

Risk and Protective factors in Mothers with a History of Incarceration: Do Relationships
Buffer the Effects of Trauma Symptoms and Substance Abuse History?

Erin K. Walker, PhD

Delany Hall, Family Services Program

Community Education Centers

Newark, New Jersey 07105

Email: erinwalker7@gmail.com

Phone: 973-487-8297

Abstract

A Sobel analysis reveals that peer relational health and perceived mutuality in partnerships buffer the effects of trauma symptoms on self-esteem, and perceived quality of mother-child relationships buffers the impact of trauma symptoms and history of alcoholism on depression. Statistically and clinically significant results demonstrate the positive impact of a healthy mother-child relationship on depression symptoms, and the influence of healthy peer and partner relationships on raising self-esteem for previously incarcerated mothers. These results indicate that feminist relational theorists of psychological development and trauma are correct in hypothesizing that healthy relationships are essential to recovery from trauma and emotional wellbeing.

Key Words: women, incarceration, risk factors, protective factors, relationships, depression, self-esteem

Introduction

Previous research has illustrated that social-contextual factors such as interpersonal trauma from childhood sexual abuse, domestic violence, and abusive relationships resulting in PTSD contribute to women's substance abuse and are associated with later incarceration of drug-related crimes (Browne, Miller, & Manguin, 1999; Grella, Stein, & Greenwell, 2005; Kane & DiBartolo, 2002; Mullings, Hartley, & Marquart, 2004). An abundance of studies indicate as well that survivors of trauma often abuse substances as a means of coping with the aftermath of emotional pain, resulting in the co-morbidity of both PTSD and substance abuse (Covington, 1998a; Grayson & Nolen-Hoeksema, 2005; Ouimette, Wolfe, & Chrestman, 1996; Sharkansky, Brief, Pierce, Meehan, & Mannix, 1999; Stewart, Conrod, Samoluk, Pihl, & Dongier, 2000).

In a review of the literature Najavits, Weiss, and Shaw (1997) find that this co-occurrence is more common for women than for men and is often related to childhood interpersonal trauma. A study by Browne et al. reports that 70% of incarcerated women had experienced severe physical violence by childhood or adolescent caregivers, and 75% had experienced severe physical violence by intimate partners as adults. Women also frequently enter into drug use through intimate relationships, often with a male partner who uses illegal drugs, with the drug use continuing after the demise of the relationship (Amaro & Hardy-Fonta, 1995; Moe, 2004). These findings suggest that many women enter into addiction and crime through relational pathways and situations different than those experienced by men.

Women also differ in their profiles and interactions with correctional staff. They are more verbal and show a wider range of emotions than men, and child and family concerns are more prominent (Browne et al., 1999; Garcia-Coll, Miller, Fields, & Matthews, 1997). Women in prison are more often trauma survivors, have little income, have lower levels of education, and are single mothers of color who have committed non-violent crimes (Covington, 1998b; Garcia-Coll et al. 1997; Grella et al., 2005; Jenkins, 2004). Incarcerated women are also often struggling to maintain a relational context in their lives, and express a desire for connection and healthy relationships that provide emotional support and mutuality (Garcia-Coll et al., 1997; Jenkins, 2004).

Additionally, many studies have shown that relationships involving feelings of intimacy and mutuality are likely to facilitate self-disclosure, emotional resiliency, new coping strategies, and additional social support (Genero, Miller, Surrey, & Baldwin, 1992; Jordan, 2000; Manhal-Baugus, 1998; Spencer, Jordan, & Sazama, 2004; Tantillo, 2006). These findings are of particular relevance because they highlight relationships as a point of intervention for these women, not only while incarcerated but also upon re-entry, indicating the necessity of a continuum of care upon discharge.

Because of these issues, several researchers have suggested that therapists working with formerly incarcerated women should not only address issues of partner violence, PTSD, and addiction, but also create a safe place in which to build a healing relational context (Boudin, 1998; Covington, 1998a; Garcia-Coll et al., 1997; Marcus-Mendoza, 2004). In an attempt to provide empirical data to support the utility of such programs, this study explores the link between the mental health and the relational experiences of mothers who have been incarcerated.

Theoretical Models

Three theoretical models are particularly relevant to the treatment of female offenders: relational-cultural theory (RCT) created by scholars in the Stone Center at Wellesley College, Judith Herman's (1992) trauma theory and the role of relationships, and a holistic theory of addiction (Covington, 1998a). Practitioners who utilize these theories view people as being formed developmentally by their relational experiences, genetic make-ups, and social contexts in which they grew up and live. These contexts include their gender, race, experience of power, and other socio-cultural forces. In the perspective presented here, recovering from both PTSD and substance abuse requires a relational framework. From this vantage point a clinician must view both the person and the symptoms within a larger social context. These theories encompass this broad systemic perspective so as to increase our understanding of women's experiences in general (Miller & Stiver, 1997) and those of incarcerated women in particular (Covington, 1998a; Jenkins, 2004; Swift, 1998). Each of these three theoretical models is described below.

Relational-Cultural Theory (RCT)

Previous research indicates that therapeutic intervention for women, both during and after incarceration, should be based on women's relational experiences as well as female psychological development theories (Covington, 1998a, Garcia-Coll et al., 1997; Jenkins, 2004). Relational-cultural theory (RCT) is one such perspective. Its proponents assert that relationships and connection with others are necessities and serve as the central organizing principles of women's lives and that disconnections are a source of

psychological problems (Gilligan, 1982; Miller & Stiver, 1997; Miller, 1976; Stiver, 1990).

Families are often viewed as the most influential contexts in which relational and emotional development occur. Therefore, RCT theorists suggest that both healthy and unhealthy family processes form a relational model of growth and development (Miller, 1988). Proponents of RCT further contend that growth-fostering relationships are an essential human necessity throughout life, and that disconnection from others constitutes the core of psychological problems (Jordan, Surrey, & Kaplan, 1991). Supporters of this perspective assume that growth-fostering relationships and all disconnections are constructed within interpersonal and cultural contexts and that families are the most significant milieu in which relational and emotional growth occurs.

Healthy development is fostered in families who have a high degree of mutuality and empathy among all members (Stiver, 1990). Mutuality in families is manifested in the children, who are encouraged to be expressive of their feelings and needs so that they feel heard and can become more and more authentic in their interactions with others. Central experiences within this growth-fostering family context are as follows: (a) parents exhibit, and children develop, the ability to be empathic; (b) the members feel empowered by the recognition that their behaviors have an impact on the important people in their lives, who then are willing to adjust their experiences and behaviors accordingly; and (c) the members feel encouraged to go out into the world, participate and actively engage with others while still remaining connected to the family.

In contrast, unhealthy families impede psychological development. People in dysfunctional families are deprived of growth-enhancing experiences, become

disconnected, feel isolated, and begin to exhibit psychological distress. Miller (1988) and Stiver (1990) addressed key family processes that foster emotional disconnection and impede psychological development. Stiver proposed that when children or adults express thoughts and feelings and receive no response, they realize that they have no impact on those around them; as a result, a sense of powerlessness is engendered in their interactions with more powerful family members.

Consequently, RCT theorists assert that an erosion of trust, a sense of learned helplessness, and a deficient capacity for empathy result from such dynamics. The imbalance of power at the core of these dysfunctional family processes makes mutual empathy and mutual empowerment non-existent. Stiver (1990) suggests that under these conditions, the less powerful members of the family (usually women and children) learn to alter their inner sense of self and self-image in an attempt to understand and make sense of the neglect and abuse inflicted by others.

Relational-cultural theorists also call into focus the awareness and consequences of social marginalization and traumatic disconnection. These experiences can lead to an acute sense of vulnerability, with extreme sensitivity to power dynamics and settings of inequality (Walker, 2004). In addition to familial and personal sources of disconnection, these theorists also acknowledge issues of power within societal forces, such as racism and sexism, which contribute to a sense of isolation and feelings of helplessness. Walker concluded that connections and disconnections are constructed within specific cultural contexts and that in order to experience psychological health people need to create and maintain growth-fostering relationships that advance toward mutuality. Moreover, these

types of relationships foster growth, mutual empathy, and mutual empowerment, and lie at the core of psychological healing (Jordan, 2000).

Fundamentally, scholars of female psychological development posit that women often value relationships differently than men do, and that a woman's self-esteem development and psychological growth occur within a relational context (Gilligan, 1982; Gilligan, Lyons, & Hanmer, 1990; Miller, 1976). Women thrive when they are well-connected to others, and they are at risk when they are in unhealthy relationships that are void of mutuality. If psychological issues such as depression, substance abuse, and PTSD are linked to relational problems in women (Browne et al., 1999; Najavits, Sonn, Walsh, & Weiss, 2004), treatment providers should focus on building safe and healthy relational contexts in which to heal.

Trauma Theory and the Role of Relationships

A theory suggested for understanding the traumatic experiences of women is the relational stage model developed by Judith Herman (1992) who suggests that at the moment of trauma, the victim is rendered helpless by overwhelming force and experiences terror, helplessness, loss of control, and threat of annihilation. The intensity of these feelings does not leave the victim when the traumatic event is over. The feelings often linger, or they are transient but do not disappear. Because dealing with the power of these feelings during and after the trauma is out of the realm of human possibility, it is not uncommon that the survivor's psychological growth is hindered.

The core experiences of psychological trauma are disempowerment and disconnection from others. Recovery, therefore, is based upon the empowerment

of the survivor and the creation of new connections. Recovery can take place only within the context of relationships; it cannot occur in isolation. (p.133)

Therefore, Herman asserts that the primary effects are not just the destruction of the psychological structures of the self; the systems of attachment and meaning that link the survivor to others are also shattered.

Herman (1992) claims that a sense of safety and trust in the world are acquired in one's relationships with early caregivers, and a secure sense of connection with caring people is the basis of personality development. "Originating with life itself, this sense of trust sustains a person throughout the lifecycle. It forms the basis of all systems of relationship and faith" (p. 51). At the moment of trauma, this trust and feeling of connection to the world and others are destroyed. Consequently, a profound sense of alienation, disconnection, and mistrust infiltrate all aspects of relational life, especially when the traumatic event involves betrayal by significant others, such as family members and loved ones.

Because traumatic events damage one's relational world, a person's social network has the ability to influence the outcome of trauma and to facilitate healing from it (Herman, 1992). The establishment of human connection along with some semblance of trust and feelings of safety is the first and primary task toward regaining psychological well-being. Herman therefore suggests that in the aftermath of trauma, the formation of healthy relationships--on both individual and community levels--that encompass mutuality, felt empathy, and safety are vital to the restoration of psychological health.

Holistic Theory of Addiction

This theory suggests biopsychosocial holistic principles for understanding addiction and women, which go beyond the commonly used medical model that regards addiction as a disease located solely in the individual (Covington, 1998b). Covington asserts that chemical dependency is best seen as a public health issue. To support this broader view, Covington presents cancer as an appropriate analogy. It encompasses lifestyle choices (e.g., diet and exercise), environment (e.g., pesticides, emissions, and nuclear waste), and sociopolitical aspects (e.g., large powerful corporations that profit from carcinogenic products) (B. Siegel, personal communication, 1996, as cited in Covington). Concurring with this holistic perspective, Leshner (2004) perceives addiction as a brain disease that should be understood as a chronic re-occurring illness, and--like other brain diseases such as Alzheimer's, schizophrenia, and clinical depression--it includes some behavioral, psychological, and social aspects.

For women in particular, addiction encompasses a relational component and can be viewed as a dynamic connection between the woman and her choices of substances (Covington, 1998a). Covington observes that women often use relational imagery when explaining their feelings about a particular drug or alcohol, such as "My most passionate affair was with cocaine" (p.123) and "I turned to Valium, but then valium turned on me" (p. 123). This relationship is often characterized as one that began with good feelings but ended up taking a downward spiral. Covington and Surrey (2000) describe addiction as a relationship riddled with "obsession, compulsion, non-mutuality, and an imbalance of power. It is a kind of love relationship in which the object of addiction becomes the focus of the woman's life" (p. 3).

Surrey (1991, cited in Covington, 1998a) suggests that women often enter into substance abuse through relational pathways in an effort to connect with others, and to feel loved or energized. Paradoxically, Covington and Surrey (2000) theorize that while women often begin substance abuse to connect and feel good, they often end up using substances to numb the pain of unsatisfying or abusive relationships in which they do not experience mutuality or empathy, but instead feel depressed, isolated, and disconnected from others. Covington (1998b) perceives RCT as an important framework for conceptualizing trauma and addiction: “When a woman is disconnected from others or involved in abusive relationships, she experiences disempowerment, confusion, and diminished zest, vitality, and self worth--fertile ground for addiction” (p. 148).

Relational experiences in one’s family of origin can also contribute to a holistic understanding of substance abuse. Unhealthy family processes can manifest themselves in an alcoholic family in the form of secrecy, parental inaccessibility, and parentification. The maintenance of secrecy is essential to family cohesiveness and functioning in an alcoholic family. Secrecy often takes the form of family denial, which serves to keep peace in the family and/or to protect the alcoholic and family from the judgments of people outside the family (Stiver, 1990). In these situations, family members are emotionally unavailable to and often fearful of each other, with the greatest deprivation and terror experienced by the children. This restricted and/or unexplainable affective level of parents can create restricted affect in children, causing them to lose touch with the experiences and meanings of their feelings. If both the mother and the father are unable to perform the normal household and relational duties expected of parents, the

children often take on parental responsibilities before they are developmentally ready to do so.

According to Stiver (1990), parentified children learn very early to split-off the need to be cared for; they have little expectation that others, especially their parents, will want to know what their needs are. Consequently, these children grow up feeling that relationships are burdensome and non-gratifying because they have never experienced true mutuality in caretaking among family members. Parentified children also struggle to achieve an authentic sense of mastery in age-appropriate skills and problem-solving behaviors. The result is low self-esteem, due to the significant dissonance between how the children are perceived and how they experience themselves.

These three dysfunctional processes--secrecy, inaccessibility of parents, and parentification--exemplify what happens in disconnected families in which mutual empathy and mutual empowerment are nonexistent. These processes exist on a continuum, with families experiencing varying levels of connection and disconnection. However, they provide a lens of a relational model of growth and development through which one can see that constructive family processes must foster an interpersonal world of mutuality, so that family members can engage in authentic relational experiences that nurture empathic development and mutual empowerment.

Therefore, a holistic model of addiction encompasses several dimensions: physical, familial, emotional, spiritual, social, environmental, and political. Thus, addiction involves not only the individual but also a family and/or society that foster it (Covington, 1998b). Whether or not a genetic predisposition exists, addiction is

understood here as a biopsychosocial disease that is manifested in conditioned negative coping aimed at managing stress and/or the negative effects of trauma.

Previous Studies of Incarcerated Mothers

Tragically, it has been well-documented that women in prison have extremely high rates of mental health incidents that are often related to childhood and adulthood interpersonal abuse (Browne et al., 1999; Bradley & Davino, 2002; Jenkins, 2004). Several researchers have taken the theoretical position that the high incidence of drug-related crimes and substance abuse, combined with inadequate treatment for the extensive trauma histories of women in prison, is largely responsible for high recidivism rates (Bill, 1998; Garcia-Coll et al., 1997; Kubiak, 2004; Zlotnick, Najavitis, Rohsenow, & Johnson, 2003). Previous research focusing on the prevalence of traumatic events in the lives of incarcerated women has found that 78% to 85% of these women experienced at least one trauma in their lifetimes (Browne et al., 1999; Pomeroy, 1998; Kane & DiBartolo, 2002). These data indicate that incarcerated women have trauma rates two to three times higher than those of the general population of women.

Furthermore, 70% of women in prison are mothers (Bureau of Justice Statistics, 2000). Zaplin and Dougherty (1998) report that prior to incarceration many women were the primary caretakers of their children. These findings underscore not only the vital role these women play in the development of their children, but also the consequential disrupted bonds and the inevitable emotional repercussions both parties experience. Specifically, somatization, depressive symptoms, and levels of anxiety related to parenting stress have been shown to be elevated in incarcerated mothers (Houck & Loper, 2002; Poehlmann, 2005). Furthermore, Johnston's (1995) research reveals that children

of incarcerated parents exhibit high levels of anxiety, aggression, acute traumatic stress reactions, survivor guilt, poor school performance, and truancy.

Despite the rapidly increasing rates of women in prison, most of whom are mothers, and the devastating effect incarceration has on the lives of their children, therapeutic models are often still based on the needs of men and stem from an individual medical model that does not adequately attend to women. Proponents of male-oriented models stress rules and offer ways to advance within a structured environment, while advocates of female-oriented programs believe treatment is more successful when it focuses on relationships with other people and offers ways to manage life successfully, both during and after incarceration, while keeping these relationships intact (Belknap et al., 1997, as cited in Covington, 1998a).

These issues indicate the presence of a growing problem in correctional institutions. Little empirical data substantiates the recommended relational paradigms and systemic models thought to be useful in the treatment of women both during and after imprisonment. There is also a dearth of empirical research that explores the mental health incidences and specific relational experiences of mothers post-incarceration. The present study is designed to address this gap in the literature by exploring the link between the mental health and the relational health of mothers who have been incarcerated. Currently, little empirical data is available that addresses how different types of relationships and specific qualities of relational interaction influence the mental health of previously incarcerated mothers.

Therefore, this study explores whether and how relationships may buffer the psychological distress of mothers who have been in prison. Specifically, it examines

whether peer-relational health, the perceived quality of one's relationship with children, and perceived mutuality in partnerships can buffer low self-esteem and symptoms of depression in post-incarcerated mothers who experience trauma symptoms or have a history of substance abuse, or report the co-occurrence of these mental health issues.

This investigation is based on research findings that women in prison have extremely high rates of both childhood and adulthood interpersonal abuse, and that approximately 78% of these women are mothers (Bloom, 1995; Browne et al., 1999; Bradley & Davino, 2002; Bureau of Justice Statistics, 2000; Garcia-Coll et al., 1997; Jenkins, 2004; Zlotnick et al., 2003). Boudin (1998) stated that when a mother becomes incarcerated, often her primary emotional focus is her children. Her relationship with her child(ren) can be the source of both hope and distress. She may experience tremendous guilt, anxiety, and a sense of failure. Additionally, depressive symptoms have been shown to be elevated in incarcerated mothers (Poehlmann, 2005).

Female incarceration rates are rapidly rising, making inevitable a rise in the number of women and children needing post-incarceration service. Because of this growing problem, O'Brien and Bates (2005) have qualitatively explored factors that may help women succeed upon re-entry into society, and find that emotional and social supports that reinforce interpersonal and mutually rewarding relationships are essential. Data relevant to the present study buttress the opinion of RCT proponents who assert that while past relationship disconnections are thought to have a cumulative impact, current relationship processes are vitally important to women's mental health as well (Jordan, 2004). Specifically illustrating this point, Harm and Phillips (2001) report that formerly

incarcerated women identified their families as both the best and the most difficult parts of re-entry adjustment.

Based on this previous research, the present study investigates the heretofore relatively unknown incidence of the identified mental health variables (depression, self-esteem, trauma symptoms, and substance abuse) in mothers post-incarceration. Also addressed are assertions by female psychological development theorists who espouse that relational health and experiences of mutuality are crucial to the psychological well-being of women in general and in the treatment of previously imprisoned women in particular (Covington, 1998a; Jenkins, 2004; Jordan, 2004; Miller, 1976; Poehlmann, 2005; Swift, 1998). The results should not only assist in clarifying the connection between the relational health and the mental health of post-incarcerated mothers. They may also reveal the nuances of how different types of relationships and specific qualities of relational interactions may influence the mental health of previously incarcerated mothers. The following research questions and hypotheses, based upon a review of the relevant literature, are intended to aid in exploring these possibilities.

Hypotheses and Methods

Are levels of peer relational health, mutuality in partnerships, and relationship quality with children associated with levels of depression and self-esteem in a population of previously incarcerated mothers? Are the associations between relational variables and mental health variables affected by histories of substance abuse and current experiences of trauma symptoms in a population of previously incarcerated mothers? These research questions lead to the following hypotheses:

Hypothesis 1. Higher levels of peer relational health, mutuality in partnerships, and relationship quality with children are associated with lower levels of depression and higher levels of self-esteem in a population of previously incarcerated mothers.

Hypothesis 2. The risks (negative effects) of substance abuse history and trauma symptoms on depression and self-esteem for previously incarcerated mothers are buffered by higher levels of peer relational health, partnership mutuality, and relationship quality with their children.

These hypotheses arise from expectations about the sample in this study, based on previous research on the variables of interest (depression, self-esteem, trauma symptoms, substance abuse history, and relationship quality) (Browne et al., 1999; Houck & Loper, 2002; Moe, 2004; Poehlmann, 2005; Swift, 1998; Zlotnick et al., 2003), as well as the theoretical expectations of the role of relationships in trauma theory suggested by Herman (1992) and female psychological development theorists who propose that healthy connections with others are essential to psychological well-being (Gilligan, 1982; Jordan, 2004; Jenkins, 2004; Miller, 1976).

Study Participants

The present study involves 91 participants, all of whom are literate, English speaking mothers with a history of incarceration who may or may not have been on parole. Ages ranged from 21 to 63 years, with a mean of 37.7 years ($SD = 8.5$). The majority of study participants were African-American ($n = 64$; 70.3%), followed by Caucasian ($n = 15$; 16.5%), Hispanic ($n = 7$; 7.7%), Asian ($n = 1$; 1.1%), and other ($n = 1$; 1.1%). Among the participants, 39% ($n = 36$) had at least some undergraduate college

education, and 30.8% ($n = 28$) report graduating from high school or obtaining a GED. Twenty-two percent report some high school education ($n = 20$), while 6.6% ($n = 6$) report an education level of eighth grade or less.

Consistent with the study protocol, 100% of participants were in a romantic relationship at the time of assessment. Among the reasons for incarceration were a reported drug-offense violation ($n = 44$, 48.4%), violent offense ($n = 22$, 24.2%), and other offenses 20% ($n = 20$). Fifty-one percent ($n = 47$) of participants had been discharged from incarceration less than six months prior to the study: 17.6% ($n = 16$) had been released between 6 and 12 months prior, and 30.8% reported having been out of prison for over 1 year ($n = 28$). On average, participants had 2.5 children ($SD = 1.6$) ranging in age from less than 1 year to 27 years ($M = 7.1$, $SD = 5.6$). Thirty of the women had one child; 61 had at least two; 39 had at least three; 21 had at least four; and 6 had five children. Of the total 223 children, 61% ($n = 136$) were not living with their mothers, and 94.5% ($n = 86$) were under the age of 18 years.

Study Variables

Testing the two hypotheses involves three sets of variables. The social relationship variables include peer relational health, perceived mutuality in partnerships, and perceived quality of the mother-child relationship. The mental health variables include symptoms of depression and self-esteem. The history and stimulus variables include history of substance abuse and current trauma symptoms. For Hypothesis 1, the independent variables are peer relational health, perceived mutuality in partnerships, and perceived quality of the mother-child relationship; the dependent variables are symptoms of depression and self-esteem. Hypothesis 2 introduces into the analysis the control

variables of substance abuse history and current trauma symptoms. A description of each variable and its corresponding instrument appear below and again in the Appendix with its reliability, range, and clinical values.

Peer relational health is defined as a way of relating that is shared and in which all involved parties participate as fully as possible; experiences of engagement, authenticity, and empowerment are felt (Laing, Tracy, Taylor, Williams, Jordan & Miller, 2002; Miller & Stiver, 1997). Peer relational health was assessed with the use of the Relational Health Indices (RHI) (Liang, Tracy, Taylor, Williams, Jordan, & Miller, 2002). Mutuality in partnerships is characterized as partners being open to influence, emotional availability, and a changing pattern of responding to and affecting the other in a relationship that involves bidirectional movement of feelings, thoughts, and activities between two people (Genero, Miller, & Surrey, 1992). Mutuality was assessed with the use of the Mutual Psychological Development Questionnaire (MPDQ) (Genero, Miller, & Surrey, 1992). The women's perceived quality of relationships with their children was defined by the presence of positive and negative feelings experienced with regard to the target child (Lowman, 1980; Poehlmann, 2005). This relationship was assessed by utilizing the Inventory of Family Feelings (IFF) (Lowman, 1980).

Symptoms of depression include changes in appetite or weight; sleep or psychomotor activity; decreased energy; feelings of worthlessness or guilt; difficulty thinking, concentrating, or making decisions; re-occurring thoughts of death, or suicide ideation; and plans or attempts to harm oneself (DSM-IV, 1994). The level of depressive symptoms was assessed with the Center for Epidemiological Studies Depression Scale (CES-D) (Radloff, 1977). Self-esteem is defined as positive regard and feelings of ability

and worth for oneself. Self-esteem was assessed with the use of the Rosenberg Self-Esteem Scale (1965).

Substance abuse is defined as the compulsive use of drugs and/or alcohol. Substance abuse was assessed with the use of the Short Michigan Alcohol Screening Test (SMAST) (Selzer, 1971) and the Drug Abuse Screening Test-10 (DAST-10) (Skinner, 1982). Both instruments were used for this study so that both alcohol and narcotic abuse could be investigated. Trauma symptoms are defined as experiences that result from the survival of a trauma, an event outside the victim's control in which the victim experienced or witnessed a physical threat such as sexual abuse, physical abuse, war combat, seeing someone killed, and/or surviving a natural disaster. Trauma symptoms were assessed with the use of the Trauma Symptom Checklist-40 (TSC-40) (Briere & Runtz, 1989).

Prior to testing the two study hypotheses, means and standard deviations were calculated for all study variables. These results verified that appropriate assumptions were met for the use of parametric statistics (e.g., homogeneity of variance, normality, and linearity). Based on a power analysis using Cohen methodology and G-power computer software, participants ($n = 90$) were sought for the protocol sample of participants, and the conventional parameters for calculation were assumed ($\alpha = 0.05$; effect size = moderate, 0.30, power = 0.80).

The directors of the participating local community aftercare programs for former female prisoners granted approval to recruit participants during program meetings. Participants were assured that their choosing not to participate would involve no negative consequences. In order to proceed with participation, volunteers understood that their

responses and decisions to participate would not be shared with anyone else. It was explained to the women that since no participant-identifying information would ever be gathered and the PI would not know who participated, they would always remain anonymous. As an additional safeguard, research participants did not sign an informed consent document, but signified consent simply by returning their completed surveys. It was made clear to them that if any participants were on parole, their parole officer would not be informed of their decision to participate or not participate, and that their decision would in no way impact their parole status.

Participants were given as much time as they needed to finish all the instruments. Upon completion of the instruments, participants were asked to seal their questionnaires in the envelopes provided. A phone number that did not require callers to identify themselves was provided if any participants wanted to talk about any reactions, questions, or concerns that arose while answering the questionnaires. A list of counseling referrals was also available.

Regression Models and Results

Hypothesis 1. Higher levels of peer relational health, mutuality in partnerships, and relationship quality with children are associated with lower levels of depression and higher levels of self-esteem in a population of previously incarcerated mothers. This hypothesis is examined using two independent multiple regression models. The first examined the effects on depression of peer, partner, and child relational health. The second model analyzed the effects on self-esteem of peer, partner, and child relational health. A goodness of fit analysis using analysis of variance (ANOVA) was conducted to compare the ratio of regression variance (common factor variance) to residual variance

(error) in each model. Significant ANOVAs are expected ($p < .05$). Following a significant ANOVA, regression coefficients (standardized beta, t -test of each predictor, sri^2) were examined to determine the pattern of relationships that existed between criterion and predictor variables.

A significant negative relationship is expected between depression and each of the three predictor variables, thereby supporting the hypothesis that higher levels of relational health are associated with lower levels of depression. Furthermore, a significant positive relationship is expected between self-esteem and each of the three predictor variables, supporting the hypothesis that higher levels of relational health are associated with higher levels of self-esteem. Overall variance within the models was also examined via the inspection of R and R^2 values for each model. Individual contribution (unique variance) of predictors to each model was examined via inspection of partial correlations.

When depression is entered as the dependent variable, a significant model emerges ($F(3, 87) = 22.6, p < .001$). As Table 1 reveals, negative relationships exist between depression and each of the three predictor (relational) variables, thereby supporting the hypothesis that higher levels of relational health are associated with lower levels of depression. However, while the initial ANOVA is significant and relationship variables account for 43% ($R = .662$) of the variance, only the mother-child relationship emerges as significant ($p < .001$). It is important to note that the partner variable, while not statistically significant, does tend toward statistical significance ($p = .053$) and may have theoretical relevance that can be explored further in future studies.

[Table 1 Here]

With regard to self-esteem, it is expected that significant positive relationships will exist between self-esteem and each of the three predictor (relational) variables, supporting the hypothesis that higher levels of relational health are associated with higher levels of self-esteem. The data in Table 1 also support this hypothesis. The initial ANOVA is significant ($F(3,87) = 14.9, p < .001$). Specifically, the relational predictors account for 34% ($R = .583$) of the variance in self-esteem. While all three relational variables are related to self-esteem, only peer and partner relationships emerge as statistically significant. Therefore, in contrast with the analysis of depression, the child variable does not appear to have a significant effect on self-esteem in this study.

Hypothesis 2. The risks (negative effects) of substance abuse history and trauma symptoms on depression and self-esteem for previously incarcerated mothers are buffered by higher levels of peer relational health, partnership mutuality, and relationship quality with their children. In order to test this hypothesis, the Sobel method (Baron & Kenny, 1986) is employed to determine whether peer relational health, partnership mutuality, or child relationship quality mediates the impact of substance abuse and trauma history on depression and self-esteem. It is a well-recognized test of mediation that employs a multi-step approach to determining the extent to which a variable serves as a mediator of a pre-specified relationship. The test involves the three-step process outlined below using depression as a dependent variable of interest.

1. Demonstrate that a significant relationship exists between the criterion and predictor variables, e.g., depression and substance abuse.
2. Demonstrate that a relationship exists between the proposed mediator and the predictor variable, e.g., relationship quality and substance abuse.

3. Demonstrate that a relationship exists between the proposed mediator and the criterion variable, relationship quality and depression.

Coefficients for the Sobel method were obtained using ordinary least squares (OLS) regression. A methodology similar to that used for Hypothesis 1 was employed initially to determine goodness of fit for each regression path of the model. Following significant ANOVA tests, the pattern of coefficients was then examined to determine if the data supported a mediating relationship by using the three-step Sobel method. A variable was considered a mediator if, and only if, all three test requirements (paths) were met.

It is expected that when depression is the dependent variable, substance abuse history and trauma symptoms will be directly (+) related to depression, while relations with peers, partner, and, child are expected to be inversely (-) related to depression. When self-esteem replaces depression as the dependent variable, the signs are expected to be reversed, meaning that substance abuse history and trauma symptoms will be reversed and that they will be negatively (-) related to self-esteem, while quality of peer, partner, and child relations are expected to be positively (+) related to self-esteem.

Depression Results

In the investigation of whether the mother-child relationship mediates the impact of current trauma symptoms on indicators of depression, the results for the three-step Sobel analysis are in Table 2. There is a significant ANOVA for the effect of previous alcohol (SMAST) and drug (DAST-10) abuse on indicators of depression ($F(2,88) = 3.776, p = .027$). However, examination of the coefficients to determine if the data support a mediating relationship in Step 1 reveals that only alcohol had a significant impact on

indicators of depression, with drug use not significantly related to depression in this sample. Further regression analyses are not warranted for investigation of mediation effects of drug use on depression, given that the two variables were not found to be related. When mother-child relationship is entered as the dependent variable in Step 2 of the Sobel analysis, it is significantly related to past alcohol abuse, thereby meeting the criteria for this step in the Sobel method. In Step 3, the mother-child relationship is also significantly related to depression.

[Insert Table 2 Here]

Overall, the results provide support for the first component of Hypothesis 2, which proposed that the mother-child relationship can potentially buffer the impact of previous alcohol abuse on indicators of depression. Due to the lack of statistical significance ($p < .05$) in the relationship between the partner variable and depression ($r = -.23$; $p = .05$) or between the peer variable and depression ($r = -.21$; $p = .06$), further data analysis is not warranted with regard to the potential buffering effect of these two variables. However, the significant mediating effect of the child relationship, combined with the presented theoretical framework of this study, provides potential support indicating that the partner variable may buffer the impact of a history of alcohol abuse on the experience of depression.

In the investigation of whether the mother-child relationship mediates the impact of current trauma symptoms on indicators of depression, the three-step Sobel method is again employed with the results displayed in Table 3. The first step demonstrates that a significant relationship exists between current trauma symptoms and indicators of depression ($F(1,89) = 61.684, p < .001$). The second step ascertains whether a statistically

significant relationship exists between current trauma symptoms and the mother-child relationship; a significant relationship does exist between these two variables. Since data obtained in testing Hypothesis 1 showed that peer and partner relationships were not significantly related to depression and could not serve as potential mediators for depression, further statistical analysis of these variables was not warranted. The third step of the Sobel method indicates that the mother-child relationship is also significantly related to depression.

[Table 3 Here]

Overall, the three-step Sobel results support the first component of Hypothesis 2, which states that the mother-child relationship significantly mediates indicators of depression in mothers who are currently experiencing trauma symptoms. Although not actually attaining statistical significance ($p < .05$), the peer and partner results do provide some support for the theoretical relational model proposed in this study. Relationships in the predicted direction that fall just short of statistical significance raise the possibility that strengthening peer and partner relationship with therapy may be able to buffer the influence of alcohol abuse and trauma symptoms on depression.

Self-esteem Results

The ANOVA for self-esteem did not emerge as significant ($F(2,88) = 2.88, p = .06$), nor did the coefficient data for history of alcohol (Standardized Beta = $-.19$, partial correlation = $-.17, t = -1.68, p = .10$) or drug abuse (Standardized Beta = $-.108$, partial correlation = $-.10, t = -.97, p = .33$). Because the initial criteria of the Sobel method are not met, no further analysis was conducted to determine whether relationship quality buffers the impact of substance abuse history on self-esteem. Therefore, this element of

Hypothesis 2 was not supported, indicating that these relationships do not mediate substance abuse history and self-esteem.

[Table 4 Here]

The initial ANOVA for the current trauma symptoms and the relationship variables of peer and partner indicate a significant relationship between trauma symptoms and self-esteem ($F(1,89) = 10.029, p = .002$), thereby supporting the first criteria for Sobel mediation of both the peer and the partner variables. As shown in Table 4, the significant Beta coefficients obtained provide a rationale for further analysis. The second step of the Sobel method also reveals a significant ANOVA ($F(1,89) = 15.2, p < .001$), supported as well by the Beta coefficient data. The third step demonstrates that the peer relationship was significantly related to self-esteem. As evidenced by the results of the three-step Sobel method, peer relational health can potentially mediate the impact of current trauma symptoms and their effect on levels of self-esteem in previously incarcerated mothers.

The results of Step 1 in Table 4 showed a significant relationship between trauma symptoms and self-esteem in the predicted direction (standardized beta = $-.32$, partial correlation = $-.32, t = -3.17, p < .00$). The second step of the Sobel analysis to assess the mediating effect of mutuality of partner relationships reveals that the trauma symptoms and partner relationships are significantly related ($F(1,89) = 13.93, p < .001$) in the predicted direction, as supported by the Beta analysis ($-.37; p = .00$) in Table 5. The third step in the Sobel method shows significance between the partner relationship variable and self-esteem ($F(3,87) = 14.9, p < .001$), also supported by the results in the predicted direction for the Beta analysis results ($.29; p = .02$) in Table 5.

Overall, the three steps reveal findings to support this portion of Hypothesis 2. The results suggest that both healthy peer relations and a healthy partner relationship can potentially buffer the impact of current trauma symptoms on feelings of self-esteem of previously incarcerated mothers. Coupled with the significant results for the buffering effects of mother-child relationships on depression, the Sobel analysis shows important empirical and clinical support for the actual and potential buffering effects of mutuality in relationships with significant others against the risks posed by substance abuse and trauma regarding the depression and self esteem of mothers with a history of incarceration; trends in theoretically predicted directions toward significant relationships between peer and partner variables and depression further buttresses the theoretical models that predict these results.

Discussion

Overall, the results show strong statistical significance in the hypothesized directions for the three-pronged relational model (peer, partner, and child) on the mental health variables of depression and self-esteem. In particular, the positive impact of a healthy mother-child relationship on symptoms of depression and the potential capacity of peer and partner relationships to improve self-esteem are significant. The statistical support for the relational model as a whole, in conjunction with the accompanying theoretical frameworks, gives credibility to the partner relationship's ability to influence depression. Significant findings also confirm that peer relational health and perceived mutuality in partnerships can buffer the effects of trauma symptoms on self-esteem. The

perceived quality of the mother-child relationship can buffer the impact of trauma symptoms and history of alcoholism on depression.

In general, the implications for future research may involve the development and assessment of treatment models that include accessing women's relational strengths, addressing the co-occurrence of trauma and substance abuse, and facilitating the development of safe and healthy relationships for women both during and after incarceration. Additionally, the portions of the hypotheses that were not supported merit further exploration. The finding that neither previous drug abuse nor alcohol abuse was related to self-esteem warrants investigation, as do the data showing that prior alcohol abuse was associated with depression while drug abuse was not. Also, it was surprising that peer and partner relationships buffered trauma symptoms' effect on self-esteem but the mother-child relationship did not. All of these inconsistencies deserve further examination and suggest additional avenues of inquiry.

A particular area of relevance for future research is the trend of the partner variable in potentially impacting depression. The result, although thought to be theoretically credible, was just short of the threshold for statistical significance ($p = .053$). Given the high level of intimate partner violence that many previously incarcerated women encounter, further research is necessary to verify this trend. This area of investigation is essential, so that therapies aimed at addressing the impact of the often violent partner relationships in the lives of previously incarcerated women can be funded and appropriately implemented.

Finally, no other instruments were available to evaluate the particular theory-based constructs of peer relational health and mutuality in partner relationships. The use

of the RHI (Liang et al., 2002) and the MPDQ (Genero, Miller & Surrey, 1992) was theoretically essential to the core premise of this research. While these instruments have previously been used with samples of women who presented clinical profiles similar to those of the present sample, neither measure had been used previously with a population of incarcerated or post-incarcerated women. Further research investigating the internal consistency and validity of these instruments and substantiating their use with women who have a history of incarceration would be valuable.

The theoretical implications of this study's findings are consistent with assertions by scholars who argue that therapeutic interventions for women both during and after incarceration should be based on both women's relational experiences and female psychological development theories (Covington, 1998a, Garcia-Coll et al., 1997; Jenkins, 2004). For example, the findings in the present study link not only the quality of peer, partner, and mother-child-relationships to mental health; they show specifically that the mother-child relationship and possibly the partner relationship can buffer the impact of trauma symptoms and history of alcohol abuse on indicators of depression. In addition, peer and partner relationships have the capacity to alleviate the impact of trauma symptoms on a mother's self-esteem. These data provide empirical support for the role of relationships in Herman's (1992) trauma theory and in RCT.

These theories, and the results in this study, imply that it would be a clinical error to attempt to treat previously incarcerated women through the lens of an individual medical model that focuses on only her and her substance abuse. While many would agree that the aim is to assist previously incarcerated women achieve successful re-entry, it must be recognized that they (and their feelings) do not exist in isolation. These women

are intertwined in a complex relational matrix that has larger and further-reaching systemic implications. Specifically, the finding that the mother-child relationship can buffer the impact of previous alcoholism and current trauma symptoms on depression clearly calls for the development of gender-specific family re-unification programs aimed at enhancing and nurturing the connections between the mother and child and those within the entire family system.

In conclusion, the data reported in this study demonstrate that the implementation of therapies founded on individual medical paradigms that view women in isolation may not adequately attend to their needs. Family re-unification efforts, community-based family programming, and social policies leading to the funding of therapeutic interventions founded on systemic relational theory are likely to be essential. Women thrive when they are connected to others, and are more at risk when they are in unhealthy relationships that are void of mutuality. Psychological issues such as depression, substance abuse, self-esteem, and trauma symptoms are linked to relational problems in women who have been incarcerated. Therefore, treatment providers, program developers, and policy makers should focus on building safe and healthy relational contexts in which these women can heal.

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Appendix

Coefficient Alpha Inter-item Reliability Coefficients for Study Scales

Variable	Scale	Alpha	Range	Mean	Clinical value
Mutuality in Partnerships	MPDQ	0.84	2.8-6.0	4.12	4*
Mother-child Relationship Quality	IFF	0.94	0-38	26.05	23
Peer Relational Health	RHI	0.91	13-51	33.9	34*
Symptoms of Depression	CES-D	0.91	0-50	18.94	17
Self-esteem	Rosenberg	0.89	14-40	29.82	24.3*
Current Trauma Symptoms	TSC-40	0.96	0-97	35.62	70-74*
History of Drug Abuse	DAST	0.91	0-10	5.47	3
History of Alcohol Abuse	SMASST	0.87	0-12	4.15	3

Note. For the purposes of the present study, no cut-off score was necessary, since the full range of values for all variables was correlated for both hypotheses. Therefore, the term clinical value is used to indicate where the present sample's scores fall in reference to the literature or the cut-off score indicated by the author(s) of the scale.

*MPDQ: Because the MPDQ had not yet been used with women who have a history of substance abuse, the literature did not indicate an average cut-off score to distinguish between low and high levels of mutuality for this population. However, Randolph and Reddy (2006) reported an average mutuality score of 4 for women in their sample, 64% of whom reported a history of sexual abuse.

*RHI: Because the RHI had not been used with women who have history of substance abuse no average cut-off score was shown in the literature for this population. However, Frey, Beesley, and Miller (2006) found a mean score of 38 for college women; Frey, Toblin, and Beesley (2004) reported a mean score of 34 for the same population.

*Rosenberg: While no validated cut-off score distinguishes between "low" and "high" self-esteem on this instrument, Gutierrez and Todd (1997) reported a mean score of 24.3 for a sample of female substance abusers with a history of childhood abuse.

*TSC-40: The TSC-40 instrument used in this study assesses for the presence and frequency of trauma symptoms rather than a diagnosis of PTSD; therefore, no PTSD classification rates were obtained for this study. Gold, Milan, Mayall, and Johnston (1994) found TSC-40 scores ranging from 70 to 77.4 for women with a history of sexual abuse. The average score in the present study was 35.6 ($SD = 26.5$), with only 12.1% of participants scoring in the 70.0+ range identified by Gold, Milan, Mayall, and Johnston. However, these numbers are in line with Goff, Rose, Rose, and Purves (2007) review of the literature, which revealed PTSD rates of 4% to 21% in prison samples, with women more highly affected. After the trauma the person may experience intense helplessness, fear, or horror (or, if a child at the time, agitated or disorganized behavior). The following problems are often suffered as symptoms: intrusion (memory of the trauma returns even when unwanted, as in nightmares, flashbacks, or images), avoidance (numbing, detachment, evading any reminder of the trauma), arousal (feeling hyped-up or easily startled, suffering sleep problems or anger), and lower functioning (problems with relationships, work, or other major areas of life) (DSM-IV, 1994).

Table 1. Relational Variables with Depression and Self Esteem as Dependent Variables

Dependent Variable: Depression	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlations
Peer Relational Health	-0.21	-1.88	0.06	-0.20
Mutuality in Partnerships	-0.23	-1.97	0.05	-0.21
Mother-child Relationship Quality	-0.36	-3.81	0.00	-0.38
Dependent Variable: Self-esteem				
Peer Relational Health	0.27	2.28	0.03	0.24
Mutuality in Partnerships	0.29	2.32	0.02	0.24
Mother-child Relationship Quality	0.12	1.18	0.24	0.13

Table 2. Sobel Analysis of the Buffering Effects of Mother-Child Relations on the Relationship between Substance Abuse and Depression.

Step1: Substance Abuse and Depression

Depression	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlations
History of Alcohol Abuse	0.28	2.53	0.01	0.26
History of Drug Abuse	0.01	0.05	0.96	0.01

Step2: History of Alcohol Abuse and Mother-Child Relationship Quality

Mother-Child Relationship Quality	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlation
History of Alcohol Abuse	-0.35	-3.56	0.00	-0.35

Step3: Mother-Child Relationship Quality and Depression

Depression	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlation
Mother-child Relationship Quality	-0.36	-3.81	0.00	-0.38

Table 3. Sobel Analysis of the Buffering Effects of Mother-Child Relations on the Relationship between Trauma Symptoms and Depression

Step 1: Trauma Symptoms and Depression

Dependent Variable: Depression	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlation
Trauma Symptoms	0.64	7.85	0.00	0.64

Step 2: Trauma Symptoms and Mother-Child Relationship Quality

Mother-Child Relationship Quality	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlation
Trauma symptoms	-0.48	-5.15	0.00	-0.48

Step 3/Mother-Child Relationship Quality and Depression

Depression	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlation
Mother-child Relationship Quality	-0.36	-3.81	0.00	-0.38

Table 4. Sobel Analysis of the Buffering Effects of Peer Relational Health on the Relationship between Trauma Symptoms and Self Esteem

Step 1: Trauma Symptoms and Self-Esteem

Self-Esteem	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlation
Trauma Symptoms	-0.32	-3.17	0.00	-0.32

Step 2: Trauma Symptoms and Peer Relational Health

Peer Relational Health	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlation
Trauma Symptoms	-0.38	-3.90	0.00	-0.38

Step3: Peer Relational Health and Self-Esteem

Self-Esteem	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlations
Peer Relational Health	0.27	2.28	0.03	0.24

Table 5. Analysis of the Buffering Effects of Partner Relationships on the Relationship between Trauma Symptoms and Self Esteem

Step 1: Trauma Symptoms and Self Esteem

Self-Esteem	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlation
Trauma Symptoms	-0.32	-3.17	0.00	-0.32

Step 2: Trauma Symptoms and Mutuality in Partnerships

Mutuality in Partnerships	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlation
Trauma Symptoms	-0.37	-3.73	0.00	-0.37

Step 3: Mutuality in Partnerships and Self-Esteem

Self-Esteem	Beta (Standardized)	<i>t</i>	<i>p</i>	Partial Correlations
Mutuality in Partnership	0.29	2.32	0.02	0.24