st Point: COMMUNITIES

Previous research has indicated that women who come in contact with the criminal justice system often have extensive trauma histories (Reichert, Adams, Bostwick, 2010; Salisbury & Voorhis, 2009). Effective assessments that uncover underlying causes of distress can begin to facilitate the recovery process. In this study, incarcerated women residing at NEPRC received adequate assessments and treatment culminating in a decrease in trauma-related cognitions. Social workers with experience and expertise in understanding the person-in-environment relationship may use the results of this study to build an assessment tool that identifies traumatic events incarcerated women may be exposed to, the level of trauma-related cognitions associated with these traumatic events; specifically, the level of trauma-related cognitions associated with the concept of self—the belief that she is incompetent and incapable of making good decisions as put forth my social cognitive theory (Bandura, 1989). Moreover, these assessments may be utilized in community mental health agencies, schools and in

conjunction with parenting programs to address the effects of trauma and subsequent results of self-fragmentation prior to engaging in criminal behaviors that may lead to incarceration. The increase in the number of women returning to their communities supports the need for trauma specific treatment to address trauma-related cognitions and PTSD symptomology related to traumatic events to increase a female inmates potential for vocational readiness—her ability to attain and maintain employment when returning to her family and community.

2nd Point: DETENTION CENTERS/COURT PROCEEDINGS

Criminal behavior committed by women are typically of a non-violent nature (Bloom and Covington, 1999). The results of this dissertation research suggested that higher levels of pre-prison trauma, incarceration-based trauma and PTSD symptoms were associated with higher trauma-related cognitions and a lower potential for vocational readiness. Diversion programs can provide social workers opportunities to provide trauma-informed care that may result in a second chance for women who come in contact with the criminal justice system. This study provided a framework for understanding the impact of trauma on trauma-related cognitions, the effect on one's sense of self and PTSD symptomology. With this understanding, social workers can be equipped with viable information needed to develop trauma-specific assessment tools to identify exposure to traumatic events, provide trauma-informed care to assist in the decrease of trauma-related cognitions, and building a stronger sense of self—the belief that the female inmate is competent and capable to making informed decisions, Additionally, social workers can act as advocates, providing alternatives to incarceration.

3RD Point: JAILS AND PRISONS

Social workers, informed on the effects of trauma on trauma-related cognitions and the development and sustainment of one's sense of self after trauma exposure, would be better equipped to work with administrative and clinical staff in jails and prisons. Work with administrative and clinical staff would consist of reviews and subsequent revisions of current practices. Revisions may include changes in practices and policies that may retraumatize female inmates—such as the use of restraints that may trigger emotions associated with previous trauma. Moreover, social workers may inform the development of trauma-informed training protocol to assist correctional facility personnel in recognizing the physical and emotional responses associated with trauma and best practice responses to facilitate healing and not retraumatization. In this study, severe levels of pre-prison trauma, incarceration-based trauma, PTSD symptom severity were associated with higher levels of trauma-related cognitions and subsequently lower vocational readiness. It is pertinent that social work staff assist in the development of key measures to reduce retraumatization within the prison and/or jail environment to decrease trauma-related cognitions, retraumatization and increase vocational readiness prior to engaging in the reentry process.

4th Point: DISCHARGE PLANNING

Social workers may assist in the development of release plans for incarcerated women recovering from trauma. This may involve specific guidelines on how to identify triggers related to prior trauma and ensuing psychological and physical responses. In this study higher levels of trauma-related cognitions were in response to higher levels of pre-prison, incarceration-based trauma and PTSD symptom severity. A release plan may

consist of the identification and connection to community resources for on-going mental health services. It is pertinent for community mental health providers to be able to recognize the effects of trauma on trauma-related cognitions and the presence of PTSD symptom severity and ultimately the impact on the female inmates vocational readiness—the ability to attain and maintain employment. Subsequently, addressing the prevalence of trauma-related cognitions may have a positive influence on one's ability to develop and maintain healthy relationships. Healthy personal relationships may increase a female inmates ability to reestablish personal relationships with their children, family members, friends and within the community. Moreover, social workers may provide therapeutic services to enhance personal development and provide parenting support for previously incarcerated mothers that include services that assist with female inmates ability to regain custody of their children once released. It is pertinent for reentry success that a release plan address the myriad of needs that may impact the lives, family and community members of incarcerated women returning to their communities.

5TH Point: PAROLE OR PROBATION

Social workers may provide training for parole and/or probation officers in order to help officers work effectively with trauma survivors. This may include training on understanding how trauma experiences prior to incarceration and incarceration-based trauma may manifest in response to current environmental stimuli that may trigger a psychological and/ or physical response that may appear unrelated to the situation/circumstance. In this study, incarceration based trauma increased a female inmates trauma-related cognitions and higher levels of incarceration-based trauma coincides with a lower potential for vocational readiness. The results of this dissertation

provides support for the need of trauma-informed care prior to reentry. The lack of care may result in an ability to attain and maintain viable employment, impeding successful reentry.

Although there has been limited research and information on the effect of trauma exposure indicative to the prison environment in the lives of incarcerated males, prior studies involving college students have shown that trauma-related cognitions were prevalent with males as well (Moser et al., 2007).

In conclusion, the globalization of the economy demands a competitive workforce that has the ability to develop "cognitive, interpersonal and critical thinking skills" (Strauser & Lustig, 2001, p. 26). This entails the ability to understand and remember detailed instructions (Memory); the ability to carry out work-related tasks and meet production requirements (Concentration and Persistence); the ability to get along with co-workers, customers and supervisors (Interpersonal Skills); and the ability to adapt to a new and/ or changing environment (Adaptation) (Strauser & Lustig, 2001).

A survey of employers revealed that only 5-10 percent of the future workforce, without a college degree, will have jobs that do not require advanced cognitive and interpersonal skills (Holzner, 1996). This study revealed an extensive trauma history associated with pre-prison trauma, incarceration-based trauma, the development of trauma-related cognitions and PTSD symptom severity. Likewise, research indicates that individuals with psychiatric disorders often lack work experience and education and training opportunities. It is pertinent to address these issues in a comprehensive way to increase a female inmate's ability to become a productive member of family and community and to decrease the chance of an unsuccessful reentry process.

REFERENCES

Alarid, L.F. (2000). Sexual Assault and coercion among incarcerated women prisoners: Excerpts from prison letters. *The Prison Journal, 80*, 391-406.

Hyde, P. S. (2012). SAMHSA. Behavioral health and criminal justice: Challenges and opportunities. American Correctional Association. Denver, Co. Retrieved from: http://store.samhsa.gov/product/Behavioral-Health-and-Criminal-Justice-Challenges-and-Opportunities/SMA12-PHYDE072112

Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M.W.,&Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. Psychological Assessment, 10, 176–181.

Austin, J. (2001). Prisoner Reentry: Current trends, practices and issues, *Crime Delinquency,47*, 314.

Australian Bureau of Statistics. Australian standard classification of occupations. Canberra: Australian Government Publishing Service; 1997.

Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*9, 1175-1184.

Harrison, P. M. & Beck, A. J. (2006). *Prisoners in 2005*. U.S. Department of Justice, Bureau of Justice Statistics. Washington, DC.

Becker, K.D., Stuewig, J. & McCloskey, L.A. (2010). Traumatic Stress Symptoms of Women Exposed to Forms of childhood victimization and intimate partner violence. *Journal of Interpersonal Violence, 25*, 1699-1715.

Benight, C. C. & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behaviour Research and Therapy*, *42,* 1129–1148.

Berliner, L. & Elliott, D. M. (2002). Sexual abuse of children. In J. E. B. Myers, L. Berliner, J. Briere, C. T. Hendrix, T. Reid, & C. Jenny (Eds.), *The APSAC handbook on child maltreatment* (2nd ed., pp. 55–78). Newbury Park, CA: Sage Publications.

Bernstein, D. P., Fink, L., Handelsman, L., & Foote, J. (1994). Initial reliability and validity of a new retrospective measure of child abuse and neglect. American Journal of Psychiatry, 151 (8), 1132-1136.

Bill, L. (1998). The victimization... and... re-victimization of women prisoners. *Corrections Today,. 60,* 106-111.

Bloom, E.B. & Covington, S.S. (1998). Gender-specific programming for female offenders: What is it and why is it important? American Society of Criminology, Washington DC: The Center for Gender and Justice. La Jolla, CA. http://www.stephaniecovington.com/pdfs/13.pdf

Bloom, B., Owen, B., & Covington, S. (2003). Gender responsive strategies: Research, practice and guiding principles for women offenders. U. S. Department of Justice: Available from the National Institute of Corrections Information Center. Retrieved February 11, 2012 at http://www.NICIC.org

Boxer, P., Middlemass, K. & Delorenzo, T. (2009). Exposure to violent crime during incarceration: Effects on psychological adjustment following release. *Criminal Justice and Behavior, 36,* 793-807.

Bradley, R.G. & Davino, K.M. (2002). Women's perceptions of the prison environment: When prison is "the safest place I've ever been." *Psychology of Women Quarterly,26*, 351-359.

Brewin, C. R. (1984). Attributions for industrial accidents: Their relationship to rehabilitation outcome. *Journal of Social Clinical Psychology, 2*, 156–164.

Briere, J. & Jordan, C.E. (2004). Violence against women: Outcome complexity and implications for assessments and treatment. *Journal of Interpersonal Violence, 19*, 1252-1276.

Briere, J. & Elliot, D. M. (2003). Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women, *Child Abuse & Neglect,1, 1205-1222.*

Briere, J., & Runtz, M. (1993). Child sexual abuse: Long-term sequelae and implications for psychological assessment. *Journal of Interpersonal Violence*, *8*, 312-330.

Briere, J., & Zaidi, L. Y. (1989). Sexual abuse histories and sequelae in female psychiatric emergency room patients. *American Journal of Psychiatry, 146*, 1602-1606.

Buel, S. (2003). Effective assistance of counsel for battered women defendants: A normative construct. *Harvard Women's Law Journal,26*, 217-350.

Bureau of Justice Statistics. (2005). *Prisoners in 2004.* Washington, DC: U.S. Department of Justice.

Busuttil, W. (2007). Psychological stress and Post traumatic stress disorder. In M. Nasser, K. Baistow, J. Treasure (Ed), The female body in mind: The interface between the female body and mental health (pp. 41-56). New York: Routledge

Browne, A., Miller, B. & Maguin, E. (1999).Prevalence and severity of lifetime physical and sexual victimization among incarcerated women. *Int J Law Psychiatry, 22*.

Brown, T. A., Chorpita, B. F., Korotitsch,W., & Barlow, D. H. (1997). Psychometric properties of the Depression Anxiety Stress Scales (DASS) in clinical samples. Behavior Research and Therapy, 35, 79–89.

Chesney-Lind, M. (1997). *The female offender: Girls, women, and crime.* Thousand Oaks, CA: Sage.

Clara, I. P., Cox, B. J., & Enns, M. W. (2001). Confirmatory factor analysis of the Depression-Anxiety-Stress Scales in depressed and anxious patients. Journal of Psychopathology and Behavioral Assessment, 23, 61–67.

Clark, C.M. (2001). Incarcerated women and the construction of the self. Retrieved from http://www.eric.ed.gov/PDFS/ED468445.pdf

Cohen, J. (1988). Statistical Power Analysis for the Behavioral Sciences (2nd Edition). Hillsdale, NJ: Lawrence Earlbaum Associates.

Cook, S. L., Smith, S.G., Tusher, C. P. & Raiford, J. (2005). Self-reports of traumatic events in a random sample of incarcerated women. *Women & Criminal Justice, 16,* 107-125.

Covington, S. & Bloom, B. (2006)

Covington, S. (1998). Women in prison: Approaches in the treatment of our most invisible population. *Women and Therapy, 21*, 141-155.

Cullen, F.T. & Gendreau, P. (2000). Assessing correctional rehabilitation: Policy, practice and prospects. *Criminal Justice, 3*, 109-175.

Daly, K. (1994). *Gender, crime and punishment.* New Haven, CT: Yale University Press.

DeHart, D. (2008). Pathways to Prison: Impact of Victimization in the Lives of Incarcerated Women, *Violence Against Women, 14*, 1362-1381.

Dirks, D. (2004). Sexual revictimization and retraumatization of women in prison. *Women's Studies Quarterly, 32*, 102-115.

Dodge, M. & Progrebin, M. R. (2001). Collateral costs of imprisonment for women: Complications of reintegration. *The Prison Journal, 81*, 41-54.

Douglas, N., Plugge, E., & Fitzpatrick, R. (2009). The impact of imprisonment on health: What do women prisoners say. *J Epidemiology Community Health, 63*, 749-754.

Embry, R. & Lyons Jr., P. M. (2012). Sex-based sentencing: Sentencing discrepancies between male and female sex offenders. *Feminist Criminology. 7, 146-162.*

Ehlers, A., & Clark, D. M. (2000). A cognitive model of persistent posttraumatic stress disorder. *Behaviour Research and Therapy, 38*, 319–345.

Eliason, M. J., Taylor, J. Y. & Arndt, S. (2005). Assessing intimate partner violence in women. *Journal of Forensic Nursing,1,* 106-110.

Farr, K. A. (2000). Classification for female inmates: Moving forward. *Crime and Delinquency, 46*, 3-17.

Finkelhor, D. (1990). Early and long-term effects of child sexual abuse: An update. *Professional Psychology: Research and Practice*, *21*, 325-330.

Fischler, G. & Booth, N. (1999). Vocational impact of psychiatric disorders: A guide for rehabilitation professionals. Gaithersburg, MD: Aspen

Flemke, K. (2009). Trigger rage: Unresolved trauma in women's lives. *Contemporary Family Therapy, 31*, 123-139.

Foa, E. B., Ehlers, A., Clark, D. M., Tolin, D.F.& Orsillo, S. M. (1999). The

Posttraumatic Cognitions Inventory (PTCI): Development and validation. *Psychological Assessment,* 11, 303-314.

Foa, E. B, Cashman. L. A., Jaycox. L., & Perry,K. (l997). The validation of a self-report measure of posttraumatic stress disorder: The Posttraumatic Piagnostic Scale. *Psychological Assessment,* 4, 445-451.

Foa, E.B. & Kozak, M.J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin, 99,* 20-35.

Ford, L.H. (1995). Providing employment support for people with long-term mental illness: Choices, resources, and practical strategies. Baltimore: Paul Brookes

Freedman, E. B. (1981). Their sister's keepers: Women's prison reform in america, 1830-1930. Ann Arbor: University of Michigan Press.

Goldberg D. General health questionnaire. Windsor: NFER Nelson; 1978.

Graham, D. & Wish, E. (1994). Drug use among female arrestees: Onset, patterns and relationships. *Journal of Drug Issues, 24,* 315-330.

Greenfeld, L. A., & Snell, T. L. (1999). Bureau of Justice Statistics. *Special report: Women Offenders.* Washington, DC: U.S. Department of Justice.

Hackett, M. (2009). Commentary: Trauma and female inmates: Why is witnessing more traumatic? *Journal of the American Academy of Psychiatry Law,37,* 310-315.

Haney, C. (2001). The psychological impact of incarceration: Implications for post-prison adjustment. Washington DC: The Urban Institute: From prison to home: The effect of incarceration and reentry on children, families and communities. U.S. Department of Health and Human Services, January 30-31, 2002.

Haney, L. (2004). Introduction: Gender, welfare, and states of punishment. *Social*

Politics, 11, 333-362.

Harvey M. R. (1996). An ecological view of psychological trauma and trauma recovery. *Journal of Traumatic Stress,9,* 3-23.

Heney, J. & Kristiansen, C. (1998) An analysis of the impact of prison on women survivors of childhood sexual abuse. *Women and therapy*, *20*, 29-44.

Henriques, Z. W., & Jones-Brown, D. D. (2000). Prisons as "safe havens" for African American women. In M.W. Markowitz &D.D. Jones-Brown (Eds.), *The system in black and white: Exploring the connections between race, crime, and justice* (pp. 267–273). Westport, CT: Praeger

Henriques, Z. W. & Manatu-Ruper, N. (2001). Living on the outside: African-American women before, during and after imprisonment. *The Prison Journal,81*, p. 6-19.

Henry, J. D. & Crawford, J. R. (2005). The short-form version of the depression, anxiety, stress scales (DASS-21): Construct validity and normative data in a non-clinical sample. *British Journal of Clinical Psychology, 44*, 227-239

Herman, J. L. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress,5*, 377-391.

Holzner, H. (1996). What employers want: Job prospects for less educated workers. New York: Russell Sage Foundation.

Ireland, T., & Widom, C. S. (1994). Childhood victimization and risk for alcohol and drug arrests. *The International Journal of the Addictions,29,* 235-274.

Islam-Zwart, K. A. and Vik, P. W. (2004). Female adjustment to incarceration as influenced by sexual assault history. *Criminal Justice and Behavior,31*, 521-541.

Jacobs, A. L. (2005). Improving the odds: Women in community corrections. *Women,*

Girls, and Criminal Justice,6, 65-80.

Jackson, L.A., Davidson, J. R., Hughes, J. C., Swartz, M., Reynolds, V., George, L.K. & Blazer, D. G. (1999). Functional impairment and utilization of services associated with posttraumatic stress in the community. *Journal of Traumatic Stress,12,* 709-724.

James, D. (2002). Bureau of Justice Statistics. (1999). *Special report: Profiles of jail inmates.* Washington, DC: U.S. Department of Justice.

Janoff-Bulman, R. & Frieze, I. H. (1983). A theoretical perspective for understanding reactions to victimization. *Journal of Social Issues, 39,* 1–17.

Jenkins, M.A., Langlais, P. J. & Delis, D.A. (2000). Attentional dysfunction associated With posttraumatic stress disorder among rape survivors. *Clinical Neuropsychology, 14,* 7-12.

Keim, J., Malesky, L. A., & Strauser, D. R. (2003). Post-traumatic stress disorder (PTSD), life satisfaction and work personality: Exploring the relationship with disability. *Journal of Applied Rehabilitation Counseling, 34,* 41-45.

Kessler, R. C. (1995). Posttraumatic stress disorder in the national comorbidity survey. *Archives of General Psychiatry, 52,* 12.

Khoury, L., Tang, Y. L., Bradley, B., Cubells, J. F. & Kessler, K.J. (2010). Substance use, childhood, traumatic experience, and posttraumatic stress disorder in an urban civilian population. *Depression and Anxiety, 27,* 1077-1086.

Kolko, D. J. (2002). Child physical abuse. In J. E. B. Myers, L. Berliner, J. Briere, C. T. Hendrix, T. Reid, & C. Jenny (Eds.), *The APSAC handbook on child maltreatment* (2nd ed., pp. 21–54). Newbury Park, CA: Sage Publications.

Kubany, E.S, Haynes, S.N, Leisen, M.B, et al. (2000). Development and preliminary validation of a brief broad-spectrum measure of trauma exposure: The Traumatic Life Events Questionnaire. *Psychology Assessments,* 12, 210-224.

Kubiak, S.P. (2004). The effects of PTSD on treatment adherence, drug relapse, and criminal recidivism in a sample of incarcerated men and women. *Research on Social Work Practice, 14*, 424-433.

Lauterbach, D. & Vrana, S. R. (1996). Three studies on the reliability and validity of a self-report measure of post-traumatic stress disorder. *Assessment, 3,* 17-25.

Lynch, J. P. and Sabol. W. J. (2001). Prisoner reentry in perspective. Washington DC: The Urban Institute.

Lynch, S.M., Heath, N.M., Matthews, K.C. & Cepeda, G. J. (2012). Seeking safety: An intervention for trauma-exposed incarcerated women? *Journal of Trauma & Dissociation, 13,* 88-101.

Mallik-Kane, K. and Visher, C.A. (2008). Health and prisoner reentry: How physical, mental, and substance abuse conditions shape the process of reintegration. Washington DC: The Urban Institute

Maloney, K. P., van den Burgh, B.J., & Moller, L.F. (2009). Women in prison: The central issues of gender characteristics and trauma history. *Public Health, 12*, 426-430.

Manderscheide, R.W., Gravesande, A. & Goldstrom, I.D. (2004). Growth of mental health services in state adult correctional facilities, 1988 to 2000. *Psychiatric Services,55,* 869-872.

Manza, J. and Uggen, C. (2004). Punishment and Democracy: Disenfranchisement of nonincarcerated felons in the United States, Perspectives on Politics, *2,* 491-505.

Mater, M., Nater, U. M., Lin, J. S., Capuron,. L. and Reeves, W. C. (2010). Association

of childhood trauma with cognitive functioning in healthy adults: A pilot study. *BMC Neurology,10,* 1-10.

Matthews, L.R., & Chinnery, D.L. (2005). Prediction of work functioning following accidental injury: The contribution of PTSD severity and other established risk factors. *International Journal of Psychology,40,* 339–438.

Matthews, L.R. (2006). Posttrauma employability of people with symptoms of PTSD and the contribution of work environments. *International Journal of Disability Research, 87-96.*

Matthews, L.R., Harris, L. M. & Cumming S. (2009). Trauma-related appraisals and coping styles of injured adults with and without symptoms of PTSD and their relationship to work potential. *Disability & Rehabilitation, 31,* 1577-1583.

Mechanic, M. B. (2004). Beyond PTSD: Mental health consequences of violence against women: A response to Briere and Jordan. *Journal of Interpersonal Violence.19, 1283-1289.*

Mirescu, C. & Gould, E. (2006). Stress and adult neurogenesis. *Hippocampus,16,* 233-238.

Moser, J. S., Hajcak, G., Simons, R. F. and Foa, E. B. (2007). Posttraumatic stress disorder symptoms in trauma-exposed college students: The role of trauma-related cognitions, gender, and negative affect. *Journal of Anxiety Disorders, 21,* 1039-1049.

Mouzos J. & Makkai, T. (2004) Childhood victimisation and the cycle of violence. In: Women's experiences of male violence: Findings from the Australian component of the international violence against women survey. Canberra: Australian Institute

Of Criminology. Series 56. Retrieved from: http://www.aic.gov.au/documents/5/8/D/%7B58D8592E-CEF7-4005-AB11-B7A8B4842399%7DRPP56.pdf

Neumann, D. A., Houskamp, B. M., Pollock, V. E.,& Briere, J. (1996). The long-term sequelae of childhood sexual abuse in women: A meta-analytic review. *Child Maltreatment,1*, 6-16.

Norrholm, S.D., Jovanovic, T., Olin, I.W., Sands, L.A., Karapanou, I., Bradley, B. & Ressler, K. J. (2010). Fear extinction in traumatized civilians with posttraumatic stress disorder: Relation to symptom severity. *Biological Psychiatry,69*, 556-563

Nixon, R. D.V. and Bryant, R.A. (2005). Are negative cognitions associated with severe acute trauma responses? *Behaviour Change,22*, 22-28.

O'Brien, P. (2001). *Making it in the "free world": Women in transition from prison.* Albany, New York: State University of New York Press.

O'Brien, P., & Young, D.S. (2006). Challenges for formerly incarcerated women: A holistic approach to assessment. *Families in Society, 87*, 359-366.

Ohio Department of Rehabilitation and Corrections (ODRC). (2013). Inmate Security Classification Levels 1 Through 4. Retrieved from: http://www.drc.ohio.gov/web/drc_policies/drc_policies.htm

Petersilia, J. (2003). When prisoners come home: Parole and prison reentry. New York: Oxford University Press.

Phillips, A. & Daniluk, J.C. (2004). Beyond "Survivor": How childhood sexual abuse informs the identity of adult women at the end of the therapeutic process. *Journal of Counseling and Development,82,* 177-184.

Polusny, M. A., & Follette, V. M. (1995). Long term correlates of child sexual abuse: Theory and review of the empirical literature. *Applied & Preventive Psychology, 4*, 143-166.

Putnam, F.W. (2003). Ten-year research update review: Child sexual abuse. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*, 269-278.

Quina, K. & Brown, L. S. (2007). "Introduction" In Quina, K & Brown, L. S. (Eds.), *Trauma and dissociation in convicted offenders: Gender, science, and treatment issues,* (pp.1-5). New York, NY: The Haworth Press

Qureshi, S.U., Long, M. E., Bradshaw, M. R., Pynne, J.M., Magruder, K.M., Kimbrell, T., Hudson, T. J., Jawaid, A., Schulz, P.E. & Kunik, M.E. (2011). Does ptsd impair cognition beyond the effect of trauma? *The Journal of Neuropsychiatry and ClinicalNeurosciences,23,* 16-28.

Rafter, N. (1985). *Partial justice: Women in state prisons 1800-1935*. Boston: New England University Press.

Rauch, S. and Foa, E. (2006). Emotional processing theory (EPT) and exposure therapy for PTSD. *Journal of Contemporary Psychotherapy, 36*, 61-65.

Reichert, J., Adams, S. & Bostwick, L. (2010). Victimization and help seeking behaviors among female prisoners in Illinois, Illinois Criminal Justice Information Authority. (http://www.icjia.state.il.us/public/index.cfm)

Richie, B. E. (2001). Challenges incarcerated women face as they return to their communities: Findings from life history interviews. *Crime Delinquency,47*, 368-389.

Roman, C. G., Wolff, A., Correa, V., Buck, J. (2007). Assessing intermediate outcomes

of a faith-based residential reentry program. *Research on Social Practice, 17*,199-215.

Root, M. P. P. (1992). Reconstructing the impact of trauma on personality. In L. S. Brown & M. Ballou (Eds.), *Personality and psychopathology: Feminist reappraisals,* (pp. 229-265). New York, NY: Guilford Press

Rowe, H.A.H. Work potential profile manual. Camberwell: Australian Council for Educational Research Ltd; 2004.

Rusch, M.D., Dzwierzynski , W.W., Sanger, J.R., Pruit, M.T., Siewert, A.D. (2003). Return to work outcomes after work-related hand trauma: The role of causal attributions. *Journal of Hand Surgery,* 4, 673–677.

Salisbury, E. J. & Van Voorhis, P. (2009). Gendered pathways: A quantitative investigation of women probationers' paths to incarceration, *Criminal Justice and Behavior,36,* 541-566.

Schaefer, S., Evans, S., & Sterne, M. (1985). Incest among women in recovery from alcoholism and drug dependency: Correlation and implication for treatment [Summary]. *Proceedings of the International Congress on Alcoholism and Drug Dependence, 34*, 368-369.

Scott-Tilley, D., Tilton, A., & Sandel, M. (2010). Biologic correlates to the development of post-traumatic stress disorder in female victims of intimate partner violence: implication for practice. *Child Abuse & Neglect, 22*, 1119-1133.

Shengold, L. (1989). *Soul Murder: The Effects of Childhood Abuse and Deprivation*, Yale University Press, New Haven.

Soffer, M. and Ajzenstadt, M. (2010). The multidimensionality of "pains of

imprisonment" among incarcerated women in Israel. *Women & Health, 50*, 491-505.

Soper, D.S. (2014). Effect Size (Cohen's d) Calculator for a Student t-Test [Software]. Available from http://www.danielsoper.com/statcalc

Stewart, S. H. (1996). Alcohol Abuse in Individuals Exposed to Trauma: A Critical Review. *Psychological Bulletin, 120*, 83-112.

Strauser, D. R. (2000). The impact of psychiatric disorders on the vocational rehabilitation process. Paper presented at the Arkansas State University Counseling Symposium. Arkansas State University, State University, AR.

Strauser, D. R. and Lustig, D. C. (2001). The implications of posttraumatic stress disorder on vocational behavior and rehabilitation planning. *Journal of Rehabilitation, 67*, 26-30.

Swan, S. C., & Snow, D. L. (2002). A typology of women's use of violence in intimate relationships. *Violence Against Women,8,* 286–319.

Tabachnick, G. G., & Fidell, L. S. (2007). *Experimental Designs Using ANOVA.* Belmont, CA: Duxbury.

The TAMAR Project. Gillece, J. (1998). SAMHSA Women, Co-occurring Disorders and Violence KDA study. Maryland Department of Mental Health and Hygiene Retrieved from http://gainscenter.samhsa.gov/pdfs/Women/series/AddressingHistories.pdf

van Wormer, K. (2010) A Gendered Approach, in Working with Female Offenders: A Gender-Sensitive Approach, John Wiley & Sons, Inc., Hoboken, NJ, USA.

Voorhis, P.V., Wright, E. M., Salisbury, E. & Bauman, A. (2010). Women's risk factors

and their contribution to existing risk/needs assessment: The current states of a gender-responsive supplement. *Criminal Justice and Behavior, 37,* 261.

Vrana, S. & Lauterbach, D. (1994). Prevalence of traumatic events and post-traumatic psychological symptoms in a nonclinical sample. *Journal of Traumatic Stress, 7*, 289-302.

Watson-Armstrong, L.A., O'Rourke, B. & Schatzlein, J. (1999). Sexual abuse and persons with disabilities: A call for awareness. In R. P. Marinelli and A. E. Dell Orto (Eds.) *The psychological and social impact of disability*. New York: Springer

Winfield, I., George, L. K., Swartz, M., & Blazer, D. G. (1990). Sexual assault and psychiatric disorders among a community sample of women. *American Journal of Psychiatry*, *147*,335-341.

Wolff, N., Blitz, C., Shi, J., Siegel, J., & Bachman, R. (2007). Physical violence inside prisons: Rates of victimization. *Criminal Justice and Behavior*, *34*, 588-599.

Yehuda, R., Golier, J.A., Tischler, L., et al (2005). Learning and memory in aging combat veterans with PTSD. *Journal of Clinical Experimental Neuropsychology*, *27*, 504-515.

Zlotnick, C., Franklin, C. L., & Zimmerman, M. (2002). Does 'subthreshold' posttraumatic stress disorder have any clinical relevance? *Comprehensive Psychiatry, 43,* 413–419**.**