Pre-prison, prison, post-prison: Post traumatic stress symptoms

by

Daniel Shawn Murphy

A dissertation submitted to the graduate faculty

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Sociology

Program of Study Committee:
Ronald Simons, Co-major Professor
Andrew Hochstetler, Co-major Professor
Martin Miller
Paul Lasley
Ronald Werner-Wilson

Iowa State University

Ames, Iowa

2004

Copyright © Daniel Shawn Murphy, 2004. All rights reserved.

UMI Number: 3136339

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI®

UMI Microform 3136339

Copyright 2004 by ProQuest Information and Learning Company.

All rights reserved. This microform edition is protected against unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

Graduate College
Iowa State University

This is to certify that the doctoral dissertation of

Daniel Shawn Murphy

has met the dissertation requirements of Iowa State University

Signature was redacted for privacy.

Co-major Professor

Signature was redacted for privacy.

Co-major Professor

Signature was redacted for privacy.

For the Major Program

TABLE OF CONTENTS

ACKNOWLEDGEMENTS iv

ABSTRACT v

CHAPTER 1. PRE-PRISON, IN-PRISON, POST-PRISON: POST TRAUMATIC STRESS SYMPTOMS 1

CHAPTER 2. LITERATURE REVIEW 18

CHAPTER 3. METHODOLOGY 62

CHAPTER 4. ANALYSIS 80

CHAPTER 5. SUMMARY, DISCUSSION, CONCLUSION 108

APPENDIX 1. INDEPENDENT VARIABLES FOR HYPOTHESIS ONE 132

APPENDIX 2. OPERATIONAL DEFINITIONS OF IN-PRISON DEPENDENT VARIABLES FOR HYPOTHESIS ONE AND INDEPENDENT VARIABLES FOR HYPOTHESIS TWO. 136

APPENDIX 3. POST TRAUMATIC STRESS DIAGNOSTIC SCALE: UM-CIDI DEPENDENT VARIABLE FOR HYPOTHESIS TWO 140

APPENDIX 4. OPERATIONAL DEFINITIONS OF PRE-PRISON CONTROL VARIABLES FOR HYPOTHESES ONE AND THREE 142

REFERENCES 143

Acknowledgements

My sincere thanks to Dr. Ron Simons, my mentor and friend, to Dr. Andy Hochstetler, whose guidance and support saw me through, to Dr. Steve Richards, who inspired my quest, to Dr. Marty Miller, who gave me confidence, to Dr. John Satiel who provided guidance and motivation, and to Dr. Dragan Stefanovic, who was my rock. Most importantly, I share my loving appreciation for my Mom and Dad, who gave me life and saved my life.

Abstract

Those sentenced to prison bring with them individual characteristics acquired prior to incarceration. This study assesses the effect of pre-prison experiences on adjustment to the prison environment. Regression analysis indicates that pre-prison experiences are significantly related to the likelihood of participating in, or being exposed to, elements of the incarceration experience that may cause Post Traumatic Stress Symptoms. A second component of this study assesses the relationship between elements of the incarceration experience and Post Traumatic Stress Symptoms. Regression analysis indicates that aspects of the incarceration experience constitute traumatic stressors that cause Post Traumatic stress Symptoms in some individuals. This study also assesses the relationship between pre-prison experiences and Post Traumatic Stress Symptoms, independent of the incarceration experience, as well as assessing the relationship between a combination of the pre-prison and in-prison independent variables with development of Post Traumatic Stress Symptoms. Data for this study are drawn from surveys administered to 208 men recently released from prison in a Mid-Western state.

Prison and Post Traumatic Stress Symptoms
Chapter 1

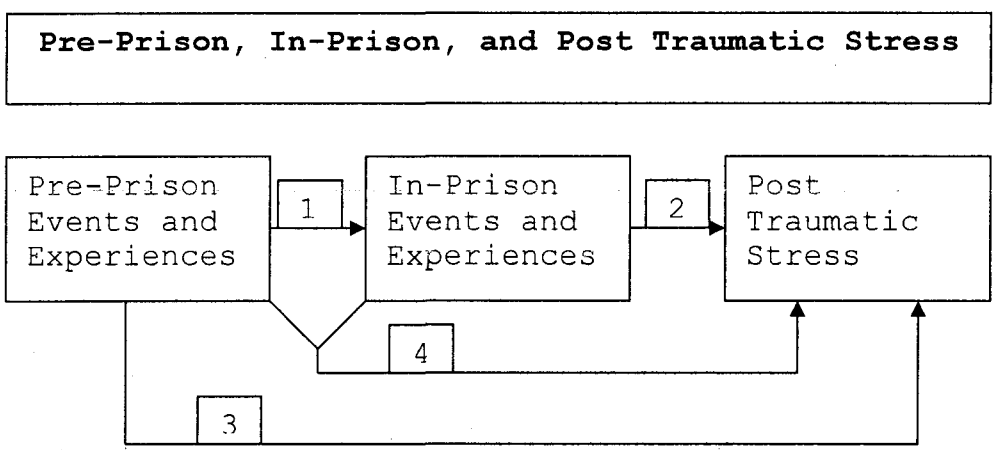
Introduction

It is reasonable to posit that pre-prison experiences affect adjustment to the prison environment, and that in-prison experiences affect the offender's adjustment upon release. "Thus, an inmate's ability to deal with incarceration is contingent on the history of experiences that [an] inmate brings to prison and hold significance for how successful the inmate will be in facing impending extramural challenges" upon release (Adams, 1992: p. 278).

This study explores the relationship between pre-prison experiences and adjustment to prison. It also examines the relationship between prison experiences and Post Traumatic Stress Symptoms. In addition, the study examines the relationship between pre-prison experiences and Post Traumatic Stress Symptoms independent of the incarceration experience, as well as the relationship between a combination of the pre-prison and in-prison independent variables with Post Traumatic Stress Symptoms. The analyses contained in this study provide foundation for a discussion of the societal challenges posed by the enormous numbers of people returning to the community from prison.

The following diagram depicts the elements analyzed in the present study. The path of model 1 analyzes the affect of each of the pre-prison variables on increasing the likelihood of each of the in-prison variables. The path of model two analyzes the affect of each of the in-prison variables on increasing the likelihood of developing PTSS. The path of model three analyzes the affect of each of the pre-prison variables on increasing the likelihood of PTSS independent of the prison experience. The path of the fully recursive model four analyzes the affect of each of the pre-prison and in-prison variables on increasing the likelihood of PTSS.

Diagram 1



Post Traumatic Stress

Post Traumatic Stress Symptoms (PTSS) are predicated upon an external catastrophic traumatic event, rather than an individual internal condition. PTSS was first delineated in the Diagnostic Statistical Manual III (DSM-III, 1980), as a traumatic event conceptualized as a catastrophic stressor that is outside the range of usual human experience. Included in this study is an exploration of the relationships between in-prison traumatic events and development of Post Traumatic Stress Symptoms, as well as the onset of Post Traumatic Stress Symptoms independent of the incarceration experience. The clinical definition of PTSS has been expanded and clarified in the most recent diagnostic Manual DSM-IV-TR (2000).

Theory

The present study bridges the importation model (Irwin and Cressey, 1962) and the deprivation model (Sykes, 1958). Proponents of the deprivation model of incarceration stress the importance of the prison social environment in forming inmate attitudes and self-perceptions. Conversely, those who support the importation model stress the importance of values that inmates bring to the prison experience, values learned in the free world, often in the ghetto and/or in their criminal life. Supporters of the integrated model (Thomas, 1970)

advocate combining elements of the deprivation and importation models to explain inmate adjustment patterns.

The theoretical perspective that guides the investigation of the relationship between aspects of the prison experience and Post Traumatic Stress Symptoms is a place-specific application of lifestyle theory (Wooldredge, 1994, 1998a, 1998b, 1999). Prison specific lifestyle theory builds upon opportunity theories, most notably routine activities theory (Cohen and Felson, 1979) and lifestyle/exposure theory (Hindelang, Gottfredson, and Garofalo, 1978). Application of domain specific lifestyle theory offers one explanation for the variation in victimization within the prison environment. This study explores the relationship between in-prison Victimization and Witnessing Victimization as potential causal mechanisms in the development of Post Traumatic Stress Symptoms. The present study also explores the relationship between participation in the Inmate Economy, as well as Adherence to the Convict Code, as mechanisms that may lead to the development of Post Traumatic Stress Symptoms. Further, this study examines elements of pre-prison experiences and in-prison experiences that rise to the level of traumatic stressor that may result in Post Traumatic Stress Symptoms.

Research Questions

The research questions explored in this study include: 1) Do pre-prison variables, including, Streetwise, Pre-prison Criminality, Frequency in the System, Race, Education, Age First Incarcerated (Appendix 1) affect adjustment to the prison environment? 2) Do aspects of the incarceration experience, including Participation in the Inmate Economy, Victimization, Witnessing Victimization, and Adherence to the Convict Code (Appendix 2) contribute to the development of Post Traumatic Stress Symptoms for some prisoners? 3) Do pre-prison variables affect onset of Post Traumatic Stress Symptoms (Appendix 3) independent of the prison experience? 4) Is there a relationship between pre-prison events and experiences, in-prison events and experiences with onset of PTSS? This preliminary study tests relationships among pre-prison, in-prison, and post-prison variables by analyzing data collected from 208 men recently released from state penitentiaries in a Mid-Western state.

Analysis of the pre-prison, in-prison, post-prison process may provide information that guides the development of programs designed to better assist individuals adjust to incarceration, and programs designed to assist individuals adjust to life post incarceration. Specifically, the findings

may foster understanding of conditions in the prison environment that cause Post Traumatic Stress Symptoms. Further, findings may guide development of programs designed to assist prisoners who enter prison with Post Traumatic Stress Symptoms as well as those who develop symptoms while incarcerated. This study's findings may also provide information that will guide development of social programs designed to increase safety and security for the citizenry, as well as provide needed support for the released prisoner.

Pre-Incarceration

Prior to incarceration, prisoners disproportionately experience economic and social disadvantage where violence, substance abuse, family disruption, and traumatic experiences are common (Hochstetler et al., forthcoming). Demographic variables such as race, education, and age first incarcerated, as well as factors occurring in youth such as frequency of out-of-home placement, reintegration services, poverty, physical abuse, sexual abuse, and witnessing violence have been linked to adult imprisonment (Ryan, Davis, and Yang, 2001; Greene, Haney, and Hurtado, 2000). Additionally, lack of self-control has been linked to involvement in illegal and analogous behaviors that result in incarceration (Gottfredson and Hirschi, 1990). People who have low levels of self

control are more likely to engage in criminal behavior and are thus more likely to experience incarceration. Therefore, the importation model suggests that prisoners import norms and values acquired prior to incarceration into the prison environment, and that these norms and values affect adjustment to prison as well as influence the subculture of the convict code.

Pre-prison experiences affect how individuals adjust to the prison environment (Importation Model). Adams (1992), in a review of empirical research, reports that demographic characteristics such as age, race, sex, marital status (Jaman, 1972; Myers and Levy, 1978; Toch and Adams, 1989a), drug use, emotional disorder, mental retardation (Toch and Adams, 1989a), criminal history (Toch and Adams, 1989a), prior incarceration experiences, employment history, and educational achievement (Zamble and Porporino, 1988; Wright, 1991a) affected prison adjustment.

In addition to the affect pre-prison experiences have on individuals, the resultant attitudes and patterns of action that individuals develop prior to entering prison have direct effect on the interactive processes of the prison population at large. For example, if an individual has violent tendencies prior to incarceration, this individual is likely

to import violence into the prison setting, thereby raising the likelihood of victimization for others.

Knowing the likelihood of which individuals entering prison will be aggressors, or which will be victims, may inform prison policy, and guide development of programs designed to minimize prison violence. At the individual level, programs designed to assist the inmate adjust to the prison environment may reduce personal victimization and witnessing others victimized that are potential traumatic stressors, thereby reducing likelihood of onset of Post Traumatic Stress Symptoms caused by the incarceration experience. At the institutional level, such programs may foster a greater sense of security and thereby reduce the traumatic stressor fear of victimization, and thereby reduce the likelihood of Post Traumatic Stress Symptoms as result of the incarceration experience.

Incarceration: Post-traumatic Stress Symptoms

The constellation of symptoms associated with Post Traumatic Stress develop after an individual has suffered a catastrophic traumatic event, and represent a syndrome that is ongoing and requires specific treatment. Studies have shown some inmates do not cope well with imprisonment, and that traumatic events encountered in prison may result in

maladaptive responses including emotional disorders (Adams, 1992; Bonta and Gendreau, 1987; Guthrie, 1999). In support of this study, Brinded found the prevalence rate of individuals suffering Post Traumatic Stress Symptoms in prison to be higher than in the general population (Brinded et al., 2001).

The individual exposed to catastrophic trauma may develop a hyper-responsive response to a variety of stimuli that may result in multiple types of negative behaviors. The hyper-responsive response is triggered by environmental cues reminiscent of the catastrophic trauma of origin. Given the negative events and experiences endemic in the prison setting, it may be that the very nature of the prison environment produces and perpetuates Post Traumatic Stress Symptoms. Therefore, it is important to recognize Post Traumatic Stress Symptoms as a health problem in prison populations.

Understanding the relationship between experiences of prison and development of Post Traumatic Stress Symptoms may lay foundation for development of prison policy designed to correct conditions in the prison environment that lead to Post Traumatic Stress Symptoms. In addition, exploration of the relationship between prison conditions and the development of Post Traumatic Stress Symptoms may assist in program development designed to both address the needs of individual

prisoners suffering Post Traumatic Stress Symptoms within the prison setting, and programs designed to assist those who export Post Traumatic Stress Symptoms acquired in prison to the community.

Incarceration: The Pains of Imprisonment

The typology developed by Gresham Sykes provides insight into aspects of incarceration that may lead to the development of Post Traumatic Stress Symptoms. In *Society of Captives* (1958), Gresham Sykes devotes a chapter, "The Pains of Imprisonment," to a discussion of what he considers five major losses, or "deprivations," a prisoner must endure. The first deprivation Sykes discusses is "loss of liberty." In addition to physical and geographic restrictions, Sykes describes the isolation from family and community as one of the pains of imprisonment. Isolation may lead to increasing levels of stress, which in turn may rise to the level of traumatic stressor that results in Post Traumatic Stress Symptoms.

The second great loss described by Sykes is the "deprivation of goods and services." The prisoner cannot acquire any personal luxuries that might bring him physical or emotional comfort, for only the base requirements of human survival are provided within the strictures of prison. Such deprivation may add to the ongoing stressors associated with

the prison experience and may result in Post Traumatic Stress Symptoms.

Third, prisoners face the "deprivation of heterosexual relationships." In prison, normal avenues of sexual release are forbidden. Prisoner's who are otherwise heterosexual may engage in homosexual activity to meet their sexual needs. Research has shown the catastrophic event of rape to be a causal mechanism in the development of Post Traumatic Stress Symptoms (Kizer, 1996). It may be the victimization of rape in the prison environment may be a causal mechanism in the onset of Post Traumatic Stress Symptoms.

The fourth great loss Sykes describes is "deprivation of autonomy." Prisoners are not allowed to make the taken-for-granted, simple decisions of life such as when to rise in the morning or when to go to bed at night, or what to wear, what to eat, or what to drink. The loss of autonomy may result in learned helplessness, and despair, that may lead to Post Traumatic Stress Symptoms.

The last deprivation Sykes describes is the "loss of security." The potential exists for victimization at any moment. Subject to the volatile environment of prison, prisoners are forced to protect themselves against real or imaginary threats by fellow prisoners or prison guards. The

total institution of prison (Goffman, 1961, 1963) confines the victim with the victimizer. Relentless fear of victimization, or the trauma that results from being victimized, have been shown to cause Post Traumatic Stress Symptoms.

Post Incarceration

Some prisoners who have endured the vicissitudes of the incarceration experience will develop Post Traumatic Stress Symptoms. Ex-prisoners who have developed Post Traumatic Stress Symptoms, or ancillary psychological symptoms as consequence of the prison experience, may pose serious risks for society.

Identifying and providing assistance for individuals in prison who suffer Post Traumatic Stress Symptoms may be cost effective in the end. Such assistance may reduce the likelihood of antisocial behavior after the prisoner's release, thereby increasing the safety and security of the citizenry. The alternative is to release prisoners suffering with Post Traumatic Stress Symptoms directly to the community. This strategy may result in an array of costly problems at both the individual and societal level.

The incarceration experience is socially and psychologically debilitating (Schmid & Jones, 1993). Negative aspects of the prison experience may result in psychological

damage including Post Traumatic Stress Symptoms. Given the sheer magnitude of the number of prisoners returning to the community each year, the implications for society are enormous. In 2002, over 600,000 individuals were released from the adverse conditions of prison (Travis and Lawrence, 2002). This study explores the possibility that certain prisoners develop Post Traumatic Stress Symptoms as result of the prison experience, and therefore pose unique challenges for society upon their release.

Some researches contend that incarceration itself is a predictor of post-incarceration recidivism (Petersilia, 1995). Further, the symptoms associated with Post Traumatic Stress may increase the likelihood of recidivism. Programs designed to reintegrate ex-offenders suffering Post Traumatic Stress Symptoms as productive members of society are required to reduce recidivism. Reduction in recidivism will reduce the number of individuals in prison and ultimately ease the financial burden of incarceration incurred by the taxpayer.

Post-incarceration: Stigma and Blocked Opportunity

Prisoners suffering Post Traumatic Stress Symptoms may pose unique concerns for society. Programs designed to assist those suffering Post Traumatic Stress Symptoms as they return to society are lacking. The findings of this study suggest

the need for programs designed to assist individuals suffering Post Traumatic Stress Symptoms acquired in prison adjust to the post-incarceration process.

Many people released from prison face a number of challenges and obstacles. Post Traumatic Stress Symptoms developed in-prison, or independent of the prison experience, may exacerbate the difficulties associated with reintegration. Some of the challenges faced by the released offender include loss of connection to family, segregation, stigmatization, lack of mobility, lack of job opportunities, and wage inequality (O'Brien, 2001). This study analyzes elements of the prison experience that may lead to the development of Post Traumatic Stress Symptoms and suggests the need for pre-release programs designed to assist these individuals in the reintegration process.

Some prisoners may lack schooling and/or optimal employment experience prior to incarceration. Others possess talents that enhance employability, yet incarceration erodes these skills. Further, decades of incarceration place them technologically behind in their trade. Those who are fortunate to obtain post-incarceration employment face wage inequality and limited financial growth opportunity (Western,

2002). This study suggest that these challenges are further amplified for those suffering Post Traumatic Stress Symptoms.

An element of O'Brien's research (2001) indicates that minimizing the socially and psychologically damaging outcomes of incarceration can lead to a reduction in post-incarceration recidivism. This is particularly salient for those who suffer Post Traumatic Stress Symptoms. In her study, O'Brien concludes that punitive retribution, the focus of contemporary incarceration, diminishes self-esteem. Low levels of self-esteem may result in a reduction in efforts to obtain legitimate opportunities. The loss of self-esteem may in turn lead to pursuit of illegitimate opportunities, which increases the likelihood of crime and recidivism. Ex-prisoners who suffer Post Traumatic Stress Symptoms may experience more difficulty in finding gainful employment compared to those released from prison who do not develop Post Traumatic Stress Symptoms. Thus, the likelihood of recidivism for those suffering Post Traumatic Stress Symptoms may be higher than for those who do not develop related symptoms.

This study analyzes the possibility that the prison experience itself may lead to Post Traumatic Stress Symptoms, and that development of symptoms in turn may increase problems in gaining post-prison employment. Therefore, results of this

study may provide information to guide development of prison programs designed to assist those suffering Post Traumatic Stress Symptoms gain employment upon release.

The present study adds to the body of knowledge by analyzing the relationship between pre-prison and in-prison variables and by analyzing their subsequent effect on Post Traumatic Stress Symptoms. Analysis of pre-prison variables, as they relate to in-prison adjustment, may inform policy at the prison level. Prison programs that recognize and incorporate the influences of pre-prison experiences, as they affect adjustment to the prison environment, may lead to a reduction in the high levels of anxiety experienced by those incarcerated, and thereby may reduce the acquisition of Post Traumatic Stress Symptoms that are the result of traumatic experiences associated with the incarceration experience. Results of the present study may provide information that guides the development of prison policies designed to reduce the traumatic stressors endemic within the prison environment. Reduction in catastrophic traumas present in the prison setting may in turn lead to a reduction in the development of Post Traumatic Stress Symptoms.

This study also explores the relationship between onset of Post Traumatic Stress Symptoms and pre-prison experiences,

independent of the prison experience. Research has shown Post Traumatic Stress Symptoms to be a serious problem within the general population (Kessler et al., 1999). The present study's exploration of the relationship between pre-prison experiences and onset of Post Traumatic Stress Symptoms independent of the incarceration experience may provide information relevant to implementation of social programs designed to assist individuals suffering Post Traumatic Stress Symptoms. Further, it is important to recognize those entering prison experiencing Post Traumatic Stress Symptoms, for the prison environment may pose triggering recollections that result in Post Traumatic Stress induced outbursts or violence.

Chapter 2

Literature Review

The Sociological Foundation For Correctional Research

Prison is a social system that affects the social relations of those confined. Prison is a community with distinctive norms, values, and folkways (Clemmer, 1940). Sykes (1958) describes the prison culture as "the society of captives." Just as the context of a neighborhood, community, or society shapes interactions, so too does the structure of prison influence the social processes of those confined.

In the early 19th century the rationale for the first penitentiary was based upon religious doctrine rather than scientific research. The Quakers first applied the strictures of religious redemption of criminals at the Walnut Street Jail (Bacon, 1995). This was the first penitentiary and became known as the Pennsylvania System. The Quakers believed that prisoners could be reformed if they were given the opportunity to meditate about their past sins and resolve to live a better life. As part of their contrition, prisoners were separated from each other and confined in solitary isolation. The Quakers believed that isolation would foster meditation that would result in rehabilitation.

Later in the 19th century, the focus moved from redemption of criminals via religious salvation to scientific attempts to identify common characteristics that could predict criminal propensity. The 19th century penologists viewed prisoners as evolutionary throwbacks who comprised an anti-social class (Giddings, 1985; Lombrosos and Ferro, 1895). This was the first application of the medical model to crime. However, redemption from criminality remained the primary goal.

In the 20th century rehabilitation replaced redemption as the main goal of imprisonment. The medical model was extended within rehabilitation to include the construct that a cure for the criminal condition, a medical malady, could be developed. This led to trained clinicians being added to correctional staff. The clinicians were believed to be in a position to scientifically classify individual criminals and thereby identify a rehabilitation program that would cure criminality.

To accommodate the changing orientation from redemption to rehabilitation, bureaucratic systems replaced the authoritarian style of prison management that was associated with the redemptive model. Sociologists began to examine the changes in the prison environment associated with the philosophical change in prison administration. Scholars

became interested in the social relations in prison, in particular, the inmate subculture (Haynes, 1948).

The first sociological inquires into the subculture of prison were influenced by the dominant structural-functional paradigm of the early 20th century. Structural-functionalism developed as a result of the classic work of Emile Durkheim (1895). Durkheim emphasized the need for empirical analysis of social facts outside the scope of individual behavior such as social systems, cultural norms, and cultural values. Parsons (1937) expanded upon principles espoused by Durkheim to include different action systems. He examined the distinct systems, and also the intersystemic relationships between them. The focus of both perspectives is the development of and maintenance of an orderly system of social interactions. The structural-functional paradigm viewed socialization as the primary mechanism of systemic maintenance.

A second sociological orientation used to analyze the development and functioning of the inmate subculture and social relations within the prison setting is symbolic interaction (Mead, 1878, 1924). Symbolic interaction focuses on the social processes that individuals experience which lead to the development of self. Mead describes a feedback loop through which the actions and behaviors of an individual

affect how others respond to the individual and that how others treat the individual affects the actions and behaviors of the individual. Some scholars suggest that this bi-directional feedback loop is a component in the process of prisonization. Theories rooted in symbolic interaction explain how inmates learn the norms of the inmate subculture and how these interactions influence their self-concepts and behaviors.

The developmental process of prison subculture is captured in Cohen's (1955, 1997) research in the formation of subculture in the general population. Cohen suggests that in response to social disparities the underclass is barred from the opportunity of meeting generalized social goals and therefore reacts against the normative values of society at large. Cohen's work on subculture formation supports an unintended consequence of the prison environment. He suggests that subcultures arise when individuals with similar adjustment problems begin interacting. When similar individuals are grouped together during incarceration the environment for the formation of a prison subculture exists. Further, the development of an inmate subculture in which "negative" norms and values predominate undermines the correctional goal and inculcates prisoners with the norms and

values of the convict code. An additional unintended consequence of prisonization is that released prisoners many export the norms and values of the prison subculture to the community.

In addition to the norms and values of the inmate subculture, the very nature of the prison environment may have deleterious effects upon prisoners. A primary goal of the present study is to measure the relationship between elements of the incarceration experience and their effect upon increased likelihood of PTSS. However, it must be pointed out that the degree to which prison directly affects individuals is still a matter of debate. Psychological studies have not been very successful at identifying detrimental effects of imprisonment (Bonta and Gendreau, 1990; Bukstel and Kilmann, 1980; Haney, 1998; Toch, 1984). Gendreau (1990) conducted a meta-analysis of studies that examined the psychological well-being of inmates in response to prison crowding, health risks, long-term incarceration, solitary confinement, short-term detention, and death row. They found only inconclusive evidence as to the detrimental, psychological effects of incarceration. In a review of 90 experimental, psychological studies, Bukstel and Kilmann (1980) concluded that imprisonment was not harmful to all individuals. However,

these studies did not focus upon the prison specific context that influences individual prisoner behavior. "Notwithstanding the tendency among researchers to talk about prison as if it were some Weberian ideal type, conditions of confinement can vary dramatically along critical dimensions that render one prison a fundamentally different place in which to live from another" (Haney, 1997). Review of the literature indicates that to date only one multilevel study has examined the influence of prison contexts on individual processes and social relationships inside prison (See Wooldredge, Griffin, and Pratt, 2001). Their findings suggest that psychological damage resultant from the prison experience differs among individuals and by correctional contexts.

The Prison Population

To support the importance of the present research, a discussion of contemporary prison population trends is provided. An understanding of the scale of the prison population, and related costs to society, frames and underscores the importance of the effects of pre-prison experiences upon prison adjustment, and between elements of the prison experience that may cause Post Traumatic Stress Symptoms. Analysis contained in the present study lays

foundation for discussion of salient issues related to post-prison reintegration.

The prison population is growing at an alarming rate and has reached a population density unparalleled in the history of the United States of America. On August 23, 2003, the number of people imprisoned within the Federal Bureau of prisons reached an all time high of 171,889 (Federal Bureau of prisons, 2003). Of this population, according to the Federal Bureau of Prisons, 84 percent were first time, non-violent offenders (Federal Bureau of prisons, 2003).

The total number of State and Federal inmates grew from 400,000 in 1982 to nearly 1,300,000 in 1999. This population growth was accompanied by the opening of over 600 State and 55 Federal correctional facilities (Department of Justice Statistics, 2002). In 2003, over 2.2 million people were confined in state and federal prisons (Bureau of Justice Statistics, 2003). If probation and parole are added to incarceration figures, at the end of 2002 6.73 million U.S. citizens were in jail, in prison, on probation or parole (Bureau of Justice Statistics, 2003). Roughly one in thirty-two United States citizens are presently incarcerated or on probation or parole (Bureau of Justice Statistics 2002a). These figures reflect the fact that the United States of

America incarcerates the highest percentage of its citizenry, as well as the highest raw number of individual citizens, among all industrialized nations of the world (Cato Institute, 2003; Development and Statistics Directorate, 2003).

The overall incarceration rate of State and Federal prisoners sentenced in 2002 was 701 per 100,000 U.S. residents. Studies of ethnicity and sentencing rate reveal the Blacks were sentenced at a rate of 3,473 per 100,000; Hispanics at a rate of 1,176 per 100,000; and Whites at a rate of 450 per 100,000 (Sentencing Project, 2003). In 2001, approximately one-half of the sentenced prisoners were African American (Bureau of Justice Statistics, 2002). Assuming recent incarceration rates remain unchanged, an estimated one of every twenty Americans (five percent) can expect to serve time in prison during their lifetime. However, for African American men this figure is 28.5 percent or more than one in four African American men can expect to serve time in prison over their life span (Bureau of Justice Statistics, 1997).

Sentencing data reflects the dramatic 84 percent increase in the prison population from the mid-1980's through the mid-1990's. The Bureau of Justice Statistics attributes the sharp increase in the prison population to "the war on drugs." (Bureau of Criminal Justice Statistics, 2001, 2002). The mean

sentence length per offense type imposed on federal prisoners underscores this statement. In 2002, the mean sentence length for violent felonies was 63.0 months, whereas the mean sentence length for drug felonies was 75.6 months (Bureau of Justice Statistics, 2001). McCaffrey (1996) summarized the result of the war on drugs on incarceration when he stated, "We must have law enforcement authorities address the [drug related] issue(s) because if we do not, prevention, education, and treatment messages will not work very well. But having said that, I also believe that we have created an American Gulag based on the failed interdiction efforts of the war on drugs."

As result of the dramatic increase in incarceration numbers, prison overcrowding is a salient issue, for overcrowding influences how individuals adjust to the prison environment. Further, overcrowding contributes to psychological damage, including Post Traumatic Stress Symptoms, due to increased violence in overcrowded prisons. At year-end 2002, state prisons were operating between 101-116 percent of rated capacity, and the federal prison system was operating at 133 percent of rated capacity (Bureau of Justice Statistics, 2003). Given the population density within the confines of prison, strategies to reduce overcrowding are

required. Reduction in overcrowding may not only reduce violence but also the prevalence rate of Post Traumatic Stress Symptoms that result from the prison experience.

Post Traumatic Stress Disorder

Given that each year hundreds of thousands of people return to the community after completing their prison sentences, some of whom have developed Post Traumatic Stress Symptoms as result of the incarceration experience, exploration into the relationship between the prison experience and development of Post Traumatic Stress Symptoms is a salient issue. Following is a review of the literature related to Post Traumatic Stress Symptoms.

Yehuda and McFarlane (1995) point out the importance of understanding Post Traumatic Stress Disorder (PTSD). They describe the misunderstanding of, and marginalization of those suffering Post Traumatic Stress Symptoms. Post Traumatic Stress Symptoms offers a concept that assists in the recognition of needs and rights of victims, particularly those who have been misunderstood, ignored, or stigmatized.

Recognizing its impact on individuals the American Psychiatric Association (APA) first added PTSD to the Diagnostic Statistical Manual-III (DSM-III) classification scheme. Following is a discussion of the diagnostic criteria

for PTSS as it evolved through DSM-III, DSM-III-R, DSM-IV, and DSM-IV-TR. The significant change ushered in by the PTSD concept was the stipulation that the causal etiological agent was outside the individual, and that a traumatic event, as opposed to an inherent individual weakness, causes PTSD (American Psychiatric Association, 1987).

In the DSM-III formulation, a traumatic event was conceptualized as a catastrophic stressor that was outside the range of usual and expected human experience. Traumatic events were considered clearly different from the very painful stressors that constitute the normal vicissitudes of life such as divorce, failure, rejection, serious illness, financial reverses, and so forth.

As delineated in DSM-III, specific criteria exist for the diagnosis of PTSD. The "stressor criterion" specifies that a person had been exposed to a catastrophic event involving actual or threatened death or injury, or a threat to physical integrity (American Psychiatric Association, 1994). The "intrusive recollection criterion" includes symptoms that are the most distinctive and readily identifiable symptoms of PTSD. For individuals with PTSD the traumatic event remains, sometimes for decades or a lifetime, a dominating psychological experience that retains its power to evoke

panic, terror, dread, grief, or despair, as manifested in daytime fantasies, traumatic nightmares, and psychotic reenactments known as PTSD flashbacks. Traumatic stimuli that trigger recollections of the original event have the power to evoke mental images, emotional responses, metabolic change, and psychological reactions associated with the trauma of origin (American Psychiatric Association, 1987). Further, PTSD is associated with increased risk for depression, anxiety, alcohol or substance use disorders, hypertension, bronchial asthma, peptic ulcers, and other diseases (Davidson, 2001). It is important to note that PTSD does not necessarily develop immediately following the traumatic stressor. It may become manifest at any time following the exposure to such stressor(s).

Post Traumatic Stress Disorder, as described in the Diagnostic Statistical Manual-IV (DSM-IV, 1994)), is "the development of characteristic symptoms following exposure to an extreme traumatic stressor." If an individual has not been exposed to a traumatic stressor, PTSD cannot be diagnosed as the causal agent of mental health disorder. In order to accurately conceptualize PTSD, it is necessary to clearly understand what "extreme traumatic stressor" means. As described in DSM-IV, traumatic stressor(s) must involve

"actual or threatened death or serious injury or other threat to one's physical integrity." Such events are not limited to those experienced directly, but can be witnessed, or experienced vicariously.

In addition to having survived a traumatic event, a PTSD diagnosis under DSM-IV criteria requires that an individual exhibit symptoms from three categories: re-experiencing, avoidance/numbing, and increased baseline physiological arousal. Re-experiencing symptoms include intrusive thoughts of the trauma, nightmares, flash backs, and "trigger responses" (i.e. becoming distressed when a stimulus reminiscent of the trauma is encountered). Avoidance/numbing symptoms include avoiding situations reminiscent of the trauma, amnesia relating to part of the trauma, isolation from others, and a general feeling of emotional numbness. Arousal symptoms include insomnia, angry outbursts or irritability, and a general sense of jumpiness. In recent studies among incarcerated populations, Post Traumatic Stress Symptoms were found in approximately 48 percent of female inmates and 30 percent of male inmates (Baker and Alfonso, 2003). The diagnostic criteria of Post Traumatic Stress Symptoms is underscored in the most recent diagnostic manual the DSM-IV-TR (2000).

Research studies that examine extreme traumatic events that result in PTSD are numerous. For example, the tremendous and uncontrollable stress during U.S. Army survival training was found in some cases to lead to acute trauma and PTSD (Morgan, Hazlett, Wang, & Richardson, 2001). Many studies have been conducted on PTSD caused by combat, assault and rape, natural disasters, child abuse, kidnapping, family economic struggles, and school shootings (Foa, Riggs, & Gershuny, 1995; Kizer, 1996; Lornez, et al., 1993; Schwarz & Kowalski, 1991). However, research has shown that reactions to traumatic experiences are temporary and mild for some, by comparison to the severe and lasting psychological distress reported by others (Figley, 1978; Port, Engdahl and Frazier, 2001; Solomon, 2001).

Breslau, Davis, and Andreski (1995) studied 1,200 members of a health maintenance organization and found that 19 percent of the sample reported having experienced traumatic events, and that a history of past exposure signaled an increase in liability in future exposure. Odds of exposure for males, and those with less than college education, were found to be marginally significant. Early misconduct and family history of psychiatric disorder were also predictors of previous exposure. The study also noted that Blacks had higher

exposure incidence compared to Whites in follow-up interviews. The authors concluded that PTSD-related traumatic events are not random; young adults, those with less education, and Blacks are more likely to be exposed to trauma and to develop Post Traumatic Stress Symptoms (Breslau, Davis, and Andreski, 1995).

Pre-Incarceration

Pre-Incarceration: Streetwise and Criminality

Pre-incarceration events and experiences shape some individuals to be Streetwise and/or be disposed to Criminality. These elements may be related to adult incarceration as well as Post Traumatic Stress Symptoms. In the general population, evidence suggests that the likelihood of substance abuse and offending is greatest for those who have experienced adversity (Dembo et al., 1990, Dohrenwend, 2000, Logan, Walker, Staton, and Leukfeld, 2001). Adams (1992) conducted an extensive review of empirical research. He reported that research findings indicate that individual characteristics and environmental factors affected prison adjustment, and that they are related to emotional disorders or disruptive behavior.

Profiles of prisoners who are involved in disciplinary issues in prisons indicate that they have experienced pre-

prison problems in domestic, educational, and occupational endeavors (Adams, 1992). However, research on pre-incarceration criminal history shows mixed findings, and it remains unclear how these experiences affect prison adjustment (Adams, 1992). This study adds insight into the affect of pre-prison experiences upon prison adjustment. This lays foundation for analysis of the relationship between prison experiences and development of Post Traumatic Stress Symptoms.

Guthrie (1999) reported that prisoners tend to come from economically and socially disadvantaged circumstances in which violence, family disruption, substance abuse, and other traumatic experiences are common. In a survey of male inmates, he found that subjects reported having experienced three times more traumatic events compared to non-institutionalized comparison groups.

Researchers have noted that inmates enter prison with backgrounds and characteristics that affect their relationships with other inmates and correctional staff, as well as their ability to cope with anxiety and objective difficulties present in the prison environment (Hochstetler et al., forthcoming; Gullone, Jones, and Cummins, 2000; Silverman and Vega, 1990; Verona, Patrick, and Joiner, 2001). Sykes (1958), in discussing the Importation Model, provides insight

into the culture of prison. Sykes describes prison culture as the simultaneous interplay of personal characteristics and the conditions of confinement. It may be that pre-prison experiences not only lead to adult incarceration, but may also lead to Post Traumatic Stress Symptoms prior to or following entry to prison.

On average, prisoners tend to have experienced previous psychological distress and disorders. For a combination of reasons that pertain to the etiology of emotional disorders, the efficacy of treatment interventions, and the stressful nature of prison environments, a history of psychological treatment may indicate a major risk factor for the onset of serious emotional difficulties in prison. Research indicates that approximately 20 percent of inmates have spent time in a mental health treatment facility, or reported mental illness (Bureau of Justice Statistics, 1997). In a separate study, 86 percent of prisoners reported they had received at least one psychiatric diagnosis in their lifetime (Chiles, Cleve, Jemelka, & Trupin, 1990). Other investigators have shown that prisoners have high rates of personality disorders (Davison, Leese, and Taylor, 2001), affective disorders, functional psychosis (Smith, O'Neal, Tobin, and Walshe, 1996),

depression, PTSD (Brinded et al., 2001), and many other psychological problems (Hodgins and Cote, 1990).

Being Streetwise and/or engaging in Criminality may ultimately result in a life-guiding behavioral schema that an individual incorporates in dealing with an array of situational conditions in the prison environment. The following section investigates the possibility that being Streetwise and involved in Criminality prepare individuals for the transition from the streets to the total institution of prison.

Pre-Incarceration: Preparation for Prison

While some have found that pre-incarceration experiences may lead to psychological problems that can be exacerbated by incarceration, others have found that individual correlates and previous experiences may actually lead to more effective adjustment to the prison environment. Johnson (1976) reports that Black inmates are less susceptible to emotional disorders than are White inmates. Kessler (1979) explains the resilience to depression found among African Americans as a function of earlier and frequent exposure to stress. He explains that racial disparity and racism may insulate African Americans against stress in that they are forced by the environment to accommodate the associated stressors. Pre-

prison lives of many Black inmates, that require survival in urban ghettos, may have trained them in street survival skills that are useful in prison. Exposure to the criminal justice system and inculcation into the "code of the street" (Anderson, 1999) may prepare individuals to better cope with the prison environment and thereby reduce the likelihood of developing Post Traumatic Stress Symptoms as result of the prison experience.

Scholars have pointed out that a variety of life experiences train people in street survival skills, and that these skills can be used to advantage in prison. Results indicate that state-raised youth, or persons who have spent the better part of their childhood and adolescence in institutions, may be better prepared for the prison environment through familiarity with institutional life (Irwin and Cressey, 1962; Irwin, 1970, 1980; Bartollas, 1982). Further, familiarity with the "code of the street" (Anderson, 1999) may prepare individuals for the strictures of the convict code.

Pre-Incarceration: Family and Negative Parenting

Juvenile delinquency has long been associated with family context. Jang and Smith (1997) studied the correlation between family relationships and delinquency. They analyzed

the specific relationship between affective relationships, parental supervision, and their impact on delinquency. The study included 1,000 adolescents who were followed for four and one half years until the end of their 11th and 12th grades. Interviews were conducted at six-month intervals with the adolescents and their caretakers. Findings indicate that parental supervision had a significant negative relationship with delinquency, and while affective relations between parent and adolescent did not significantly influence delinquency, delinquency did negatively influence the affective child/parent relationship.

Chambers, Power, Loucks, and Swanson (2000) studied prison inmates and found strong associations between low parental care and low levels of self-esteem. They found diminished self-esteem to be associated with increased likelihood of future psychological distress, and they found that the prison experience amplified distress levels among these subjects. It was also found that low maternal care was related to poor peer relationships with inmates, which further exacerbated levels of psychological distress.

Dembo et al. (1990) found that a history of childhood physical abuse, and/or sexual victimization, results in youths who are at high risk for future deviant behavior, and that

these factors may contribute to adult incarceration. It was also found that physical and sexual abuse leads to the development of Post Traumatic Stress Symptoms (American Psychiatric Association, 1994). These finding support a premise of the current research, that pre-prison experiences may cause Post Traumatic Stress Symptoms prior to incarceration.

Incarceration

Incarceration: Psychological Consequences

Variation in inmates' accounts of their prison experiences and lasting psychological effects of incarceration are striking (Hochstetler et al., forthcoming; Toch and Adams, 1989a; Toch, 1977). Even those who have served comparable sentences in the same facilities often have experiences that differ markedly (Hemmens and Marquart, 1999). Distress researchers concur that individual pre-event characteristics and post event resources, in conjunction with the specific quality of exposure to potentially damaging experiences, significantly influence the impact of traumatic events on individuals (Benotsch, 2000; Breslau, Davis and Andreski, 1995; Gold et al., 2000; Kessler et al., 1999; McFarlane, 1989).

Elements of incarceration may be traumatic and adjustment to the prison environment may be very difficult. Adams (1992) notes that prison maladjustment may lead to self-mutilation, suicide attempts, prison misbehavior, and emotional disorders. Examples of prison experiences that may be perceived as traumatic events include solitary confinement, victimization, witnessing victimization, fear of victimization, overcrowding, and exposure to disease. These events may lead to dissociative symptoms (to lose one's self) that may be associated with acute and uncontrollable stress (Morgan, et al. 2001). It is reasonable to hypothesize that uncontrollable stress, which may result from the prison experience, may lead to the onset of Post Traumatic Stress Symptoms.

Previous studies have concentrated more on the effects of incarceration on psychological distress and well-being than on the implications of developing Post Traumatic Stress Symptoms. For example, Cooper and Berwick (2001) studied 171 male inmates serving different sentences. They analyzed the effects of incarceration on psychological distress in three groups of suicide-prone prisoners to determine if the combination of institutional and individual factors were related to levels of anxiety, depression, and psychological

well-being. Findings showed that institutional hassles and worries associated with day-to-day living conditions, psychiatric history, guilt feelings, religious faith, lack of close friends outside prison, and tendencies not to take part in activities, were associated with high levels of distress. The present study builds upon this literature by analyzing the specific relationship between aspects of the prison experience and development of Post Traumatic Stress Symptoms.

Incarceration: The Mentally Ill Offender

Ditton (1999) reports that over three-quarters of the prisoners deemed mentally ill had sentences prior to their present period of incarceration. Of this group over 30 percent of the males and 78 percent of the females reported prior physical or sexual abuse. Further, 61 percent of state prisoners and 41 percent of prisoners in local jails reported prior treatment for a mental condition. The Florida Corrections Commission Annual Report (1999) underscores the problematic relationship between the prison environment and mental health outcomes. Contained in the report is the statement that "[P]rison brutality and overcrowding can negatively affect inmates with no prior mental illness history." This supports a tenet of the present research that

the prison experience itself may cause Post Traumatic Stress Symptoms.

Research on mental health history of inmates indicates that those most vulnerable to psychological breakdown in prison are inmates with a history of emotional difficulties (Adams, 1992). Ditton (1999) reported that state prison inmates with a mental condition were more likely to be incarcerated for violent offenses than other inmates (53 percent compared to 46 percent). These inmates were also more likely to have been under the influence of alcohol and/or drugs [co-morbidity] during the offense, and were twice as likely to have been homeless.

However, research has also found that even though the violent mentally ill offenders are a valid concern, this population is not nearly as big a problem as is usually portrayed in the media. Researchers tracked 337 mentally ill prisoners who were released from Washington State prisons in 1996 and 1997 (Lovell, D., Gagliardi G.J., and Peterson, P.D., 2002). Persons with schizophrenia, major affective disorders, and borderline personality disorder made up most of the sample. Although charges for new crimes or supervision violation were common (70%), just ten percent committed new felonies against persons, and two percent committed serious

violent offenses (homicide, rape, first-degree robbery or assault). The follow-up period for this study was thirty-one months. These findings underscore the challenge of post-incarceration reintegration faced by those suffering mental illness. Although two percent may be considered a rate high enough to justify allocation of resources for treatment and follow up services on the grounds of public safety, emphasizing this danger to the public may only reinforce public fear of those suffering mental health challenges. This perception may discourage efforts to reach out to mentally ill offenders and keep them engaged in community mental health and other social support services.

Underscoring the need to treat the mentally ill offender, Brinded, Alexander, Simpson, Laidlaw, Parley, and Piona (2001) reported findings of a New Zealand prisoners study. The research used a random national sample of female and male inmates and compared findings to a representative community sample. Using diagnostic criteria, respondents were interviewed to determine DSM-IV diagnoses of psychiatric disorders. Findings showed a markedly elevated prevalence rate for major mental disorders in the prison sample, as compared to the community sample. The study found high levels of substance misuse, psychotic disorders, major depression,

bipolar disorder, compulsive disorder, and Post Traumatic Stress Symptoms within the inmate sample.

Incarceration: Post Traumatic Stress Symptoms as Precursor

Post Traumatic Stress Symptoms may be linked to criminal behavior, in that symptoms may lead to offenses that can be connected to previously experienced extreme trauma. For example, Post Traumatic Stress Symptoms may result in criminal actions such as sudden outbursts of violent behavior. Environmental conditions that are similar to those which existed at the time of the trauma can induce "flashback" behavior. The presence of Post Traumatic Stress Symptoms may therefore be the cause of crime in certain instances, and some prisoners may have acquired these symptoms prior to incarceration.

Of specific concern are incarcerated military veterans who may have engaged in criminal behavior as civilians. It may be that Post Traumatic Stress Symptoms acquired in military service precipitated their "criminal" actions (Ex-Services Mental Welfare Society, 2003). Thus, those having served in defense of our country may experience the indirect consequence of Post Traumatic Stress Symptoms acquired in the military that then contributed to post-military incarceration.

Incarceration: Environmental Factors

Adams (1992) reported on the effects of prison environmental factors. Studies have investigated prison physical characteristics and security levels for effects on adjustment. Studies of the effects of noise levels, temperature, and aesthetics have been inconclusive since findings show mixed results. However, it has been concluded that in high-security settings, inmate adjustment is related to cell satisfaction, which may be related to feelings of safety, as well as control over lighting, heating, and ventilation. Prisons that attend to order, security, and safety, were found to exhibit less violence and more program participation (Adams, 1992). Lower levels of violence within the prison environment and increased levels of program participation may reduce the likelihood of developing Post Traumatic Stress Symptoms as result of the incarceration experience.

Incarceration: The Inmate Economy

The illegitimate inmate economy is driven by force, fear, tobacco, drugs/alcohol, and sex (Cooperstein, 2001). There are specific rules that govern the exchange of contraband in the prison setting. For example, a fundamental rule is two for one. If an individual borrows a pack of cigarettes, the

exchange rate need not be discussed. It is common knowledge that the borrower will have to repay two packs for the one borrowed.

Given the restrictive nature of the prison environment, cost of contraband is high and prices widely known. It is common within the inmate economy for a "pin-joint" (a very thin marijuana cigarette) to command a price of ten dollars, a carton of cigarettes, or three books of stamps. In addition, sexual favors may be exchanged for contraband.

At the individual level, involvement in the inmate economy may be very dangerous. If an individual borrows and fails to repay, the convict code requires swift and severe recompense. Failure to repay may result in physical attack and victimization. Additionally, victimization may be the source of further victimization. The victimized individual may be perceived as weak and thus may be considered a suitable target for victimization by other prisoners. Further, the stress associated with the act of participating in the Inmate Economy may reach the level of traumatic event independent of victimization and result in development of Post Traumatic Stress Symptoms.

At the institutional level, the inmate economy may affect the stability of the prison environment. Sudden changes in

the level of contraband may have economic effects that have the potential to affect the stability of the community of prisoners. There are no realistic substitutes for most of the contraband goods and services marketed in prison, making the demand for those goods and services highly price sensitive. If the supply of contraband is successfully cut, the price levels increase, and the desired consumption of contraband decreases. Given the rise in cost, prisoners may increase their illegitimate income through whatever means available in an effort to meet their consumption needs, for example by victimizing other prisoners. This may lead to an increase in criminal activity such as extortion and theft.

The high price for illegal services results in increased profits to suppliers. Other prisoners seeing the profits made by suppliers may attempt to enter the supply market. The attempt of contraband dealers to encroach on the territory of other suppliers may be met with violence. Thus, a sudden reduction in the supply of contraband may increase the potential for instability, disorder, and violence in the prison community, thereby increasing the potential for individual victimization. The stress associated with participation in the Inmate Economy may itself lead to onset

of Post Traumatic Stress Symptoms independent of actual victimization.

Incarceration: The Convict Code

The convict code is a set of rules that is clearly delineated, verbalized, and internalized. The code defines consequential meanings of situations and actions. It is a set of norms, rules, and values that define prison culture. The code is the foundation for what has been described as the "subculture of prison" (Wieder, D.L., 2001; Sykes and Messinger, 1960).

The convict code consists of clearly defined maxims that govern interaction. There is agreement on the elements that constitute the convict code, although some institutional variation on how the code is implemented exists between institutions. This discussion covers the basic components of the convict code. A detailed discussion of the discrete elements contained in the convict code is subject for a study unto itself.

It is important to understand the convict code, for violation of the norms and values of the code carry consequences. Whereas consequences of violating the Convict Code may induce stress, the Convict Code itself may induce high levels of stress. Aside from the actual consequences of

violating the Convict Code, the potential for consequences associated with Code violation are constant. This stress is present independent of actual consequences, and for some, traumatic. Therefore, the stress associated with the Convict Code itself may cause Post Traumatic Stress Symptoms.

An element of the convict code is do not snitch (inform); "I don't know anything about anything." Other elements of the convict code include but are not limited to: do not cop out (admitting guilt); do not take advantage of other prisoners (whereas this rule is clearly articulated, more accurately this rule states do not take advantage of other prisoners who are your "home boys" or close associates); share what you have for we are all in this hell-hole together; you watch my back and I'll watch yours; do not inquire about other prisoner's personal business; do your own time; do not trust staff or prison officials for they are the enemy (be a stand up con); and be polite and respectful (don't "diss" anyone). However, a prisoner must straddle the line of being polite and respectful without showing undue deference that may be perceived as weakness.

Incarceration: Learned Helplessness

Certain objective conditions, such as powerlessness and dependency, create a sense of detachment from one's own

actions and outcomes that people find demoralizing and distressing (Horwitz and Scheid, 1999; Mirowsky and Ross, 1989b). The prison experience is an extreme example of powerlessness and dependency, a setting in which virtually all aspects of life are controlled. Goodstein et al. (1984) describes the outcome of excessive control as "learned helplessness." Seligman (1975) describes learned helplessness as the withdrawal of effort and feelings of dejection that accompany exposure to inescapable, uncontrollable negative stimuli.

Learned helplessness acquired in prison may pose serious challenges for society when prisoners are released. Given current incarceration policies, where sentences run for decades, released prisoners face the transition from being controlled, to taking control of their daily lives. The released prisoner is suddenly faced with aspects of daily life such as shopping, balancing a checkbook, and getting a job, activities which were completely controlled in the prison setting. For some prisoners who become institutionalized, making the transition from learned helpless to self-efficacy will be extremely difficult, and for others, impossible. Such individuals will ultimately recidivate and return to the total institution of prison. The trauma of reintegration for those

who develop learned helplessness as result of the total institution of prison may cause Post Traumatic Stress Symptoms for certain individuals.

Victimization: The General Population

Studies of post-crime distress due to criminal victimization have been conducted among the general population. Even a single non-violent offense committed against free citizens can have lasting psychological consequences and affect future perception of security (Davis, Taylor, and Lurigio, 1996; Denkers and Winkel, 1997; Hraba, Lorenz, Pechacova, and Bao, 1999; Norris and Kaniasty, 1994). Several studies have shown that household burglary significantly predicts depressive symptoms and psychological difficulties, and that these symptoms often last for months (Cabellero, Ramos, and Saltijeral, 2000; Beaton, Cook, Cavanaugh, and Harrington, 2000).

Davis, Taylor, and Lurigio (1996) studied post-crime psychological distress among victims of burglary, robbery, and nonsexual assault. Interviews that took place one month following the incident, and again three months later, provide relevant data. Demographic characteristics and victim perceptions accounted for the greatest amount of variance in outcomes. Given that victimization occurs more frequently in

the prison population, and that many prisoners are already psychologically vulnerable, it is reasonable to hypothesize that prison victimization may lead to Post Traumatic Stress Symptoms at higher levels than in the general population.

Victimization: The Prison Experience

Given the effects of criminal victimization in the general population, there is reason to believe that victimization in prison affects prisoners' distress levels, especially when victimization is repeated (Hochstetler et al., forthcoming). Therefore, it is reasonable to hypothesize that in-prison victimization may reach the traumatic level required to induce Post Traumatic Stress Symptoms.

Most investigators of victimization in prison focused solely on violent victimization. The focus, while understandable, obscures the toll that non-violent or routine criminal victimization may have on inmates (O'Donnell and Edgar, 1998). Numerous studies find that some inmates are viewed as easy targets. These vulnerable prisoners endure repeated harassment by theft, robbery, vandalism, fraud, and other offenses, often with the threat of violence underlying all of the crimes (O'Donnell and Edgar, 1998; Sykes, 1958; Toch, 1992). The repeated exposure to non-violent

victimization may lead to development of Post Traumatic Stress Symptoms.

Maitland and Sluder (1998) investigated inmate victimization in a Midwest prison. The authors report a relationship between victimization and associated individual, psychological, social, and institutional variables. Wooldredge (1998) reports that inmate-on-inmate crime is a serious type of victimization and personal characteristics of lifestyle traits predispose certain individuals to be victimized. A premise of this study is that as in-prison victimization increases likelihood of developing Post Traumatic Stress Symptoms increases.

Fear of crime inside correctional facilities leads to fear of victimization (McCorkle, 1992; 1993a/b; Wright, 1991). In a study of 300 inmates from a maximum-security facility in Tennessee, McCorkle (1993/b) found a higher rate of fear inside the prison compared to what has been documented in the free world. Higher levels of fear inside the prison were found to be associated with prisoners that were young, socially isolated, and more likely to be a frequent target of victimization. While long-term exposure to prison conditions is not damaging to inmates in a uniform way, there is evidence

that these conditions tend to produce psychological disturbances (Adams, 1992).

Hemmens (1999) research supports previous findings that inmates experience fear of violence and victimization in prison. A survey of 775 adult male inmates analyzed the effects of race, ethnicity, and prior criminal history on reports of fear. Findings showed that race/ethnicity were not factors, but age was related to perceptions of violence and victimization in prison. Younger prisoners reported higher levels fear and were more likely to describe prison as a dangerous place.

O'Donnell and Edgar (1998) studied adult male prisoners to determine a view of day-to-day victimization in prison. Their findings indicate that younger prisoners were victimized more than older offender's. For the group of young prisoners, verbal abuse was most common, followed by threats and assaults. A premise of this study is that Age First Incarcerated is negatively related to victimization and fear of victimization.

A survey of inmates in three Ohio prisons found that fifty percent had been victims of a crime in prison, and ten percent had been assaulted in the previous six months of their period of incarceration (Wooldredge, 1994). Official records

of inmates in thirty-six New York facilities revealed that ten percent were cited for assault in a three-year period; thirteen percent for theft; and twelve percent for vandalism (Wooldredge and Carboneau, 1998). However, what must be borne in mind is that these figures represent only officially recorded offenses. Therefore, one can only speculate as to the magnitude of actual prisoner victimization as well as to the actual number of offenses committed. The unreported incidents represent the dark figure of crime that is actually occurring within the prison environment.

Drawing upon research from the general population, victimization has been shown to lead to Post Traumatic Stress Symptoms (Schiff, El-Bassell, Engstrtom, & Gilbert, 2002). Given that victimization rates are higher in the prison environment than in the general population, it is reasonable to hypothesize that the prison experience itself may lead to higher incidence of Post Traumatic Stress Symptoms.

Victimization: Prison-Domain-Specific Lifestyle Theory

A place-specific application of lifestyle theory is implemented as a theoretical perspective to frame the hypotheses analyzed in this study (Wooldredge, 1994, 1998a, 1998b, 1999). Building upon opportunity theories, most notably routine activities theory (Cohen and Felson, 1979) and

lifestyle/exposure theory (Hindelang, Gottfredson, and Garofalo, 1978), the prison domain specific application of lifestyle theory offers one explanation for variation of victimization within the prison environment. Whereas the following discussion focuses on Victimization, the same tenets hold true for participation in the Inmate Economy, Witnessing Victimization, and adherence to the Convict Code.

Spatial and temporal elements of individual victimization, defined under the rubric "place of crime" (Eck and Weisburd, 1995) help explain why some places and individuals become targets for victimization. Wooldredge (1998) postulates that victimization risk is influenced by lifestyle patterns or daily activities within the prison setting that either increase or decrease victimization opportunities. Thus, there are high-risk activities, locations, and times that can be noted within the correctional institution.

"Victimization is not evenly distributed randomly across time and space - there are high risk locations and high risk periods" (Garofalo, 1987:26). Such conditions are prevalent in the prison environment, therefore it is reasonable to hypothesize those high-risk conditions in the prison setting

lead to victimization, and that victimization may in turn lead to Post Traumatic Stress Symptoms.

Within the framework of lifestyle theory, individuals are viewed as either engaging in activities that increase or decrease interactions with potential victimizers. Patterns of activities may influence exposure to situations that are at high risk for victimization. Thus, inmates who spend more time each day in structured activities that are legitimate may have a lower likelihood of being victimized. Alternatively, less structured activities are less supervised and may lead to higher levels of victimization (Wooldredge, 1998).

While participation in less structured activities may lead to victimization, other aspects of the correctional institution add to this risk. Physical boundaries place people in close proximity that influence vulnerability as well. Individuals may be placed in close contact with others who are dissimilar to themselves and this may increase chances of victimization.

Studies have shown demographic and background variables predict the likelihood of physical assault in the prison environment. Some types of inmates appear to be more prone to victimization, and lifestyle factors appear to be related to this outcome (Wooldredge, 1998). Research has shown that

younger inmates are more likely to suffer multiple forms of victimization and that the victimization of physical assault is more likely to occur among Whites, more educated inmates, and those incarcerated for property offenses (Silberman, 1995, 1995a).

Race, although possibly confounded with urban poverty and income, and age, have also been associated with prison adjustment (Adams, 1992; Guthrie, 1999). Although the interpretation of these findings may be controversial, many explanations of racial differences focus on subcultural differences, while explanations of age differences focus on processes of learning and maturation. Research indicates that Black inmates tend to be more unruly and that White as well as younger inmates tend to be more prone to victimization (Fuller and Orsagh, 1977; Toch, 1977).

Hypotheses

Routine activities theory (Cohen and Felson, 1979) and lifestyle/exposure theory (Hindelang, Gottfredson, and Garofalo, 1978) suggest that lifestyle influences likelihood of victimization, as well as development of attitudes and activity patterns that may contribute to victimization. Wooldredge (1994, 1998a, 1998b, 1999) expands upon routine activities theory and lifestyle/exposure theory by analyzing

prison domain specific characteristics that may lead to victimization. These theoretical foundations, in conjunction with findings in the literature, guide formation of hypotheses analyzed in this study.

Hypothesis One

Pre-prison experiences affect adjustment to prison in the manner described below.

Model 1: Affect of Pre-prison Variables on Inmate Economy

1.1a) As measures of Streetwise increase, the likelihood of participation in the Inmate Economy increases.

1.1b) As measures of pre-prison Criminality increase, the likelihood of participation in the Inmate Economy increases.

1.1c) As measures of Frequency in the system increase, the likelihood of participation in the Inmate Economy increases.

1.1d) As measures of Negative Parenting increase, the likelihood of participation in the Inmate Economy increases.

Model 2: Affect of Pre-prison Variables on In-prison Victimization

1.2a) As measures of Streetwise increase, the likelihood of in-prison Victimization increases.

1.2b) As measures of pre-prison Criminality increase, the likelihood of in-prison Victimization increases.

1.2c) As measures of Frequency in the System increase, the likelihood of in-prison Victimization increases.

1.2d) As measures of Negative Parenting increase, the likelihood of in-prison Victimization increases.

Model 3: Affect of Pre-prison variables on Witness Victimization

1.3a) As measures of Streetwise increase, the likelihood of in-prison Witness Victimization increases.

1.3b) As measures of pre-prison Criminality increase, likelihood of in-prison Witness Victimization increases.

1.3c) As measures of Frequency in the System increase, likelihood of in-prison Witness Victimization increases.

1.3d) As measures of Negative Parenting increase, the likelihood of in-prison Witness Victimization increases.

Model 4: Affect of Pre-prison Variables on Adherence to the Convict Code

1.4a) As measures of Streetwise increase, the likelihood of adherence to the convict code increases.

1.4b) As measures of pre-prison Criminality increase, the likelihood of adherence to the Convict Code increases.

1.4c) As measures of Frequency in the System increase, likelihood of adherence to the Convict Code increases.

1.4d) As measures of Negative Parenting increase, likelihood of adherence to the Convict Code increases.

Hypothesis Two

Prison experiences, as described below, increase the likelihood of developing Post Traumatic Stress Symptoms as result of the prison experience.

2.1) As measures of participation in the Inmate Economy increase, the likelihood of developing Post Traumatic Stress Symptoms increases.

2.2) As measures of in-prison Victimization increase, the likelihood of developing Post Traumatic Stress Symptoms increases.

2.3) As measures of in-prison Witness Victimization increase, the likelihood of developing Post Traumatic Stress Symptoms increases.

2.4) As measures of adherence to the Convict Code increase, the likelihood of developing Post Traumatic Stress Symptoms increases.

Hypothesis Three

Pre-prison experiences, as described below, increase the likelihood of developing Post Traumatic Stress Symptoms independent of the prison experience.

3.1) As measures of Streetwise increase, the likelihood of developing Post Traumatic Stress Symptoms independent of the prison experience increases.

3.2) As measures of pre-prison Criminality increases, likelihood of developing Post Traumatic Stress Symptoms independent of the prison experience increases.

3.3) As measures of Frequency in the System increase, the likelihood of developing Post Traumatic Stress independent of the prison experience increases.

3.4) As measures of pre-prison Negative Parenting increase, the likelihood of developing Post Traumatic Stress Symptoms independent of the prison experience increases.

Hypothesis Four: Fully Recursive Model

To gain further insight into stressors that may lead to the development of Post Traumatic Stress Symptoms, analysis of the relationship between pre-prison and in-prison independent variables implemented in this study and the development of Post Traumatic Stress Symptoms, is provided. This analysis further enlightens the analysis of potential stressors that may result in Post Traumatic Stress Symptoms

Chapter 3

Methodology

Chapter Three describes the methodology incorporated in the present study. Areas discussed include a general description of the research approach, a discussion of the sample from which the data were collected, a discussion of data collection procedures, a discussion of potential enhancement of internal validity, discussion of measures, and a discussion of symptoms data versus clinical diagnosis.

Research Approach

The focus of this research is on the analysis of relationships between pre-prison experiences and adjustment to the prison environment, in-prison experiences and onset of Post Traumatic Stress Symptoms, and between pre-prison experiences and onset of Post Traumatic Stress Symptoms, independent of the incarceration experience. Also analyzed is a combination of both pre-prison and in-prison independent variables and their relationship to development of Post Traumatic Stress Symptoms. These relationships lay foundation for a discussion of the implications associated with prisoners who return to the community experiencing Post Traumatic Stress Symptoms.

Population Sample

The population from which the sample was drawn consisted of all persons meeting the following criteria: (1) men sentenced to incarceration in prison in a Midwestern state; (2) men who were incarcerated and served their sentence; (3) men who were transferred from prison to a work release facility; (4) men who had been in the work release program for six months or less at the time of interview and who were within a few months of being released to less restrictive community supervision.

The sample of this population was drawn from the work release residents at a number of work release facilities located in a state in the mid-West United States. Of the 480 work release residents at the facilities, 208 subjects who met the four criteria agreed to participate in the data collection effort. While the sample from which the data were collected was a non-probability convenience sample, the high proportion (43.3 percent) of the total work release population participating in the data collection process may enhance the validity of the data.

The participants did not differ significantly from the general population of the facilities visited or from released prisoners in the state. The state level data indicate that

the sample is similar to released inmates on age (sample 32 years old; population 31), race (sample 61 percent White; population 72 percent White), offense type (sample 28 percent violent, 22 percent drug; population 28 percent violent, 22 percent drug), and time served (sample 38 months; population 29 months) (Hochstetler et al., forthcoming). Inmate composition varies by state, and imprisonment differs within state and between states. Standard cautions for a convenience sample should be taken in interpreting and generalizing from this study's findings.

Data Collection Procedures

In effort to recruit respondents, brochures announcing the research project were posted in the work release facilities a week in advance, and a sign-up sheet was provided at each facility's front desk. The brochures promised that the information in the study was confidential and reassured residents of the right to refuse any question. Participants were paid $30.00 for their efforts.

The data collection process occurred between September 10, 2001, and December 4, 2001. The data were collected at work release facilities in a mid-West state where the members of the research sample were residents. The survey questionnaires were administered in small groups with the

researcher present to answer respondent questions. Confidentiality of respondent's identity and individual responses was protected. Time required for survey completion ranged from one to two hours.

Researcher-Respondent Interaction: The Insider-Outsider Debate

The researcher had personal experience in common with the respondents since he had spent 5 and a half years confined in the Federal Bureau of Prisons. The researcher's experience within the prison system, and the potential affect of this experience on the data's internal validity, need be pointed out to the reader.

The researcher shared his prison experience with the respondents and provided for respondent review a copy of the researcher's pre-sentence investigation report (PSI). It appeared the respondents developed a trusting relationship with the researcher predicated upon the common prison experience. The researcher noted the time and effort put forth by the respondents in completing the survey instrument and suggests that this thoughtful effort may be linked to the shared prison experience. However, this element of the data collection procedures cannot be easily replicated and therefore its reliability may be suspect.

After observing the phenomena of a trusting relationship between researcher and respondents, the researcher asked an academic colleague to participate in several of the data collection sessions. Through independent observation, the associate researcher noted the same trusting interaction between the primary researcher and respondents. However, it is important to note that the associate researcher questioned the importance and impact of the relationship between respondent and researcher as related to internal validity.

The interaction between researcher and respondent goes to the debate that has been ongoing within the academy: Emics and etics, (Headland et al., 1990; Merton, 1960) the insider versus outsider, the subjective versus the objective. The question raised within the emics and etics dichotomy queries: if a researcher has domain-specific experience in common with the respondents, does that experience lead to "better" research than if the shared commonality did not exist? For example, is it possible for a researcher who is White to conduct fruitful inquiry into issues salient to African Americans? Can a man conduct research within the context of feminist perspective? Is prison related research conducted by a researcher with prison experience more insightful than

research conducted by investigators who do not have personal experience in the correctional system?

Given the body of insightful research produced by investigators who do not have domain specific personal experience, the answer to the question raised indicates that this type of personal experience is not necessarily required. However, if viewed through the lens of the Weberian ideal type, if all skills and dimensions were equal, yet one researcher had domain-specific personal experience, it may be that the individual with the personal experience has advantage. Clearly, the world is not structured as an ideal type. Therefore, the investigator of the present study suggests the possibility that his personal prison experience and his shared understanding of the convict code may have fostered a positive interaction with the respondents and thereby elicited thoughtful responses. It may be that the researcher was viewed as an insider predicated upon personal experience shared with the respondents. However, the researcher underscores that this may be a subjective interpretation and is therefore subject to standard cautions.

Verification Questions

A second measure contained in survey construction that allows for measuring an indication of accuracy in reading and

answering the survey questions were two verification questions placed within the body of the questionnaire. For these questions, the respondent was asked to check a specified option in the response set. The purpose of these questions was to get a quantifiable indication that the respondents were reading the questions closely. Of the 208 respondents, only two did not select the required response for these two questions. Inclusion or exclusion of these participants had no significant effect on findings.

Measures

Control Variables

Based on previous literature, this study accounts for the effect of race, education, and age first incarcerated. For the purpose of analysis, race is dummy coded 1=White and 0=other. Race is thought to affect likelihood of incarceration and several aspects of prison adjustment. Blacks are incarcerated at a rate of 3,473 per 100,000, Hispanics at a rate of 1,176 per 100,000, and Whites at a rate of 450 per 100,000 (Sentencing Project, 2003).

Previous literature indicates that level of education is related to incarceration and adjustment to prison. Ryan, Davis, and Young (2001) indicate that education is negatively related to incarceration, and Greene, Haney, and Hurtado

(2000) report that those with higher levels of education are more likely to be victimized in prison than are those with lower levels of education.

Hemmens (1999) reports that younger prisoners reported higher levels of fear and were more likely to describe prison as a dangerous place. O'Donnell and Edgar (1998) report that younger inmates are more likely to be victimized than are older inmates.

Variable Construction

Streetwise

Streetwise (Cronbach's Alpha=.72) incorporates a series of questions designed to capture attitudes acquired prior to incarceration that may affect prison adjustment. Implementing a Likert Scale with response categories: 1) strongly disagree, 2) disagree, 3) agree, and 4) strongly agree. Questions measured the respondent's Streetwise in terms of (Appendix 1): having a reputation of being a tough guy (mean= 2.60; SD= .83); being streetwise (mean= 3.12; SD= .71); and being accustomed to dealing with streetwise people (mean= 3.13; SD= .77).

Pre-prison Criminality

The variable pre-prison Criminality (Cronbach's Alpha=.74) is designed to capture pre-prison Criminality and

activities that may be related to adult incarceration, and that may influence adjustment to the prison environment. The respondents completed an adult index of criminal behavior adapted from the National Youth Survey (Elliot et al., 1985; Elliot et al., 1989). The major modification involved substituting adult deviant acts for the delinquent behavior included in the adolescent instrument. The response categories include: 1) never, 2) about 1-2 times, 3) about once a month, 4) about once a week, 5) two-three times per week or more. Survey questions probed pre-prison Criminality such as (Appendix 1): breaking the law on a regular basis (mean= 2.75; SD= .84); carrying a weapon (mean= 2.26; SD= 1.53); and being involved in fights (mean= 1.83; SD= .92).

Frequency in the System

The variable frequency in the System (Cronbach's Alpha= .63) is designed to measure involvement with the criminal justice system. Involvement in the system may be related to prison adjustment, which in turn may be related to development of Post Traumatic Stress Symptoms as result of the prison experience. Response categories include: 1) 1 time, 2) 2 times, 3) 3-5 times, 4) 6-10 times, 5) 11 or more. Respondents were asked (Appendix 1): How many times have you

been arrested (mean= 4.03, SD= 1.11); How many times have you been to prison (mean= 2.02, SD= .90).

Negative Parenting

The Negative Parenting index is designed to measure aspects of child/parent interactions that could negatively impact an individual during the formative years of childhood. Negative parenting may affect prison adjustment or may contribute to Post Traumatic Stress Symptoms independent of the prison experience. The Negative Parenting index was derived from the National Youth Survey (Elliot et al., 1985; Elliot et al., 1989) and includes response categories: 1) always, 2) almost always, 3) fairly often, 4) about half the time, 5) not too often, 6) almost never, and 7) never. Respondents were asked eight questions probing areas such as: How often in a typical month during grade school or junior high did your parent, parents, or guardian (Appendix 1): Hit, pushed, grabbed, or shoved you (mean= 5.23, SD= 1.61); Insulted or swore at you (mean= 4.89, SD= 1.79); Threatened to hurt you by hitting you with their fist or something else (mean= 5.18, SD= 1.79); When you did something wrong, how often did your parent, parents, guardian slap you in the face or spank you with a paddle, belt, or some other object (mean=4.31; SD= 1.92).

Participation in the Inmate Economy

The in-prison variables are designed to capture elements of the incarceration experience that may be influenced by pre-prison variables. Also, the in-prison variables are used to predict development of Post Traumatic Stress Symptoms as result of the prison experience. The variable Participation in the Inmate Economy (Cronbach's Alpha= .69) is designed to capture an element of prison culture that may cause traumatic stress and result in the onset of Post Traumatic Stress Symptoms. The Inmate Economy index was derived from topics discussed in the literature (Cooperstein, 2001) and the author's personal experience. Response categories ranged from: 1) never, 2) about 1-2 times, 3) about once a month, 4) about once a week, and 5) 2-3 times per week. Questions asked include (Appendix 1): how often did you loan out goods for a profit (mean= 2.48; SD= 1.43); and did you pay others to do work for you (mean= 1.54; SD= .95).

In one sense, prison is the great equalizer. Whether rich or poor an individual is limited to $150 per month for commissary goods. The questions contained in the Inmate Economy index probe participation in the contraband economy of prison. Loaning out goods for a profit implies that an individual has accumulated surplus goods. Paying others to do

work implies the same. The means by which individuals accumulate goods for loan, or accumulate goods to pay others to do work is typically via illegal activity in the Inmate Economy.

Victimization

The variable Victimization probes the respondents experience with different forms of victimization they may have experienced while incarcerated. Respondents completed an index of victimization adapted from the University of Michigan Composite International Diagnostic Index (UM-CIDI Victimization Scale Section). The major modification of the scale involved substituting prison domain specific sources of victimization for sources of victimization encountered in the general population. The response categories ranged from: 1) never, 2) about 1-2 times, 3) about once a month, 4) about once a week, and 5) 2-3 times per week or more. The respondents were asked to indicate (Appendix 2): how often something of theirs was stolen or vandalized (mean= 2.48; SD= 1.43); how often did another prisoner con you or scam you out of property or commissary (mean= 1.54; SD= .68); how often was personal property taken by use of force or intimidation (mean= 1.12; SD= .41); how often was the respondent threatened with

violence (mean= 1.8; SD= .88); and how often was the respondent assaulted with a weapon (mean= 1.56; SD= .38).

Witness Victimization

The variable Witnessing Victimization is designed to capture events that the literature indicates as a stressor that is common in the prison environment which may result in of Post Traumatic Stress Symptoms (Cronbach's Alpha= .83). The response categories ranged from: 1) never, 2) about 1-2 times, 3) about once per month, 4) about once per week, and 5) 2-3 times per week or more. The respondents indicated (Appendix 2): how often they saw another prisoner seriously injured (mean= 2.11; SD= .93); saw another prisoner killed (mean= 1.10; SD= .36); witnessed another prisoner's property being stolen or vandalized (mean= 2.20; SD=1.06); they were aware of another prisoner being raped (mean= 1.53; SD= .76); witnessed another prisoner being assaulted with a weapon(mean= 1.72; SD= .82); and how often they witnessed other prisoners involved in fights (mean= 2.80; SD= 1.09).

Convict Code

The variable Adherence to the Convict Code (Cronbach's Alpha= .75) is designed to capture an element of prison culture that may increase the likelihood of developing Post Traumatic Stress Symptoms as result of the prison experience.

The Convict Code measure was derived from issues discussed in the literature (Wieder, 2001) and the author's personal experience. Response categories include: 1) strongly disagree, 2) disagree, 3) agree, and 4) strongly agree. The questions used to construct the variable Adherence to the Convict Code include (Appendix 3): being confident a friend or associate would watch their back (mean= 3.00; SD= .83); regularly watching a friend's or associate's back (mean= 2.97; SD .83); and they indicated their level of agreement to the statement I lived by the convict code (mean= 3.00; SD= .79).

Post Traumatic Stress Symptoms

The variable Post Traumatic Stress Symptoms (Cronbach's Alpha= .90) was derived from the UM-CIDI Post Traumatic Stress Diagnostic Scale (Wittchen, Kessler, and Abelson, 1995). It is designed to measure Post Traumatic Stress Symptoms that may develop as result of the prison experience. A discussion of symptoms criteria versus diagnostic criteria follows. The response categories include: 1) yes, 2) no, 3) don't know. Respondents were asked questions such as (Appendix 3): did you ever get very upset when you were in a situation that reminded you of the event (mean=.35, SD= .48), and did you develop a memory blank so that you could not remember certain things

about the event (mean= .15, SD= .35)), and did you have more trouble concentrating than is usual (mean= .29, SD= .45)

Post Traumatic Stress: Symptoms versus Diagnostic Criteria

The present study incorporates seventeen questions contained in the General Anxiety Disorder index (GAD) section of the UM-CIDI Post Traumatic Stress Diagnostic Scale. These questions are designed to measure Post Traumatic Stress Disorder criteria (Appendix 3). The UM-CIDI is a modified version of the Composite International Diagnostic Interview (CIDI) used in the U.S. National Co-morbidity Survey (NCS) (Wittchen, Kessler, Zhao, and Abelson, 1995). The NCS administered the CIDI to a nationally representative sample of 8098 respondents in the age range fifteen to fifty four.

It need be noted that the time dimensions used in the administration of the UM-CIDI were not included in this study. Time dimensions measured in the clinical diagnosis of mental health disorder include point of symptoms onset, duration of symptoms, and point of symptoms termination. Also included in a clinical diagnosis are measures of symptoms frequency and intensity. The present study implements symptoms measures rather than diagnostic criteria.

This study measures Post Traumatic Stress Symptoms and the findings do not necessarily indicate the presence of a

clinical diagnosis of Post Traumatic Stress Disorder. The symptoms measures address a continuum of indices, which provides information relevant to the level of mental distress, whereas diagnostic criteria provide a dichotomized diagnosis of presence or absence of mental illness. In the present study respondents were asked to keep in mind the most traumatic event they experienced during their period of incarceration while answering the Post Traumatic Stress questions. Therefore, the approach used in the present study implements symptoms analysis and not clinical diagnosis.

Symptoms-based measures are beneficial in the study of the social epidemiology of mental health issues. Such measures are designed to be administered to large groups, and may be administered by laypersons. Compared to measures of diagnostic criteria, symptoms measures provide a mechanism to collect data from large samples at a relatively low cost.

Researchers have found strong correlation between symptoms-based measures and clinical diagnosis (Peters, Andrews, Cottler, and Chatterji, 1996). Radloff (1977) for example, compared the findings of symptom measures to diagnostic measures. They found high reliability and validity in the symptoms measurement included in the Center of

Epidemiology Studies Depression Index when compared to measures of clinical diagnosis.

Aneshensel (1999) used symptoms criteria to examine the relationship between aspects of social structure and mental health disorders. In a similar fashion, the present study uses symptoms criteria to gain insight into the relationship between aspects of the incarceration experience and onset of Post Traumatic Stress Symptoms. This approach, and the information gained, may be useful to clinicians in diagnosing individual prisoners who suffer Post Traumatic Stress Symptoms. Also, the information may be useful in developing prison programs to address elements of the incarceration experience that are related to development of Post Traumatic Stress Symptoms.

However, researchers have identified problems associated with the implementation of symptoms criteria. Aneshensel (1999) reported that a symptoms scale confounded acute and chronic stressors. Vega and Rumbaut (1991) reported social bias in the Center for Epidemiologic Studies-Depression Index (CES-D) symptoms measure. Their findings indicate that Blacks consistently show higher levels of depression compared to other racial groups, after controlling for class, education, and employment. The racial bias findings of Vega and Rumbaut

were contradicted by the findings of the Detroit Area Study (Williams et al., 1997) who found that impoverished Blacks scored lower on the depression index than did comparable whites. Therefore, standard caution is suggested when reviewing symptoms measures.

Chapter 4

Analysis

The present study uses zero-order correlation, and multiple regression analysis to test the significance, direction, and strength of the relationships between variables. Variables used in the present study are delineated in Appendices one through four.

Zero-Order Correlation

Exploratory analysis of variable association reveals that:

1) with the exception of Race and Negative Parenting, significant correlation exist between Streetwise and the remaining variables analyzed in this study; 2) with the exception of Education, pre-prison Criminality is significantly correlated with all other variables; 3) with the exception of Education, Victimization, and Post Traumatic Stress Symptoms, Frequency in the system is significantly correlated with the remaining variables; 4) a significant relationship exists between Negative Parenting and Inmate Economy, Victimization, Witness Victimization, and Post Traumatic Stress Symptoms; 5) with exception of Race and Education, participation in the Inmate Economy is significantly related to the

remainder of the variables; 6) a significant relationship exists between Victimization and Streetwise, pre-prison Criminality, Negative Parenting, Inmate Economy, Witness Victimization, and Post Traumatic Stress Symptoms; 7) a significant relationship exists between Convict Code and Age First Prison, Streetwise, pre-prison Criminality, Frequency in System, Inmate Economy, and Witness Victimization; 8) a significant relationship exists between Post Traumatic Stress Symptoms and Streetwise, pre-prison Criminality, Negative Parenting, Inmate Economy, Victimization, and Witness Victimization (Table 4.1).

Table 4.1 Zero-Order Correlations

	Race	Ed.	Age First Prison	Pre-Prison Strtws	Pre-Prison Crim.	Freq. System	Neg. Parent	Inmate Econ.	Victim	Wit-ness Victim	Con. Code	Post Traum.
Race	1.0											
Education	.13	1.0										
Age First Prison	.12	.10	1.0									
Pre-Prison Streetwise	-.04	-.14*	-.34**	1.0								
Pre-Prison Criminality	-.19**	-.14	-.43**	.51**	1.0							
Frequency in System	.15*	.02	-.20**	.32**	.17*	1.0						
Negative Parenting	.09	-.01	-.11	.13	.15*	.22**	1.0					
Inmate Economy	-.08	-.04	-.34**	.32**	.57**	.20**	.22**	1.0				
Victimization	.13	-.05	-.14	.15*	.25**	.03	.32**	.30**	1.0			
Witness Victimization	-.08	-.11	-.43**	.44**	.55**	.17*	.19**	.44**	.41**	1.0		
Convict Code	.07	.02	-.32**	.53**	.37**	.20**	.07	.35**	.13	.40**	1.0	
Post Traum. Stress	.04	-.03	-.05	.14*	.15*	.03	.31**	.28**	.45**	.24**	.07	1.0

*p<.05 **p<.001

Multicolliniarity

When using multiple variables that represent individualized characteristics of lifestyle and psychological measures, multicollinearity is always a concern and requires testing to determine if the independent variables are highly correlated. Because the results of the correlation analysis indicate that some of the independent variables were highly correlated an analysis of multicolliniarity was performed.

There are varying approaches to detecting multicollinearity. Gujarati (1988) suggests that if the zero-order correlation coefficient is .80 or above, then mulitcolliniarity is a serious problem (See also Bohrnstedt and Knoke, 1994). Other authors, however, use a more stringent indicator of multicolliniarity and cite a correlation coefficient greater than .50 (Bohrnstedt and Knoke, 1994). In this study one correlation coefficient above .50 was detected among the independent variables. A correlation coefficient of .51 exists between the variables Streetwise and pre-prison Criminality.

To further test for multicolliniarity analysis of variance inflation factor (VIF) was performed. The largest VIF value among all independent variables is often used as an indicator of the severity of multicolliniarity (Neter, Kutner,

Nachtsheim, and Wasserman, 1996). A maximum VIF value in excess of 10 is frequently taken as an indication that multicolliniarity may be unduly influencing the least squares estimates. VIF analysis of independent variables used in this study, indicate that the highest VIF value is 1.272, well within acceptable limits.

In addition to VIF analysis, the condition index values were also used as a measure of multicolliniarity. Belsley, Kuh, and Welsch (1980) propose that a condition index for a given model of 30 to 100 indicates moderate to severe multicolliniarity. None of the models used in the present study reach the threshold of 30 or above. Therefore, based on the performed tests, multicollinearity is not problematic in this study.

Hypotheses

Based upon the literature and theoretical tenets described, this study tests the following hypotheses:

1) As measures of the pre-prison variables scales increase (Streetwise, pre-prison Criminality, Frequency in the system, and Negative Parenting - Appendix 1), the in-prison variables will increase (participation in the Inmate Economy, Victimization, Witness Victimization, adherence to the Convict Code - Appendix 2).

2) As measures of the in-prison variables scales increase (appendix 2), the likelihood of developing Post Traumatic Stress Symptoms as result of the prison experience increases (Appendix 3).

3) As measures of the pre-prison variables scales increase (Streetwise, pre-prison Criminality, Frequency in the system, and Negative Parenting - Appendix 1), the likelihood of developing Post Traumatic Stress Symptoms will increase (Appendix 3).

4) Analysis of the relationship between a combination of the pre-prison and in-prison independent variables implemented in this study, and development of Post Traumatic Stress Symptoms is provided. This analysis further enlightens the analysis of between experiences and development of Post Traumatic Stress Symptoms.

Regression Analysis

Regression analysis was performed to test the relationships between the pre-prison measures and the in-prison measures, between the in-prison measures and PTSS, and between the fully recursive model which measures effects of pre-prison and in-prison variables on PTSS. Unlike zero-order correlation that tests the significance, direction, and strength of association of bi-variate relationships between variables, multiple regression examines the model and measures the significance, strength, and direction of association between each independent and dependent variable while holding all other independent variables constant. In addition, regression analysis, by standardizing the betas, allows the researcher to determine which independent variables have greater predictive power for likelihood of the dependent variable. Standardized betas are reported in each regression table.

Table 4.2 Hypothesis One Regression Analysis: Pre-prison on In-Prison Variables

	Inmate Economy (Adj.R^2=.33)	Victim (Adj.R^2=.15)	Witness Victim (Adj.R^2=.36)	Convict Code (Adj.R^2=.31)
	S.b (S.E.)	S.b (S.E.)	S.b (S.E.)	S.b (S.E.)
Race	.005 (.258)	.178* (.280)	.015 (.369)	.189 (.137)
Education	.022 (.137)	-.022 (.148)	-.019 (.197)	.196 (.135)
Age First Prison	-.104 (.091)	-.049 (.098)	-.229**(.130)	-.181* (.089)
Pre-prison Steetwise	.013 (.080)	.028 (.086)	.164* (.114)	.481**(.079)
Pre-prison Criminality	.491** (.045)	.216* (.048)	.357**(.064)	.060 (.043)
Frequency In System	.044 (.076)	-.112 (.082)	-.020 (.109)	.009 (.074)
Negative Parenting	.138* (.022)	.294**(.024)	.096 (.032)	-.030 (.022)

*p<.05 **p<.001 (two tailed)

Hypothesis One: Findings

Hypothesis one predicts how the pre-prison variables will affect individual's adjustment to the prison environment. It is generally hypothesized that as measures of pre-prison variables increase, the in-prison measures will increase.

Model 1: Effects of Pre-prison Variables on Inmate Economy (Adj. R^2=.34)

Proposition 1.1a of hypothesis one states that as measures of Streetwise increase, likelihood of participation in the Inmate Economy will increase. Correlation analysis indicates significant positive association between the Streetwise measure and the in-prison measure of Inmate Economy (.32**). However, regression analysis does not indicate a significant relationship between Streetwise and participation in the Inmate Economy (S.b= .013, SE= .080). Therefore model one does not support the proposition that Streetwise increase the likelihood of participation in the Inmate Economy.

Proposition 1.1b of hypothesis one states that as measures of pre-prison Criminality increase, the likelihood of participation in the Inmate Economy will increase. Correlation analysis indicates a positive association between pre-prison Criminality and participation in the Inmate Economy (.57**). Also, regression analysis supports the proposition that pre-prison Criminality will increase the likelihood of

participation in the Inmate Economy (S.b= .491**, SE= .045). Therefore model one supports the proposition that increases in the pre-prison Criminality measures increase the likelihood of participation in the Inmate Economy.

Proposition 1.1c of hypothesis one states that as measures of Frequency in the System increase, likelihood of participation in the Inmate Economy will increase. Correlation analysis indicates a positive association between Frequency in the System and participation in the Inmate Economy (.20**), however the correlation coefficient is less than .25. Regression analysis does not indicate a significant relationship between Frequency in the System and participation in the Inmate Economy (S.b= .044, SE= .076). Therefore model one does not support the proposition that Frequency in the System will increase the likelihood of participation in the Inmate Economy.

Proposition 1.1d of hypothesis one states that as measures of Negative Parenting increase, likelihood of participation in the Inmate Economy will increase. Correlation analysis indicates a positive association between Negative Parenting and participation in the Inmate Economy (.22**), however the correlation coefficient is less than .25. Regression analysis indicates a significant relationship

between Negative Parenting and participation in the Inmate Economy (S.b= .138*, SE= .022). Therefore, model one supports the proposition that as measures of Negative Parenting increase the likelihood of participation in the Inmate Economy increases.

Model 2: Effects of Pre-prison Variables on In-prison Victimization (Adj. R^2=.15)

Proposition 1.2a of hypothesis one states that as measures of Streetwise increase, likelihood of in-prison Victimization will increase. Correlation analysis does not indicate a positive association between the control variable Race and in-prison Victimization, however, regression analysis does indicate a significant relationship between Race and in-prison Victimization (S.b=.178*, SE=.280). Correlation analysis indicates positive association between the Streetwise measures and the in-prison measures of Victimization (.15*), however the correlation coefficient is less than .25. Regression analysis does not indicate a significant relationship between Streetwise and Victimization (S.b= .028, SE= .086). Therefore, model one does not support the proposition that Streetwise increase the likelihood of being Victimized while in prison.

Proposition 1.2b of hypothesis one states that as measures of pre-prison Criminality increase, the likelihood of

in-prison Victimization will increases. Correlation analysis indicates a positive association between pre-prison Criminality and in-prison Victimization (.25**). Also, regression analysis supports the proposition that pre-prison Criminality will increase the likelihood of being Victimized while incarcerated (b= .216*, SE= .048). Therefore, model one supports the proposition that Negative Parenting increases the likelihood of in-prison Victimization.

Proposition 1.2c of hypothesis one states that as measures of Frequency in the System increases, likelihood of in-prison Victimization will increase. Correlation analysis does not indicate a positive association between Frequency in the System and in-prison Victimization. Regression analysis does not indicate a significant relationship between Frequency in the System and in-prison Victimization (S.b= -.112, SE= .082). Therefore model one does not support the proposition that Frequency in the System will increase the likelihood of in-prison Victimization.

Proposition 1.2d of hypothesis one states that as measures of Negative Parenting increases, likelihood of in-prison Victimization will increase. Correlation analysis indicates a positive association between Negative Parenting and in-prison Victimization (.32**). Further, regression

analysis indicates a significant relationship between Negative Parenting and in-prison Victimization (S.b= .294**, SE= .024). Therefore, model one supports the proposition that as measures of Negative Parenting increase the likelihood of being Victimized while incarcerated increase.

Model 3: Effect of Pre-prison Variables on Witnessing Victimization in Prison (Adj. R^2=.36)

Proposition 1.3a of hypothesis one states that as measures of Streetwise increase, likelihood of Witnessing Victimization in prison will increase. Correlation analysis indicates a significant negative association between the control variable Age First Prison and Witnessing Victimization (-.43**) and regression analysis indicates a significant relationship between Age First Prison and Witnessing Victimization in prison (S.b=-.229**, SE=.130). Correlation analysis indicates significant positive association between the Streetwise measures and the in-prison measures of Witnessing Victimization (.44**). Further, regression analysis indicates a significant relationship between Streetwise and Witnessing Victimization (S.b= .164*, SE= .114). Therefore model one supports the proposition that Streetwise increase the likelihood of Witnessing Victimization while in prison.

Proposition 1.3b of hypothesis one states that as measures of pre-prison Criminality increase, the likelihood of Witnessing Victimization in prison will increase. Correlation analysis indicates a positive association between pre-prison Criminality and Witnessing Victimization (.55**). Also, regression analysis supports the proposition that pre-prison Criminality will increase the likelihood of Witnessing Victimized while incarcerated (S.b= .325**, SE= .064). Therefore, model one supports the proposition that pre-prison Criminality increases the likelihood of Witnessing Victimization while incarcerated.

Proposition 1.3c of hypothesis one states that as measures of Frequency in the System increase, likelihood of Witnessing Victimization will increase. Correlation analysis indicates a positive association between Frequency in the System and Witnessing Victimization (.17*), however the correlation coefficient is less than .25. Regression analysis does not indicate a significant relationship between Frequency in the System and Witnessing Victimization (S.b= -.020, SE= .109). Therefore model one does not support the proposition that Frequency in the System will increase the likelihood of Witnessing Victimization while incarcerated.

Proposition 1.3d of hypothesis one states that as measures of Negative Parenting increase, likelihood of Witnessing Victimization will increase. Correlation analysis indicates a positive association between Negative Parenting and in-prison Victimization (.19**), however the correlation coefficient is less than .25. Regression analysis does not indicate a significant relationship between Negative Parenting and Witnessing Victimization (S.b= .096, SE= .032). Therefore, model one does not support the proposition that as measures of Negative Parenting increase the likelihood of Witnessing Victimization while incarcerated increase.

Model 4: Effect of Pre-prison Variables on Adherence to the Convict Code (Adj. R^2=.31)

Proposition 1.4a of hypothesis one states that as measures of Streetwise increase, likelihood of adherence to the Convict code will increase. Correlation analysis indicates a significant negative relationship between Age First Prison and adherence to the Convict Code (-.32**) and regression analysis indicates a significant relationship between Age First Prison and adherence to the Convict Code (S. b=-.181*, SE=.089). Correlation analysis indicates significant positive association between the Streetwise measures and adherence to the Convict Code (.53**). Further, regression analysis indicates a significant relationship

between Streetwise and Adherence to the Convict Code (S.b= .481**, SE= .079). Therefore, model one supports the proposition that Streetwise increase the likelihood of adherence to the Convict Code.

Proposition 1.4b of hypothesis one states that as measures of pre-prison Criminality increase, the likelihood of adherence to the Convict Code will increase. Correlation analysis indicates a positive association between pre-prison Criminality and adherence to the Convict Code (.37**). However, regression analysis does not support the proposition that pre-prison Criminality will increase the likelihood of adherence to the Convict Code (S.b= .060, SE= .043). Therefore model one does not support the proposition that pre-prison Criminality increase the likelihood of adherence to the Convict Code.

Proposition 1.4c of hypothesis one states that as measures of Frequency in the System increases, likelihood of adherence to the Convict Code will increase. Correlation analysis indicates a positive association between Frequency in the System and Adherence to the Convict Code (.20**), however the correlation coefficient is less than .25. Regression analysis does not indicate a significant relationship between Frequency in the System and adherence to the Convict Code

(S.b= .009, SE= .074). Therefore model one does not support the proposition that Frequency in the System will increase the likelihood of adherence to the Convict Code.

Proposition 1.4d of hypothesis one states that as measures of Negative Parenting increases, likelihood of adherence to the Convict Code will increase. Correlation analysis does not indicate a positive association between Negative Parenting and adherence to the Convict Code. Regression analysis does not indicate a significant relationship between Negative Parenting and adherence to the Convict Code (S.b= .007, SE= .022). Therefore, model one does not support the proposition that as measures of Negative Parenting increase the likelihood of Witnessing Victimization while incarcerated increases.

Table 4.3 Hypothesis Two Regression Analysis: In-prison on Post Traumatic Stress Symptoms

	Post Traumatic Stress Symptoms (Adj.R^2=.29)
	S.b (S.E.)
Race	-.008 (.330)
Education	-.001 (.173)
Age First Prison	.090 (.117)
Inmate Economy	.185* (.086)
Victim.	.405** (.088)
Witness Victim.	.049 (.066)
Convict Code	-.034 (.087)

*p<.05 **p<.001

Hypothesis Two: Findings

Hypothesis two states that in-prison variables will affect onset of Post Traumatic Stress Symptoms. Hypothesis two predicts that as measures of the in-prison variables increase, the likelihood of developing Post Traumatic Stress Symptoms as result of the prison experience will increase.

Model 5: Effect of In-prison Variables on Development of Post Traumatic Stress Symptoms (Adj. R^2=.22)

Proposition 1 of hypothesis two states that as the measures of participation in the Inmate Economy increase, the likelihood of developing Post Traumatic Stress Symptoms as result of incarceration will increase. Correlation analysis indicates a positive association between participation in the Inmate Economy and developing Post Traumatic Stress as result of the prison experience (.29**). Regression analysis indicates a significant relationship between participation in the Inmate Economy and Post Traumatic Stress Symptoms (S.b= .185*, SE= .086,). Therefore, findings support the proposition that stress induced by involvement in the Inmate Economy may cause Post Traumatic Stress Symptoms.

Proposition 2 of hypothesis two states that as the measures of in-prison Victimization increase, the likelihood of developing Post Traumatic Stress Symptoms as result of

incarceration will increase. Correlation analysis indicates a significant positive association between in-prison Victimization and developing Post Traumatic Stress as result of the prison experience (.45**). Regression analysis indicates a significant relationship between in-prison Victimization and Post Traumatic Stress Symptoms (S.b= .405**, SE= .088). Therefore, findings support the proposition that in-prison Victimization may result in onset of Post Traumatic Stress Symptoms for some.

Proposition 3 of hypothesis two states that as the measures of Witnessing Victimization in prison increase, the likelihood of developing Post Traumatic Stress Symptoms as result of the prison experience increases. Correlation analysis indicates a positive association between Witnessing Victimization and onset of Post Traumatic Stress Symptoms as result of the prison experience (.24**). However, regression analysis does not indicate a significant relationship between Witnessing Victimization and onset of Post Traumatic Stress Symptoms as result of the prison experience (S.b= .049, SE=.066). Therefore, the proposition that Witnessing Victimization in prison will increase the likelihood of developing Post Traumatic Stress Symptoms is not supported.

Proposition 4 of hypothesis two states that adherence to the Convict Code increases likelihood of developing Post Traumatic Stress Symptoms as result of the prison experience. Correlation analysis does not indicate a significant association between adherence to the Convict Code and development of Post Traumatic Stress Symptoms as result of the prison experience. Regress analysis does not indicate a significant relationship between adherence to the Convict Code and development of Post Traumatic Stress Symptoms as result of the prison experience (S.b= -.034, SE=.087). Therefore, the proposition that adherence to the Convict Code increases the likelihood of developing Post Traumatic Stress Symptoms as result of the prison experience is not supported.

Table 4.4 Hypothesis Three Regression Analysis: Pre-prison on Post Traumatic Stress Symptoms

	Post Traumatic Stress Symptoms (Adj.R^2=.22)
	S.b (S.E.)
Race	.056 (.352)
Education	-.002 (.187)
Age First Prison	.035 (.124)
Pre-prison Streetwise	.090 (.109)
Pre-prison Criminality	.098 (.061)
Frequency In System	-.098 (.104)
Negative Parenting	.319**(.030)

**p<.05 **p<.001

Hypothesis Three: Findings

Hypothesis three predicts that as measures of Streetwise, pre-prison Criminality, Frequency in the System, and measures of Negative Parenting increase, the likelihood of developing Post Traumatic Stress Symptoms independent of the prison experience will increase.

Model 6: Effect of Pre-prison Variables on Developing Post Traumatic Stress Symptoms Independent of the Prison Experience (Adj. R^2=.22)

Proposition 1 of hypothesis three states that as measures of Streetwise increase, the likelihood of developing Post Traumatic Stress Symptoms independent of the prison experience will increase. Correlation analysis indicates a positive relationship between Streetwise and onset of Post Traumatic Stress Symptoms independent of the prison experience (.14*), however the correlation coefficient is less than .25. Regression analysis does not indicate a significant relationship between Streetwise and development of Post Traumatic Stress Symptoms independent of the prison experience (S.b=. 090, SE= .109). Therefore, model four does not support the proposition that a significant relationship exists between Streetwise and development of Post Traumatic Stress Symptoms independent of the prison experience.

Proposition 2 of hypothesis three states that as measures of pre-prison Criminality increase, the likelihood of developing Post Traumatic Stress Symptoms independent of the prison experience increases. Correlation analysis indicates a positive relationship between pre-prison Criminality and development of Post Traumatic Stress Symptoms independent of the prison experience (.15*), however the correlation coefficient is less than .25. Regression analysis does not indicate a significant relationship between pre-prison Criminality and development of Post Traumatic Stress Symptoms independent of the prison experience (S.b=.098, SE=.061). Therefore, model five does not support the proposition that a significant relationship exists between pre-prison Criminality and development of Post Traumatic Stress Symptoms independent of the prison experience.

Proposition 3 of hypothesis two states that as measures of Frequency in the System increases, the likelihood of developing Post Traumatic Stress Symptoms independent of the prison experience increases. Correlation analysis does not indicate a significant positive relationship between Frequency in the System and developing Post Traumatic Stress Symptoms independent of the prison experience. Regression analysis does not indicate a significant relationship between Frequency

in the System and development of Post Traumatic Stress Symptoms independent of the prison experience (S.b=-.098, SE=.104). Therefore, model six does not support the proposition that a significant positive relationship exists between Frequency in the System and development of Post Traumatic Stress Symptoms independent of the prison experience.

Proposition 4 of hypothesis three states that as measures of pre-prison Negative Parenting increase, the likelihood of developing Post Traumatic Stress Symptoms independent of the prison experience increases. Correlation analysis indicates a positive relationship between Negative Parenting and development of Post Traumatic Stress Symptoms independent of the prison experience (.31**). Regression analysis indicates a significant relationship between Negative Parenting and development of Post Traumatic Stress Symptoms independent of the prison experience (S.b= .319**, SE= .030). Therefore, model six supports the proposition that increased levels of Negative Parenting affect the development of Post Traumatic Stress Symptoms independent of the prison experience.

Analysis of the Relationship Between a Combined Set of Pre-prison and In-prison Independent Variables With Development of Post Traumatic Stress Symptoms

To gain further insight into stressors that may lead to the development of Post Traumatic Stress Symptoms, analysis of the relationship between pre-prison and in-prison independent variables implemented in this study and the development of Post Traumatic Stress Symptoms, is provided. This analysis further enlightens the analysis of potential stressors that may result in Post Traumatic Stress Symptoms.

Table 4.5 Regression Analysis Fully Recursive Model: Pre-prison and In-prison Independent Variables and PTSS

	Dependent Variable
	Post Traumatic Stress Symptoms (Adj.R^2=.33)
Control Variables	b (S.E.)
Race	-.014(.336)
Education	.008 (.172)
Age First Prison	.075 (.118)
Pre-Prison Independent Variables	b (S.E.)
Pre-prison Steetwise	.083 (.109)
Pre-prison Criminality	.094 (.064)
Frequency In System	-.070(.096)
Negative Parenting	.180* (.030)
In-prison Independent Variables	b (S.E.)
Inmate Economy	.101*(.094)
Victim	.376**(.090)
Witness Victim	.043 (.068)
Convict Code	-.017 (.094)

Model 7: Effect of Combined Set of Pre-prison and In-prison Independent Variables on Developing Post Traumatic Stress Symptom Independent of the Prison Experience (Adj. R^2=.33)

Regression analysis of the combined set of in-prison independent variables and pre-prison independent variables reveals a significant relationship between the following independent variables with onset of PTSS: 1) pre-prison Negative Parenting (S.b=.180*, SE=.030), 2) in-prison participation in the Inmate Economy (S.b=.101*, SE=.094), and 3) in-prison Victimization (S.b=.376**, SE=.090. The standardized beta for the relationship between in-prison Victimization (.376**) and development of Post Traumatic Stress Symptoms as result of the prison experience indicates stronger predictive power than that of Negative Parenting (S.b=.180*) or participation in the Inmate Economy (S.b=.101*).

CHAPTER 5

Summary, Discussion, Conclusion

Following is a summary of research objectives, hypotheses, and findings of the present study. The discussion section explains the significance of the findings and their relevance to previous research. Also considered are study limitations. The conclusion section addresses implications of study results, and recommendations for future research.

Research Objective

The general research objective was to test the effects of pre-prison variables on prison adjustment, of incarceration on the development of Post Traumatic Stress Symptoms, and the potential of pre-prison experiences to result in Post Traumatic Stress Symptoms independent of the prison experience. Also, to gain further understanding between traumatic events and development of Post Traumatic Stress Symptoms analysis of the combined pre-prison and in-prison independent variables was performed.

The specific research questions, which guided the development and testing of the research hypotheses, were as follows:

1. What is the relationship between pre-incarceration attitudes and experiences, and characteristics of the incarceration experience?

2. What is the relationship between characteristics of the incarceration experience and developing Post Traumatic Stress Symptoms?

3. What is relationship between characteristics of the pre-incarceration experience and onset of Post Traumatic Stress Symptoms independent of the prison experience?

4. What is the relationship between a combination of the pre-prison and in-prison independent variables and development of Post Traumatic Stress Symptoms?

Summary of Findings

Pre-prison Variables on Prison Adjustment: Direct and/or Indirect Effects

Hypothesis one predicts how the pre-prison variables will affect individual's adjustment to the prison environment. It is generally hypothesized that as measures of pre-prison variables increase, the in-prison measures will increase.

The proposition that a significant relationship exists between pre-prison Criminality and participation in the Inmate Economy is supported. This finding represents a direct effect between pre-prison experiences as preparation for in-prison activities. Involvement in criminality prior to incarceration

prepares an individual to become involved in the "illegal" activities associated with the Inmate Economy; stealing merchandise to sell, collecting unpaid debts by use of force, extorting high interest on goods loaned, etc. This finding supports the tenets of the importation model espoused by Irwin and Cressey (1962).

The proposition that a significant relationship exists between Negative Parenting and participation in the Inmate Economy is supported. This finding represents an indirect effect between pre-prison experiences and in-prison activities. Scholars have found low socioeconomic status, unemployment, and being young parents to be related to negative parenting practices. Negative parenting has been found to be related to negative behavioral problems in children (Patterson, 1982; Wilson and Hernstein, 1985; Hagan and Palloni, 1990; Perry et al., 1992; Straus, 1994). Family stress associated with negative parenting leads to increased hostile interactions between parents and their children. This stress is fostered by inconsistent and harsh parenting practices. These types of negative interactions between parent and child may serve to instill anti-social tendencies, deteriorate the bond between parent and child, and increase the likelihood of the child becoming involved in delinquency

and crime. The involvement in criminal activity, as result of negative parenting prior to incarceration, may indirectly prepare an individual for participation in the Inmate Economy.

The proposition that a significant relationship exists between pre-prison Criminality and in-prison Victimization is supported. This finding suggests a direct effect. Involvement in criminality whether pre-prison or in-prison increases the likelihood of victimization (Cohen and Felson, 1979). The importation model (Irwin and Cressey, 1962) suggests that criminal tendencies pre-prison will be brought by the individual into the prison environment. Therefore, the likelihood of victimization in-prison is directly related to increased likelihood of victimization pre-prison. Woodgredge (1994) suggests that involvement in certain activities in the prison environment will increase the likelihood of victimization. He suggests that lack of participation in programs, participation in unsupervised activities, participation in rule breaking etc. lead to increased victimization. These same elements apply to pre-prison activities and victimization (Hindlang, Gottfredson, and Garafolo, 1978).

The proposition that a significant relationship exists between Negative Parenting and in-prison Victimization is

supported. As described in the discussion of the indirect relationship between Negative Parenting and involvement in the Inmate Economy, a similar indirect relationship exists between Negative Parenting and in-prison Victimization. Coercive strategies associated with Negative parenting are counterproductive in developing "social competence" among youth (Hoffman, 1980; Peterson et al., 1985). Failed social bonding (Hirschi, 1984) as result of Negative Parenting lead youth to disassociate from conventional norms and values. Gottfredson and Hirschi (1990) suggest that if social bonding does not occur by age eight the result will be low levels of self control, which in turn will lead to crime and analogous behaviors. Involvement in crime and analogous behaviors results in increased likelihood of victimization. Additionally, lack of self control in the prison setting may also lead to increased victimization.

The proposition that Streetwise and adherence to the Convict Code is supported. Streetwise (the "code of the street," Anderson, 1990) and the Convict Code share common features. Both are belief systems comprised of specific rules, norms, and values. Inculcation into being Streetwise forms a direct effect of preparation for adherence to the Convict Code.

In-prison Variables on Post Traumatic Stress Symptoms: Direct and/or Indirect Effects

Hypothesis two predicts how the in-prison variables will affect individual's likelihood of developing Post Traumatic Stress Symptoms as result of the prison experience. It is generally hypothesized that as measures of in-prison variables increase, Post Traumatic Stress measures will increase.

The proposition that a significant relationship exists between participation in the Inmate Economy and development of Post Traumatic Stress Symptoms is supported. The proposition that a significant relationship exists between in-prison Victimization and development of Post Traumatic Stress Symptoms is supported. These findings support the hypothesis that in-prison experiences affect development of Post Traumatic Stress Symptoms as result of the incarceration experience.

The relationship between Participation in the Inmate Economy and PTSS represents both direct and indirect effects. The significant finding of the association and relationship between participation in the Inmate Economy and onset of Post Traumatic Stress Symptoms offers new information. A direct effect of participation in the Inmate Economy with onset of PTSS is that the stress associated with selling contraband within the strictures of the prison environment produces

stress that reaches the level required to trigger Post Traumatic Stress Symptoms. Therefore, this finding suggests that it is participation in the Inmate Economy independent of other factors that leads to onset of Post Traumatic Stress Symptoms as result of the prison experience. An indirect effect between participation in the Inmate Economy and onset of PTSS is resultant Victimization for failure to repay a debt. The Convict Code requires swift and strong recompense (victimization) for failure to repay. The literature is replete with studies that demonstrate the nexus between victimization and PTSS (Morgan, Hazlett, Wang, & Richardson, 2001; Foa, Riggs, & Gershuny, 1995; Kizer, 1996; Lornez, et al., 1993; Schwarz & Kowalski, 1991; Figley, 1978; Port, Engdahl and Frazier, 2001; Solomon, 2001; Breslau, Davis, and Andreski, 1995).

The indirect effect of Victimization associated with participation in the Inmate Economy may lead to PTSS for some.

This is consistent with previous findings by Baker and Alfonse (2002), who reported that PTSD has been found among male and female incarcerated populations, and that the prevalence rate for PTSD is higher in the prison population than compared to the general population. Specifically, regression analysis performed in the present study

demonstrates that elements of the incarceration experience, including participation in the Inmate Economy and in-prison Victimization, are significantly related to development of Post Traumatic Stress Symptoms as result of the prison experience.

The findings of this study are consistent with Post Traumatic Stress literature, which notes that victimization may be a source of Post Traumatic Stress Symptoms (American Psychiatric Association, 1994). Findings are also consistent with research assessing the incarceration experience. Findings indicate that prisoners experience victimization in prison. For example, Wooldredge (1998) stated that inmate crime is a serious type of inmate victimization, with theft being more common than assault.

Pre-Prison Variables on Post Traumatic Stress Symptoms: Direct and/or Indirect Effects

Hypothesis three predicts how the pre-prison variables will affect individual's likelihood of developing Post Traumatic Stress Symptoms independent of the prison experience. It is generally hypothesized that as measures of pre-prison variables increase, Post Traumatic Stress measures will increase.

The significant findings of the association and relationship between Negative Parenting and onset of Post

Traumatic Stress Symptoms support the hypothesis that Post Traumatic Stress Symptoms may develop independent of the incarceration experience. As hypothesized, regression analysis indicates that pre-prison Negative Parenting is significantly related to onset of Post Traumatic Stress Symptoms independent of the prison experience.

The relationship between Negative Parenting and onset of PTSS suggests both direct and indirect effects. Child neglect and abuse are forms of victimization that may directly result in PTSS. However, an indirect effect of Negative Parenting may also result in onset of PTSS. If a child is exposed to Negative Parenting this may lead to weakening of social bonds, failure to develop self control, and externalization of anti-social tendencies. This process may lead to involvement in crime, delinquency, and analogous behaviors that will increase the child's likelihood of Victimization. Increased victimization has been shown to result in PTSS.

These findings are consistent with the findings of previous research that demonstrates that pre-prison parental influences (Jang and Smith, 1997) and a variety of experiences associated with negative parenting (Chambers, et al., 2000; Dembo et al., 1990; American Psychiatric Association, 1994) may result in Post Traumatic Stress Symptoms. However, as

hypothesized for this study, regression analysis did not find pre-prison Criminality, nor Attitudes, to be significantly related to onset of Post Traumatic Stress Symptoms independent of the prison experience. It may be that Streetwise and Actions actually insulate some individuals from developing Post Traumatic Stress Symptoms.

Combined Pre-prison and In-prison Independent Variables on Development of PTSS: Direct and/or Indirect Effects

To gain further insight into the development of Post Traumatic Stress Symptoms the relationship between the pre-prison and in-prison independent variables with development of Post Traumatic Stress Symptoms was analyzed. In the analysis of the combined set of independent variables a significant relationship between Negative Parenting and development of Post Traumatic Stress Symptoms was revealed. A significant relationship between in-prison participation in the Inmate Economy as well as Victimization and development of Post Traumatic Stress Symptoms were also revealed. These findings are consistent with the findings revealed in the pre-prison independent variables with Post Traumatic Stress Symptoms analysis, as well as with the in-prison independent variables with Post Traumatic Stress Symptoms analysis.

Elements of the Hypotheses Not Supported

The present study hypothesized that as the level of the Streetwise measures, pre-prison Criminality measure, Frequency in the System measure, and Negative Parenting measure increased, the likelihood of the all of the in-prison measures would increase (participation in the Inmate Economy, in-prison Victimization, Witnessing Victimization, and adherence to the Convict Code). The hypotheses assessed in this study were based on findings of previous research. However, several of the propositions contained in the hypotheses assessed were not supported.

The assumption of hypothesis one states that regression analysis would indicate significant relationships between each of the pre-prison variables and each of the in-prison variables. The propositions contained in hypothesis one are based upon the theoretical tenets and research findings contained in the literature review section of this study.

There are several potential explanations as to why each of the propositions contained in hypothesis one were not born out. Data analyzed in this study were collected from a mid-Western state. The sample composition of this study may be dissimilar to the composition of samples from which previous findings were derived. It may be that the racial composition,

educational levels, age first incarcerated, social interactions that govern attitudes, action patterns, and styles of parenting are dissimilar in the state from which the data were collected compared to other data bases. It may be that the prison environment itself determines participation in the Inmate Economy, likelihood of Victimization, likelihood of Witnessing Victimization, and adherence to the Convict Code regardless of pre-prison experiences. Additionally, approximately 170 of the 208 respondents served their sentences in low-level custody institutions. The sample does not capture elements of the prison experience that exist in upper security level institutions. These findings suggest that the described limitations in generalizability associated with the sample used in this study be tested in future research.

Witnessing Victimization and adherence to the Convict Code were not found to be significant in predicting onset of Post Traumatic Stress Symptoms as result of the prison experience. It may be, given the violent nature of the prison environment, individuals become accustomed to seeing others victimized and therefore the traumatic aspect of witnessing victimization diminishes. It may be that the individuals included in the sample of this study were not exposed to the

same frequency or intensity of witnessing victimization as was experienced by respondents in other samples.

The pre-prison variables Streetwise, pre-prison Criminality, and Frequency in the System were not found to be significant in predicting Post Traumatic Stress Symptoms. It may be that the variables Streetwise and pre-prison Criminality used in this study did not capture element used in previous research to predict development of Post Traumatic Stress Symptoms. It may be that the composition of the sample analyzed in this study differs in characteristics from samples used in previous research.

Limitations of the Present Study

Since this study utilized a convenience sample, the findings may not generalize to a different population. Possible limitations of this study are sample selection and geographic location. Extraneous variables such as test reactivity and accuracy of self-reporting might have been present and unaccounted for. The survey instrument failed to note additional incarceration experiences such as over-crowding and solitary confinement, which may also have contributed to Post Traumatic Stress Symptoms. Although limitations may be present, findings of this study need to be considered for the understanding of incarceration and pre-

incarceration variables that may be related to Post Traumatic Stress Symptoms. These findings need to be considered for program development as well as future research.

Implications of the Present Study

Although the present study provides findings that were limited to the variables assessed, outcomes indicate that there is support for the hypotheses that pre-incarceration experiences may affect prison adjustment, and that the incarceration experience has the potential to result in Post Traumatic Stress Symptoms. Also tested is the potential for pre-prison experiences to lead to Post Traumatic Stress Symptoms. An implication associated with onset of Post Traumatic Stress Symptoms prior to incarceration is that the incarceration experience may in fact exacerbate pre-existing Post Traumatic Stress Symptoms.

Ex-prisoners who suffer Post Traumatic Stress Symptoms may face serious challenges upon their return to the community. Those who are released from prison face segregation, stigmatization, wage inequality, and a lack of mobility (Western, 2002). The challenges of reintegration for those with Post Traumatic Stress Symptoms may be even greater than for individuals who do not face the complications associated with Post Traumatic Stress Symptoms. These

complications may further relate to problems such as substance use, criminal behavior, and re-incarceration.

As Yehuda and McFarlane (1995) pointed out, it is important to understand Post Traumatic Stress. Post Traumatic Stress represents a constellation of symptoms that require a process of reaction to trauma events that include biological, psychological, and phenomenological dimensions. The individual who is exposed to a trauma (such as the prison experience) is left with a hyper-responsive response to a variety of stimuli, which may be expressed with multiple behaviors. Thus, it is important to understand that the prison environment may be the causal agent in onset of Post Traumatic Stress Symptoms, and that those suffering Post Traumatic Stress Symptoms during their period of incarceration require access to programs designed to meet their specific needs.

Public support for devoting additional resources to treating the mentally ill and physically compromised sector of the prison population may come from the application of a public health model. As pointed out by Conklin et al. (1998), medical and correctional communities have only recently realize the extent to which mental illness; substance use disorders; chronic disease; and communicable diseases, such as

HIV/AIDS, tuberculosis (TB), are concentrated in the correctional system.

A key point is that correctional institutions are reservoirs of physical and mental illness, which constantly spill back into the community. If these illnesses are to be treated properly, transmission interrupted, and the health of the public protected, then effective treatment and education must be provided within the correctional system and continued beyond release.

Recommendations for Future Research

The present study provides support for the hypothesis that the incarceration experience and pre-incarceration experiences are linked to post-incarceration Post Traumatic Stress Symptoms. Therefore, the need for further study of this relationship is indicated. Since this study was limited by the factors investigated, it is recommended that a future study utilize a more in-depth survey instrument as well as multiple instruments for a more thorough examination of all possible variables (pre-prison and incarceration) that may be associated with Post Traumatic Stress Symptoms. For example, adverse psychological consequences have been found in individuals subjected to solitary confinement (Gavora & Alexander, 1996). Prison overcrowding has also been shown to

exacerbate the detrimental aspects of prison incarceration (Schmid & Jones, 1993). In fact, the character of the prison incarceration experience itself may be a strong predictor of recidivism (Petersilia, 1995). A future study will need to explore relationships between over-crowding and solitary confinement (noted in the literature) on Post Traumatic Stress Symptoms outcomes.

Additional variables that may be related to victimization and onset of Post Traumatic Stress Symptoms have been noted in the literature and require future study. McCorkle (1993a/b) reported that fear of crime inside correctional facilities leads to fear of victimization. They also noted that higher levels of fear inside the prison were associated with young prisoners, those socially isolated, and those more likely to be a frequent target of victimization. Since greater psychological damage may be associated with higher fear levels, this variable needs to be investigated.

This study's findings were also limited by the operational definitions of the variables. Additional studies have noted multiple types of victimization that may be found in prison. For example, O'Donnell and Edgar (1998) found that: in younger prisoners verbal abuse and exclusion rates were over twice as high; verbal abuse was most common,

followed by threats and assaults; cell theft was the only type of victimization that was more common in older prisoners and this was followed by threats and verbal abuse; and lowest rates for all were for exclusion and robbery. Thus, it is recommended that a future study explore the multiple types of victimization experienced in prison (in more detail) and their direct relationship with Post Traumatic Stress Symptoms outcomes.

In addition to these examples, previous studies have found that there are personality and demographic variables that are associated with prisoner reactions to stress and trauma. Silverman and Vega (1990) found that inmates each had a set of personal characteristics that affected their relationships with others and their overall prison experience. For example, intensity of expressions of anger was related to age, gender, marital status, and education. It has also been shown that personal coping resources and cultural factors are factors in psychiatric distress (Wheaton, 1983). These variables need further exploration to provide a complete understanding of Post Traumatic Stress Symptoms as result of the incarceration experience.

Another important factor, which was not investigated by the present study, is the effect of prison-exposure to disease

on Post Traumatic Stress Symptoms outcomes. Previous studies have pointed out that prison inmates are exposed to infections and chronic diseases such as hepatitis C and AIDS. It is also noted that patients with this type of illnesses typically demonstrate despair, anger, frustration, hopelessness, and suicidal ideation. Acute stress such as this can lead to the development of PTSD (Burke, 2001; Morgan, et al., 2001). Further, it may be that the fear of being exposed to these life threatening diseases may result in onset of Post Traumatic Stress Symptoms. It is therefore recommended that a future study investigate the effect of disease-exposure and fear of disease-exposure as relates to onset of Post Traumatic Stress Symptoms.

The use of multiple types of measurement instruments would also help eliminate study limitations such as accuracy of self-reporting. For example, expert use of diagnostic tests would provide additional types of data. Whereas the present study implements a symptoms-based approach, incorporating a clinical diagnostic criteria for a sub-sample of the respondents may enhance overall findings.

Since this study was limited by the use of a convenience sample, it is recommended that a future study utilize a more nationally represented sample. A future study using

randomization procedures would lead to results that could be more widely generalized.

A flaw of this study is that it is based on cross-sectional and retrospective data. The present study cannot determine how the stage of criminal justice processing shapes results (Hochstetler et al., forthcoming). It cannot be determined if events that occur in prison have any bearing on rehabilitation and future success. Future research should contact, and follow inmates at various points in their sentences to determine with greater precision the direction and result of the relationships examined. However, it need be noted that the present study is the first stage in longitudinal study.

In summary, as has been pointed out by previous literature that minimizing the socially and psychologically damaging outcomes of the prison incarceration experience can lead to a reduction in post-incarceration recidivism (O'Brien, 2001). Therefore, it is important to utilize this study's findings that the incarceration experience is linked to onset of Post Traumatic Stress Symptoms. Prisoners need be treated for this disorder prior to or upon their release.

This study points out specific variables that are related to Post Traumatic Stress Symptoms outcomes. The prison

lifestyle may include these factors that contribute to onset of Post Traumatic Stress Symptoms, and may be linked to future criminal behavior. This understanding can help prison officials become aware of conditions that need to be monitored or changed. Since these changes may not always be feasible, it is necessary to assess prisoners for Post Traumatic Stress Symptoms and provide treatment accordingly.

Social and Economic Costs of Incarceration

Post-Incarceration: An "Army" of Releasees

The magnitude of the prison industrial complex underscores the importance of the tenets of the present study. As a society, we must understand that approximately 97 percent of those sentenced to incarceration will return to the community. This portends serious issues and potentially negative consequences for society at large.

Predicated upon sentencing policy promulgated by the Sentencing Commission (1987), under authority of the United States Congress (1984), the prison population has soared to here-to-fore unparalleled numbers. The vast majority of these people, many of whom who have been subjected to the potentially deleterious aspects of the prison experience, are released to free society after they serve their time. The ramifications and potential consequences society may incur as

result of physical and mental health problems acquired in prison are issues that need be addressed.

The effects of releasing prisoners who have experienced emotional, psychological, and physical damage, as result of the incarceration experience, may pose serious consequences for society. The increasing size of prisoner population, use of restrictive and punitive practices, reduction of opportunities, use of solitary confinement, and increased numbers of maximum-security prisons add to this growing problem. It is estimated that in the year 2005, 887,000 prisoners will be returned to the community (Bureau of Justice Statistics, 2002). It is predicted that this group will be part of a growing trend of released prisoners who suffer symptom severity, including Post Traumatic Stress Symptoms. The negative affect of the prison upon individuals who have spent decades confined poses grave consequences for American society (Gorski, 2003). Just as individuals import characteristics acquired prior to incarceration into the prison environment, individuals who have spent extended periods locked in prison will export to the community characteristics they developed while incarcerated.

In addition to financial and social concerns, people released from prisoner may return to society with physical and

emotional problems that may have direct implications for the community at large. Contagious diseases contracted in prison such as AIDS, TB, or hepatitis C, can be spread to the community via the released prisoner. Psychological disorders, which may include Post Traumatic Stress Symptoms, may lead to further debilitation for the ex-prisoner as well as to concerns for the community.

Gorski (2003) explains that ex-prisoners face Post Incarceration Syndrome (PICS), relapse, and recidivism. Gorski describes PICS as a set of symptoms found in many incarcerated and recently released prisoners that results from being subjected to prolonged incarceration in punitive environments. Gorski argues that the incarceration experience and subsequent development of PICS may lead to lack of post-release opportunities including education, job training, or rehabilitation. Gorski suggests that the prison experience may cause physical and psychological damage and that the labeled ex-con is blocked from legitimate opportunity. Gorski states that it is the prison experience itself, and associated negative consequences, that cause recidivism.

Incarceration: Costs to the Tax Payer

Beyond the social costs, the economic impact of the prison industrial complex need be considered. The most

tangible cost of the "imprisonment binge" (Austin and Irwin, 2000) is the cost to taxpayers. Since the enactment of mandatory minimum sentencing for drug users, the Federal Bureau of Prisons budget has increased by 1,954 percent. The agency's budget has jumped from $220 million in 1986 to $4.3 billion in 2001 (Executive Office of the President, Budget of the US Government, 2002). The U.S Department of Justice reports that in fiscal year 1999, the United States of America incurred direct expenditures for federal, state, and local justice systems in the amount of $146,556,000,000 (Bureau of Justice Statistics, 2001). Based on this information, the cost per inmate in 1999 was: a) corrections spending alone totaled $26,134 per inmate, b) corrections, judicial and legal costs totaled $43,279 per inmate, and c) corrections, judicial, legal, and police costs totaled $78,154 per inmate. Adding to rapidly rising expenditures is the unprecedented rate of prison construction (Department of Justice, 2003), at a construction cost of approximately $100,000 per cell (Sentencing Project, 2003).

Appendix 1:

Independent Variables for Hypothesis One

Streetwise [Cronbach's alpha=.72]:

(1) Prior to my last sentence I had a reputation of being a tough guy. (Reverse coded)

1=strongly disagree	[6.8%]
2=disagree	[41.7%]
3=agree	[36.1%]
4=strongly agree	[15.0%]

(mean= 2.60; SD=.83)

(2) Prior to my last sentence I considered myself to be "streetwise." (Reverse coded)

1=strongly disagree	[2.4%]
2=disagree	[11.5%]
3=agree	[53.8%]
4=strongly agree	[31.3%]

(mean= 3.12; SD= .71)

(3) Prior to my sentence I was accustomed to dealing with streetwise people. (Reverse coded)

1=strongly disagree	[4.4%]
2=disagree	[10.7%]
3=agree	[52.9%]
4=strongly agree	[32.0%]

(mean= 3.13; SD= .77)

Pre-prison Criminality [Cronbach's alpha=.74]:

(1) Prior to my last sentence I broke the law on a regular basis. (Reverse coded)

1=strongly disagree	[6.8%]
2=disagree	[30.6%]
3=agree	[43.3%]
4=strongly agree	[18.8%]

(mean= 2.75; SD= .84)

(2) Prior to age 18 I carried a weapon. Coded
1=never [45.9%]
2=about 1-2 times [24.4%]
3=about once/month [4.9%]
4=about once/week [7.3%]
5=2-3 times/week or more [17.6%]
(mean= 2.26; SD= 1.53)

(3) Prior to 18 I got into physical fights. Coded
1=never [8.7%]
2=about 1-2 times [41.7%]
3=about once/month [25.2%]
4=about once/week [15.5%]
5=2-3 times/week or more [8.7%]
(mean= 2.74; SD= 1.11)

(4) Outside of prison I pulled a weapon on someone. Coded
1=never [40.7%]
2=about 1-2 times [44.6%]
3=about once/month [8.8%]
4=about once/week [2.9%]
5=2-3 times/week or more [2.9%]
(mean= 1.83; SD= .92)

Frequency in the Criminal Justice System [Cronbach's alpha=.63]

(1) How many times have you been arrested? Coded
1=1 [4.4%]
2=2 [2.9%]
3=3-5 [22.8%]
4=6-10 [26.7%]
5=11 or more [43.2%]
(mean= 4.03 or approximately 7 arrests; SD= 1.11)

(2) How many times have you been in prison? Coded
1=1 [38.3%]
2=2 [26.7%]
3=3-5 [30.6%]
4=6-10 [3.4%]
5=11 or more [1.0%]
(mean=2.02 or approximately two prison terms; SD=.96)

Influence of Negative Parenting [Cronbach's alpha=.87]:

(1) In a typical month during grade school or junior high how often: (1) were your parents angry with you? Coded

1=always	[2.9%]
2=almost always	[12.5%]
3=fairly often	[31.3%]
4=about half the time	[14.9%]
5=not too often	[19.7%]
6=almost never	[8.3%]
7=never	[9.7%]

(mean= 4.0; SD= 1.60)

(2) did your parents criticize your ideas? Coded

1=always	[10.0%]
2=almost always	[17.5%]
3=fairly often	[29.1%]
4=about half the time	[12.1%]
5=not too often	[10.2%]
6=almost never	[8.7%]
7=never	[6.3%]

(mean= 3.34; SD= 1.74)

(3) shout or yell at you because they were mad at you? Coded

1=always	[4.4%]
2=almost always	[12.6%]
3=fairly often	[32.0%]
4=about half the time	[13.6%]
5=not too often	[15.4%]
6=almost never	[10.2%]
7=never	[11.7%]

(mean= 4.00; SD= 1.69)

(4) ignore you when you tried to talk with them? Coded

1=always	[22.0%]
2=almost always	[23.4%]
3=fairly often	[25.9%]
4=about half the time	[7.3%]
5=not too often	[9.1%]
6=almost never	[6.8%]
7=never	[5.4%]

(mean= 3.00; SD= 1.74)

(5) pushed, shoved, or grabbed you? Coded

1=always	[4.4%]
2=almost always	[2.9%]
3=fairly often	[8.7%]
4=about half the time	[6.3%]
5=not too often	[30.6%]
6=almost never	[21.4%]
7=never	[25.7%]

(mean= 5.22; SD= 1.79)

(6) insulted or swore at you? Coded

1=always	[6.3%]
2=almost always	[6.8%]
3=fairly often	[11.2%]
4=about half the time	[9.2%]
5=not too often	[21.8%]
6=almost never	[24.8%]
7=never	[19.9%]

(mean= 4.87; SD= 1.79)

(7) hit with their fists or an object (8) slap, or spank with a paddle, a belt, or something else? Coded

1=always	[11.2%]
2=almost always	[11.7%]
3=fairly often	[10.2%]
4=about half the time	[15.5%]
5=not too often	[20.4%]
6=almost never	[15.5%]
7=never	[15.5%]

(mean= 4.31; SD= 1.93)

Appendix 2:

Operational Definitions of In-Prison Dependent Variables for Hypothesis One and Independent Variables for Hypothesis Two.

Participation in the Inmate Economy [Cronbach's alpha=.69]:

While in prison (1) how often did you loan out goods for a profit? Coded

1=never	[32.5%]
2=about 1-2 times	[28.2%]
3=about once/month	[13.1%]
4=about once/week	[11.2%]
5=2-3 times per week or more	[15.0%]

(mean= 2.48; SD= 1.43)

(2) did you pay other prisoners to do work for you? Coded

1=never	[68.3%]
2=about 1-2 times	[18.5%]
3=about once/month	[6.3%]
4=about once/week	[4.9%]
5=2-3 times per week or more	[2.0%]

(mean= 1.54; SD= .95).

Victimization in Prison [Cronbach's alpha=.59]:

While in prison, how often (1) was something of yours stolen or vandalized? Coded

1=never	[40.3%]
2=about 1-2 times	[52.9%]
3=about once/month	[4.3%]
4=about once/week	[1.5%]
5=2-3 times per week or more	[1.0%]

(mean= 1.70; SD= .71)

(2) did another prisoner con you or scam you out of property or commissary? Coded

1=never	[55.1%]
2=about 1-2 times	[38.0%]
3=about once/month	[4.9%]
4=about once/week	[2.0%]
5=2-3 times per week or more	[0.0%]

(mean= 1.54; SD=.68)

(3) take property from you using force or intimidation?
Coded

1=never	[90.3%]
2=about 1-2 times	[8.7%]
3=about once/month	[0.5%]
4=about once/week	[0.0%]
5=2-3 times per week or more	[0.5%]

(mean=1.12; SD=.41)

(4) were you threatened with violence? Coded

1=never	[40.0%]
2=about 1-2 times	[47.8%]
3=about once/month	[7.3%]
4=about once/week	[2.0%]
5=2-3 times per week or more	[2.9%]

(mean=1.8; SD=.88)

(5) were you assaulted with a weapon? Coded

1=never	[85.0%]
2=about 1-2 times	[14.4%]
3=about once/month	[0.5%]
4=about once/week	[0.0%]
5=2-3 times per week or more	[0.0%]

(mean=1.56; SD=.38)

Witnessing Others Victimized [Cronbach's alpha=.83]:

While in prison (1) I saw another prisoner seriously injured.
Coded

1=never	[24.3%]
2=about 1-2 times	[51.9%]
3=about once/month	[14.6%]
4=about once/week	[6.8%]
5=2-3 times per week or more	[2.4%]

(mean= 2.11; SD= .93)

(2) I saw another prisoner killed. Coded

1=never	[91.7%]
2=about 1-2 times	[7.3%]
3=about once/month	[0.5%]
4=about once/week	[0.5%]
5=2-3 times per week or more	[0.0%]

(mean= 1.10; SD= .36)

(3) I witnessed another prisoner's property being stolen or vandalized. Coded

1=never	[27.7%]
2=about 1-2 times	[41.7%]
3=about once/month	[16.0%]
4=about once/week	[11.7%]
5=2-3 times per week or more	[2.9%]

(mean= 2.20; SD= 1.06)

(4) I was aware of other prisoner's being raped. Coded

1=never	[57.8%]
2=about 1-2 times	[34.5%]
3=about once/month	[5.8%]
4=about once/week	[0.5%]
5=2-3 times per week or more	[1.5%]

(mean= 1.53; SD= .76)

(5) I witnessed other prisoner's being assaulted with a weapon. Coded

1=never	[43.7%]
2=about 1-2 times	[46.1%]
3=about once/month	[5.8%]
4=about once/week	[2.9%]
5=2-3 times per week or more	[1.5%]

(mean= 1.72; SD= .82)

(6) I witnessed physical fights. Coded

1=never	[7.8%]
2=about 1-2 times	[38.8%]
3=about once/month	[28.2%]
4=about once/week	[16.0%]
5=2-3 times per week or more	[9.2%]

(mean= 2.80; SD= 1.09)

Adherence to the Convict Code [Cronbach's alpha= .75]:

While in prison (1) I was confident a friend or associate would watch my back. Reverse coded

1=strongly disagree	[6.3%]
2=disagree	[15.6%]
3=agree	[49.8%]
4=strongly agree	[28.3%]

(mean= 3.00; SD =.83)

(2) I regularly watched a friend's or associates back.
Reverse coded

1=strongly disagree	[5.9%]
2=disagree	[19.0%]
3=agree	[47.8%]
4=strongly agree	[27.3%]

(mean= 2.97; SD= .83]

(3) I lived by the convict code. Reverse coded

1=strongly disagree	[5.4%]
2=disagree	[15.2%]
3=agree	[53.9%]
4=strongly agree	[25.5%]

(mean= 3.00; SD= .79)

Appendix 3:

Post Traumatic Stress Diagnostic Scale: UM-CIDI Dependent Variable for Hypothesis Two Dependent Variable for Hypothesis Three [Cronbach's alpha=.90]:

(1) Did you keep remembering the event when you did not want to?
No [58.3%]; Yes [41.7%].

(2) Did you keep having dreams or nightmares about it?
No [78.2%]; Yes [21.8%].

(3) Did you ever suddenly act or feel that the event was happening again, when it was not?
No [83.5%]; Yes [16.5%].

(4) Did you ever get very upset when you were in a situation that reminded you of it?
No [64.6%]; Yes [35.4%].

(5) After the experience, did you find that you no longer had loving or warm feelings toward anyone?
No [84.9%]; Yes [15.1%].

(6) Did you ever go out of your way to avoid situations that remind you of the event?
No [61.7%]; Yes [38.3%].

(7) Did you try hard not to think about it?
No [60.7]; Yes [39.3%].

(8) Did you develop memory blank so that you could not remember certain things about the event?
No [85.4%]; Yes [14.6%].

(9) Did you feel isolated or distant from others after the event?
No [72.2%]; Yes [27.8%].

(10) Did you begin to feel that there was no point in thinking about the future?
No [76.7%}; Yes [23.3%].

(11) Did you loose interest in doing things that used to be important to you?
No [73.3}; Yes [26.7%].

(12) Did you have more trouble concentrating than is usual for you?
No [71.4%]; Yes [28.6%].

(13) Did you act unusually irritable or lose your temper a lot?
No [68.4%]; Yes [31.6].

(14) Did you have more trouble sleeping than is usual for you?
No [66.5%]; Yes [33.5%].

(15) Did you become overly concerned about danger or become overly careful?
No [77.2%]; Yes [22.8%].

(16) Did you become jumpy or easily startled by ordinary noises or movements?
No [75.6%]; Yes [24.4%].

(17) Did you sweat or did your heart beat fast or did you tremble or get nauseous when you thought about the upsetting experience?
No [78.6%]; Yes [21.4%].

Appendix 4:

Operational Definitions of Pre-Prison Control Variables for Hypotheses One and Three

Race:

(1) White [60.9%]
(2) Other [39.1%]

Education:

(1) grade school or less [1.5%]
(2) some high school [26.7%]
(3) completed high school [39.8%]
(4) completed high school plus other training [27.7%]
(5) completed college [3.9%]
(6) don't know [0.5%].

Age First Arrested:

(1) 05-10 [9.2%]
(2) 11-12 [13.5%]
(3) 13-14 [17.4%]
(4) 15-16 [16.4%]
(5) 17-18 [18.8%]
(6) 19-22 [11.1%]
(7) 23-25 [4.3%]
(8) 26-30 [3.9%]
(6) 31 or more [5.3%]

Age First Prison Sentence:

(1) 15-16 [1.9%]
(2) 17-18 [18.8%]
(3) 19-22 [34.8%]
(4) 23-25 [9.7%]
(5) 26-30 [13.0%]
(6) 31 or more [21.7%]

References

Adams, K. (1992). Adjusting to prison life. In M. Tonry (Ed.), *Crime and Justice, 16*, 275-359. Chicago: University of Chicago Press.

American Psychiatric Association (APA). (1994). *Diagnostic and statistical manual of mental disorders. DSM-IV.* Washington: American Psychiatric Association.

Anderson, E. (1999). *Code of the street: Decency, violence, and moral life of the inner city.* New York: W.W. Norton.

Aneshensel, C. (1999). Surveying the field. In Aneshensel, C. and Phalan, C. (Eds.) *Handbook of Sociology Mental Health.* Dordrecht, Netherlands: Kluwer Academic Publishers.

Austin, James and John Irwin. (2000). It's About Time: America's Imprisonment Binge. Belmont, CA: Wadsworth.

Bacon, M. H. (1985). *The quiet rebels: The story of the Quakers in America.* Philadelphia: New Society Publishers.

Baker, C., & Alfonso, C. (2002). PTSD and criminal behavior. A national center for PTSD fact sheet. National Center for Post-Traumatic Stress Disorder, Department of Veterans Affairs. Found online at: www.ncptsd.org

Bartollas, C. (1982). Survival Problems of Adolescent Prisoners. In R. Johnson and H. Toch (Eds.), *The Pains of Imprisonment*. Beverly Hills, Calif.: Sage.

Beaton, A., Cook, M., Cavanaugh, K., and Herrington, C. (2000). The psychological impact of burglary. *Psychology, Crime and Law*, 6:33-43.

Becker, H. 1963. *Outsiders: Studies in the Sociology of Deviance*, New York, New York: Free Press.

Belsley, D., Kuh, E., Welsch, R. 1980. *Regression diagnostics: Identifying influential data and sources of collinearity*. New York: Wiley.

Benotsch, E. G., Brailey, K., Vasterling, J. J., Udo, M., Constans, J. I., & Sutkers, P. B. (2000). War zone stress, personal and environmental resources, and PTSD symptoms in Gulf War Veterans: a longitudinal perspective. *Journal of Abnormal Psychology ,109*, 205-213.

Bohrnstedt, G., and Knoke, D. 1994. *Statistics for social data analysis*. Ilasca, IL: Peacock Publishing.

Bontana, J. and Gendreau, P. (1987). Reexamining the cruel and unusual punishment of prison life. *Law and Human Behavior*, 14:347-342.

Breslau, N., Davis, G. C., & Andreski, P. (1995). Risk factors for PTSD related traumatic events: A prospective analysis. *American Journal of Psychiatry, 152*, 529-535.

Brinded, P., Alexander, M. J., Simpson, I. P, Laidlaw, T. M., Parley, N., & Piona, M. (2001). Prevalence of psychiatric disorders in New Zealand prisons: A national study. *Australian and New Zealand Journal of Psychiatry,* 35:166-173.

Bukstel, L.H. and Kilmann, P.R. (1980). Psychological effects of imprisonment on confined individuals. *Psychological Bulletin* (88), 469-493.

Bureau of Justice Statistics. (1997). Lifetime likelihood of going to state or federal prison, Washington, DC: US Department of Justice, March 1997.

Bureau of Justice Statistics. (1997). Mental health and treatment of inmates and probationers. (Report No. 174463). Washington: U.S. Department of Justice.

Bureau of Justice Statistics, US Department of Justices. (2001). Federal criminal case processing, November 2000: p.12.

Bureau of Justice Statistics, U.S. Department of Justice. (2001). Justice expenditures and employment extracts: 1992-1999. Found online at http://www.ojp.usdoj.gov/bjs/eande/htm Date accessed: June 3, 2003.

Bureau of Justice Statistics. (2002). Justice expenditure and employment in the US, 1999. Washington DC: US Department of Justices, February 2002: p.7.

Bureau of Justice Statistics. 2003. Jail, prison, probation, and parole. Found on line at: http://www.ojp.usdoj.gov/bjs/abstract/ppus02.htm Date accessed: June 23, 2003.

Bureau of Justice Statistics, U.S. Department of Justice. 2003. Prisoners in 2002. Washington DC: U.S. Department of Justice, July: p.7.

Burke, K. W. (2001). Psychiatric aspects of hepatitis C treatment in prison. *Corrections Today, 63*(5), 75-79.

Cabalero, M.A., Ramos, L., and Saltijeral, M.T. (2000). Posttraumatic stress dysfunction and other reactions of the victims of house burglary. *Salud Mental*, 23:8-17.

Cato Institute Policy Analysis, No. 208. (2003). America's foolish sentencing policy. Found online at: www.cato.org/pubs/pas/pa-208.html. Date accessed: September 5, 2003.

Chambers, J. A., Power, K. G., Loucks, N., & Swanson, V. (2000). The quality of perceived parenting and its association with peer relationships and psychological distress in a group of incarcerated young offenders. *International Journal of Offender Therapy and Comparative Criminology, 44*, 350-368.

Chiles, J .A., von Cleve, E., Jemelka, R. P., & Trupin, E. W. (1990). Substance abuse and psychiatric disorders in prison inmates. *Hospital and Community Psychiatry, 41*, 1132-1134.

Cohen, Lawrence & Felson, Marcus. (1976). Prison violence: A sociological perspective. In A.K. Cohen, G.F. Cole, and R.G. Bailey (Eds.), *Prison violence*. Lexington, MA: Lexington Books (pp. 3-22).

_____. (1979). Social change and crime rate trends: A routine activity approach. *American Sociological Review,* 44:588-608.

_____. 1997. A general theory of subcultures. In K. Gelder and S. Thorton (Eds.), *The subculture reader*. London: Routledge. (Original work published in 1955).

Cooper, C., & Berwick, S. (2001). Factors affecting psychological well-being of three groups of suicide prone prisoners. *Current Psychology*, 20:169-182.

Cooperstein, M.A. (2001). Corrections Officers: The forgotten Police Force. *Pennsylvania Psychologist Quarterly*, 61(5):7-23.

Davis, R. C., Taylor, B., & Lurigio, A. J. (1996). Adjusting to criminal victimization: The correlates of post crime distress. *Violence and Victims*, 11:21-38.

Davison, S., Leese, M., and Taylor, P. (2001). Examination of the screening properties of the Personality Diagnostic Questionnaire 4+(PDQ-4+) in a prison population. *Journal of Personality Disorders*, 15:180-194.

Dembo, R., Williams, L., La Voie, L., Berry, E., Getreau, A., Kern, J., Genung, L., Schmeidler, J., Wish, E. D., & Mayo, J. (1990). Physical abuse, sexual victimization and marijuana/hashish and cocaine use over time: A structural analysis among a cohort of high risk youth. *Journal of Prison and Jail Health*, 9:13-43.

Denkers, A.J.M., and Winkel, F.W. (1997). Crime victims' well-being and fear in a prospective and longitudinal study. *International Review of Victimology*, 5:141-162.

Department of Justice Statistics. (2003). Found online at: www.ojp.usdoj.gov
Date accessed: June 12, 2003

Diagnostic Statistical Manual of Mental Disorders: DSM-IV-TR (2000). Washington, DC: American Psychiatric Association, 4th ed., text revision.

Ditton, P. M. (1999). Mental health and treatment of inmates and probationers. *Bureau of Justice Statistics Special Report. U.S. Department of Justice.* Found online at: www.ojp.usdoj.gov
Date accessed: August 7, 2003.

Dohrenwend, B.P. (2000). The role of adversity in psychopathology: Some evidence and its implications for theory and research. *Journal of Health and Social Behavior*, 41:1-19.

Durkheim, E. (1964). *The rules of the sociological method.* New York: Free Press (Original work published in 1895).

Eck, John. (1994). *Drug markets and drug places: A case-control study of the spatial structure of illicit drug dealing.* Ph.D. Dissertation, University of Maryland.

Elliott, D., Juizinga, D., and Ageton, S. 1985. *Explaining delinquency and drug use*. Beverly Hills, CA: Sage.

Elliot, D., Juizinga, D., and Menard, S. 1989. *Multiple problem youth: Delinquency, substance use, and mental health problems*. New York: Springer-Verlag.

Ex-Services Mental Welfare Society. 2003. Found online at: www.combatstress.org.uk/news/current issues.asp. Date accessed: August 1, 2003.

Executive Office of the President, Budget of the US Government. 2002. Washington DC: US Government Printing Office, 2001, p.134.

Federal Bureau of Prisons. 2003. Weekly population report. Found online at: www.bop.gov Date accessed: August 3, 2003.

Figley, C. (1978). *Stress disorders among Vietnam veterans: Theory Research and Treatment Implications*. New York: Bruner Mazel.

Florida Corrections Commission Annual Report. (1999). Suicide in prison. Found online at: www.fcc.state.fl.us Date accessed: June 22, 2003.

Foa, e. B., Riggs, D. S., & Gershuny, B. S. (1995). Arousal, numbing, and intrusion: Symptom structure of PTSD following assault. *The American Journal of Psychiatry,* 152(1):116-122.

Fuller, D. and T. Orsagh. 1977. Violence and Victimization within a State Prison System. *Criminal Justice Review* 2:35-55.

Garofalo, James. (1987). Reassessing the lifestyle model of criminal victimization. In Michael Gottfredson & Travis Hirschi (Eds.), *Positive criminology*. Newbury Park, Calif.: Sage.

Gavora, J., & Alexander, E. (1996, 28 October). Is the Justice Department putting prisoners' rights ahead of citizens' security? *Insight on the News,* 12(40):26-29.

Giddons, F.H. (1895). Is the term 'social class' a scientific category? *Proceedings of the National Conference of Charities and Correction, New Haven*, 110-116.

Goffman, E. 1961. *Asylums: Issues on the social situation of mental patients and other inmates*. Garden City, New York: Anchor Books.

_____. 1963. *Stigma: Notes on spoiled identity*. Englewood Cliffs, New Jersey: Prentice Hall.

Gold, P.B., Engdahl, B.E., Eberly, R.E., Blake, R.J., Page, W.F. and Freuh, B.C. (2000). Trauma exposure, resilience, social support, and PTSD construct validity among former prisoners of war. *Social Psychiatry and Psychiatric Epidemiology,* 35:36-42.

Goodstein, L. (1979). Inmate adjustment to prison and the transition to community life. *Journal of Research in Crime and Delinquency,* 16:246-272.

Goodstein, L., MacKenzie, D., and Shortland, R.L. (1984). Personal control and inmate adjustment to prison. *Criminology,* 22:343-369.

Gorski, T. T. (2003). Post incarceration syndrome and relapse. Found online at: http://www.tgorski.com/criminal justice/cjs pics & relapse.htm.

Date accessed: May, 25, 2003.

Gottfredson, M. and Hirschi, T. (1990). *A General Theory of Crime*. Stanford, CA: Stanford University Press.

Greene, S., Haney, C., & Hurtado, A. (2000). Cycles of pain: Risk factors in the lives of incarcerated mothers and their children. *The Prison Journal,* 80(1):3-23.

Gujarati, D. 1988. *Basic Economics*. New York: McGraw Hill.

Gullone, E., Jones, T., & Cummins, R. (2000). Coping styles and prison experience as predictors of psychological well-being in male prisoners. *Psychiatry, Psychology and Law*, 7:170-181.

Guthrie, R. K. (1999). *The prevalence of posttraumatic stress disorder among federal prison inmates*. Doctoral Dissertation. West Virginia University.

Haney, C. (1998). The past and future of U.S. prison policy: Twenty-five years after the Stanford Prison Experiment. *American Psychologist* (53), 709-727.

_____. 1997. Psychology and the limits of prison pain: Confronting the coming crisis in eighth amendment law. *Psychology, Public Policy, and Law* (3), 499-588.

Haynes, F.E. (1948). The sociological study of the prison community. *Journal of Criminal Law and Criminology* (39), 432-440.

Headland, T., Pike, K., and Harris, M. Emics and Etics: The insider / outsider debate. Thousand Oaks, CA: Sage Publications.

Hindelang, Michael, Gottfredson, Michael & Garofalo, James. (1978). *Victims of personal crime: An empirical foundation for a theory of personal victimization*. Cambridge, Mass.: Ballinger.

Hockstetler, Andrew, Daniel S. Murphy, and Ronald L. Simons. (Forthcoming). Damaged Goods: exploring the predictors of distress in prison inmates. *Journal of Crime and Delinquency*.

Hodgins, S., and Cote, G. (1990). Prevalence of mental disorders among penitentiary inmates in Quebec. *Canada's Mental Health*, 38:1-4.

Horwitz, A. and Scheid, L. (1999). *A Handbook for the Study of Mental Health: Social Contexts, Theories, and Systems*. New York, New York: Cambridge University Press.

Hraba, J., Lorenz, F.O., Pechacova, Z., and Bao, W.D. (1999). Criminal victimization and distress in the Czech Republic. *Journal of Interpersonal Violence*, 14:1030-1054.

Irwin, J. 1970. *The Felon*. Englewood Cliffs, NJ: Prentice Hall.

_____. 1980. *Prisons in Turmoil*. Boston, Mass.: Little Brown.

Irwin, J. and Donald Cressey. 1962. Thieves, Convicts, and the Inmate Subculture. *Social Problems* 10:142-155.

Jaman, D. (1972). A synopsis of research report no. 43. Sacramento, CA: California Department of Corrections.

Jang, S. J., & Smith, C. A. (1997). A test of reciprocal causal relationships among parental supervision, affective ties, and delinquency. Journal of Research in Crime and Delinquency, 34(30):1-31.

Johnson, R. 1976. *Culture and Crisis in Confinement*. Lexington, Mass.: Lexington.

Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., Nelson, C., & Breslau, N. (1999). Epidemiological risk factors for trauma and PTSD. In Rachel Yehuda (Ed.), *Risk factors for Posttraumatic Stress Disorder* (pp. 1-22). Washington, DC: American Psychiatric Press.

Kizer, K. W. (1996). Progress on posttraumatic stress disorder. *JAMA*, 275(15):1149-1151.

Logan, T.K., Walker, R., Stanton, M., and Leukefeld, C. (2001). Substance use and intimate violenc among incarcerated males. *Journal of Family Violence*, 16:93-114.

Lombrosos, C. and Ferrero, W. (1895). *The female offender*. London: Unwin Fisher.

Lorenz, F.O., Conger, R.D., Montague, R.B., and Wickrama, K.A.S. (1993). Economic conditions, spouse support, and psychological distress of rural husbands and wives. *Rural Sociology*, 58:247-268.

Lovell, D., Gagliardi, G.J., and Peterson, P.D. (2002). Recidivism and use of services among persons with mental illness after release from prison. *Psychiatric Services*: 1290-1296.

Maitland, A. S. & Sluder, R.D. (1996). Victimization in prisons: A study of factors related to the general well-being of youthful inmates. *Federal Probation*, 60:24- 31.

McCaffrey, B. (General, USA retired). (1996). Keynote address, Opening plenary session, National Conference on drug abuse prevention research, National institute on drug abuse. Found online: www.165.112.78.61/MeetSum/CODA/Keynote2.html. Date accessed: May, 10, 2003.

McCorkle, R.C. (1992). Personal precautions to violence in prison. *Criminal Justice and Behavior*, 19:160-173.

_____. (1993a). Living on the edge: Fear in a maximum security prison. *Journal of Offender Rehabilitation*, 20:73-91.

_____. (1993b). Fear of victimization and symptoms of psychopathology among prison inmates. *Journal of Offender Rehabilitation*, 19:27-41.

McFarlane, A.C. (1989). Victimization in prisons: a study of factors related to the general well-being of youthful inmates. *Federal Probation*, 60:24-31.

Mead, G.H. (1934). *Mind, self, and society*. Chicago: University of Chicago Press.

Mirowsky and Ross. 1999. Well-being across the life course. In Allan V. Horwitz and Teresa L. Scheid (Eds.), *A Handbook for the study of mental health: Social Contexts, Theories, and Systems*, Cambridge: Cambridge University Press.

Morgan, C., Hazlett, G., Wang, S., & Richardson, E. G. (2001). Symptoms of dissociation in humans experiencing acute, uncontrollable stress: A prospective investigation. *American Journal of Psychiatry*, 158(8):1239-1247.

Myers, L. and Levy, G. (1978). Description and predictions of the intractable inmate. *Journal of Research in Crime and Delinquency*, 15:214-228.

Norris, F.H. and Kaniasty, K. (1994). Psychological distress following criminal victimization in the general population. *Journal of Consulting and Clinical Psychology*, 62:111-123.

O'Brian, Patricia. 2001. Making it in the free world: women in transition from prison. Albany: SUNY Press.

O'Donnell, I. & Edgar, K. (1998). Routine victimization in prison. *Howard Journal of Criminal Justice,* 375:266-279.

Parsons, T. (1937). *The structure of social action.* New York: McGraw-Hill.

Peters, L., Andrews, G., Cottler, L. B., Chatterji, S. (1996). The Composite International Diagnostic Interview Post-Traumatic Stress Disorder module: Preliminary data. *International Journal of Methods in Psychiatric Research,* 6:167 -174.

Petersilia, J. (1994). Violent crime and violent criminals: The response of the justice system. In Costanzo, M. and Oskamp, S. (Eds,) *Violenc and law: Claremont Symposium on applied social psychology,* Vol. 7. (pp. 226-245). Thousand Oaks, CA: Sage Publications.

Port, C.L., Engdahl, B.E., and Frazier, P. (2001). A longitudinal Study of PTSD among prisoners of war. *Journal of Psychiatry,* 158:1474-1479.

Ryan, J. P., Davis, R. K., & Yang, H. (2001). Reintegration services and the likelihood of adult imprisonment: A longitudinal study of adjudicated delinquents. *Research on Social Work Practice,* 11(3):321-337.

Radloff, L. 1977. The CES-D: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3):385-401.

Schiff, M., El-Bassel, N., Engstrom, M., & Gilbert, L. (2002). Psychological distress and intimate physical and sexual abuse among women in methadone maintenance treatment programs. *The Social Service Review*, (June), 1-12.

Schmid, T. and Jones, R. (1993). Ambivalent actions: Prison adaptation strategies of first-time, short-term inmates. *Journal of Contemporary Ethnography*, (21)4:439-463.

Schwarz, E. D., & Kowalski, J. M. (1991). Posttraumatic stress disorder after a school shooting: Effects of symptom threshold selection and diagnosis by DSM-III, DSM-III-R, or proposed DSM-IV. *American Journal of Psychiatry*, 148(5):592-597.

Seligman, M. 1975. *Helplessness: On depression, development, and death*. Oxford, England: W.H. Freeman Publishing.

Sentencing Project. 2003. Found online at: www.sentencingproject.org/pdf/Prisoners. Date accessed: June 22, 2003.

Silberman, C. E. (1995). *Criminal violence, criminal justice*. (Fourth Ed.). New York: Vantage Books.

Silberman, M. (1995). A world of violence: corrections in America. Belmont, CA: Wadsworth.

Silverman, M. & Vega, M. (1990). Reactions of prisoners to stress as a function of personality and demographic characteristics. *International Journal of Offender Therapy and Comparative Criminology,* 34:187 -196.

Smith, C., O'Neal, H., Tobin, J., and Walshe, D. (1996). Mental disorders in an Irish prison sample. *Criminal Behavior and Mental Health*, 6:177-183.

Solomon, Z. (2001). The impact of posttraumatic stress disorder in military situations. *Journal of Clinical Psychiatry*, 62: 11-15.

Sykes, G. (1958). *Society of Captives: Study of Maximum Security Prison*, New Jersey: Princeton University Press.

Tannenbaum, F. 1938. *Crime and the Community*, Boston: Ginn.

Toch, H. (1992). *Living in Prison: The Ecology of Survival,* 2nd edition. Washington, D.C.: Macmillan.

_____. 1985. Quo vadis? *Canadian Journal of Criminology* (26), 511-516.

_____. 1977. *Living in Prison: The Ecology of Survival.* New York: Free Press.

_____. 1975. *Men in Crisis: Human Breakdown in Prison.* Chicago: Aldine.

Toch, H. and Adams, K. (1989a). *Coping: Maladaptation in Prisons*. New Brunswick, N.J.: Transaction

Travis, Jeremy and Sarah Lawrence. (2002). Beyond the Prison Gates: State of Parole in America. Urban Institute. Found at: www.urban.org/UploadPDF/3100583/ Beyond gates.pdf Date accessed: July 3, 2003.

U.S. Department of Justice. 2002. Justice Expenditures and employment, 1999, Washington, DC: US Department of Justice, February 2002.

Vega, W. and Rumbaut, R. 1991. Ethnic Minorities and Mental Health. *Annual Review of Sociology*, 17:351-383.

Verona, E., Patrick, C.J., and Joiner, T.E. (2001). Psychopathy, antisocial personality, and suicide risk. *Journal of Abnormal Psychology*, 110:462-470.

Wheaton, B. (1983). Stress, personal coping resources, and psychiatric symptoms: an investigation of interactive models. Journal of Health and Social Behavior, 24(3):208-229.

Western, B. (2002). The impact of incarceration on wage mobility and inequality. *American Sociological Review*, 67(4):526-546.

Wieder, D.L. (2001). Telling the Convict Code. In Robert M. Emerson (Ed.), *Contemporary Field Research: Perspectives and Formulations*, Prospect Heights, IL: Waveland Press.

Williams, S. and Halgin, R. (1995). Issues in psychotherapy supervision between White supervisors and Black supervisee. *Clinical-Supervisor*, 13(1): 39-61.

Wittchen, H., Kessler, R., Zhoa, S., and Abelson, J. (1995). Reliablility and Valididty of the UM-CIDI-III-R. *Journal of Psychiatric Research*, 29:95-110.

Wooldredge, J. D. (1994). Inmate crime and victimization in a Southwestern correctional facility. *Journal of Criminal Justice*, 22:367-381.

_____. (1998). Inmate lifestyles and opportunities for victimization. *The Journal of Research in Crime and Delinquency*, 35(4):480-502.

_____. (1999). Inmate experiences and psychological well-being. *Criminal Justice and Behavior*, 26:235-250.

Wooldredge, J. D., & Carboneau, T. (1998, November). A multilevel analysis of inmate crime. Paper presented at the annual meeting of the American Society of Criminology, Washington.

Wright, K.N. (1991). The violent and the victimized in the male prison. *Journal of Offender Rehabilitation*, 16:1-25.

Yehuda, R., & McFarlane, A. (1995). Conflict between current knowledge about posttraumatic stress disorder and its original conceptual basis. *American Journal of Psychiatry*, 152(12):1705-1718.

Zamble, E. and Porporino, F. (1988). *Coping Behavior and Adaptation in Prison Inmates*. New York: Springer-Verlag.