Use Authorization

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

Signature _____ Date _____

Understanding the association between trauma exposure and suicide risk among treatment-seeking incarcerated women: A moderated mediation model

by

Christopher R. DeCou

A thesis

submitted in partial fulfillment

of the requirements for the degree of

Master of Science in the Department of Psychology

Idaho State University

Summer 2015

To the graduate faculty:

The members of the committee appointed to examine the thesis of CHRISTOPHER R. DECOU find it satisfactory and recommend that it be accepted.

_____
Shannon M. Lynch, Ph.D.
Major Advisor

_____
Maria M. Wong, Ph.D.
Committee Member

_____
Monica Mispireta, M.D., Ph.D.
Graduate Faculty Representative

IDAHO STATE UNIVERSITY

Human Subjects Committee
Campus Box 8056
Pocatello, Idaho
83209-8056

Ralph Baergen, Ph.D.
Chair
(208) 282-3371

Committee Secretary
(208) 282-3811
Fax: (208) 282-4472

September 13, 2006

Shannon Lynch, PhD
Psychology Department
Campus Box 8112
Pocatello, ID 83209

RE: Your application dated 9/12/2006 regarding study number 2882MOD2: Trauma and Substance Abuse Programming for Female Offenders: An evaluation of "Seeking Safety" (Funding Pending)

Dear Dr. Lynch:

Thank you for your response to requests from a prior review of your application for the new study listed above. This is to confirm that your application is now fully approved. In reviewing your consent procedure for this study, your inclusion of the following special classes of subjects was taken into account: prisoners.

You are granted permission to conduct your study as most recently described effective immediately. The study is subject to continuing review on or before 9/13/2007, unless closed before that date.

Notify the HSC of any adverse events. Serious, unexpected adverse events must be reported in writing within 3 business days.

Submit progress reports on your project in six months. You should report how many subjects have participated in the project and verify that you are following the methods and procedures outlined in your approved protocol. ✓ 3/27/07

Report to the Human Subjects Committee when your project has been completed. You should provide a short progress report to the Human Subjects Committee in which you provide information about your subjects, procedures to ensure confidentiality, and the final disposition of the data.

Please note that any changes to the study as approved must be promptly reported and approved. Some changes may be approved by expedited review; others require full board review. Contact Patricia Hunter (208-282-3811; fax 208-282-4529; email: humsubj@isu.edu) if you have any questions or require further information.

Sincerely,

Ralph Baergen, PhD
Human Subjects Chair

Table of Contents

List of figures.....vii

List of Tables.....viii

Abstract.....ix

Introduction.....1

Suicide & Parasuicide Among Incarcerated Women.....1

Pathways Paradigm.....7

Trauma Exposure Among Incarcerated Women.....8

Trauma Exposure & Suicide.....11

Social Support & Suicide.....14

Interpersonal Problems & Suicide.....19

Proposed Study.....21

Method.....23

Participants.....23

Procedure.....24

Measures.....25

Analyses.....31

Results.....33

Descriptives.....33

Total Effect of Trauma Exposure on Suicide Risk.....34

Indirect Effects of Interpersonal Problems & Social Support on Suicide Risk.....35

Discussion.....36

Limitations.....40

Conclusion.....43

References.....44

Appendix A: Study Measures.....67

List of Figures

Figure 1.....55

Figure 2.....56

Figure 3.....65

List of Tables

Table 1.....57

Table 2.....60

Table 3.....62

Table 4.....63

Table 5.....64

Abstract

Background: Incarcerated women suffer high rates of trauma exposure, suicidal ideation, and suicidal behavior. Few studies have addressed the role of interpersonal problems and social support within the context of suicidality among incarcerated women. The present study evaluated social support and interpersonal problems as mediators of the association between trauma exposure and suicide risk. In addition, American Indian and Latina ethnicities were considered as moderators of the indirect effect of social support upon suicide risk.

Method: Participants were 224 treatment-seeking incarcerated women, aged 19 to 60 years (M = 34.17, SD =9.35). Women completed self-report measures of trauma history, interpersonal problems, social support, and suicide risk. The mediating influence of interpersonal problems and social support was evaluated using a product of coefficients approach via a series of regressions, including the conditional effects of Latina and American Indian ethnicity.

Findings: Women reported significant histories of trauma, suicidal behavior, and interpersonal problems relative to women in the general population. There was a significant direct effect of total number of traumas on total suicide risk (β=.312, sr^2=.097, $p<.001$). However, neither interpersonal problems nor social support mediated this association. Similarly, there was no significant moderating effect of Latina or American Indian ethnicities. Physical and Sexual victimization (β=.361, sr^2=.097, $p<.001$) emerged as a unique predictor of suicide risk relative to other forms of trauma (i.e., General Disaster, Crime-Related Trauma), which did not significantly predict suicide risk.

Conclusion: These findings replicated previous work concerning the robust association between trauma exposure and risk of suicide. These findings also raise important issues for future research in this area, given the non-significant influence of interpersonal problems and social support within the present model. Future research should better address the temporal sequence of these predictors via prospective and longitudinal designs.

Introduction

Incarcerated women represent an underserved and understudied population, with unique trauma recovery and treatment needs (Brathwaite, Treadwell, & Arriola, 2005; Lynch, Fritch & Heath, 2012). Indeed, incarcerated women evidence higher rates of exposure to childhood trauma and neglect (Grella, Stein, & Greenwell, 2005), sexual victimization (McDaniels-Wislon & Belknap, 2008), interpersonal violence (Green, Miranda, Daroowalla, & Siddique, 2005; Lynch et al., 2012), mental illness (Gunter et al., 2008), and other health disparities (Shah, Plugge, & Douglas, 2011) in comparison to the general population. In addition to suffering these myriad forms of biopsychosocial strain, including increased rates of trauma exposure, incarcerated women also suffer disproportionately high rates of suicide and non-fatal self-harm (Charles, Abram, McClelland, & Teplin, 2003; Dye, 2011). The proposed study will examine the association between trauma exposure and suicide, as mediated by social support and interpersonal problems, including the conditional indirect effects of American Indian and Latina ethnicity.

Suicide & Parasuicide Among Incarcerated Women

Suicide remains a leading cause of death among both incarcerated men and women in state and local corrections facilities across the United States; despite a sharp decline in the number of completed suicides since the 1980s (Mumola, 2005). Indeed, between 2000-2002 suicide accounted for 5.8% of deaths among those in state prison facilities (14 death per 100,000 inmates), and nearly one third (32.3%) of deaths among those in local jails nationwide (47 suicide deaths per 100,000; Mumola, 2005). In contrast, the rate of suicide among the general population of the United States was 10.70

deaths per 100,000 people between 2000 and 2002, and 11.11 deaths per 100,000 people between 1999 and 2010 (Centers for Disease Control and Prevention [CDC], 2005). Additionally, Gunter and colleagues (2008) conducted a survey of 320 nonviolent offenders (264 men, 56 women) and estimated 29.7% of respondents to have manifested contemporary suicide risk; however, they observed no significant difference in suicide risk between men and women. Notably, the researchers also found that more than 90% of their incarcerated sample met lifetime criteria for a mental illness diagnosis (Gunter et al., 2008). Thus it appears that incarcerated populations suffer a disproportionately high rate of suicide overall, and represent a predominantly clinical population.

Although women represent a relatively small proportion of those incarcerated within state and federal correctional facilities in the United States (6.96% in 2011), the number of female offenders, in state and federal custody, has grown at an average rate of 1.7% since 2000; outpacing the 1.3% average annual growth of incarcerated males during the same period (Carson & Sabol, 2012). Thus, incarcerated women represent a growing segment of the incarcerated population in state and federal prisons.

Similarly, among persons held in custody by local jurisdictions (i.e. jails) at midyear 2012, women represented approximately 13.24% (n=98,600) of the population (Minton, 2013). This represents a nearly 28% increase in the number of women in jail since 2000. In contrast, the population of men held by local jurisdictions increased at a lower rate, having risen by nearly 15% during the same period (Minton, 2013). Given the growing population of women in custody, it is important to consider previous findings that suggest unique patterns of completed suicide, parasuicide, and self-harm among females in custody (i.e. non-suicidal self-injury & attempted suicide).

In a North American sample of 1,151 incarcerated persons, 34% of women in custody self-reported a previous suicide attempt, in comparison to 20.7% of male offenders surveyed (Holley, Arboleda-Flórez, & Love, 1995). Similarly, Fazel and colleagues (2011) examined 861 (810 males; 51 females) prison suicide deaths from twelve Western nations (not including the United States) between 2003 and 2007, and found that incarcerated women evidenced higher rates of completed suicide in comparison to incarcerated men and women in the general population (with the exception of Ireland, which reported zero suicide deaths in custody). However, neither incarcerated male nor female suicide rates were correlated with rates of suicide in the general population, which indicated a pattern of suicide risk distinctive to corrections environments above and beyond those present in the population at-large (Fazel, Grann, Kling, & Hawton, 2011).

A recent retrospective study of American community corrections supervisees ($n \approx 25,000$) in a Southern state identified several risk and protective factors associated with history of suicide attempt and suicidal ideation (McCullumsmith, Clark, Perkins, Fife, & Cropsey, 2013). In particular, female supervisees accounted for 51.2% of suicide attempts within the sample, however only represented 29.7% of those who endorsed suicide ideation only. Thus it seems that although women in this community corrections program experience lower rates of suicide ideation in comparison to their male counterparts, women still account for the majority of respondents that endorsed having attempted suicide. In addition, the researchers included ethnicity within their analyses and identified White women as the subgroup with the highest prevalence in comparison to White and African-American men, and African-American women (McCullumsmith et

al. 2013). This differential effect of gender and ethnicity among supervisees suggests the need for gender-informed interventions in tandem with culturally competent assessment and treatment of corrections populations.

In addition to increased risk of suicide and parasuicidal behavior that is associated with the aforementioned risk factors among both male and female prisoners, it is important to consider gender differences in suicidal behavior. Female gender is considered protective in the general United States population; whereby women evidence substantially lower rates of completed suicide (4.45 deaths per 100,000 people, 1999-2010) in comparison to men (18.47 deaths per 100,000 people, 1999-2010; CDC, 2005). In contrast, existing research suggests that incarcerated women evidence higher rates of attempted suicide in custody than their male counterparts (Holley, Arboleda-Flórez, & Love, 1995); and equivalent rates of completed suicide, despite base rates in the general population (Dye, 2011; Fazel, Grann, Kling, & Hawton, 2011). Specifically, from 1999-2000 males in prison completed suicide at a rate of 15.92 deaths per 100,000 people, which is markedly lower than the rate of completed suicide for males in the general population (22.09 deaths per 100,000 people; Dye, 2011). In contrast, incarcerated women completed suicide at a rate of 12.09 deaths per 100,000 people, which is more than double the rate of completed suicide among women in the general population (5.03 deaths per 100,000 people; Dye, 2011). Therefore, it is important to consider scholarship that addresses concerns specific to incarcerated women, to further examine whether there are distinctive risk and protective factors for suicide for this population.

In the United States, Charles and colleagues (2003) surveyed 1,272 women in jail concerning their histories of suicidal ideation and suicide attempts. Approximately 20%

of the women surveyed reported having attempted suicide, and 36% reported having seriously thought about attempting suicide. These authors also examined several risk and protective factors associated with suicide in the general population within this sample of incarcerated women, including: marital status, employment, education, and ethnicity. Marriage and education were found to be protective against suicidal ideation and suicide attempt. Part-time employment was also found to be a significant protective factor against suicide in comparison to unemployment, however full-time employment was not. Ethnicity was also identified as a significant predictor of previous suicidal ideation, and previous history of suicide attempt. Specifically, Non-Hispanic White women evidenced 2.5 times greater risk of suicide attempt when compared to African American women, and 1.56 times greater risk when compared to Hispanic women (Charles, Abram, McClelland, & Teplin, 2003). Although there is a paucity of large studies examining the prevalence of suicide among incarcerated women, particularly in North America, there are several studies that have utilized smaller samples to explore the nature of completed and attempted suicide among women in corrections settings.

Marzano and colleagues (2010) conducted a case-control study of 60 British female prisoners who had attempted suicide and 60 randomly selected similarly-aged controls. They found that incarcerated women who had recently made a near-lethal suicide attempt where 21.7 times more likely than controls to have attempted suicide outside of prison, and 48.1 times more likely than controls to have attempted suicide while in custody, prior to their most recent near-lethal attempt. In regard to psychiatric history, all prisoners who attempted suicide met criteria for at least one psychiatric diagnosis, and most met criteria three or more disorders. In contrast to the findings of

Charles and colleagues (2003), ethnicity (i.e. White v. Black and other ethnic minorities) did not emerge as a significant predictor of suicide attempt (Marzano, Fazel, Rivlin, & Hawton, 2010).

Another investigation, by Fazel and Benning (2009) examined mortality data for 83 female prisoners' suicides in England and Wales between 1978 and 2004 and found that these incarcerated women were 20.7 times more likely to have completed suicide than women in the general population. In light of these findings, Fazel and Benning hypothesized that women entering the corrections system may experience unique domains of psychosocial risk for suicide, in concert with higher base rates of mental illness, and other risk factors for suicidal behavior that were exacerbated by the process of transitioning to life in custody; thus creating a "gender gap" in suicide not observed among other populations. That is, women appear to experience disproportionate increases in suicide risk upon entrée into the corrections system (Dye, 2011).

Given these data, which indicate disproportionately high rates of attempted and completed suicide among incarcerated women; suicide appears to represent a critical public health concern and a pronounced health disparity for female offenders in comparison to other groups. Despite increased attention to the issue of suicide among incarcerated women, there is limited empirical literature that explores the specific risk and protective factors underlying the increased rates of suicide and parasuicide that exist among incarcerated women. The overrepresentation of attempted suicide among incarcerated women highlights the importance of understanding the particular social and psychological processes that underlie this problematic health outcome. Furthermore, there is conflicting evidence concerning the role of ethnicity in the conceptualization of

suicide risk. Although there is evidence that the rates of suicide vary among incarcerated women of different ethnicities (e.g. Charles et al., 2003; McCullumsmith, 2013), as is evident in the general population (Dye, 2011), there is other scholarship that has failed to identify significant differences among ethnic groups with regard to suicide (e.g. Marzano et al., 2010). In an attempt to address these gaps, the proposed study seeks to examine trauma history as a predictor of suicide risk, and concordantly evaluate the mediating effects of social support and interpersonal problems, as moderated by ethnicity. As noted with regard to the aforementioned studies, White women appeared to experience greater risk of suicidality relative to women from minority groups among studies that found a significant effect of ethnicity (e.g., Charles, Abram, McClelland, & Teplin, 2003; McCullumsmith et al., 2013). Therefore the present study sought to consider the conditional effect of ethnicity within the context of the proposed mediators of social support and interpersonal problems.

Pathways Paradigm

An emerging literature has sought to address the risk and protective factors associated with the life experiences and health outcomes of incarcerated women (e.g. Simpson, Yahner, & Dugan, 2008). Specifically, recent scholarship has posited that the contemporary experiences of incarcerated women represent the convergence of dynamic social and psychological processes, often in concert with adverse childhood events, including: physical, sexual, and emotional victimization; childhood neglect; and dislocation from important socializing institutions (e.g. school, community, licit employment; Dehart & Lynch, 2013). This perspective, broadly characterized as the ‘pathways’ paradigm, posits that incarceration is one, among many, outcomes of

sequential and maladaptive life events and circumstances, often involving the intersection of broad social forces, individual life experiences, and unaddressed issues of psychological, physical, social, and emotional health. It is important to note that this perspective does not mitigate or attenuate culpability for illegal acts; instead it seeks to explain the remarkable prevalence of trauma exposure and mental illness among incarcerated women.

The ecological and intersectional emphases of the pathways paradigm may offer an effective heuristic by which to understand suicide risk among incarcerated women. That is, consistent with this perspective of risk and resilience among incarcerated women, the proposed analysis of trauma history, interpersonal and social functioning, and correspondent suicide risk among incarcerated women will seek to "recognize multiple, intersecting inequalities" (Burgess-Proctor, 2006). This will be manifest by way of the concurrent consideration of formative life experiences, interpersonal functioning, and critical contextual factors within an integrated quantitative model of suicide risk among a sample of incarcerated women.

Trauma Exposure Among Incarcerated Women

Incarcerated women experience exceptionally high rates of trauma exposure, particularly physical and sexual victimization. In one study of 391 incarcerated women in a Midwestern State, 50% of incarcerated women reported histories of childhood sexual abuse (CSA), and 70% reported having been sexually assaulted during their lifetime (McDaniels-Wilson & Belknap, 2008). Similarly, another investigation, which included 89 female prisoners in the United Kingdom, found that 40% of incarcerated women reported histories of CSA, and 51% reported histories of childhood physical abuse

(Milligan & Andrews, 2005). Furthermore, 57% of this sample of incarcerated women reported some form of self-harming behavior; of which 73% reported suicidal behaviors only (Milligan & Andrews, 2005). In addition, Lynch and colleagues (2012) examined survey data from a sample of 102 incarcerated women in a Western State, and found that 90% of women reported physical and/or sexual victimization by an intimate partner in the year prior to incarceration. Given these data from previous studies of incarcerated women, it appears that trauma exposure may explain, in part, the course and magnitude of incarcerated women's lifetime suicide and self-harm behaviors, and thus may predict contemporary suicide risk.

Among incarcerated women, a limited body of research has examined the influence of past trauma in predicting lifetime history of suicide ideation and attempt, as well as contemporary suicide risk (e.g. Marzano, Hawton, Rivlin, & Fazel, 2011; Marzano, Fazel, Rivlin, & Hawton, 2011), and identified multiple domains of trauma exposure (i.e. bereavement, sexual abuse, and family-related problems) as significant predictors of suicidal behaviors. Specifically, Marzano and colleagues (2011) interviewed 60 incarcerated women in England who had experienced near-lethal suicide attempts, and found that two-thirds of near-lethal suicide attempters reported experiencing images of their past trauma immediately prior to attempting suicide in custody (Marzano, Fazel, Rivlin, & Hawton, 2011). Given this qualitative insight, trauma exposure appears integral to understanding incarcerated women's experiences of suicidal thoughts and actions.

Next, Tripodi and Davis-Pettus (2013) conducted a survey of 125 incarcerated women at two state prisons in a Southeastern State. They found that 32.5% of female prisoners reported physical and sexual victimization during childhood. These researchers

note that women who reported histories of childhood sexual abuse (CSA), and CSA and physical abuse, were approximately eight and 22 times more likely, respectively, to have attempted suicide in their lifetime than women who did not report those forms of abuse (Tripodi & Pettus-Davis, 2013). Furthermore, these researchers found that women who reported both physical and sexual victimization during childhood were 12.82 times more likely than other respondents to have experienced adult sexual victimization in the year preceding incarceration. Thus it appears that incarcerated women's experiences of childhood victimization correspond with increased risk in adulthood, and that childhood victimization is an integral component of suicide risk (Tripodi & Pettus-Davis, 2013).

Similarly, Clements-Nolle and colleagues (2009) examined the relationship between childhood trauma and suicide risk among a sample of 247 women incarcerated in a corrections facility in the Western United States. They found that childhood abuse (physical, emotional, and sexual), and childhood neglect (emotional and physical) were significant independent predictors of respondents' historical suicide behaviors, as well as respondents' perceived future likelihood of attempting suicide. However, it is important to note that childhood abuse and neglect were associated with minor increases in the probability of suicidal behavior among respondents; conversely, length of current incarceration evidenced nearly four time greater odds of past suicide behavior when compared to childhood abuse and neglect (Clements-Nolle et al., 2009). In addition to the higher overall prevalence of trauma among incarcerated women, it is important to consider differences among specific ethnic groups of incarcerated women who have been found to experience different rates of distinct forms of trauma exposure. For example, Grella and colleagues (2005) found that incarcerated African-American women

experienced high rates of crime-related trauma relative to White women, who experienced relatively higher rates of childhood physical and sexual abuse, and neglect. Thus, it is important to consider the complex nature of suicide risk among incarcerated women, and consider multiple potential variables rather than solely examining a select few variables in isolation from one another.

Trauma Exposure & Suicide

Previous research supports the utility of trauma exposure as a predictor of suicide and related outcomes in the general population. For example, Stein and colleagues (2010), examined survey data collected from an international sample of 102,245 people across 21 nations, to examine the association between trauma exposure and suicide in the general population. Specific types of trauma exposure (e.g. disasters and accidents, physical and sexual violence, and death of a loved one) were found to be associated with suicidal ideation and suicide attempt. Additionally, total frequency of traumas experienced, regardless of type, was found to predict the odds of suicidal behaviors; whereby respondents reporting one traumatic event were 1.6 times more likely to have attempted suicide, and those reporting six traumatic events were 4.3 times more likely to have attempted suicide (Stein et al., 2010). Notably, Stein and colleagues (2010) observed little evidence of an interaction between PTSD symptomatology and history of suicidal ideation or suicide attempt, and thus it appeared that trauma exposure was uniquely associated with suicidal ideation and behavior.

Although these findings indicate that lifetime exposure to any form of trauma is a risk factor for suicide, it is also important to consider the risk attributable to specific forms of trauma exposure. For example, research by Seedat and colleagues (2005)

investigated the relationship between IPV, posttraumatic stress, childhood trauma, and attempted suicide within a community sample of 637 women, via telephone survey. Sixteen percent of women surveyed reported experiencing IPV during their lifetime. Among women reporting a history of IPV, 75% reported multiple assaults. Women who reported a history of IPV were four times more likely to have attempted suicide, compared to women without a history of IPV. Correspondent with the findings of Stein and colleagues (2010), Seedat and colleagues (2005) observed no significant association between lifetime history of suicide attempt and DSM-IV-TR PTSD criteria. These findings further support the specific importance of trauma exposure in the identification of suicide risk, above and beyond contemporary symptoms of PTSD.

In contrast to previous studies that concordantly measured childhood victimization and IPV in adulthood, Cavanaugh and colleagues (2011) examined the association between IPV (i.e. in adulthood) and suicidal behavior among an American sample of 662 adult female victims of IPV. They found that severity of physical abuse and sexual assault predicted greater odds of lifetime suicidal behavior (i.e. suicide threat or attempt). In addition, women who evidenced 'High' or 'Extreme' risk of lethal assault on the Danger Assessment (DA; Campbell, Webster, & Glass, 2009), were 3.1 to 4.9 times, respectively, more likely to report lifetime suicidal behavior than women with lower levels of assessed risk (Cavanaugh, Messing, Del-Colle, O'Sullivan, & Campbell, 2011). In addition, Pico-Alfonso and colleagues (2006), analyzed survey responses of 182 Spanish women who reported either psychological abuse (n = 55), psychological and physical abuse (n = 75), or no history of abuse (n = 52). These researchers found that women with histories of abuse had greater levels of state anxiety, PTSD

symptomatology, and depressive symptoms; however, there were no significant differences in suicide attempts predicted by PTSD symptomatology within abuse categories. Further, women who experienced both physical-psychological abuse and depression-only, or comorbid PTSD and depression symptomatology, evidenced greater than expected suicidal ideation. However, PTSD symptomatology alone was not predictive of increased suicide ideation for any abuse category (Pico-Alfonso et al., 2006). Taken together, these findings suggest that traumatic exposures, specifically IPV, predict suicidal thoughts and behavior above and beyond PTSD symptomatology alone. However, PTSD symptomatology remains an important clinical consideration for suicide risk assessment (for a review, see Krysinska & Lester, 2010).

Although previous research has identified a relationship between trauma exposure and suicidality, there is a paucity of knowledge concerning the specific intervening variables that explain the overall relationship between trauma exposure and suicidality among incarcerated women. A recent study by McCullumsmith and colleagues (2013) suggested correspondence between carceral and general populations of women with regard to the association between suicidality and trauma. They found that sexual abuse emerged as a particularly salient predictor of suicidal ideation (OR=4.02) and attempt (OR=6.62) relative to other risk factors (e.g., alcohol use, relationship status, employment, psychopharmacotherapy). Furthermore, African-American parolees evidenced increased risk of suicidal ideation (OR=4.55) and suicide attempt (OR=6.33) relative to exposure to physical and sexual abuse when compared to White parolees (suicidal ideation OR=2.89, suicide attempt, OR=5.01; McCullumsmith et al., 2013). In this way it appears that ethnicity may represent an important effect modifier of the

association between trauma and suicidality among women in custody. Therefore, understanding these mediating variables may offer important points of intervention to address suicide risk among incarcerated women responsive to specific forms of trauma exposure. The proposed study aims to advance extant scholarship by testing the indirect effects of important suicidogenic risk and protective factors, including social support and interpersonal problems, as well as the conditional influence of ethnicity.

Social Support & Suicide

Social support is another variable that appears to be implicated within the conceptualization of suicide risk, and trauma exposure. Social support represents the quantity and quality of one's social network, including access to emotional and tangible forms of support in times of need (Norbeck, Lynsey, Carrieri, 1981; Gottlieb & Bergen, 2010). Although there are no previous studies that explored social support as a mediator of the association between trauma exposure and suicide risk among incarcerated women, previous research has examined the association between social support and suicide attempt among female offenders (e.g. Marzano, Hawton, Rivlin, & Fazel, 2011). In addition, perceptions of social support have been shown to predict other important outcomes among women in corrections settings, including: substance use (Staton-Tindall, Royse, & Leukfeld, 2007), anger expression (Loper & Whitney, 2004), and likelihood of incarceration for survivors of CSA (Asberg & Renk, 2013). Moreover, previous research demonstrates the utility of 'thwarted' or absent social interactions to predict suicidal ideation in other contexts (e.g. Van Orden et al., 2010).

Marzano and colleagues (2011) identified increased odds of poor social support and strained relationships among incarcerated women who had made near-lethal suicide

attempts when compared to non-attempting controls. Specifically, women who attempted suicide were 7.88 times more likely to report having no close relationships outside of prison than non-attempting controls. In addition, women who attempted suicide were less likely to have received any phone calls or visits from friends or family during the previous three months. Furthermore, suicide attempters evidenced lower scores (median = 19) on the Social Support Scale (SSS; Singleton, Meltzer, & Gatward, 1998), when compared to non-attempting controls (median = 20, $z = -2.31$, $p = 0.021$; Marzano, Hawton, Rivlin, & Fazel, 2011). Given the dearth of previous findings that are specific to incarcerated women, it is important to consider previous research that addresses the relationship between social support and suicide within other populations, including male offenders.

Although limited research exists concerning social support and suicide among incarcerated women, one recent investigation explored the application of Joiner's (2005) Interpersonal Psychological Theory of Suicide (IPTS) to a sample of incarcerated men (Simlot, McFarland, & Lester, 2013). Joiner's theory posits that thwarted belongingness, the inability to foster and maintain meaningful social relationships, is a significant risk factor for suicidal ideation and suicide risk, in concert with perceived burdensomeness and access to lethal means (Van Orden et all, 2011). Simlot and colleagues (2013) tested the IPTS among a sample of 38 male jail inmates, and found that thwarted belongingness emerged as a correlate of past suicide attempts, and as a predictor of perceived future likelihood for suicidal behavior. Given the non-significant associations evidenced for other tenets of the IPTS among this sample, it would seem that effective social belonging was particularly salient among this sample of incarcerated men, despite the small sample

size (Simlat, McFarland, & Lester, 2013). Although this sample did not include incarcerated women, these findings do suggest the unique importance of thwarted belongingness within a corrections environment. However, as previously noted, it is also important to consider findings from the general population to augment the current literature available within carceral populations.

In an investigation that explored the relationship between social support and suicide risk among 1,157 South African college students, Peltzer (2008) observed an interaction between social support and gender. Specifically, researchers observed an association between parental and peer support, and suicide risk among female respondents; whereby the absence of peer and parental support predicted greater suicide risk. However, this association was not significant among male students. These findings highlight the importance of considering gender in the conceptualization of social support and suicide risk (Peltzer, 2008).

Similarly, Hirsch and Barton (2011) conducted a cross-sectional survey among 439 American undergraduates (71% female) to characterize the relationship between social support and suicidal thoughts and behavior. The researchers discovered that positive social support predicted lower levels of suicidal ideation, whereas negative social interactions predicted greater levels of suicidal ideation (Hirsch & Barton, 2011). Specifically, emotional, informational, and tangible forms of social support were all found to be significant independent predictors of lower suicidal thoughts and behavior. However, only tangible support emerged as a significant predictor in the full model that included all study variables. In addition, negative social exchanges emerged as a significant predictor of increased suicidal thoughts and behavior in the full model;

indicating that social support may manifest both risk and protective factors in regard to suicide risk (Hirsch & Barton, 2011).

Few studies have evaluated social support, trauma, and suicide within the same model. However there is nascent scholarship that examines these variables among American veterans of recent conflicts. For example, Griffith (2012) evaluated a complex model of suicidality among a sample of 4,546 National Guard veterans; including: social support, PTSD symptomatology, combat-related trauma exposures, and suicidal ideation. Griffith found that although social support was negatively correlated with negative mood, postdeployment PTSD symptoms, and suicidality (deployment and postdeployment); social support did not mediate the relationship between combat exposure and suicidality, and did not mediate the relationship between PTSD symptomatology and suicidality postdeployment. Despite the lack of a mediational path, Griffith noted that the correlational data did identify social support as an important source of "coping strength" for veterans, and may yet represent an important intervening variable between trauma exposure and distress.

Another investigation of 431 predominantly male (89%) treatment-referred American veterans, by Jakupcak and colleagues (2010), found that veterans who reported high satisfaction with their social network were 49% less likely to be classified as 'high-risk' for suicide. However, these researchers observed an interaction between social network satisfaction and PTSD symptoms; whereby, veterans who met criteria for PTSD (i.e. PTSD Checklist – Military [PCL-M] clinical cutoff score; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996) were only 39% less likely to be classified as 'high risk' for suicide, in comparison to non-PTSD veterans who evidenced an 80% reduction

in their probability of being classified as ‘high risk’ (Jakupcak et al., 2010). Thus, it appears that the protective influence of social support may be attenuated by distress related to past traumas (i.e. PTSD symptomatology). However, as previously noted, PTSD symptoms are not necessarily predictive of suicidality above and beyond exposure to trauma (e.g. Pico-Alfonso et al., 2006; Stein et al., 2010; Seedat, Stein, & Forde, 2005), and thus it is important that the association between trauma exposure, social support, and suicidality be examined specifically. Further, the aforementioned studies utilized samples of mostly male American veterans, and thus may not be generalizable to other populations, including incarcerated women.

Taken together, the aforementioned research conducted with university students, incarcerated women and military veterans, suggests a complex association between trauma exposure, social support, and psychological distress; to include suicidal ideation and suicide attempt. It appears that social support is protective against suicidal thoughts and behaviors, however this effect may be muted via trauma-related distress (i.e. PTSD symptomatology; Jakupcak et al., 2010). Furthermore, the substantial degree of social isolation and exclusion that is integral to the process of incarceration and detention, may accentuate suicide risk for those in custody (Simlot, McFarland, & Lester, 2013; Marzano, Hawton, Rivlin, & Fazel, 2011). Additionally, previous research suggests that female students experienced increased suicide risk as an outcome of limited social support, whereas men did not (Peltzer, 2008). Thus, it may be that incarcerated women are vulnerable to potentially compounding effects of carceral isolation and gendered phenomenologies of social support that may portend increased risk of suicidal ideation and suicide attempt. Although the quantity and quality of extrinsic social support

networks appears germane to an integrated understanding of suicide risk among incarcerated women, it is equally important that intrinsic mechanisms of interpersonal functioning be understood.

Interpersonal Problems & Suicide

Interpersonal problems are defined as, experiences of difficulty or challenge that may arise from one's interpersonal style (Horowitz, 2000). In a study of 24 treatment-seeking incarcerated women, Bradley and Follingstad (2003) observed elevated mean scores (m = 47.7) on the Inventory of Interpersonal Problems (32-item version; IIP-32) when compared to general population means for women (m = 1.47; Barkham, 1996). Given these preliminary data, it appears that incarcerated women may suffer markedly higher rates of interpersonal problems. In addition, interpersonal difficulties have been identified by incarcerated women themselves as an important treatment need. Specifically, Green and colleagues (2005) interviewed 100 female inmates at a correctional center in an Eastern State. These researchers found that in addition to evidencing high rates of trauma exposure, victimization, and mental illness; this sample of incarcerated women identified perceived needs for education and treatment across multiple domains of interpersonal functioning, including: problem solving skills, stress management, and communication skills (Green, Miranda, Daroowalla, & Siddique, 2005). Similarly, Lynch and colleagues (2012) invited 102 incarcerated women to rank their treatment needs among a list of common concerns. Notably, 50% of women ranked "relationship skills" among their top three treatment needs. Other topics ranked by women in custody included: "coping skills/stress management" (44.1%); and "emotions/impulse control" (41.2%; Lynch, Fritch, & Heath, 2012). In this way, there

appears to be correspondence between the high base rate of interpersonal problems measured by Bradley and Follingstad (2003) and these two qualitative studies of females prisoners' perceived needs related to interpersonal functioning (Green, Miranda, Daroowalla, & Siddique, 2005; Lynch, Fritch, & Heath, 2012). Despite the limited literature concerning the nature of interpersonal problems among incarcerated women, previous research with other populations has identified an association between interpersonal problems and suicide risk.

Stepp and colleagues (2008) analyzed the relationship between attachment styles and suicide-related behaviors as mediated by interpersonal problems among a sample of 406 psychiatric inpatients, outpatients, and other treatment-seeking individuals. These researchers found that different types of interpersonal problems (e.g. being too open, aggressive, caring or dependent) were predictive of specific modes of suicidal behavior, although ambivalence and need for social approval did not emerge as significant independent predictors of suicide-related behaviors. Specifically, aggression and sensitivity were found to predict non-suicidal self-injury (NSSI) in combination with suicide attempt, and NSSI alone; whereas lack of sociability uniquely predicted suicide attempt-only patterns of behavior (Stepp et al., 2008). Notably, the study utilized a primarily clinical sample, and thus the associations discovered may not generalize to other groups (Stepp et al, 2008). Furthermore, it is important to note that Stepp and colleagues (2008) employed the full length (127-item) of the IIP, which may have been more sensitive to variation among specific subscales. Nevertheless, it seems appropriate to consider findings from clinical populations given the prevalence of mental illness and treatment-seeking behavior for women in custody. These findings lend support to the

inclusion of interpersonal problems within the conceptualization of suicide-risk among incarcerated women.

Thus, it seems important to evaluate the nature of interpersonal problems among incarcerated women, to address the complex relationship between trauma exposure and suicidality. Exploring the relationships among social support, interpersonal functioning, trauma exposure, and suicide may yield important insight into risk and protective factors, to better inform interventions with incarcerated women.

The Proposed Study

This study utilized screening interview data from a larger treatment outcome study which aimed to evaluate a group intervention for PTSD and substance abuse among women in jail. The present study sought to replicate existing findings concerning the relationship between trauma exposure and suicidality among a sample of incarcerated women in a Northwestern State. Additionally, the present study sought to advance current knowledge by examining the indirect effects of interpersonal problems and social support within the relationship between past trauma and suicidality, as moderated by ethnicity (American Indian v. other ethnicities; Latina v. other ethnicities). Latina and American Indian ethnicities were considered as moderators given the relatively larger proportion of American Indian and Latina peoples within the Northwestern United States, and previous research that suggests American Indian and Latina women are over-represented in corrections populations in the Western United States (e.g., DeRavello, Abeita, & Brown, 2008). The present study utilized an existing dataset to evaluate the aforementioned associations, among a sample of 224 incarcerated women. The following hypotheses were tested within the hypothesized two-mediator model (See Figure 1):

1. Total number of traumas (THQ total scores) will predict greater suicide risk (SHBQ total scores, and subscale scores).

    1a. Number of trauma exposures related to physical and sexual abuse experiences will predict greater suicide risk (SHBQ total scores, and subscale scores) than other forms of trauma exposure (i.e. crime-related events, and general disaster and trauma).

2. Interpersonal problems (IIP-32 total scores) and social support (NSSQ total functional support scores) will mediate the effect of trauma exposure (THQ total and subscale scores) on suicide risk (SHBQ total and subscale scores).
3. Ethnicity (American Indian v. other ethnicities; Latina v. other ethnicities) will moderate the indirect effects of interpersonal problems (IIP-32 total scores) and social support (NSSQ total functional support scores); such that respondents from Latina and American Indian backgrounds will experience higher levels of suicide risk relative to other participants.

Method

Participants

This study utilized existing survey data collected among 224 women incarcerated at a correctional facility in a Northwestern State that housed approximately 300 minimum and medium security offenders. Participants were treatment-seeking incarcerated women who volunteered to participate in a group therapy intervention for women exposed to trauma. They ranged in age from 19 to 60 (M = 34.17, SD = 9.35). The sample was ethnically diverse, and participants predominantly identified as European-American (81.3%, n = 183), American Indian (15.2%, n = 34), and Hispanic/Hispanic-American (14.3%, n = 32; Note: participants were invited to identify one or more ethnicities, and thus total is >100%). For the purpose of calculating descriptive statistics among unique cultural groups within the present sample, participants were divided into six non-overlapping subgroups, that included those who identified as European-American-only (n = 155, 69.2%), Multi-ethnic (two or more ethnicities other than bi-racial Latina and American-Indian ethnicity; n = 30, 13.4%), Latina-only (n = 19, 8.5%), American Indian-Only (n = 9, 4.0%), American-Indian and Latina (n = 5, 2.2%), and other minority ethnicities (e.g., African-American, Pacific Islander; n = 5, 2.2%). Descriptive data for sociodemographic characteristics for the entire sample and the aforementioned ethnic sub-samples is presented in Table 1.

One-way analysis of variance (ANOVA) was conducted to examine for differences between ethnic groups with regard to trauma exposure (i.e., THQ scores), interpersonal problems (i.e., IIP-32 scores), social support (i.e., NSSQ scores), and suicide risk (i.e., SHBQ scores). Given the small (i.e., $n = 5$) number of participants

within some ethnic groups, ANOVA was conducted to compare participants across five groups that pooled smaller ethnic groups to better meet the assumptions of ANOVA. Specifically, the ANOVA compared American-Indian-only (*n* = 9), Latina-only (*n* = 17), American-Indian and Latina multi-ethnic (*n* = 28; i.e., biracial American Indian and Latina, biracial American Indian and European-American, biracial Latina and European-American, and multi-ethnic American Indian, Latina, and European-American), Multi-Ethnic and other ethnic minorities (*n* = 13), and European-American-only (*n* = 157). Levene's test of equality of variances revealed approximate homogeneity of variance across ethnic groups for IIP-32, NSSQ, and THQ scores. However, there appeared to be statistically significant heterogeneity of variance across ethnic groups for SHBQ scores, and thus between group differences on the SHBQ were evaluated using the Welch statistic. There were no statistically significant differences across ethnicities concerning participants' scores on the THQ ($F(4,219) = 0.52$, $p = .72$), IIP-32 ($F(4,215) = 0.46$, $p = .76$), NSSQ ($F(4,218) = 0.27$, $p = .90$), or SHBQ (Welch Statistic $F(4, 30.9) = 2.44$, $p = .07$).

Procedure

The present study was a cross-sectional survey study that utilized data from screening interviews for those who volunteered to be part of a treatment study for PTSD and substance abuse. Only women who endorsed past histories of trauma exposure, significant PTSD symptoms (PCL-C score of 30 or greater), past substance use, and were eligible for release within two years completed the full interview. Participants were screened for eligibility, which included willingness to participate in a subsequent intervention study, a history of trauma exposure, and clinically significant PTSD

symptomatology. Interested women were invited to sign up on a list, which was then reviewed by prison staff to ensure compliance with all policies and procedures of the corrections facility. The majority of women interested in participating in the study were cleared by prison staff and allowed to join; however, some were not allowed to participate, which was typically due to practical concerns (e.g., work obligations at time of groups) or carceral logistics (e.g. imminent relocation to another facility). The Idaho State University Human Subjects Committee approved all methods and materials prior to data collection.

Measures

Trauma History Questionnaire (THQ). The THQ is a 24-item measure that assesses three domains of trauma exposure comprising: (1) crime-related events, (2) general disaster and trauma, and (3) experiences of physical and sexual violence (Green, 1996). The THQ has demonstrated validity and reliability among diverse populations, including clinical and non-clinical samples, and has been translated into many languages other than English (Hooper, Stockton, Krupnick, & Green, 2011). Additionally, the THQ has demonstrated good test-retest reliability with total measure test-retest correlations ranging between 0.54 and 0.92 over a 2 to 3 month time span (Green, 1996). For the proposed study, THQ total measure and subscale (i.e. crime-related events, general disaster and trauma, and physical and sexual experiences) scores were calculated based upon the number of unique traumatic events that were disclosed within each category (adopting the convention proposed by Hooper et al., 2011). Because the THQ represents the number of unique forms of trauma experienced by respondents within the present study, rather than a unitary construct (e.g., PTSD symptoms), internal consistency was

not calculated consistent with other studies that have utilized the THQ (i.e., Hooper et al., 2011).

Self-Harm Behavior Questionnaire (SHBQ). The SHBQ is a self-report measure comprised of four subscales that assesses one's lifetime history of non-fatal suicidal behaviors, including: (A) non-suicidal self-injury, (B) suicide attempt, (C) suicidal threats, and (D) suicidal ideation; for the purpose of estimating contemporary suicide risk (Guttierez & Osman, 2008). Although the SHBQ specifically asks respondents to document past suicidal behaviors, it has demonstrated strong convergence with other measures that explicitly address current suicidal thoughts and intentions. For example, total scores on the SHBQ were strongly correlated with other measures of suicidality (e.g. $r = 0.77$, $p < 0.01$, Suicidal Behaviors Questionnaire [SBQ-R], Osman et al, 2001; $r = 0.70$, $p < 0.01$, Adult Suicidal Ideation Questionnaire, [ASIQ], Reynolds, 1991; $r = 0.57$, $p < 0.01$, Suicide Probability Scale [SPS], Cull & Gill, 1982; $r = 0.58$, $p < 0.01$, Beck Depression Inventory – Second Edition [BDI-II], Beck, Steer, & Brown, 1996) among a sample of 342 undergraduates (Guttierez, Osman, Barrios, & Kopper, 2001). Additionally, the four-factor model of the SHBQ was supported, and internal consistency ranged from $\alpha = 0.89$ to $\alpha = 0.96$ across the four subscales. Although this sample of undergraduates was non-clinical in nature, participants fell within distinct high and low suicide risk groups according to their SPS scores, and were correspondently distinguishable according to their scores on the SHBQ subscales. Thus, the SHBQ appeared to demonstrate predictive utility in distinguishing low and high suicide risk among college undergraduates (Guttierez et al, 2001).

In a separate study, by Muehlenkamp and Cowles (2010), that included an ethnically diverse sample of 1,386 adolescents in an urban public high school setting, the SHBQ demonstrated equivalent factor stability between European-American and African-American students, excellent internal consistency (total score $\alpha = 0.93$), and strong convergent validity with another measure of suicidality ($r = 0.570$, $p < 0.001$, Suicidal Ideation Questionnaire [SIQ], Reynolds, 1988). Similarly, among a German sample of 361 psychiatric inpatients, researchers found that the SHBQ evidenced strong internal consistency across all four subscales ($\alpha = 0.87$ to $\alpha = 0.96$), and substantial correspondence ($\kappa = 0.66$) with the Deliberate Self-Harm Inventory (DSHI; Gratz, 2001), an empirically supported measure of suicide risk. However, the SHBQ demonstrated limited concordance with clinicians' assessments of patients' contemporary self-harm risk ($\kappa = 0.22$; Positive agreement = 43%, Negative agreement = 84%; ; Fliege et al, 2006); however, a secondary analysis of these data by Gutierrez and Osman (2008) yielded strong estimates of specificity (84%) and negative predictive value (92%), suggesting that the SHBQ is an effective tool for discerning suicide risk in clinical settings.

For the present study, the SHBQ total and subscale scores served as outcome variables, representing contemporary suicide risk. All SHBQ responses were coded and scored according to the published scoring protocol (Guttierez & Osman, 2008). As the scoring protocol included subjective ratings of participants' responses, all participant responses for the proposed study were independently coded and scored by two raters. Inter-rater reliability was calculated using Cohen's kappa, which revealed strong agreement among independent raters across SHBQ items ($\kappa = .863$). Discrepancies in

coding or scoring were argued to agreement and a consensus version of the scoring was included in subsequent analyses. Cronbach's coefficient alpha was calculated for the SHBQ and revealed excellent internal consistency (Total SHBQ, $\alpha = .944$).

Norbeck Social Support Questionnaire (NSSQ). The NSSQ is a 9-item (including 8 lists of up to 24 names) self-report instrument that measures multiple domains of functional social support as perceived by respondents (Norbeck, Lindsey, & Carrieri, 1983). The measure invites respondents to comprehensively identify, by name, as many members of their social network as possible (e.g. "spouse or partner," "friends," "case worker," etc.; Norbeck, 1995). Once their social support networks were listed, participants are asked to rate the degree to which those in their network were able to provide specific types of tangible and emotional support using a 5-point likert scale (0 = "not at all", 1 = "a little", 2 = "moderately", 3 = "quite a bit", 4 = "a great deal"; Norbeck, 1995). In addition to affording participants the opportunity to characterize the extent of their social support network (i.e. quantity of relationships), the NSSQ also assesses recent changes in perceived support within respondents' social networks (Norbeck, 1995).The NSSQ has demonstrated strong internal consistency, with intra-subscale correlations that ranged from r = 0.89 to r = 0.97, among a sample of 135 university students that included both graduate and undergraduate students (Norbeck, Lindsey, & Carrieri, 1981). Additionally, the NSSQ evidenced acceptable test-retest stability among a subsample of 75 university students, who had been included in the aforementioned sample of 135 university students, at seven months follow-up (r = 0.58 to r = 0.78; Norbeck, Lindsey, & Carrieri, 1983).

The NSSQ appears to offer a robust two-factor model, comprised of 'emotional support' and 'tangible support,' which is supported by confirmatory factor analysis of pooled data from 1392 participants from numerous investigations that utilized the NSSQ (Norbeck, 1995). The present study utilized the scoring protocol developed by Norbeck (1995) to calculate 'total functional support' (i.e. sum of tangible and emotional support subscales) scores for all participants (Norbeck, 1995). Functional support total scores were included as one of the two mediators in the proposed mediation model (See figure 1). Internal consistency for the present sample was excellent (Cronbach's $\alpha = .985$).

Inventory of Interpersonal Problems – 32 (IIP-32). The IIP-32 is a brief 32-item measure that assesses respondents' perceived difficulties within interpersonal relationships (Barkham, Hardy, & Startup, 1994). The measure includes two parts comprised of: (I) "The following things are things you find hard to do with other people"; and (II) "The following are things that you do too much." Participants are asked to rate the extent to which they experience specific interpersonal behaviors (e.g. "Hard to join in on groups." [Part I]) within these two parts using a five-point likert scale (0 = "Not at all", 1 = "A little bit", 2 = "Moderately", 3 = "Quite a bit", 4 = "Extremely"; Barkham & Hardy, & Startup, 1994).

The IIP-32 is a revised and shortened version of an original 127-item measure (Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988), and was designed to be less burdensome to respondents, and more internally consistent across subscales based on a factor-analytic approach (Barkham & Hardy, 1996). It is important to note that multiple 32-item versions of the IIP exist. The proposed study utilized the form developed by Barkham & Hardy (1996).

Barkham and Hardy (1996) conducted a series of three studies to evaluate the psychometric properties of the IIP-32, and identified eight unique subscales among the 32 items they selected from the original 127 items that comprised the original version of the IIP. The eight subscales demonstrated good internal consistency ($\alpha = 0.71$ to $\alpha = 0.89$), as did the IIP-32 total scale ($\alpha = 0.86$), among a clinical sample of 250 British outpatients (Study 1; Barkham and Hardy, 1996). A separate clinical sample of 160 British outpatients evidenced excellent internal consistency (full-scale, $\alpha = 0.90$), and further supported the eight-factor structure of the IIP-32 (Study 2; Barkham & Hardy, 1996). Similarly, the IIP-32 demonstrated good internal consistency (full scale, $\alpha = 0.87$) among a non-clinical community sample of 143 Britons; as well as acceptable test-retest correlations ($r = 0.56$ to $r = 0.81$) among a subsample ($n = 82$) of those surveyed at two months follow-up (Study 3; Barkham & Hardy, 1996). In addition to the aforementioned series of studies, Barkham and Hardy's (1996) version of the IIP-32 has been utilized as a treatment outcome measure among incarcerated women (Bradley & Follingstad, 2003); however, psychometric data were not reported. For the present study, IIP-32 responses were summed to generate total scale scores, which served as the second mediator in the proposed mediation model (See figure 1). Internal consistency of the IIP-32 for the present study was good ($\alpha = .886$).

Demographics Questionnaire. A brief form was developed specifically for this study to assess participants' demographics, including: age, ethnicity, educational level, income, and relationship status. For the present analyses, ethnicity was defined as a dichotomous variable, whereby individuals were coded as identifying American Indian or other ethnicities, and as identifying Latina or other ethnicities.

Analyses

Length of current incarceration, number of previous incarcerations, age, income prior to incarceration, and educational level were considered as potential covariates via the zero-order correlations with SHBQ total scores (See Table 3). Given that none of these socio-demographic variables were correlated with the dependent variable (i.e., SHBQ scores) they were not include in subsequent regression models. The proposed two-mediator model was tested using a product of coefficients approach according to the procedure described by MacKinnon (2008). Additionally, the two-mediator model was evaluated at different levels of ethnicity, to evaluate whether the indirect effects of IIP-32 and NSSQ scores would be moderated by Latina and American Indian ethnicity, respectively. Moderated mediation analyses were conducted according to the procedure outlined by Hayes (2013). American Indian and Latina ethnicities were evaluated as moderators of the indirect effects of social support and interpersonal problems within a single model.

Specifically, a series of two regression models (See figure 2) were evaluated to test the following hypotheses: (1) THQ total scores (trauma exposure) will predict SHBQ total scores (suicide risk); (2) IIP-32 total scores (interpersonal problems) and NSSQ total scores (social support) will mediate the relationship between THQ total scores (trauma exposure) and SHBQ (suicide risk); (3) Ethnicity (American Indian v. other ethnicities, and Latina v. other ethnicities) will moderate the indirect effects of IIP-32 total scores (interpersonal problems) and NSSQ total scores (social support) upon the relationship between trauma exposure and SHBQ total scores (suicide risk), with ethnic minority status predicting greater SHBQ total scores. These hypotheses will be evaluated using

total score values for each measure. Finally, hypothesis 1a was evaluated by regressing SHBQ total scores simultaneously on the subscales of the THQ (i.e., physical and sexual experiences, crime-related trauma, and general disaster).

The indirect effects of the two mediators were evaluated for statistical significance using the Product Confidence Limits for Indirect Effects (PRODCLIN) approach and correspondent PRODCLIN software program (MacKinnon, Fritz, Williams, & Lockwood, 2007). The PRODCLIN approach estimates asymmetric confidence intervals about mediated effects, to address the likely non-normality of the product of regression coefficients, and thus may yield more powerful estimates of statistical significance for mediated effects (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). All data were organized, and analyses conducted using SPSS (IBM, 2012). Alpha was set to 0.05 for all analyses, and effect sizes were reported. Although the proposed hypotheses included all pairwise combinations of the associations between THQ subscales and SHBQ subscales, the author chose to report only the effect of total THQ scores on SHBQ total scores via IIP-32 and NSSQ scores, as well as the total effect of THQ subscales upon SHBQ total scores, given the non-significance of other pairwise comparisons. Post hoc analysis of NSSQ subscales (i.e., emotional support, tangible support) as mediators of the association between THQ and SHBQ scores revealed no significant effects, and thus the reported results only included analysis of the mediating influence of total NSSQ scores.

Results

Descriptives

Analysis of participants' responses revealed significant histories of trauma exposure and suicidal thoughts and behavior. Specifically, participants reported experiencing between 1 and 21 types of traumas (M = 10.97, SD = 3.95), including multiple forms of physical and sexual abuse (M = 3.99, SD = 3.95), crime-related events (M = 5.33, SD = 2.20), and experiences of natural or man-made disasters (M = 1.64, SD = 1.06). Total THQ scores were approximately normally distributed. Further, nearly half (i.e., 49%) of the women in the present sample endorsed having made a suicide attempt, and more than half (i.e., 62%) reported a history of suicidal thoughts. Overall, participants' responses on the SHBQ represented clinically significant suicidality, with average scores (M = 25.09, SD = 19.81) falling beyond the suggested clinical cut-off for suicidal risk (i.e., 22; Guttierez & Osman, 2008). Although SHBQ total scores were somewhat negatively kurtotic (Skewness = 0.29, Standard Error of Skewness = 0.16; Kurtosis = -1.04, Standard Error of Kurtosis = 0.32), the distribution of this variable was not improved via square root, logarithmic, or inverse transformations. Therefore the un-transformed values were included in subsequent analyses.

In regard to social support, participants' total scores on the NSSQ ranged from 0 to 730 (M = 221.26, SD = 140.46), and were comparable to scores observed among women in the general population (Norbeck, 1995). Given the significant positive skewness and kurtosis of NSSQ total scores (Skewness = 1.24, Standard Error of Skewness = 0.16; Kurtosis = 1.50, Standard Error of Kurtosis = 0.32) a square root transformation was applied prior to inclusion of NSSQ in subsequent analyses. The

transformed variable was approximately normally distributed (Skewness = 0.16, Standard Error of Skewness = 0.16; Kurtosis = 0.65, Standard Error of Kurtosis = 0.32). In addition, participants' total scores on the IIP-32, where higher scores are indicative of greater difficulties in interpersonal relationships, ranged from 0 to 99 (M = 48.90, SD = 19.88), and were consistent with scores obtained among other samples of incarcerated women (e.g., M = 47.7; Bradley & Follingstad, 2003). IIP-32 scores were approximately normally distributed. Zero-order correlations between all study and demographic variables are included in Table 1.

Total Effect of Trauma Exposure on Suicide Risk

The direct association between trauma exposure and suicide risk was evaluated by regressing SHBQ scores upon total THQ scores, which revealed a significant association (B = 1.565 (.320), β = .312, t = 4.895, p = <.001, R^2 = .097), and accounted for approximately 10% of the variance in total SHBQ scores. This supported hypothesis 1 concerning the relationship between trauma exposure and suicide risk. Analysis of specific THQ subscales revealed the relative importance of specific forms of trauma exposure. Specifically, when all three THQ subscales (i.e., Physical and Sexual Experiences, Crime-Related Experiences, and General Disaster) were regressed simultaneously upon SHBQ total scores, experiences of physical and sexual abuse emerged as the only significant predictor of SHBQ scores (B = 4.206 (.836), β = .361, t = 5.031, p<.001, sr^2 = .097), as the general disaster (B = -1.769 (1.294), β = -.095, t = -1.367, p = .173) and crime-related (B = .914 (.665), β = .102, t = 1.375, p = .170) subscale scores were not significant predictors. This supported hypothesis 1a, as physical and sexual abuse emerged as the only unique significant predictor of suicide risk.

Indirect Effects of Interpersonal Problems and Social Support on Suicide Risk

To understand the mediating influence social support and interpersonal problems, a two-mediator model was evaluated. However, there was no significant association between trauma exposure and interpersonal problems (a_1-path, B = .570 (.347), β = .111, t = 1.643, p = .102), nor was there a significant association between trauma exposure and social support (a_2-path, B = -.018 (2.384), β = -.015, t = -.226 p = .821). Further, neither interpersonal problems (b_1-path, B = .118(.065), β = .120, t = 1.817, p = .071), nor social support (b_2-path, B = -.302 (.275), β = -.072, t = -1.096, p = .274) were significantly associated with suicide risk when included simultaneously with trauma exposure; which remained the only independent predictor of suicide risk (c' path, B = 1.403(.329), β = .276, t = 4.258, p < .001, sr^2 = .075; F(3, 215)=8.665, p<.001, R^2=.108). Analysis of asymmetric confidence intervals (ACIs) confirmed no significant indirect effects of interpersonal problems (ACI, 95% CI = -.013 to .199) or social support (ACI, 95% CI = -1.557 to 1.575). As shown in Figure 3, neither Latina nor American Indian ethnicities emerged as significant moderators of the indirect effect of social support or interpersonal problems. Trauma history remained a significant predictor (i.e., direct effect) within both models (see Table 4).

Discussion

The present study evaluated the association between trauma exposure and suicide risk, including the specific influence of physical and sexual trauma relative to general disaster and crime-related traumas. In addition, this study examined the potential mediational influences of interpersonal problems and social support upon the relationship between trauma exposure and suicide risk, including the conditional effect of Latina and American Indian ethnicities. First, consistent with previous research, the present sample of incarcerated women reported high rates of traumatic victimization (e.g., Green, Mirangs, Daroowalla, & Siddique, 2005). Specifically, this study found that nearly all (*n* = 222, 91.9%) participants had experienced at least one incident of physical and/or sexual victimization, which was commensurate with past research by Green and colleagues (2005), which found that 98% of a sample of women in jail reported lifetime trauma exposure. Similarly, previous research by McDaniels-Wilson and colleagues (2008) found that 70% of incarcerated women in their sample reported sexual assault that could be classified as completed rape. Second, these findings found self-reported levels of interpersonal problems that were similar to other studies of incarcerated women, which further supports the importance of additional research to address the ways in which interpersonal problems may portend psychopathology, including suicidal acts (Lynch, Fritch, & Heath, 2012). Moreover, these findings demonstrated high rates of self-reported suicidal ideation and attempt. Indeed, nearly half (49%) of the present sample disclosed past history of suicide attempt, which was consistent with a recent study by McCullumsmith and colleagues (2013), which found that 51.2% of a large sample of women in community corrections had previously attempted suicide. These descriptive

findings reflect the importance of considering the ways in which incarcerated women represent a unique sub-population with high levels of trauma exposure, and high rates of suicidality, which is relatively rare in the general population.

Next, the present findings were consistent with previous scholarship that has established the association between trauma exposure and risk of suicide among incarcerated women (Tripodi & Pettus-Davis, 2013; McCullumsmith et al., 2013), and within the general population (Stein et al., 2010). Specifically, the present study found that the number of unique forms of trauma exposure endorsed by women was predictive of their scores on a measure of past suicidal behavior and contemporary suicide risk. Thus the present findings replicate previous research within this sample of incarcerated women, and offer additional insight concerning the importance of considering trauma history as an integral dimension of suicide prevention for this population.

Further, trauma related to physical and sexual experiences emerged as the only unique predictor of suicide risk within the present study. This is correspondent with previous work that demonstrates significant associations between interpersonal victimization (e.g., childhood sexual abuse, intimate partner violence) and completed and attempted suicide (e.g., McCullumsmith et al., 2013). This finding suggests that trauma of this nature is especially harmful within the context of suicide risk, and reflects the complex consequences of physical and sexual victimization relative to other forms of trauma. Nevertheless, it is important to consider other variables that may represent more proximal suicide risk among women in prison, as past history of physical and sexual victimization only explained 10% of the unique variance in suicidality. Other factors to consider within the context of future studies may include specific aspects of the prison

environment (e.g., housing arrangements, access to services in custody, communication with others outside of prison), which have been shown to predict suicidal behaviors (i.e., attempts) among women in prison (e.g. Marzano, Hawton, Rivlin, & Fazel, 2011). Further, specific assessment of trauma-related distress (i.e., assault-related shame) may more fully explain variation in suicide risk among female prisoners.

Although the present study found support for hypotheses 1 (total trauma exposure will predict suicide risk) and hypothesis 1a (physical and sexual abuse will predict greater suicide risk than other forms of trauma), the present study did not support the hypotheses that interpersonal problems and social support would mediate the association between trauma exposure and suicide risk or that American Indian and/or Latina ethnicity would moderate the indirect effect of social support upon suicide risk. It could be that both interpersonal problems and social support are more directly impacted by the daily experiences of prison life, and perhaps less directly affected by previous experiences of trauma. As noted by Marzano and colleagues (2010), it may be that prisoners experience daily social and interpersonal stressors within the context of conflict with prison staff or other inmates, and limited connection with family and friends outside of prison, which are distinct from the interpersonal and social consequences of surviving physical and sexual traumas. Perhaps experiences of suicidal thoughts and behavior are more closely associated with longstanding experiences of guilt, shame, and stigma precipitated by previous experiences of physical and sexual abuse. That is, social and interpersonal difficulties may not be strongly influenced by previous traumas above and beyond the contemporary stressors of life while incarcerated. Such an explanation would be consistent with recent research conducted by You and colleagues (2012), who found that

shame was a significant predictor of contemporary suicidal ideation among female survivors of sexual abuse above and beyond symptoms of PTSD, depression, and suicide attempt history. Moreover, given that the SHBQ measures previous experiences of suicidal thought and behavior as an indicator of contemporary risk, it may be that the participants' responses on the SHBQ were less representative of contemporary suicidality, which is difficult to assess within a corrections setting. Indeed, many corrections settings do not permit disclosure of current suicidal ideation within the context of research due to the high risk of sanctions in response to such admissions. Future research could extend the present findings by evaluating the same hypothesized model among women post-release, which would mitigate the potential consequences of disclosure while in custody. In contrast, responses on the IIP-32 and NSSQ assess more directly inmates' current experiences. Similarly, the assessment of social support within the present study may be limited by the ways in which inmates perceived available social support within the context of incarceration, whereby they may experience inflated perceptions of support due to communication with friends and family who are not required to demonstrate tangible support, yet may promise or communicate the intention of instrumental support.

In regard to ethnicity, the present study did not find a moderating influence of either Latina or American Indian ethnicities upon the indirect effects of social support or interpersonal problems. First, the literature remains conflicted concerning the influence of ethnicity among women in prison, as previous studies have found both significant (McCullumsmith et al., 2013) and null results (Marzano et al., 2010) when comparing ethnic groups of female prisoners. Therefore, it is possible that there are no true

differences in study variables across ethnic groups. Alternatively, it may be that the use of pan-ethnic labels within the present study and previous studies limits the extent to which the present analyses effectively address the complex constellation of cultural factors that have been identified as predictors of suicide risk within other populations (e.g., acculturative stress [Polanco-Roman, 2013], enculturation [Yoder, Whitbeck, Hoyt, & LaFromboise, 2006], microagressions [O'Keefe, Wingate, Cole, Hollingsworth, & Tucker, 2014]). For example, specific consideration of acculturative stress, enculturation, and perceived microagressions may have yielded a more valid assessment of the potential mechanisms by which ethnic group membership may confer risk or protection with regard to suicidality.

Limitations

In addition to the limitations concerning temporal precedence noted above, it is important to note other ways in which the present findings are limited. First, all findings reported were participants' self-reported perceptions, and thus may represent some degree of self-presentation bias. Second, the instruments employed for this study were not developed specifically for incarcerated women, and thus may not measure the variables of interest with the same accuracy observed among validation samples gathered from other populations. However, all instruments within the present study did exhibit good to excellent internal consistency, as measured by Cronbach's alpha, within the present sample, and most had been used previously with other samples of incarcerated women. Although the present sample was relatively large compared to other studies of incarcerated women (e.g., Gunter et al., 2008; Tripodi & Pettus-Davis, 2013), this study may have lacked sufficient power to detect small effects. Specifically, there was a trend

toward significance for several associations within the final regression model that may have yielded significant findings with a larger sample. Further, the one-way ANOVA conducted to compare ethnic groups was limited by the small cell size of ethnic minority subgroups relative to European-American participants, and thus the non-significant group mean comparisons should be interpreted with caution. Given the present sample of incarcerated women self-selected for participation in a treatment outcome study, these participants may not be representative of women who would not chose to volunteer for participation in a treatment outcome study. However, despite the self-selected nature of this sample, which may have biased the present finding, women's self-report of trauma history and suicidal behaviors was consistent with other samples of incarcerated women (as described above), and thus it does not appear that the present sample was substantially distinct from other populations of women in prison. Moreover, the present sample was recruited from a prison in the Northwestern United States, and represented relatively high proportions of American Indian and Latina participants, and thus these findings may not generalize to other samples of incarcerated women with different demographic characteristics.

Future research should build upon the present findings by including the prospective measurement of other potential mediators of the relationship between trauma exposure and suicide risk. It is important to understand such intervening variables to offer potential points of therapeutic intervention for women within this high-risk population. This may include assessment of specific symptoms of posttraumatic stress, as well as experiences of guilt and/or shame distal to their experiences of physical and sexual abuse. Furthermore, although the present study did not find a significant indirect effect of either

interpersonal problems or social support with regard to the association between trauma exposure and suicide risk, future work should evaluate similar constructs with measurement paradigms (e.g., Interpersonal Needs Questionnaire) specifically developed to assess aspects of social support and interpersonal functioning (e.g. belongingness and perceived burdensomeness) as they relate to suicidality (see Van Orden, Witte, Gordon, Bender, & Joiner, 2008).

Conclusion

The present study is the first study to consider simultaneously social support and interpersonal problems as potential mediators of the association between trauma exposure and suicide risk among incarcerated women. Although the hypothesized mediated effects were not statistically significant, the present findings offer important directions for future research, and advance an important line of research concerning the need for consideration of conditional and indirect effects within the study of risk factors for this at-risk and under-studied population. Taken together, these findings offer meaningful insight for researchers and clinicians working among incarcerated women. Foremost, it is essential that clinical services include an effective assessment of women's trauma histories, and effectively identify the extent to which past history of physical and sexual abuse may manifest contemporary stressors, including suicidality. This type of effective assessment may assist providers in offering additional support and targeted prevention programming to those with substantial histories of interpersonal victimization (i.e., physical and sexual trauma), which was shown to account for approximately 10% of the variance in women's responses on the Self-Harm Behavior Questionnaire within the present study. This moderate effect is particularly notable, given the numerous dynamic and overlapping stressors that occur within the context of the prison environment.

References

Asberg, K. & Renk, K. (2012). Substance use coping as a mediator of the relationship between trauma symptoms and substance use consequences among incarcerated females with childhood sexual abuse histories. *Substance Use & Misuse, 47*, 799-808.

Asberg, K. & Renk, K. (2013). Comparing incarcerated and college student women with histories of childhood sexual abuse: The roles of abuse severity, support, and substance use. *Psychological Trauma: Theory, Research, Practice, and Policy, 5*(2), 167-175.

Barkham, M., Hardy, G. E., & Startup, M. (1994). The structure, validity and clinical relevance of the Inventory of Interpersonal Problems. *British Journal of Medical Psychology, 67*(2), 171-185.

Barkham, M., Hardy, G. E., & Startup, M. (1996). The IIP-32: A short version of the Inventory of Interpersonal Problems. *British Journal of Clinical Psychology, 35*, 21-35.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory – II*. San Antonio, Texas: Psychological Corporation.

Belknap, J., Holsinger, K., & Little, J. (2012). Sexual minority status, abuse, and self-harming behaviors among incarcerated girls. *Journal of Child & Adolescent Trauma, 5*, 173-185.

Bradley, R. G. & Follingstad, D. R. (2003). Group therapy for incarcerated women who experienced interpersonal violence: A pilot study. *Journal of Traumatic Stress, 16*(4), 337-340.

Brandt, P. A. & Weinert, C. (1981). The PRQ — A social support measure. *Nursing Research, 30,* 277-280.

Brathwaite, R. L., Treadwell, H. M., & Arriola, K. R. K. (2005). Health disparities and incarcerated women: A population ignored. *American Journal of Public Health, 95,* 1679-1681.

Burgess-Proctor, A. (2006). Intersections of race, class, gender, and crime: Future directions for feminist criminology. *Feminist Criminology, 1*(1), 27-47.

Carson, E. A. & Sabol, W. J., U.S. Department of Justice: Office of Justice Programs. (2012). *Prisoners in 2011*. (DOJ Publication No. NCJ 239808). Washington, D.C.: U.S. Government Printing Office.

Cavanaugh, C. E., Messing, J. T., Del-Colle, M., O'Sullivan, C., & Campbell, J. C. (2011). Prevalence and correaltes of suicidal behavior, among adult female victims of intimate partner violence. *Suicide and Life-Threatening Behavior, 41*(4), 372-383.

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. (2005). Web-based Injury Query and Reporting System (WISQARS). (cited 2013 June 14). Retrieved from: www.cdc.gov/ncipc/wisqars

Charles, D. R., Abram, K. M., McClelland, G. M., & Teplin, L. A. (2003). Suicidal and ideation and behavior among women in jail. *Journal of Contemporary Criminal Justice, 19*(1), 65-81.

Clements-Noelle, K., Wolden, M., & Bragmann-Losche, J. (2009). Childhood trauma and the risk for past and future suicide attempts among women in prison. *Women's Health Issues, 19,* 185-192.

Cull, J. G. & Gill, W. S. (1982). *The Suicide Probability Scale: Manual*. Los Angeles, California: Western Psychological Services.

Dehart, D. & Lynch, S. M. (2013). Gendered pathways to crime: The relationship between victimization and offending. In C. M Renzetti, S. L. Miller, & A. R. Gover (Eds.), *Routledge International Handbook of Crime and Gender Studies.* New York, New York: Routledge.

Dehart, D., Lynch, S. M., Belknap, J., Dass-Brailsford, P., & Green, B. (2013). Life history models of female offending: The roles of serious mental illness and trauma in women's pathways to jail. *Psychology of Women Quarterly*. Published online first 2 August 2013.

DeRavello, L., Abeita, J., & Brown, P. (2008). Breaking the cycle/Mending the hoop: Adverse Childhood Experiences among incarcerated American Indian/Alaska Native women in New Mexico. *Health Care for Women International, 29*(3), 300-315.

Derogatis, L. (1993). *Brief Symptom Inventory (BSI): Administration, scoring, and procedures manual* (3rd ed.). Minneapolis, Minnesota: National Computer Systems.

Dye, M. H. (2011). The gender paradox in prison suicide rates. *Women and Criminal Justice, 21*, 290-307.

Fazel, S., & Benning, R. (2009). Suicides in female prisoners in England and Wales, 1978-2004. *British Journal of Psychiatry, 194*, 183-4.

Fazel, S., Grann, M., King, B., & Hawton, K. (2011). Prison suicide in 12 countries: An ecological study of 861 suicides during 2003-2007. *Social Psychiatry and Psychiatric Epidemiology, 46*, 191-195.

Fliege, H., Kocalavent, R. D., Walter, O. B., Beck, S., Gratz, K. L., Gutierrez, P. M., & Klapp, B. F. (2006). Three assessment tools for deliberate self-harm and suicide behavior evaluation and psychopathological correlates. *Journal of Psychosomatic Research, 61*, 113-121.

Green, B. L. (1996). Trauma History Questionnaire. In B. H. Stamm (Ed.), *Measurement of stress, trauma, and adaptation* (pp. 366-369). Lutherville, Maryland: Sidran Press.

Green, B. L., Miranda, J., Daroowalla, A., & Siddique, J. (2005). Trauma exposure, mental health functioning, and program needs of women in jail. *Crime & Delinquency, 51*(1), 133-151.

Grella, C. E., Stein, J. A., & Greenwell, L. (2005). Association among childhood trauma, adolescent problem behaviors, and adverse adult outcomes in substance-abusing women offenders. *Psychology of Addictive Behaviors, 19*(1), 43-53.

Griffith, J. (2012). Suicide and war: The mediating effects of negative mood, posttraumatic stress disorder symptoms, and social support among Army National Guard soldiers. *Suicide and Life-Threatening Behavior, 42*(4), 453-469.

Gunter, T. D., Arndt, S., Wenman, G., Allen, J., Loveless, P., Sieleni, B., & Black, D. W. (2008). Frequency of mental and addictive disorders among 320 men and women entering the Iowa prison system: Use of the MINI-Plus. *Journal of the American Academy of Psychiatry & Law, 36*, 27-34.

Guttierez, P. M., Osman, A., Barrios, F. X., & Kopper, B. A. (2001). Development and initial validation of the Self-Harm Behavior Questionnaire. *Journal of Personality Assessment, 77*(3), 475-490.

Guttierez, P. M. & Osman, A. (2008). *Adolescent Suicide: An Integrated Approach to the Assessment of Risk and Protective Factors*. Dekalb, Illinois: Northern Illinois University Press.

Hirsch, J. K., & Barton, A. L. (2011). Positive social support, negative social exchanges, and suicidal behavior in college students. *Journal of American College Health, 59*(5), 393-398.

Holley, H. L., Arboleda-Flórez, J., & Love, E. J. (1995). Lifetime prevalence of prior suicide attempts in a remanded population and relationship to current mental illness. *International Journal of Offender Therapy and Comparative Criminology, 39*(3), 191-209.

Hooper, L. M., Stockton, P., Krupnick, J. L., & Green, B. L. (2011). Development, use, and psychometric properties of the Trauma History Questionnaire. *Journal of Loss & Trauma, 16*(3), 258-283.

Horowitz, L. M., Alden, L. E., Wiggins, J. S., & Pincos, A. L. (2000). *Inventory of Interpersonal Problems: Manual*. San Antonio, Texas: Psychological Corporation.

Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureno, G., & Villasenor, V. S. (1988). Inventory of Interpersonal Problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology, 56*, 885-892.

Houck, K. D. F. & Booker Loper, A. (2002). The relationship of parenting stress to adjustment among mothers in prison. *American Journal of Orthopsychiatry, 72*(4), 548-558.

IBM Corp. (2012). IBM SPSS Statistics for Mac OS, Version 21.0. Armonk, New York: IBM Corp.

Joiner, T. E. (2005). *Why people die by suicide*. Cambridge, Massachusetts: Harvard University Press.

Krysinska, K. & Lester, D. (2010). Post-traumatic stress disorder and suicide risk: A systematic review. *Archives of Suicide Research, 14*(1), 1-23.

Loper, A. B. & Whitney, J. W. (2004). Social support and anger expression among incarcerated women. *Journal of Offender Rehabilitation, 38*(4), 27-50.

Lynch, S. M., Fritch, A., & Heath, N. M. (2012). Looking beneath the surface: The nature of incarcerated women's experiences of interpersonal violence, treatment needs, and mental health. *Feminist Criminology, 7*(4), 381-400.

MacKinnon, D. P. (2008). *Introduction to statistical mediation analysis*. New York, New York: Erlbaum.

Mackinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7*(1), 83-104.

Marzano, L., Fazel, S., Rivlin, A., & Hawton, K. (2010). Psychiatric disorders in women prisoners who have engaged in near-lethal self-harm: Case-control study. *The British Journal of Psychiatry, 197*, 219-226.

Marzano, L., Fazel, S., Rivlin, A., & Hawton, K. (2011). Near-lethal self-harm in women prisoners: Contributing factors and psychological processes. *Journal of Forensic Psychiatry & Psychology, 22*(6), 863-884.

Marzano, L., Hawton, K., Rivlin, A., &Fazel, S. (2011). Psychosocial influences on prisoner suicide: A case-control study of near-lethal self-harm in women prisoners. *Social Science & Medecine, 71*, 874-883.

McCullumsmith, C. B., Clark, B. C., Perkins, A., Fife, J., & Cropsey, K. L. (2013). Gender and racial differences for suicide attempters and ideators in a high-risk community corrections population. *Crisis, 34*(1), 50-62.

McDaniels-Wilson, C. & Belknap, J. (2008). The extensive sexual violation and sexual abuse histories of incarcerated women. *Violence Against Women, 14*(10), 1090-1127.

Milligan, R. J. & Andrews, B. (2005). Suicidal and other self-harming behaviour in offender women: The role of shame, anger, and childhood abuse. *Legal & Criminological Psychology, 10*, 13-25.

Minton, T. D., U.S. Department of Justice: Office of Justice Programs. (2013). *Jail inmates at midyear 2012 – Statistical tables*. (DOJ Publication No. NCJ 241264). Washington, D.C.: U.S. Government Printing Office.

Muehlenkamp, J. J., Cowles, M. L., & Guttierez, P. M. (2010). Validity of the Self-Harm Behavior Questionnaire with diverse adolescents. *Journal of Psychopathology and Behavioral Assessment, 32*, 236-245.

Mumola, C. J., U.S. Department of Justice: Office of Justice Programs. (2005). *Suicide and homicide in State and prisons and Local jails*. (DOJ Publication No. NCJ 210036). Washington, D. C.: U.S. Government Printing Office.

Norbeck, J. S. (1995). *Scoring Instructions for the Norbeck Social Support Questionnaire (NSSQ)*. San Francisco, California: University of California.

Norbeck, J. S., Lindsey, A. M., Carrieri, V. L. (1981). The development of an instrument to measure social support. *Nursing Research, 30*, 264-269.

Norbeck, J. S., Lindsey, A. M., Carrieri, V. L. (1983). Further development of the Norbeck Social Support Questionnaire: Normative data and validity testing. *Nursing Research, 32,* 4-9.

O'Keefe, V. M., Wingate, L. R., Cole, A. B., Hollingsworth, D. W., & Tucker, R. P. (2014). Seemingly harmless racial communications are not so harmless: Racial microaggressions lead to suicidal ideation by way of depression symptoms. *Suicide and Life-Threatening Behavior,* Advance online publication.

Osman, A., Bagge, C. L., Gutierrez, P. M., Konick, L. C., Kooper, B. A., & Barrios, F. X. (2001). The Suicidal Behaviors Questionnaire-Revised (SBQ-R): Validation with clinical and non-clinical samples. *Assessment, 5*, 443-454.

Peltzer, K. (2008). Social support and suicide risk among secondary school students in Cape Town, South Africa. *Psychological Reports, 103*(3), 653-660.

Polanco-Roman, L., & Miranda, R. (2013). Culturally related stress, hopelessness, and vulnerability to depressive symptoms and suicidal ideation in emerging adulthood. *Behavior Therapy, 44*(1), 75-87.

Preacher, K. J., Rucker, D. D., Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42*(1), 185-227.

Reynolds, W. M. (1988). *Suicidal Ideation Questionnaire: Professional manual.* Odessa, Florida: Psychological Assessment Resources.

Reynolds, W. M. (1991). Psychometric characteristics of the Adult Suicidal Ideation Questionnaire in college students. *Journal of Personality Assessment, 56*(2), 289-307.

Seedat, S., Stein, M. B., Forde, D. R. (2005). Association between physical partner violence, posttraumatic stress, childhood trauma, and suicide attempts in a community sample of women. *Violence and Victims, 20*(1), 87-98.

Shah, S., Plugge, E. H., & Douglas, N. (2011). Ethnic differences in the health of women prisoners. *Public Health, 125*, 349-356.

Simlot, R., McFarland, K., & Lester, D. (2013). Testing Joiner's theory of suicide in jail inmates: An exploratory study. *Psychological Reports: Sociocultural Issues in Psychology, 112*(1), 100-105.

Simpson, S. S., Yahner, J. L., & Dugan, L. (2008). Understanding women's pathways to jail: Analyzing the lives of incarcerated women. *The Australian and New Zealand Journal of Criminology, 41*(1), 84-108.

Singleton, N., Meltzer, H., & Gatward, R. (1998). *Psychiatric morbidity among prisoners in Englang and Wales.* London, England: The Stationery Office.

Soldz, S., Budman, S., Demby, A., & Merry, J. (1995). A short form of the Inventory of Interpersonal Problems circumplex scales. *Assessment, 2*(1), 53-63.

Staton-Tindall, M., Royse, D., & Leukfield, C. (2007). Substance use criminality, and social support: An exploratory analysis with incarcerated women. *The American Jounral of Drug and Alcohol Abuse, 33*, 237-243.

Stein, D. J., Chiu, W. T., Hwang, I., Kessler, R. C., Sampson, N., et al. (2010). Cross-national analysis of the associations between traumatic events and suicidal behavior: Findings from the WHO world mental health surveys. *PloS One, 5*(5).

Stepp, S. D., Morse, J. Q., Yaggi, K. E., Reynolds, S. K., Reed, L. I., & Pilkonis, P. A. (2008). The role of attachment styles and interpersonal problems in suicide-related behaviors. *Suicide and Life-Threatening Behavior, 38*(5), 592-607.

Tripodi, S. J. & Pettus-Davis, C. (2013). Histories of childhood victimization and subsequent mental health problems, substance use, and sexual victimization for a sample of incarcerated women in the US. *International Journal of Law and Psychiatry, 36*, 30-40.

Van Orden, K. A., Witte, T. K., Gordon, K. H., Bender, T. W., & Joiner, T. E. (2008). Suicidal desire and the capability for suicide: Tests of the interpersonal-psychological theory of suicidal behavior among adults. *Journal of Consulting and Clinical Psychology, 76*(1), 72-83.

Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Brathwaite, S., Selby, E. A., & Joiner, T. E. (2010). The interpersonal theory of suicide. *Psychological Review, 117*(2), 575-600.

Yoder, K. A., Whitbeck, L. B., Hoyt, D. R., & LaFromboise, T. (2006). Suicidal ideation among American Indian youths. *Archives of Suicidal Research, 10*(2), 177-190.

You, S., Talbot, N. L., He, H., & Conner, K. R. (2012). Emotions and suicidal ideation among depressed women with childhood sexual abuse histories. *Suicide and Life-Threatening Behavior, 42*(3), 244-254.

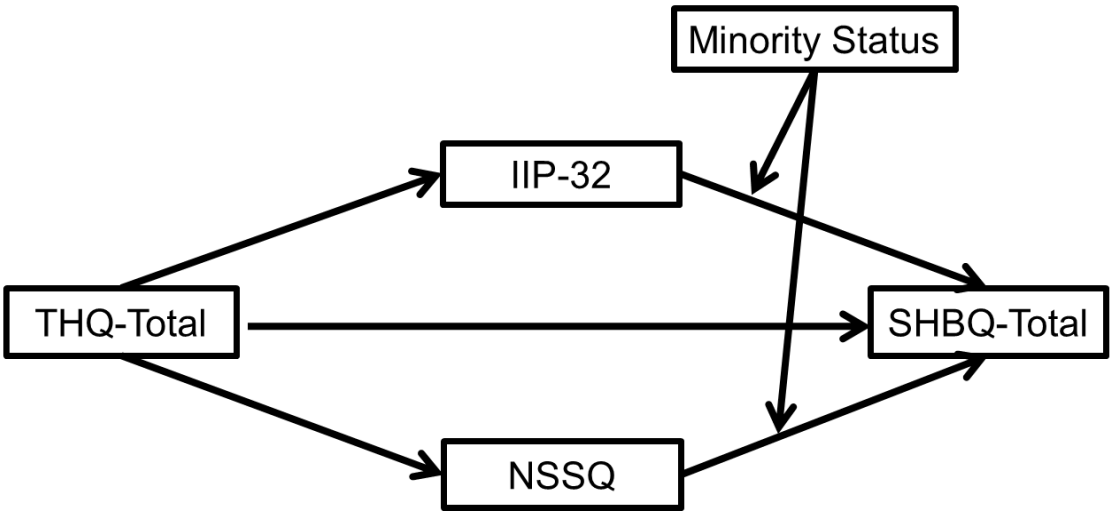
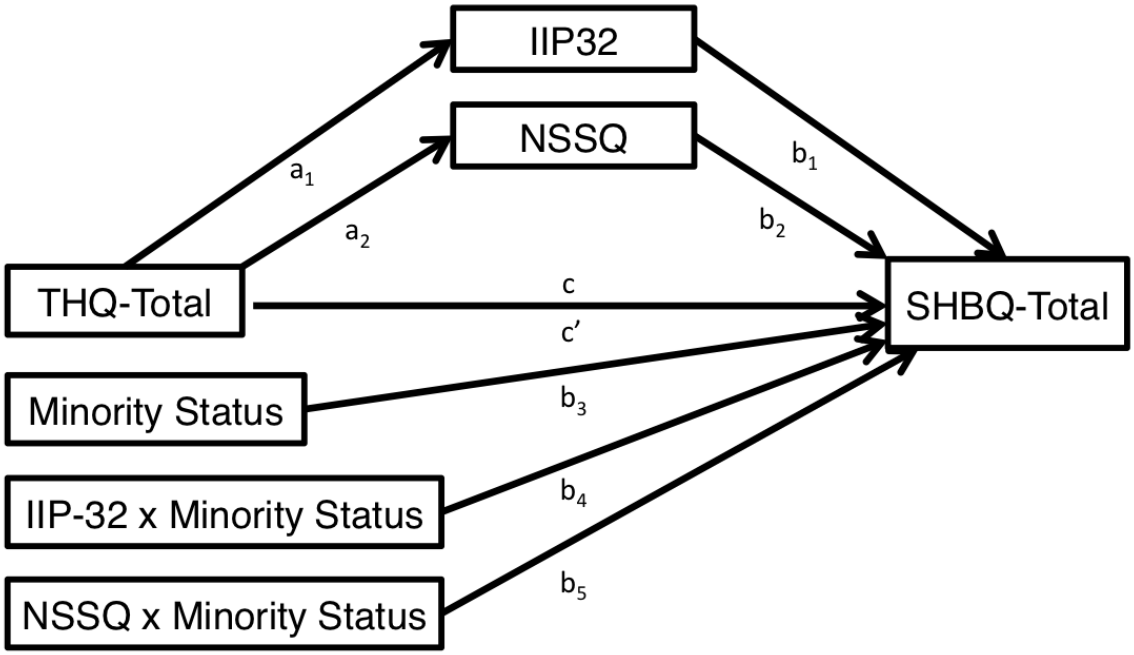


Figure 1. Proposed two-mediator model.



$$SHBQ = \alpha + c(THQ:Total)$$

$$IIP32 = \alpha + a_1(THQ:Total)$$

$$NSSQ = \alpha + a_2(THQ:Total)$$

$$SHBQ = \alpha + c'(THQ:Total) + b_1(IIP32) + b_2(NSSQ) + b_3(Ethnicity) + b_4(IIP-32 \times Ethnicity) + b_5(NSSQ \times Ethnicity)$$

Figure 2. Statistical Model with Equations.

Table 1. Descriptive statistics for socio-demographic variables for entire sample and by ethnicity.

Variable	*N*(%)	*M*	*SD*	Range
Full Sample (N = 224)				
Age		34.17	9.35	19-60
Annual Income Prior to Incarceration		14970.86	20013.78	0-250000
Length of time in prison (Months)		13.06	17.29	1-96
Lifetime Number of Incarcerations		7.42	8.87	0-53
Educational Level:				
Less than High School	44 (19.6)			
High School or GED	100 (44.6)			
Some College or Greater	80 (35.7)			
American-Indian-only (*n* = 9)				
Age		38.67	9.57	22-54
Annual Income Prior to Incarceration		7948.11	4320.82	0-14000
Length of time in prison (Months)		13.11	12.94	1-41
Lifetime Number of Incarcerations		15.78	15.25	1-45
Educational Level				
Less than High School	3 (33.3)			
High School or GED	3 (33.3)			
Some College or Greater	3 (33.3)			
Latina-only (*n* = 19)				
Age		30.95	7.23	20-46
Annual Income Prior to Incarceration		16342.44	20204.673	0-94000
Length of time in prison (Months)		14.84	21.73	1-96
Lifetime Number of Incarcerations		7.11	5.39	1-16
Educational Level				
Less than High School	8 (42.1)			
High School or GED	7 (36.8)			
Some College or Greater	4 (21.1)			

American-Indian & Latina (Biracial; *n* = 5)				
Age		33.00	10.77	24-47
Annual Income Prior to Incarceration		10788.80	7064.816	3744-21600
Length of time in prison (Months)		14.20	18.43	4-47
Lifetime Number of Incarcerations		4.80	2.95	2-9
Educational Level				
Less than High School	4 (80.0)			
High School or GED	1 (20.0)			
Some College or Greater	0 (0.0)			
Multi-Ethnic (other than American Indian and Latina; *n* = 30)				
Age		32.83	8.69	21-58
Annual Income Prior to Incarceration		16792.87	10651.86	238-41000
Length of time in prison (Months)		10.63	13.81	1-66
Lifetime Number of Incarcerations		8.57	9.90	1-40
Educational Level				
Less than High School	6 (20.0)			
High School or GED	9 (30.0)			
Some College or Greater	15 (50.0)			
Other Minorities (*n* = 5)				
Age		32.00	10.27	25-50
Annual Income Prior to Incarceration		5837.20	1986.23	3600-8580
Length of time in prison (Months)		9.60	10.69	1-24
Lifetime Number of Incarcerations		4.60	2.30	1-7
Educational Level				
Less than High School	2 (40.0)			
High School or GED	3 (60.0)			
Some College or Greater	0 (0.0)			
European-American (*n* = 155)				
Age		34.68	9.61	19-60
Annual Income Prior to Incarceration		15388.55	22378.95	0-250000
Length of time in prison (Months)		13.39	17.87	1-89

Lifetime Number of Incarcerations		6.85	2.85	0-53
Educational Level				
Less than High School	20 (12.9)			
High School or GED	77 (49.7)			
Some College or Greater	58 (37.4)			

Note.

Table 2. Descriptive statistics for study variables for entire sample and by ethnicity.

Variable	*M*	*SD*	Range
Full Sample (N = 224)			
THQ Total	10.97	3.95	1 – 21
THQ: Physical & Sexual Exp.	3.99	1.70	0 – 7
THQ: Crime-Related	5.33	2.20	0 – 11
THQ: General Disaster	1.64	1.06	0 – 5
IIP-32	48.90	19.88	0 – 99
NSSQ	221.26	140.46	0 – 730
SHBQ	25.09	19.81	0 – 74
American-Indian-only (*n* = 9)			
THQ Total	11.11	5.28	5-19
THQ: Physical & Sexual Exp.	3.56	1.21	1-5
THQ: Crime-Related	5.00	2.92	1-11
THQ: General Disaster	2.56	1.67	1-5
IIP-32	56.22	16.94	24-79
NSSQ	265.89	198.22	78-730
SHBQ	18.44	13.93	5-40
Latina-only (*n* = 19)			
THQ Total	9.68	3.33	4-15
THQ: Physical & Sexual Exp.	3.53	1.81	1-7
THQ: Crime-Related	4.79	1.96	2-8
THQ: General Disaster	1.37	0.68	0-2
IIP-32	47.84	20.81	8-84
NSSQ	200.89	110.84	32-448
SHBQ	14.37	16.38	0-46
American-Indian & Latina (Biracial; *n* = 5)			
THQ Total	11.00	1.41	9-12
THQ: Physical & Sexual Exp.	3.80	1.64	1-5
THQ: Crime-Related	5.20	0.84	4-6

THQ: General Disaster	2.00	1.00	1-3
IIP-32	39.20	18.35	16-58
NSSQ	372.80	197.21	122-617
SHBQ	27.00	22.25	0-60
Multi-Ethnic (other than American Indian and Latina; *n* = 30)			
THQ Total	12.10	3.75	4-20
THQ: Physical & Sexual Exp.	4.43	1.52	1-7
THQ: Crime-Related	6.07	2.12	1-10
THQ: General Disaster	1.60	1.10	0-4
IIP-32	47.77	17.55	15-80
NSSQ	212.80	145.59	0-633
SHBQ	28.57	17.59	0-59
Other Minorities (*n* = 5)			
THQ Total	9.20	5.22	1-15
THQ: Physical & Sexual Exp.	2.80	2.17	1-6
THQ: Crime-Related	5.20	2.95	0-7
THQ: General Disaster	1.20	1.10	0-3
IIP-32	36.80	11.08	22-47
NSSQ	207.20	112.99	85-350
SHBQ	18.40	14.94	0-74
European-American (*n* = 155)			
THQ Total	10.94	3.98	1 – 21
THQ: Physical & Sexual Exp.	4.02	1.71	0-7
THQ: Crime-Related	5.29	2.21	0-11
THQ: General Disaster	1.63	1.03	0-5
IIP-32	49.69	20.55	0-99
NSSQ	218.99	136.92	0-675
SHBQ	26.10	20.58	0-74

Note.

Table 3. Zero-order correlations between demographic and study variables.

Variable	9.	8.	7.	6.	5.	4.	3.	2.
1. Age	-.11	-.03	.11	.13†	-.11	.01	.17*	.13*
2. Income	-.02	.04	-.06	.07	-.19**	.10	.25***	1.00
3. Educational Level	-.10	.02	-.17*	.12	-.21**	.04	1.00	
4. Months in Prison	-.07	.04	.02	-.01	-.02	1.00		
5. Previous Incarcerations	.06	.06	.11	-.03	1.00			
6. THQ-Total	.31***	-.04	.11	1.00				
7. IIP-32	.17*	-.19**	1.00					
8. NSSQ-Total[a]	-.11	1.00						
9. SHBQ-Total	1.00							

Note: [a], square root transformed. *, p<.05. **, p<.01. *** p<.001. † p = .05.

Table 4. Regression model with Latina and American Indian ethnicities as moderators.

Variable	β	B	SE	sr^2	t	p
THQ-Total	.275	1.395	.334	.077	4.178	<.001
IIP-32	.154	.152	.074	.017	2.045	.042
NSSQ-Total[a]	-.083	-.347	.332	<.001	-1.045	.297
Latina Ethnicity	.026	1.427	19.073	<.001	.075	.940
Latina Ethnicity by IIP-32	-.012	-.014	.201	<.001	-.069	.945
Latina Ethnicity by NSSQ[a]	-.129	-.470	.955	.001	-.423	.623
AI/AN Ethnicity	.055	2.960	14.552	<.001	.203	.839
AI/AN Ethnicity by IIP-32	-.012	-.269	.193	.008	-1.393	.165
AI/AN Ethnicity by NSSQ[a]	.152	.506	.629	.003	.804	.423

Note. Dependent variable = SHBQ Total. [a], square root transformed.

Table 5. Multiple regression model with THQ subscales

Variable	β	B	SE	sr^2	t	p
THQ-Physical & Sexual	.361	4.21	.84	.10	5.03	<.001
THQ-Crime-Related	.102	.91	.67	.01	1.38	.17
THQ-Gen. Disaster	-.095	-1.77	1.29	.01	-1.37	.17

Note. Dependent variable = SHBQ Total.

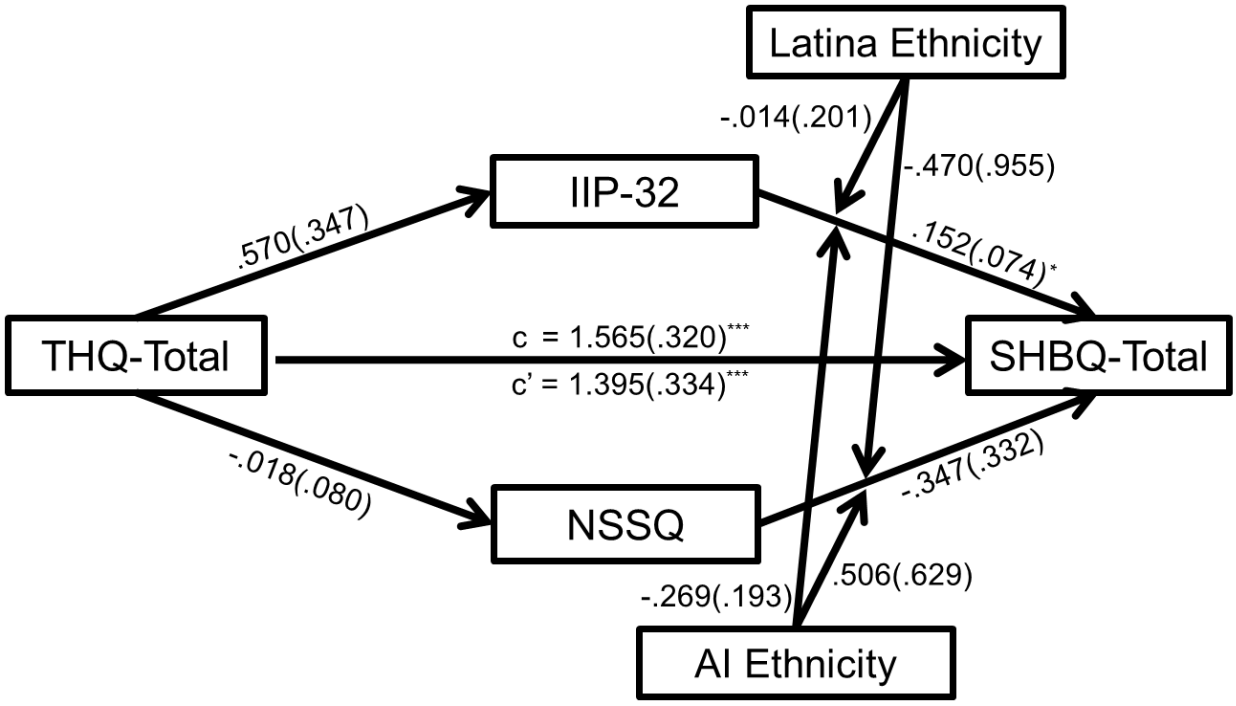


Figure 3. Full model with Latina and American Indian ethnicities as moderators. *, p<.05. ***, p<.001.

Appendices

Appendix A

DEMOGRAPHIC SHEET

The biographical information on this page is used to provide summaries of those who participated in this study without providing details about any one individual

1. Age: ____

2. Education

___ Sixth grade or less

___ Completed 8th grade

___ Some high school

___ Completed high school

___ GED

___ Technical degree

___ some college

___ 2 year college degree

___ 4 year college degree

___ some graduate school

___ completed a graduate program

3. Employment status prior to being at the PWCC:

(1) full-time (2) part-time (3) occasional (4) disability/SSI

(5) no income

4. What year did you last work: _____

5. Your income the last 12 months you worked: _____

6. Marital/relationship status prior to incarceration:

(1) single (2) divorced (3) widowed (4) married

(5) living with partner (5) not living with current partner

7. Has your relationship status changed since you came to the PWCC? ___ Yes ___ No

7a. If yes, how?

_____

8. Parent: ___ Yes ___No 8a. Number of children under the age of 18 ____

8a. Where do your children under 18 live?

_____

8b. How often do you see them? daily 2-3 times/week weekly
2x/month monthly less often then month never

9. Ethnicity (check all that apply):

(1) African American / Black
(2) Caribbean / Haitian
(3) African
(4) Asian American
(5) Asian / Pacific-Islander
(6) White / European American / Caucasian
(7) European
(8) Hispanic American / Hispanic
(9) Native American / American Indian
(10) Other _____

10. How long have you been at the PWCC? _____ (number of months)

Were you incarcerated before you arrived at the PWCC? For how long?
_____ (number of months)

11. Why are you in prison? What are you charged with?

_____

12. When are you eligible for release? _____ (month/year)

13. How many times have you been incarcerated? _____

14. What length sentence(s) have you served in the past?

_____

Appendix B

THQ

The following is a series of questions about serious or traumatic life events. The questionnaire is divided into questions covering crime experiences, general disaster and trauma questions, and questions about physical and sexual experiences. For each event, please indicate (circle) whether it happened, and if it did, the number of times and your approximate age when it happened (give your best guess if you are not sure). Also note the nature of your relationship to the person involved, and the specific nature of the event, if appropriate. Finally, please indicate whether the event was distressing at the time and how much it affects you now.

Crime-Related Events

1. Has anyone ever tried to take something from you by using force or the threat of force, such as a stick up or mugging? **YES NO**

a. Number of Times_____
b. Approximate Age_____
c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

2. Has anyone ever attempted to rob you or actually rob you (i.e., stolen your personal belongings)? **YES NO**

a. Number of Times_____
b. Approximate Age_____
c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

3. Has anyone ever attempted to or succeeded in breaking into your home when you weren't there? **YES NO**

a. Number of Times_____
b. Approximate Age_____
c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

4. Has anyone ever tried to or succeeded in breaking into your home while you <u>were</u> there? **YES NO**

a. Number of Times_____
b. Approximate Age_____
c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

General Disaster and Trauma

5. Have you ever had a serious accident at work, in a car or somewhere else? **YES NO**

If yes, please specify_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

6. Have you ever experienced a natural disaster such as a tornado, hurricane, flood, major earthquake, etc., where you felt you or your loved ones were in danger of death or injury? **YES NO**

If yes, please specify_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

7. Have you ever experienced a "man-made" disaster such as a train crash, building collapse, bank robbery, fire, etc., where you felt you or your loved ones were in danger of death or injury? **YES NO**

If yes, please specify_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

8. Have you ever been exposed to dangerous chemicals or radioactivity that might threaten your health? **YES NO**

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

Extremely

9. Have you ever been in any other situation in which you were seriously injured? **YES NO**

If yes, please specify_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

10. Have you ever been in any other situation in which you feared you <u>might</u> be killed or seriously injured? **YES NO**

If yes, please specify_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

11. Have you ever seen someone seriously injured or killed? **YES NO**

If yes, please specify who_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

12. Have you ever seen dead bodies (other than a funeral) or had to handle dead bodies for any reason? **YES NO**

If yes, please specify_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

13. Have you ever had a close friend or family member murdered or killed by a drunk driver? **YES NO**

If yes, please specify relationship (e.g., mother, grandson, etc.)_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

14. Have you ever had a spouse, romantic partner, or child die? YES NO

If yes, please specify relationship_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

15. Have you ever had a serious or life-threatening illness? YES NO

If yes, please specify_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

16. Have you ever received news of a serious injury, life-threatening illness or unexpected death of someone close to you? YES NO

If yes, please specify_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

17. Have you ever had to engage in combat while in military service in an official or unofficial war zone? YES NO

If yes, please indicate where_____

a. Number of Times_____

b. Approximate Age_____

c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

Physical and Sexual Experiences

18. Has anyone ever made you have intercourse, oral or anal sex against your will? YES NO

If yes, please indicate the nature of relationship with person (e.g. stranger, friend, relative, parent, partner, sibling)_____

a. Number of Times_____

b. Approximate Age_____
c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

19. Has anyone ever touched private parts of your body, or made you touch theirs, under force or threat? YES NO

If yes, please indicate the nature of relationship with person (e.g. stranger, friend, relative, parent, partner, sibling)_____

a. Number of Times_____
b. Approximate Age_____
c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

20. Other than incidents mentioned in Questions 18 and 19, have there been any other situations in which another person tried to force you to have unwanted sexual contact? YES NO

If yes, please indicate the nature of relationship with person (e.g. stranger, friend, relative, parent, partner, sibling)_____

a. Number of Times_____
b. Approximate Age_____
c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

21. Has anyone, including family members or friends, ever attacked you with a gun, knife or some other weapon? YES NO

If yes, please indicate the nature of relationship with person (e.g. stranger, friend, relative, parent, partner, sibling)_____

a. Number of Times_____
b. Approximate Age_____
c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

22. Has anyone, including family members or friends, ever attacked you <u>without</u> a gun, knife, or some other weapon? YES NO

If yes, please indicate the nature of relationship with person (e.g. stranger, friend, relative, parent, partner, sibling)_____

a. Number of Times_____
b. Approximate Age_____
c. How upsetting was the event at the time? 1 2 3 4 5

Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

23. Has anyone in your family ever beaten, "spanked" or pushed you hard enough to cause injury? YES NO

a. Number of Times_____
b. Approximate Age_____
c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

Other Events

24. Have you experienced any other extraordinary stressful situation or event that is not covered above? YES NO

If yes, please specify_____

a. Number of Times_____
b. Approximate Age_____
c. How upsetting was the event at the time? 1 2 3 4 5
Not at all Moderately Extremely

d. How much has it affected your life in the past year? 1 2 3 4 5
Not at all Moderately Extremely

Appendix C

IIP -32

Here is a list of problems that people report in relating to other people. Please read the list below, and for each item, select the number that describes how distressing that problem has been for you. Then circle that number.

EXAMPLE

	How much have you been distressed by this problem?				
It is hard for me to:	Not at all	A little bit	Moder-ately	Quite a bit	Extre-mely
Get along with my relatives	0	1	2	3	4

Part I. The following are things you find hard to do with other people.

	Not at all	A little bit	Moder-ately	Quite a bit	Extre-mely
1. Hard to join in on groups	0	1	2	3	4
2. Hard to be assertive with another person	0	1	2	3	4
3. Hard to make friends	0	1	2	3	4
4. Hard to disagree with other people	0	1	2	3	4
5. Hard to make a long-term commitment to another person	0	1	2	3	4
6. Hard to be aggressive towards other people when the situation calls for it	0	1	2	3	4
7. Hard to socialize with other people	0	1	2	3	4
8. Hard to show affection to people	0	1	2	3	4
9. Hard to feel comfortable around other people	0	1	2	3	4
10. Hard to tell personal things to other people	0	1	2	3	4
11. Hard to be firm when I need to be	0	1	2	3	4
12. Hard to experience a feeling of love for another person	0	1	2	3	4
13. Hard to be supportive of another person's goals in life	0	1	2	3	4
14. Hard to really care about other people's problems	0	1	2	3	4
15. Hard to put somebody else's needs before my own	0	1	2	3	4

16. Hard to take instructions from people who have authority over me	0	1	2	3	4
17. Hard to open up and tell my feelings to another person	0	1	2	3	4
18. Hard to attend to my own welfare when somebody else is needy	0	1	2	3	4
19. Hard to be involved with another person without feeling trapped	0	1	2	3	4

Part II. The following are things that you do too much

20. I fight with other people too much	0	1	2	3	4
21. I get irritated or annoyed too easily	0	1	2	3	4
22. I want people to admire me too much	0	1	2	3	4
23. I am too dependent on other people	0	1	2	3	4
24. I open up to people too much	0	1	2	3	4
25. I put other people's needs before my own too much	0	1	2	3	4
26. I am overly generous to other people	0	1	2	3	4
27. I worry too much about other people's reactions to me	0	1	2	3	4
28. I lose my temper too easily	0	1	2	3	4
29. I tell personal things to other people too much	0	1	2	3	4
30. I argue with other people too much	0	1	2	3	4
31. I am too envious and jealous of other people	0	1	2	3	4
32. I am affected by another person's misery too much	0	1	2	3	4

Appendix D

NSSQ

PLEASE READ ALL DIRECTIONS ON THIS PAGE BEFORE STARTING

Please list the significant people in your life below. Consider all the people who provide personal support for you who are important to you.

Use only first names or initials, and then indicate the relationship, as in the following example:

Example:

First name or initials	Relationship
1. Mary T	friend
2. Bob	brother
3. M.T.	mother
4. Sam	friend
5. Mrs. R.	neighbor
etc.	

Use the following list to help you think of the people important to you, and list as many people as apply in your case.

- spouse or partner
- family members or relatives
- friends
- work/school associates
- neighbors
- health care providers
- counselor or therapist
- minister/priest/rabbi
- case worker
- other

You do not have to use all 24 spaces. Use as many spaces as you have important persons in your life.

First name or initials

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

Relationship

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

For each person listed, please answer the following questions by writing in the number that applies.

0=not at all
1=a little
2=moderately
3=quite a bit
4=a great deal

Question 1:	Question 2:	Question 3:	Question 4:
How much does this person make you feel liked or loved?	How much does this person make you feel respected or admired?	How much can you confide in this person?	How much does this person agree with or support your actions or thoughts?
1. _____	1. _____	1. _____	1. _____
2. _____	2. _____	2. _____	2. _____
3. _____	3. _____	3. _____	3. _____
4. _____	4. _____	4. _____	4. _____
5. _____	5. _____	5. _____	5. _____
6. _____	6. _____	6. _____	6. _____
7. _____	7. _____	7. _____	7. _____
8. _____	8. _____	8. _____	8. _____
9. _____	9. _____	9. _____	9. _____
10. _____	10. _____	10. _____	10. _____
11. _____	11. _____	11. _____	11. _____
12. _____	12. _____	12. _____	12. _____
13. _____	13. _____	13. _____	13. _____
14. _____	14. _____	14. _____	14. _____
15. _____	15. _____	15. _____	15. _____
16. _____	16. _____	16. _____	16. _____
17. _____	17. _____	17. _____	17. _____
18. _____	18. _____	18. _____	18. _____
19. _____	19. _____	19. _____	19. _____
20. _____	20. _____	20. _____	20. _____
21. _____	21. _____	21. _____	21. _____
22. _____	22. _____	22. _____	22. _____
23. _____	23. _____	23. _____	23. _____
24. _____	24. _____	24. _____	24. _____

GO ON TO THE NEXT PAGE

Question 5:

If you needed to borrow $10, a ride to the doctor, or some other immediate help, how much could this person usually help?

0=not at all
1=a little
2=moderately
3=quite a bit
4=a great deal

1. ______
2. ______
3. ______
4. ______
5. ______
6. ______
7. ______
8. ______
9. ______
10. ______
11. ______
12. ______
13. ______
14. ______
15. ______
16. ______
17. ______
18. ______
19. ______
20. ______
21. ______
22. ______
23. ______
24. ______

Question 6:

If you were confined to bed for several weeks, how much could this person help you?

0=not at all
1=a little
2=moderately
3=quite a bit
4=a great deal

1. ______
2. ______
3. ______
4. ______
5. ______
6. ______
7. ______
8. ______
9. ______
10. ______
11. ______
12. ______
13. ______
14. ______
15. ______
16. ______
17. ______
18. ______
19. ______
20. ______
21. ______
22. ______
23. ______
24. ______

Question 7:

How long have you known this person?

1= less than 6 months
2= 6 to 12 months
3= 1 to 2 years
4= 2 to 5 years
5= more than five years

1. ______
2. ______
3. ______
4. ______
5. ______
6. ______
7. ______
8. ______
9. ______
10. ______
11. ______
12. ______
13. ______
14. ______
15. ______
16. ______
17. ______
18. ______
19. ______
20. ______
21. ______
22. ______
23. ______
24. ______

Question 8:

How frequently do you usually have contact with this person (phone calls, visits, or letters)?

5= daily
4= weekly
3= monthly
2= a few times a year
1= once a year or less

1. ______
2. ______
3. ______
4. ______
5. ______
6. ______
7. ______
8. ______
9. ______
10. ______
11. ______
12. ______
13. ______
14. ______
15. ______
16. ______
17. ______
18. ______
19. ______
20. ______
21. ______
22. ______
23. ______
24. ______

9. During the past six months, have you lost any important relationships due to moving, divorce, being in prison, or for any other reason?

0. No
1. Yes

IF YOU LOST IMPORTANT RELATIONSHIPS DURING THIS PAST 6 MONTHS:

9a. Please indicate the number of persons from each category who are *no longer available* to you.

_____spouse or partner
_____family members or relatives
_____friends
_____work or school associates
_____neighbors
_____health care providers
_____counselor or therapist
_____minister/priest/rabbi
_____case worker
_____other (specify)

9b. Overall, how much of your support was provided by these people who are no longer available to you?

0. none at all
1. a little
2. a moderate amount
3. quite a bit
4. a great deal

Appendix E

SHBQ

A lot of people do things which are dangerous and might get them hurt. There are many reasons why people take these risks. Often people take risks without thinking about the fact that they might get hurt. Sometimes, however, people hurt themselves on purpose. We are interested in learning more about the ways in which you may have intentionally or unintentionally hurt yourself **while at the PWCC or since you left the PWCC**. It is important for you to understand that if you tell us about things that suggest you are not safe now, we will have to report this in order to keep you safe. Please circle **YES** or **NO** in response to each question and answer the follow-up questions. For questions where you are asked who you told something do not give specific names. We only want to know if it was someone like a parent, teacher, doctor, etc.

Things you may have done to yourself on purpose.

1. Have you hurt yourself on purpose **while at the PWCC or since you left the PWCC**? (e.g., scratched yourself with finger nails or a sharp object)

YES **NO**

If NO, proceed to #2. If yes, what did you do?

_____

_____

_____

a. Approximately how many times did you do this? _____

b. Approximately when did you first do this to yourself? (*write your age)*_____

c. When was the last time you did this to yourself? (*write your age)* _____

d. Have you ever told anyone that you had done these things? **YES** **NO**

If yes, who did you tell?_____

e. Have you ever needed to see a doctor after doing these things? **YES** **NO**

2. **While at the PWCC or since you left the PWCC**, have you **talked or thought** about:

-Wanting to die **YES** **NO**

-Committing suicide **YES** **NO**

If NO, proceed to # 3.

a. If yes, what did you talk or think about doing?

_____

_____

b. With whom did you discuss this? _____

c. What made you feel like doing that?

_____

_____

d. Did you have a specific plan for how you would try to kill yourself? **YES** **NO**

If yes, what plan did you have?

_____

_____

_____

e. In looking back, how did you imagine people would react to your attempt?

_____

_____

_____

f. Did you think about how people would react if you did succeed in killing yourself?

YES **NO**

If yes, how did you think they would react?

_____

_____

g. Did you ever take steps to prepare for this plan? **YES** **NO**

If yes, what did you prepare?

_____

_____

3. You have told us about thinking about and/or talking about suicide. In addition to this, have you **threatened** to commit suicide **while at the PWCC or since you left the PWCC**? **YES** **NO**

If NO, proceed to #4. If yes, what did you threaten to do?

_____

_____

_____

a. Approximately how many times did you do this? _____

b. Approximately when did you first do this? (*write your age)*_____

c. When was the last time you did this? (*write your age*)_____

d. Who did you make the threats to? (e.g., parent, friend) _____

e. What other things were going on in your life during the time that you were threatening to kill yourself?

_____

_____

f. Did you actually want to die? **YES** **NO**

g. Were you hoping for a specific reaction to your threat? **YES** **NO**

If yes, what was the reaction you were looking for?

_____

_____

h. Did you get the reaction you wanted? **YES** **NO**

If you didn't, what type of reaction was there to your threat?

_____

_____

4. Have you **attempted** suicide **while at the PWCC or since you left the PWCC**?

YES **NO**

If NO, proceed to the end of the measure.

If yes, how?_____

(**Note:** If you took pills, what kind?_____; how many?_____)

a. Approximately how many times have you attempted suicide?_____

b. When was the most recent attempt? (*write your age)*_____

c. Did you tell anyone about the attempt? **YES** **NO**

d. Did you require medical attention after the attempt? **YES** **NO**

If yes, were you hospitalized over night or longer? **YES** **NO**

How long were you hospitalized? _____

e. Did you talk to a counselor or some other person like that after your attempt?

YES **NO** If yes, who?_____

5. If you attempted suicide, please answer the following:

a. What other things were going on in you life around the time that you tried to kill yourself?

_____

_____

_____

b. Did you actually want to die? **YES** **NO**

c. Were you hoping for a specific reaction to your attempt? **YES** **NO**

If yes, what reaction were you looking for?

_____

_____

d. Did you get the reaction you wanted? **YES** **NO**

If you didn't, what type of reaction was there to your attempt?

_____

_____

e. Who knew about your attempt? _____