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A Study of Mental Illness as a Causal Factor in Recidivism among Adult Inmates at the Adult Correctional Institutions of Rhode Island

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A STUDY OF MENTAL ILLNESS AS A CAUSAL FACTOR

IN RECIDIVISM AMONG ADULT INMATES AT THE

ADULT CORRECTIONAL INSTITUTIONS

OF RHODE ISLAND

By

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ABSTRACT

This study examines the relationship between Rhode Island's incarcerated offenders with diagnosed severe and persistent mental illness who at the time of arrest were involved in state-sponsored mental health treatment programs. A random sample of offenders with undiagnosed or untreated mental illness at the time of arrest serve as the control group to compare their reincarceration rates. The hypotheses are that recidivism and time added to original sentence as a result of infractions will be significantly higher for the mentally ill offenders. I also examine the relationship between substance abuse and type of offense committed as mediators in the mental illness-recidivism relationship.

INTRODUCTION

Research that attempts to establish a relationship between participation of mentally ill offenders in professional rehabilitation programs at or before time of incarceration and subsequent repeat incarcerations in the State of Rhode Island is, at best, limited. Evidence gathered on a national level (National Institute of Corrections and ABT Associates 2002) suggests that participation in state-sponsored rehabilitation programs does not automatically translate into a crime-free community; however, the Rhode Island Department of Corrections has in sought to increase successful reentry into the community after incarceration and ultimately reduce recidivism by establishing a network agencies responsible for assessing offenders' needs, providing appropriate services/coordinating referrals, and supervising offenders in conjunction with local authorities and mental health workers.

According to Dr. Fredric Friedman, the Clinical Director of Behavioral Healthcare at the Adult Correctional Institutions, there are approximately 9,024 general outpatient mental health clients and 5,700 community support clients at any given time in the state of Rhode Island. Approximately twenty percent of that population, or 1,100 clients, are being served

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by fifteen RIACT-1 teams throughout the state. These teams include Mobile Treatment Teams and Community Support Programs, each serving from sixty to one hundred mentally ill persons. These teams are funded by various sources, including funding from state and federal government levels (RIACT Standards 1992). Individuals who participate in or are affiliated with either of these programs must meet a number of requirements.

Those eligible for treatment in such programs must be age eighteen or older with a severe and/or persistent mental illness, which include attention deficit hyperactivity disorder (ADHD), schizophrenia, bipolar disorder, depression, mood disorder Not Otherwise Specified (NOS), anxiety disorder, post-traumatic stress disorder (PTSD), psychosis NOS, personality disorder NOS, and suicide attempts. Clients must have undergone psychiatric treatment more intensive than independent outpatient care (i.e. emergency services, day treatment, or inpatient hospitalization) more than once in a lifetime. Admission to these programs also requires that clients exhibit functional impairments such as: working in a sheltered setting or having markedly limited vocational skills; showing an inability to establish or maintain a personal social system; requiring help in basic living skills; exhibiting inappropriate social behavior that results in a demand for intervention by the mental health and/or criminal justice system (Friedman 2006).

Conversely, the mission of the Rhode Island Department of Corrections is "to contribute to public safety by maintaining a balanced correctional system of institutional and community programs that provide a range of control and rehabilitative options for criminal offenders;" yet, alarmingly, recidivism routinely hovers around 90% in the state of Rhode Island (Friedman 2006). The RIDOC also seeks to manage offenders in a manner that is consistent with public safety regulations, with the ultimate goal of reducing crime rates in the state of Rhode Island. The primary responsibility of the Division of Institutions and

Operations is the coordinated management of eight correctional facilities, including two jails (one for male offenders and one for female offenders), all located on the John O. Pastore Government Center in the city of Cranston. In this study, the sample is drawn from five of these facilities.

While research in the area of prisoner reentry in Rhode Island is limited, thorough research has been conducted on the general subject of recidivism in the United States. It is a topic which has always been an issue in law enforcement and corrections, relevant not only to prison populations but the community to which prisoners are released.

> One of the most profound challenges facing American society is the reintegration of more than six hundred thousand adults—about one thousand six hundred a day—who leave state and federal prisons and return home each year. As of 2002, the nation's prison population exceeded 1.4 million … ninety-three percent of all prison inmates are eventually released. (Petersilia 2003:3)

Statistics show that ninety-seven percent of the approximately two million inmates now in prison in the United States will eventually be released and return to communities, which is also reflected in Rhode Island's recidivism. A large percentage of that population will leave prison with no supervision or transitional services (Petersilia 2003:3). In order to protect the community to which the offender returns, as well as to ensure to the highest level of certainty that the offender is not merely condemned to automatic return to incarceration, efforts are being made by individual states to create services that aid offenders who suffer from various degrees of mental illness.

There are a number of components that must be addressed in mental health treatment programs dealing with repeat offenders. High recidivism rates are attributable to many factors; perhaps the primary problem lies in a combination of biological, psychological and social factors, making rehabilitation a difficult and lengthy process (Van Wormer 2005).

Lack of formal education is cited by Joan Petersilia (2003) as one of the factors that contribute to a so-called 'life of crime,' in that many offenders have no marketable skills in which to gain lawful employment, thus leading to their first of several offenses:

> Fully one-third of all prisoners were unemployed at their most recent arrest and just sixty percent of inmates have a GED or high school diploma (compared to eighty-five percent of the U.S. adult population). The National Adult Literacy Survey (NALS) has established that eleven percent of inmates, compared with three percent of the general population, self-reported having a learning disability. (Petersilia 2003:4)

Such social disabilities contribute to patterns of offending, committing first offenses and repeatedly recidivating upon release from incarceration. Biological and psychological factors also contribute, particularly due to the combined effects of substance addiction and mental illnesses (Van Wormer 2005).

According to studies conducted by the Rhode Island Department of Corrections Probation/Parole Data File compiled in 2003, over half of all released prisoners in a given year will return to the Rhode Island Adult Correctional Institutions from which they were paroled or probated within three years. Of that group, thirty-four percent will return, due to reasons ranging from arrest for a new offense to parole violation, within just one year as evidenced in the Parole/Data File (RIDOC 2003). Three thousand five hundred fifty offenders were released from incarceration in the ACI in 2003. Based on these statistics, it may be concluded that approximately one thousand two hundred seven offenders in this group were returned to prison by the end of 2004.

Treatment programs attempt to address a number of needs that are often ignored or isolated from a more complex model required for effective treatment and rehabilitation. "About three quarters of all prisoners have a history of substance abuse, and one in six suffers from mental illness. Despite these needs, fewer than one-third of exiting prisoners

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receive substance abuse or mental health treatment while in prison" (Petersilia 2003:4). This lack of treatment is also recognized by the United States Department of Justice (2006):

> More than half of all the nation's prison and jail inmates have symptoms of a mental health problem…however, fewer than one-third of those inmates are getting treatment behind bars, according to the report by the Bureau of Justice Statistics. The researchers estimated that last year, 705,600 inmates in state prisons, 479,900 in jails, and 70,200 in federal prisons had mental health problems. The study also found that the incidence of such problems among female inmates was much higher than among male offenders. (*Criminal Justice Newsletter* 2006)

The Bureau of Justice Studies' (2006) report further contends that "about twenty-four percent of jail inmates, fifteen percent of state prisoners, and ten percent of federal inmates report at least one symptom of a psychotic disorder." Rates of mental health problems appeared to vary by age of the inmates, with inmates younger than age twenty-five having the highest rate, and those age fifty-five and older demonstrating the lowest rate (*Criminal Justice Newsletter* 2006). The Bureau of Justice Studies' (2006) report uncovered startling statistics regarding treatment of such individuals:

> The study found that only seventeen percent of jail inmates with mental health problems had received treatment for those problems since they were incarcerated, while thirty-four percent of state prisoners and twenty-four percent of federal inmates with such problems had received treatment. (*Criminal Justice Newsletter* 2006)

Recently, *The New York Times* cited a Justice Department survey where "more than half the inmates in the country's prisons and jails reported mental health problems within the last year" (September 7, 2006:A22). This recently released report underscores the very serious problem of mental illness and treatment for incarcerated adults, and is one of the few studies that attests to deficiencies that exist in the criminal justice system.

> In one of the few outcome studies of mentally ill offenders released from prison, Feder reported that 64 percent of mentally ill offenders were rearrested within 18 months of release, compared with 60 percent of offenders without mental illness…with the exception of reports by Jacoby and Kozie-Peak and

> Wilson and colleagues, we know of no reports of outcome studies of mentally
> ill offenders released from state prisons. (Lovell et al. 2002:1290-1291)

Osher's (2006) and Lovell et. al's (2002) findings highlight a growing need to support

treatment programs in facilities like the ACI and intricately link treatment options with

community mental health programs.

The Rhode Island Department of Corrections and the Providence Plan, a nonprofit

organization that works to improve economic and social well-being in the city of Providence,

united in an attempt to reduce criminality in Rhode Island in the face of these startling

national statistics. My research examines whether similar patterns exist in Rhode Island

between the offenders who receive services from Community Support Programs and Mobile

Treatment Teams and the subsequent increase, decrease, or stability of reincarceration rates

by those offenders with diagnosed and treated mental illness.

LITERATURE REVIEW

This research joins two bodies of literature. The first body of literature focuses on

recidivism and the other mental illness.

RECIDIVISM

One study examines recidivism using several widely accepted definitions and

methods of measuring recidivism as an occurrence among offenders. Two studies (Fishman

1977; Harris et al. 1991) specifically examine reincarceration as a measure of recidivism.

Harris et al. (1991) also examines the relationship between varying degrees of mental illness

and recidivism. In my research, I use the total number of offenses for each inmate tracked

and recorded in the DOC computer system.

Recidivism is an occurrence defined as "the act of a person repeating an undesirable

behavior after they have either experienced negative consequences of that behavior, or have

been treated or trained to extinguish that behavior" (Willbach 1942:32). It is most commonly applied to situations of substance abuse and criminal behavior. The treatment of recidivism, especially for offenders who are at greater risk for reincarceration, has been long thought to be linked to mental health issues rather than crime for which choice theory-based programs, such as the services offered by the Community Support Programs and Mobile Treatment Teams, may be highly effective (Willbach 1942:33).

Harry Willbach, author of "What Constitutes Recidivism" (1942), states that recidivism may be measured using several gauges, the first of which is prior arrest. "Recidivism based on prior arrest is usually thought of as measuring the adjustment of the individual to social life as expressed by the legislated or penal law" (Willbach 1942:32). This is an unreliable source, according to Willbach, due to the fact that many arrests do not result in formal charges being filed or incarceration. A more accurate measure is prior incarceration. "The most widely used meaning of a recidivist is one who had previously been incarcerated…before methods of identification were introduced, it was recognized and known that the same names and faces recurred in the correctional institutions" (Willbach 1942:33). However, Willbach points out that prior incarceration also has its drawbacks, mainly that some career recidivists never reach the point of incarceration (Willbach 1942:34).

> A recidivist, as the term is here used, is a person who has served at least one period of incarceration…Although the number of prior convictions probably would be a more accurate measure of recidivism than the number of previous commitments, records of commitments are used because there is more complete and reliable information for commitments than for convictions. (Willbach 1942:35)

A study conducted by Robert Fishman (1977) in *The Journal of Criminal Law and Criminology* examined criminal recidivism in day reporting programs in New York City.

Fishman's (1977) methodology included isolating a number of variables including arrests, complaints, convictions, incarcerations, and severity according to the Sellin-Wolfgang Index, to gauge the success (or failure) of these programs for released offenders. Due to the relatively large number of variables, Fishman's analysis also involved several different approaches.

In order to accurately measure recidivism, Fishman (1977) examined the magnitude and seriousness of the individuals' criminal recidivism.

> Arrest recidivism was the ration of clients arrested one or more times during the twelve months after project entry…the magnitude was measured 1) by the recidivism rates, and 2) by the ratio of the total number of arrests after entry to the total number of all clients, recidivists and non-recidivists. Seriousness was measured by the types of crimes classified by the UCR system as serious (index) crimes consisting of both violent crimes against persons (homicide, rape, robbery and assault), and crimes against property (burglary, larceny and auto theft). (Fishman 1977:292)

The relationship of these variables to the client characteristics of age and severity of prior criminal history was then analyzed by testing for a significant relationship using chi-square. Fishman found that the relationship between these variables was significant only for the sixteen-to-eighteen year olds due to the fact that white individuals had less severe criminal backgrounds than did blacks and Hispanics of those ages (1977:292).

The results of Fishman's examination (1977) of various day reporting programs in New York City were somewhat inconsistent with earlier reporting of national statistics regarding recidivism, which stated that on average, half of all released offenders recidivate within three years of release (Fishman 1977:283). Fishman's study, which included seven age groups and used the aforementioned variable of severity to report findings, found that "by every measure used in the evaluation, clients age twenty and younger appear to have a higher magnitude and severity of criminal recidivism" (1977:295). Fishman (1977) found that there

was no significant effect of participation in day reporting centers and overall criminal recidivism when former inmates participated in a transitional program.

A second study, conducted by Grant T. Harris, Marnie E. Rice, and Catherine A. Cormier (1991), explored a different aspect of recidivism: the relationship between criminal psychopathology and recidivism. In following a sample of offenders released from a maximum security psychiatric hospital over ten years, researchers predicted recidivism by using a combination of childhood history, adult history, index offense, and institutional or program variables (Harris et al. 1991:625). The researchers determined that the Hare Psychopathy Checklist on its own was a reliable predictor of recidivism (1991:625).

Though the study by Harris et al. (1991) did not evaluate the programs offered by the psychiatric facilities, participation in therapeutic programs within such facilities aided patients in reentering the community upon release (Harris et al. 1991:627). Patients who participated in therapeutic programs for the duration of their stay in the psychiatric facility were less likely to recidivate than those who were not active in any type of program (Harris et al. 1991:627). From their regression analyses, the authors concluded that psychopaths, as determined by the Hare Psychopathy Checklist, exhibited extremely high rates of violent failure, reincarceration based on committing violent crimes (Harris et al. 1991:632).

MENTAL ILLNESS

The second body of literature examines the prevalence of mental illness in modern society, perceptions of mental illness, and finally, the relationship between mental illness and reincarceration. Five studies (Manis et al. 1964; Manis et al. 1965; Feder 1991; Harris et al. 1991; Fellner & Abramsky 2003) examine these issues using clinically defined character-izations of mental illness. Their results, though markedly different in comparison to one another, suggest that mental illness is a common affliction in the United States.

Mental illness is a diagnostic label applied to people whose thinking and feeling or mood may affect their ability to relate to others, their ability to work, and/or function as members of society. Mental illness has also been linked to an individual's tendency to commit crime (Lovell et al. 2002:1290). "Prevalence estimates of the number of mentally ill offenders in U.S. prisons range from six percent to sixteen percent." (Lovell et al. 2002: 1290). The definition of mental illness is highly controversial, given that many people experience emotions or cognitions that may be classed as abnormal, yet lead productive lives and are not commonly considered mentally "ill" (Lovell et al. 2002:1290).

According to the 2003 report of the U.S. President's New Freedom Commission on Mental Health, major mental illness, including clinical depression, bipolar disorder, schizophrenia, and obsessive-compulsive disorder, when compared with all other diseases (such as cancer and heart disease), is the most common cause of disability in the United States. The National Alliance for the Mentally Ill (NAMI), an American advocacy organization which accepts funding from the pharmaceutical industry, has found that twenty-three percent of North American adults suffer from a clinically diagnosable mental illness in a given year, but less than half of them suffer symptoms severe enough to disrupt their daily functioning (NAMI 2003). Among prison populations, one in six prisoners suffer from mental illness, approximately three times that of the adult population of the United States (Fellner & Abramsky 2003).

The prevalence of mental illness in modern society is dependent upon the manner in which mental illness is defined and characterized by society. A third study, conducted by Jerome G. Manis, Milton J. Brawer, Chester L. Hunt, and Leonard C. Kercher (1965), examined conceptions of mental illness in both public and psychiatric forums acting on the basis that public perception of mental illness focuses on troubling or disturbing behavior. In a

panel study, a sample of respondents was faced with a series of questions identifying a number of behaviors to which each respondent was asked to categorize their need of treatment for a mental illness. The researchers found that both public and psychiatric samples did not view individuals who displayed unusual behaviors as suffering from mental illness: "The present data suggest the possibility that manic, conformist, depressive, and grandiose behavior are less apt to be defined as mental illness today as in the past" (Manis et al. 1965:54). The authors suggest that this occurrence requires further study, perhaps a design that includes greater geographic distribution and different data collection techniques.

Jerome G. Manis (1964) attempted to determine the accuracy of the methods employed by earlier researchers in investigating the prevalence of mental illness in modern society. Three earlier studies—the Baltimore Study, the Midtown Manhattan Study, and the Kalamazoo County Study—are examined by Manis and his fellow researchers (Manis et al. 1964:88). The focus of their research is the standards used to gauge mental illness in prior research, using each study's methodology and definitions of patients of mental illness to compare. The original studies produced different results upon examining the prevalence of mental illness in their respective populations, to which Manis attributed a number of possible explanations including data gathering techniques, criteria of mental illness, and severity of mental illness (1964:87-89). The results of the studies were as follows: thirty-four per one thousand individuals were determined to have mental illness in the Kalamazoo County Study; thirty-seven out of one thousand in the Midtown Manhattan Study; and one hundred nine out of one thousand in the Baltimore Study (Manis et al. 1964:88).

Perhaps one of the most comprehensive and well-cited studies ever conducted that examines the proposed relationship between mental illness and reincarceration was published in 1991 by Lynette Feder, entitled "A Comparison of the Community Adjustment of

Mentally Ill Offenders with Those from the General Prison Population: An 18-Month Follow

-up." The original study, comprised of a sample of five hundred forty-seven offenders,

utilized a number of classifications in order to form a distinction between offenders with and

without mental illness:

> Included are defendants evaluated or found incompetent to stand trial (ISTs);
> individuals determined not guilty by reasons of insanity (NGRIs); mentally
> disordered sexual offenders (MDSOs); and mentally ill offenders (MIOs) who
> while imprisoned demonstrate major psychiatric disorders requiring inpatient
> care in a psychiatric setting. (Feder 1991:477-478)

Initial testing revealed a significant difference between the two groups when tested at a .05

confidence level. Offenders with mental illness were older, more likely to never have married

up to that point in time, had lower educational levels, and scored lower on standardized tests

than offenders with no documented mental illness. In accordance with the hypothesis,

members of the experimental group were also more likely to have been arrested for violent

offenses than 'nondisturbed' offenders (Feder 1991:481). Findings for the main research

questions, however, were not as predicted:

> During the 18-month follow-up period, 36% of the mentally disturbed
> offenders (and 42% of the nondisturbed offenders) were incarcerated either
> for a new offense or for parole revocation. In fact, 27% of the MIOs (and 32%
> of the non-MIOs) were convicted for a new offense and sentenced to
> additional time in jail or prison. At the conclusion of the follow-up period,
> 51% of the mentally ill offenders and 62% of the general prison population
> were living in the community. (Feder 1991:485)

The results, though lacking significant difference between offender groups, are also note-

worthy due to the fact that the author suggests such differences may be attributable to factors

other than diagnosed mental illness. Such variables are divided into three main categories:

psychiatric variables, criminological variables, and offender status (Feder 1991:486). Feder

(1991) determines from multivariate regression that the most significant variables in

considering reincarceration are age at release and prior adult incarceration (486).

The results of these studies suggests that the relationship between both perceived and diagnosed mental illness varies significantly according to a number of factors, including analysis method and the very definition used by researchers to identify offenders who suffer from mental illness. This, in turn, creates a need for a definitive study utilizing a universal definition of mental illness in order to determine whether there exists a positive correlation between mental illness and reincarceration.

In my study, I address these issues by using the diagnoses of mental health clinicians at the Adult Correctional Institutions of Rhode Island and establish a list of ten possible diagnoses: attention deficit hyperactivity disorder (ADHD), schizophrenia, bipolar disorder, depression, mood disorder Not Otherwise Specified (NOS), anxiety disorder, post-traumatic stress disorder (PTSD), psychosis NOS, personality disorder NOS, and suicide attempts. According to Dr. Fredric Friedman (2006), these diagnoses may be divided into two categories by severity. Schizophrenia, bipolar disorder, and psychosis NOS comprise the most severe mental illnesses; ADHD, depression, mood disorder NOS, anxiety disorder, PTSD, and personality disorder NOS are considered less severe (Friedman 2006).

PARTICIPANTS

In order to gain access to data, IRB forms were submitted to the Rhode Island College Human Subjects Review Board and the Adult Correctional Institution Human Subjects Committee. Participants' identities were coded to ensure confidentiality and anonymity according to the terms of the informed consent release form signed by both the participant and the researcher (PLEASE SEE APPENDIX A, INFORMED CONSENT FORM).

From a list comprised of names of inmates currently incarcerated at the Adult Correctional Institutions provided by Dr. Fredric Friedman, Clinical Director of Behavioral Health, adjusted control and experimental groups were formed. Of the population of inmates currently serving in the John J. Moran Medium Security Facility, the Dorothea Dix Women's Minimum Security Facility, and the Gloria McDonald Awaiting Trial and Medium Security Facility at the Adult Correctional Institutions, I randomized the list and selected every twentieth name for inclusion into the control group. The inclusion criteria was as follows: current inmates, 18 years or older, English-speaking, and inmates with no history of a diagnosed or treated mental illness during their incarceration.

Participants in the experimental group were provided by Dr. Fredric Friedman in the form of a list of inmates who were affiliated with Community Support Programs (CSPs) or Mobile Treatment Teams (MTTs) as the time of their current incarceration. For the purposes of my research, CSP clients and MTT clients are most often combined to reflect mentally ill offenders, or MIOs, while I refer to the control group as non-mentally ill offenders (non-MIOs). The reason most analyses combine MTT and CSP clients into one mentally ill group is due to the small sample size.

Criteria for the experimental group portion of the sample are the same and include

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those individuals captured in the Access database that have been diagnosed and treated by CSPs or MTTs prior to incarceration. Most control variables such as age, gender, race, number of prior offenses, offense for which offender was last incarcerated, dates of prior incarceration, educational attainment, prior substance abuse, and mental illness type will be included in the database. This information is provided by the inmate's ACI intake form and their medical records, which were viewed upon obtaining individual informed consents from the selected participant.

This research design is three-pronged. In the first phase, I determined the experimental group (n = 36; the number of inmates who were currently serving sentences and not expected to be released or paroled for a minimum of two months, connected with a Community Support Program or Mobile Treatment Team at current incarceration), and I established a control group (n = 88; the number of inmates selected from a randomized list of inmates serving in men's medium and women's medium and minimum security facilities who had no documented history of mental illness). No inmates were drawn from the two maximum security facilities or from administrative segregation.

In the second phase of this study, I collected informed consent from the inmates and updated Dr. Fredric Friedman's Access database to reflect these variables: criminal history, incarceration period(s), and mental illness type. Measures for mental illness include: 1) identified as a client of Community Support Programs or Mobile Treatment Teams and 2) actual diagnoses obtained from each client's medical history. Measures for recidivism include: 1) offenses and sentences over a three-year period (the extent to which the DOC databank has recorded accurately since August 2003); 2) total number of times inmates served new sentences; and 3) if the inmate was incarcerated prior to August 2003. As part of this second phase, I collected the control group characteristics and entered the data into a

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SPSS file for analysis.

In the third and final phase of this research, I analyzed the data using SPSS and converted a copy of the updated database for the Clinical Director of Behavioral Health's database for the Department of Correction's use.

After I obtained signed consent documents from the inmates, I verified their medical history and mental illness diagnoses. Dr. Friedman's office helped me to insure that no inmates selected for the control group had any documented history of mental illness in their medical records. If a history of any mental illness was found, he or she was excluded from the control group and the 21st person on the roster listed alphabetically was chosen.

MATERIALS

I used Microsoft Excel in order to record and organize data collected at the Adult Correctional Institutions of Rhode Island. In order to analyze data, I used SPSS 14.0 statistical analysis software, first running descriptive statistics, followed by crosstabulations and chi-square analyses. After running descriptive statistics and diagnostic testing with the help of Dr. Harrison, I used Ordinary Least Squares bivariate and multivariate regression techniques to further analyze the causal models. Conclusions are drawn based on the results of these analyses.

RESEARCH QUESTIONS

1. Is there a causal relationship between mental illness and recidivism? If yes, do gender differences exist?

2. Are mentally ill offenders (MIOs) more likely to be penalized by loss of good time and sent to punitive segregation while serving their sentence? If so, are these actions a result of violent infractions?

3. Do specific mental illness diagnoses affect recidivism more than other mental illness diagnoses?

4. Do specific offenses for which mentally ill offenders are incarcerated mediate the relationship between inmate type (MIOs versus non-MIOs) and recidivism?

5. Does drug use mediate the relationship between mental illness and recidivism?

CAUSAL MODELS

1. SAMPLE: INCARCERATED OFFENDERS (MIOs and non-MIOs)	→	RECIDIVISM		
2. SAMPLE: INCARCERATED OFFENDERS (MIOs and non-MIOs)	→	RECIDIVISM		
3. SPECIFIC MENTAL ILLNESS DIAGNOSES	→	RECIDIVISM		
4. SAMPLE: INCARCERATED OFFENDERS (MIOs and non-MIOs)	→	OFFENSES	→	RECIDIVISM
5. SAMPLE: MENTALLY ILL OFFENDERS (MIOs)	→	DRUG USE	→	RECIDIVISM

In this section, I present the results and discuss the outcomes of the five hypotheses diagrammed on page 17. Ordinary least squares (OLS) models, which evaluate the slope and intercept of a line of best fit, are shown and presented for each hypothesis. Hypotheses one through three are tested using bivariate regression models. Hypotheses four and five are tested with multivariate OLS models. To correct for heavy right-tail skewness, I changed the dependent variables by performing log-10 transformations.

Due to a small sample size of female offenders (n = 27), OLS regression analyses are not conclusive and require further investigation with a larger sample size of both MIOs and non-MIOs. It is important to note that during the data collection phase, all female MTT and CSP clients were approached for inclusion in the research design. One declined and the other was released before she could consent. The small sample size reflected here indicates the total population of female MTT and CSP clients at the time of data collection.

SAMPLE CHARACTERISTICS

Table 1 shows descriptive characteristics of MIOs and non-MIOs at the time of their most recent incarceration. Male non-MIOs are, on average, approximately five years older than both male and female MIOs, and almost nine years older than female non-MIOs. The average female non-MIO is more likely to have a higher education (completing a mean 11.13 years of schooling) than male non-MIOs (10.62 years) and both male (10.63 years) and female (10.83 years) MIOs. It is interesting to note that within both MIO and non-MIO samples, the majority of both male and female offenders are listed as single or never married. This marital difference is statistically significant (p < .05) at the 95% confidence level. both genders; female non-MIOs also display significance (p < .05) if divorced.

Within the experimental group, a majority of male participants (58.3%) are white/

Caucasian. Black and Hispanic participants each comprise 20.8% of the sample. The female

experimental group are 83.3% white/Caucasian and 16.7% black. Race is not found to be a

significant predictor of recidivism ($\chi^2 = 2.010$; p < .05). Analyses suggest that there is no

racial bias in diagnosing the type of mental illness.

<u>TABLE 1.</u> SOCIODEMOGRAPHIC CHARACTERISTICS FOR
MIOs and NON-MIOs

DESCRIPTIVE STATISTICS	NON-MENTALLY ILL OFFENDERS (n = 88)		MENTALLY ILL OFFENDERS (n = 36)	
	MALES (n = 73)	FEMALES (n = 15)	MALES (n = 24)	FEMALES (n = 12)
MEAN AGE	40.14	31.40	35.21	35.08
MEAN EDUCATION (YRS.)	10.62	11.13	10.63	10.83
ACI LOCATION:				
MINIMUM SECURITY	0	0	3 (12.5%)	0
MEDIUM SECURITY	73 (100%)	0	4 (16.7%)	0
WOMEN'S FACILITY (DIX)	0	8 (53.3%)	0	2 (16.7%)
WOMEN'S FACILITY (JA)	0	7 (46.7%)	0	10 (83.3%)
INTAKE	0	0	12 (50%)	0
DONALD PRICE FACILITY	0	0	5 (20.8%)	0
MARITAL STATUS:				
SINGLE/NEVER MARRIED	46 (63.0%)**	14 (93.3%)**	21 (87.5%)	9 (75.0%)
MARRIED	27 (37.0%)*	0	2 (8.3%)	2 (16.7%)*
DIVORCED	0	1 (6.7%)**	1 (4.2%)	1 (8.3%)*
RACE/ETHNICITY:				
WHITE/CAUCASIAN	34 (46.6%)	4 (26.7%)	14 (58.3%)	10 (83.3%)
BLACK	23 (31.5%)	8 (53.3%)	5 (20.8%)	2 (16.7%)
HISPANIC	12 (16.4%)	3 (20.0%)	5 (20.8%)	0
ASIAN	3 (4.1%)	0	0	0
RELIGION:				
NONE	15 (20.5%)*	9 (60.0%)*	5 (20.8%)	2 (16.7%)
CATHOLIC	32 (43.8%)	6 (40.0%)	14 (58.3%)	8 (66.7%)
MUSLIM	6 (8.2%)	0	1 (4.2%)	0
JEWISH	0	0	1 (4.2%)	0
BAPTIST	6 (8.2%)	0	0	4 (33.3%)
BUDDHIST	2 (2.7%)	0	0	0
OTHER/UNKNOWN	12 (16.4%)	0	2 (8.3%)	0
OCCUPATION AT TIME OF INCARCERATION:				
UNEMPLOYED	32 (43.8%)**	11 (73.3%)**	11 (45.8%)**	10 (83.3%)*
LABOR-RELATED	19 (26.0%)	1 (6.7%)	1 (4.2%)	0
PROFESSIONAL	2 (2.7%)	0	1 (4.2%)	0
SERVICE	15 (20.5%)	1 (6.7%)	2 (8.3%)	2 (16.7%)
DISABLED/GOV'T ASSISTANCE/RETIRED	3 (4.1%)	0	6 (25.0%)	0
SEMI-PROFESSIONAL	1 (1.4%)	1 (6.7%)	0	0
STUDENT	1 (1.4%)	0	1 (4.2%)	0
SELF-EMPLOYED	0	1 (6.7%)**	1 (4.2%)	0
OTHER	0	0	1 (4.2%)	0

* p < .01; ** p < .05

Perhaps the most significant descriptive statistics between MIOs and non-MIOs is their lack employment at the time of most recent incarceration. Male and female MIO and non-MIO offenders who were listed as unemployed in their records showed statistical significance at the 95% confidence level. Data suggests that female non-MIOs also display statistical significance (p = .027) at a 95% confidence level when listed as self-employed.

Table 2 shows the nature of the offense for which the individual was charged with for the current incarceration. The mediating effects of individual offenses are examined in causal model four; for purposes of depicting descriptive statistics of the entire sample, Table 2 is included to illustrate the stratification of offenses for the current incarceration among male and female MIO and non-MIOs.

TABLE 2. INDEX OF OFFENSES AND MEDIAN SENTENCES
FOR MOST RECENT INCARCERATION

VARIABLES	NON-MIOs		MIOs	
	MALES (n = 73)	FEMALES (n = 15)	MALES (n = 24)	FEMALES (n = 12)
MEDIAN SENTENCE (MOS.)	120	3	10	3
COURT/PAROLE VIOLATIONS	0	3 (20.0%)	2 (8.3%)	1 (8.3%)
ARSON	1 (1.4%)	0	1 (4.2%)	0
ROBBERY/LARCENY	16 (21.9%)*	3 (20.0%)	7 (29.2%)*	4 (33.3%)
VANDALISM	1 (1.4%)	0	0	1 (8.3%)
DRUG OFFENSE	11 (15.1%)*	5 (33.3%)	5 (20.8%)*	1 (8.3%)
ASSAULT	7 (9.6%)	0	9 (37.5%)	1 (8.3%)
PROSTITUTION	0	0	0	2 (16.7%
FRAUD	0	3 (20.0%)	1 (4.2%)	1 (8.3%)
WEAPONS OFFENSE	4 (5.5%)	1 (6.7%)	1 (4.2%)	1 (8.3%)
CONSPIRACY	2 (2.7%)	0	1 (4.2%)	0
MURDER	9 (12.3%)**	0	0	0
SEX OFFENSE	29 (39.7%)	0	0	0

 * p < .01; ** p < .05

CAUSAL RELATIONSHIPS: OLS REGRESSION WITH BIVARIATE MODELS

I use Ordinary Least Squares (OLS) regression techniques to test each causal model. There are three bivariate variable causal models tested, and the results are displayed in Table 3. The first model seeks to establish a causal relationship between mental illness and recidivism, and if such a relationship exists, determine whether there is a significant

difference between male and female offenders. This is repeated for three other dependent

measures: loss of good time, time spent in punitive segregation, and violent infractions.

TABLE 3. UNSTANDARDIZED BIVARIATE REGRESSION COEFFICIENTS
MALE AND FEMALE INMATES ON RECIDIVISM, TIME ADDED TO SENTENCE,
VIOLENT INFRACTIONS, AND PUNITIVE SEGREGATION (N = 124)

DEPENDENT VARIABLES	MALES b-COEFFICIENT	t	FEMALES b-COEFFICIENT	t
RECIDIVISM	.809** (.205)	3.95	.104 (.323)	.32
LOSS OF GOOD TIME (DAYS)	1.30^ (.725)	1.79	-2.44 (1.56)	-1.57
TIME SPENT IN PUNITIVE SEGREGATION (DAYS)	1.15** (.422)	2.73	-.222 (.647)	-.034
NUMBER OF VIOLENT INFRACTIONS	.960** (.351)	2.71	-.154 (.670)	-.771

N.S. = not significant
( ) = standard error
** p < .01; ^ p < .10

Table 3 illustrates clear gender differences on recidivism, loss of good time, time

spent in punitive segregation, and violent infractions. Models that address female MIOs show

that they are not significantly different from female non-MIOs. Male MIOs, however, are

significantly more likely to recidivate, spend an average of 1.15 more days in punitive

segregation and lose 1.30 days awarded for meritorious behavior when compared to male

non-MIOs. On average, male MIOs are more likely to have at least 1 more violent infraction

than their control group of non-MIOs. These male models explain 13.2% of the variance of

recidivism; 2.3% of the variance on "loss of good time;" 6.3% of the variance on time spent

in punitive segregation; and 6.2% of the variance on violent infractions. Because male and

female offenders are found to be different (χ^2 = 8.30; p < .01), I separate the regression

models by testing mentally ill female offenders with the female control group and the

mentally ill male offenders with the male control group. Many common control variables,

such as age, education, marital status, and race were not found to be statistically significant

and left out of most models. The last causal model, hypothesis five, that tests the mediation

effect of a substance abuse index, is the exception. It includes age and gender.

In the first bivariate regression model shown in Table 3, I test n = 97 male inmates in which n = 24 are characterized as MIOs and n = 73 are non-MIOs. The bivariate regression model is $y = a + bx_1$, where y is recidivism and x_1 is male inmate type (MIOs and non-MIOs). This model shows that male MIOs are statistically more likely to recidivate than the non-MIOS (b = .809; p < .01), indicating that for every mentally ill offender, recidivism increases by .809.

This difference is not apparent when using the same model for female inmates. I test n = 27 female inmates, where n = 15 inmates serve as the control group (non-MIOs) and n = 12 inmates are identified as mentally ill offenders (MIOs), the experimental group. This small female sample was determined by the number of CSP and MTT clients incarcerated at the time of data collection. It is important to reiterate that this small sample size makes the models unstable; extreme caution needs to be used when interpreting these results.

The second bivariate model examines whether there exists a relationship between mentally ill offenders and the likelihood of their being penalized through loss of good time (or meritorious behavior). If such a relationship exists, I determined whether the loss of good time is a result of violent infractions, which may result in placing the inmate in punitive segregation. Table 4 examines male MIOs in this context and categorizes them as MTT or CSP clients. The distinction is thought to be important particularly because MTT clients are identified as "non-compliant" (Friedman 2006). As illustrated in Table 4, there is a moderate relationship between participation in MTT programs and committing violent infractions. The violent infractions that inmates have committed the MTTs (b = 4.1; p = .03) are statistically significant. MTTs are not recidivating to the same degree that CSP clients are, but it is interesting to note that MTT offenders are significantly more likely to commit more violent

infractions than are CSPs. MTTs are labeled as "more troublesome;" and as a result, are more

likely to spend time in punitive segregation due to committing violent infractions.

Substantively, the data suggest that male mentally ill offenders are more likely to

have time added to their sentences than male non-mentally ill offenders. The p-value (0.109)

is outside the parameters of $p < .05$. There is a trend that requires further research, perhaps

with a larger sample, to establish a definite causation between mental illness and time added

to one's total sentence. Male MTTs appear to be more problematic when they are serving

time than CSPs ($b = 2.08$; $p = .06$); however, the model is not stable due to the small sample

size and high standard errors. This suggests a need for a larger sample size in future

TABLE 4. UNSTANDARDIZED BIVARIATE REGRESSION COEFFICIENTS
COMPARISON OF TWO MENTALLY IMPAIRED GROUPS TO A RANDOM NON-
MENTALLY IMPAIRED CONTROL GROUP OF MALE INMATES ON TIME
ADDED TO SENTENCE AND VIOLENT INFRACTIONS RESULTING IN
PUNITIVE SEGREGATION (N = 97)

DEPENDENT VARIABLES	MTT GROUP	ADJUSTED r^2	CSP GROUP	ADJUSTED r^2
TIME ADDED TO ORIGINAL SENTENCE (LOGT)	2.11* (1.07)	2.9%	.818 (.605)	N.S.
PUNITIVE SEGREGATION FOR VIOLENT INFRACTIONS	4.35* (1.78)	5.0%	1.89* (1.01)	2.6%

N.S. = not significant
( ) = standard error
* $p < .05$; $p \leq .06$
** $p < .01$

research. The most severely male mentally impaired inmates (diagnosed with schizophrenia,

bipolar disorder, and psychosis NOS), clients of Mobile Treatment Teams, are causing more

problems while incarcerated than those male inmates who are less mentally impaired (PTSD,

anxiety, mood disorder NOS, personality disorder NOS, depression, and documented suicide

attempts), or Community Support Program clients. When holding constant male MIOs with a

diagnosed mental illness before August 2003, It is significant to note (regressions not shown)

that the less severely impaired male clients (CSP) diagnosed with mental illness before

August 1, 2003 are significantly more likely to have violent infractions on their record than the MTT males (b=1.76; r = .863; p < .05). These mixed results speak to the need to address how the most severely impaired are identified, labeled, and categorized for services in the wider mental health community. A Chi-square analysis of both male and female MTT and CSP clients reveals that they do not look significantly different from each other (χ^2 = 1.28, p > .20 and χ^2 = .714, p > .40, respectively). This lack of difference suggests that the standard marker of "non-compliance" does not provide adequate identification of impairment or engage the label of "troublemaker" appropriately.

Causal model number three examines whether there is a relationship between specific mental illness diagnoses and recidivism among the male sample. The results are illustrated in Table 5. Male MIOs diagnosed with schizophrenia, depression, anxiety, and suicide attempts are significantly more likely (p < .05) to recidivate. In looking at co-morbidity, which is often the case with mental illness, results of OLS regression indicate that a combination of diagnoses (documented suicide attempts/depression/anxiety disorder) for male MIOs are the most significant predictors. Falling short of statistical significance, but still worth noting, is post-traumatic stress disorder (p > .11), which is interesting because this diagnosis is often associated with women and more recently war veterans. For example, one male MIO described his childhood trauma of seeing his older brother murdered by gunshot right in front of him in his neighborhood. He links witnessing his brother's death with the reason he is currently incarcerated.

Other diagnoses present in the medical records, bipolar disorder, ADHD, personality disorder NOS, and mood disorder NOS, were not significant. Those medical records that include a notation of depression and/or depressive symptoms in combination with another diagnosed mental illness is important to highlight. Non-clinical depression is a significant

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TABLE 5. UNSTANDARDIZED BIVARIATE REGRESSION COEFFICIENTS:
MODELS OF SPECIFIC MENTAL ILLNESS DIAGNOSES
ON MALE RECIDIVISM (N = 97)

MENTAL ILLNESS DIAGNOSES	b-COEFFICIENTS	ADJUSTED r^2
ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)	.040 (.424)	N.S.
SCHIZOPHRENIA/SCHIZO-AFFECTIVE DISORDER	.466* (.205)	4.2%
BIPOLAR DISORDER	.295 (.201)	N.S.
DEPRESSION	.424* (.201)	4.3%
MOOD DISORDER NOS	.671 (.418)	N.S.
ANXIETY	.519* (.234)	3.9%
POST-TRAUMATIC STRESS DISORDER (PTSD)	.514 (.285)	N.S.
SUICIDE ATTEMPT	.846* (.266)	8.7%
PERSONALITY DISORDER NOS	.831 (.665)	N.S.
PSYCHOSIS NOS	.135 (.551)	N.S.
OTHER	.614 (.384)	N.S.

N.S. = not significant
( ) = standard error
* p < .05

predictor (b = .424; p < .05). Also interesting to note is that a documented history of abuse (defined as physical, mental, and/or sexual) is evident for both MIO women and MIO men. For men, physical, sexual, and emotional abuse is moderately correlated with schizophrenia (r = .27; p < .05), depression (r = .37; p < .01), PTSD (r = .63; p < .01), anxiety (r = .50, p < .01), and psychosis NOS (r = .39; p < .01). For MIO females, moderate to high correlations are evident with bipolar disorder (r = .40; p < .05); PTSD (r = .66; p < .01) and suicide attempt (r = .56; p < .01). Using stepwise regression, however, this measure of abuse was not significant in any of the regression models.

CAUSAL RELATIONSHIPS: OLS REGRESSION WITH MULTIVARIATE MODELS

Causal model number four examines whether there exists a relationship between the

offense(s) for which MIOs were last incarcerated and recidivism. Hypothesis five examines

the relationship between specific mental illnesses and substance abuse on recidivism. In both

these models, two independent variables are used rather than one. The reason for this change

in model design is to determine the mediation effects that may reduce or significantly change

the initial relationship between mental illness and recidivism by a third variable. In

hypothesis four, I regressed MIOs and non-MIOs and specific offenses on recidivism. The

model suggests that specific offenses may reduce the mental illness-recidivism relationship

by this third variable. In hypothesis five, I regress all mentally ill inmates (males and

females) and substance abuse on recidivism. A significant mediation effect occurs if the

initial relationship between mental illness and recidivism disappears or diminishes when this

second variable is included in the regression model. Again, common control variables, such

as marital status, unemployment, etc., were not significant and left out of the models.

Hypothesis number four examines the mediation effects of particular current offenses.

Male MIOs and non-MIOs do not commit the same offenses that likely cause them to

recidivate. For male non-MIOs, the most likely recidivists are sex offenders (b = -.612; p <

.01) and murderers (b = -.646; p < .05). Non-MIO sex offenses explain 20.2% of the variance

in recidivism and murder charges account for 16.3% of the variance in recidivism among

men in this sample. Among male MIO recidivists, conversely, the charges of theft/robbery

significantly predict repeat incarcerations for this group (b = .809; p < .05). These results are

shown in Table 6.

For female non-MIOs (not shown), repeat incarcerations are most likely predicted by

assault charges (b = -1.80; p < .05), although no specific offenses can significantly predict

recidivism of mentally impaired female offenders in this sample. Incarceration for assault

explains 10.5% of the variance in recidivism for non-MIO females. These results for women

TABLE 6. UNSTANDARDIZED REGRESSION COEFFICIENTS: SPECIFIC
OFFENSES ON RECIDIVISM IN MALES (N = 97)

CURRENT OFFENSE	b-COEFFICIENT	ADJUSTED r^2
COURT/PAROLE VIOLATION	.667 (.658)	N.S.
ARSON	.478 (.669)	N.S.
THEFT/ROBBERY	.709** (.212)	9.6%
VANDALISM	-1.65 (.929)	N.S.
DRUG CHARGE	.770** (.244)	8.5%
ASSAULT	.383 (.254)	N.S.
FRAUD	-.014 (-.944)	N.S.
WEAPONS CHARGE	.247 (.431)	N.S.
CONSPIRACY	-.407 (.549)	N.S.
MURDER	-.646* (.317)	16.3%
SEX OFFENSE	-.612** (.199)	20.2%

N.S. = not significant
( ) = standard error
** $p < .01$; * $p < .05$

offenders suggest that there is no clear or straightforward pattern that adequately explains

repeat incarcerations by offense, and therefore, offense type is an insignificant mediator in

this analysis for mentally impaired females.

Causal model number five seeks to determine whether documented drug use taken

from inmate medical records mediates the relationship between mentally ill inmates and

recidivism. For this analysis, I compare male and female mentally ill offenders. The reason

for this is because no substance abuse data for non-MIOs are available for comparison. This

is a weakness in the research design, and any future design needs to capture this important

connection for both experimental and control groups. In this model, the mediators are

specific addictive substances: heroin, marijuana, cocaine, tobacco, and alcohol.

Determining the mediation effects of substance abuse on recidivism for this subset of

all mentally ill offenders is extremely difficult due to issues of multicollinearity. Multi-collinearity means that too many cases of one variable comprise many cases of the second variable. In this case, extreme multicollinearity exists between mental illness and addictive substances. It appears that substance use is so ubiquitous among this sample of prison inmates, all of whom are diagnosed with a mental illness, that results are not reliable in these models and must be interpreted with extreme caution. For these analyses, I construct an index of all addictive substances listed in their medical records for each individual and also compare specific addictive substances on the mental illness-recidivism relationship.

Examining each substance independently as a mediator, I find that among the mentally ill, only crack/cocaine is a significant predictor of recidivism (b = .372; S.E. = .122; p < .01). Other substances, tobacco, alcohol, marijuana, and heroin, are not significant. What is evident, however, is that inmates do not generally restrict themselves to just one addictive substance (mean = 2.36). At a substantive level, drug use tends to be more varied with MIO male inmates when compared to female MIOs. Male MIOs tend to use all substances previously mentioned in varied combinations while female MIOs predominantly tend to use alcohol and crack/cocaine.

Documented codependency on various drugs and alcohol is so pervasive within the sample that the predictive value of individual substances cannot definitely be said to explain recidivism. In examining the individual substances for the sample, it was found that each substance is a significant predictor for use of the other (i.e. alcohol is a predictor of use of cocaine, and vice versa, with a Pearson correlation coefficient of r = .80, p < .01). Therefore, based on this evidence, it may be concluded that for male MIOs, multiple substance use mediates the relationship with recidivism, although it is not clear which substances in particular most affect the model.

As has been the case in all of the causal models, the female sample differed from the male sample in testing the mediating effects of drug use on recidivism. With the exception of crack/cocaine, individual substances were not found to be highly correlated with other substances. However, a combination of cocaine and alcohol was found to be a substantive (though not significant) predictor of recidivism in female MIOs, thus rendering it difficult to determine which variable preceded the other: mental illness or drug use. Until this distinction can be made causally, it is impossible to accurately determine precisely how drug use mediates the relationship between mental illness and recidivism.

In order to try to ascertain which occurs first, drug use or mental illness, I use a measure of early mental illness that is coded thus: 1 = mental illness diagnosis before August 2003 and 0 = none. By using this variable as a control variable, I compare two models to determine if the mental illness coefficient is affected by the drug addiction index. This is shown in Table 7 below. Using this substance addiction index, I test if multiple addictive substance use mediates (significantly changes) the coefficient for early mental illness diagnosis on recidivism. The first column in Table 7 shows the unstandardized coefficients of a multivariate regression of gender, age, and an early diagnosis of mental illness on

TABLE 7. UNSTANDARDIZED REGRESSION COEFFICIENTS
GENDER, AGE AND SUBSTANCE ABUSE ON RECIDIVISM (N = 36)

	MODEL W/O SUBSTANCE ABUSE	MODEL W/ SUBSTANCE ABUSE
GENDER	-.635** (.187)	-.635** (.181)
AGE (YEARS)	.042** (.012)	.035** (.012)
DIAGNOSED PRIOR TO 8/03	-.367^ (.186)	-.497 (.197)
SUBSTANCE ABUSE INDEX	----	.102* (.057)
ADJUSTED r^2	.364	.406

( ) = standard error
* $p < .10$; ^ $p \leq .056$; ** $p < .01$

recidivism. This last variable was added to the model to help establish causal order, i.e.

mental illness comes first, followed by current substance abuse. This is illustrated in the

second column where the additional variable, substance abuse index, is added to the model.

These two multivariate regression models indicate that substance abuse addiction is a weak

but significant mediator on reincarceration. In the first model, column 1, the adjusted R-

squared explains 36% of the variation on recidivism while in the mediator model shown in

the second column explains 41% of the variance on recidivism, a 5% increase. Just shy of

statistical significance in the first model, the early mental illness diagnosis coefficient

indicates those *without* an early mental illness diagnosis predicts recidivism (b = - .367; p =

.056), but in the second model the addiction index fails to predict recidivism (b = -.497; p =

.081). Although this change is small and tentative at best, this represents a 14.8% reduction in

the effect mental illness has on recidivism. These data indicate preliminary trends and should

be replicated with a larger sample size in future research.

DISCUSSION

This research provides information about the relationship between diagnosed mental illness and recidivism in the State of Rhode Island. I tested the extent to which other variables, including violent infractions committed while incarcerated, type of offense, mental illness diagnosis, and drug use, may affect this relationship. The results of the research do show a clear relation between mental illness and recidivism. The number of reincarcerations of a mentally ill offender faces when compared to a random control group of non-mentally impaired incarcerated adults illustrates this important finding. This relationship is significant for the mentally impaired males in this sample and not the mentally impaired females. Mentally impaired males receive less "good time" behavior; spend more time in punitive segregation, and also tend to have slightly more violent infractions while incarcerated than the non-mentally impaired male control group.

In particular, the results of analyzing the mediating effect of substance abuse indicates important policy implications for dealing with and treating mentally ill offenders in the criminal justice system. Drug use is so omnipresent in the correctional system (in combinations not likely to be seen in the general population), that treatment cannot be limited to just one type, such as alcohol. Furthermore, it is evident that causal pathways need to be established to determine whether substance abuse causes or exacerbates mental illness or the other way around: mental illness exacerbates or causes substance abuse. These findings suggest that drug treatment programs must be multi-pronged and multi-faceted. Results of this research suggest that men must be treated for a larger array of substance addictions (tobacco, alcohol, cocaine, heroin) while treatment options for women may be able to focus on a smaller array (cocaine and alcohol).

Furthermore, the breakdown of individual diagnoses in combination with the

prevalence of substance abuse in the experimental group suggests a need for more emphasis on treating co-occurring disorders in addition to addiction. These analyses suggest that such prolific drug use may serve as a form of self-medicating in a setting where obtaining proper treatment is complex at best or non-existent at worse. Co-morbidity of illness calls for combining drug dependency and mental illness treatment both during and after incarceration.

Issues of effective treatment may best be illustrated by participants within the research itself. Perhaps the most striking case involves a male inmate whose case is unfortunately not unique within the Adult Correctional Institutions. This particular individual has been taking the same prescribed psychiatric medications since 1998. When he was arrested and processed this past March 2006, the institutional doctor changed all of his medications and dosages without consulting his primary physician. The individual made the decision to discontinue use of these new drugs when their side effects (sluggishness, fuzzy mind) became severe. He now lives without his medication; as a result, he cannot sleep at night because his mind is racing. He also claims to suffer from acute depression during the day.

Another male inmate was diagnosed with several mental illness prior to his most recent incarceration, but he claimed he had trouble getting all of his medications without health insurance. When he was not coherent due to the effects of his multiple illnesses (later diagnosed by the institutional physician), he picked up a sandwich from a 7/11 and walked out without paying. The act was a violation of his parole, and he is currently serving the rest of his original sentence, which amounts to one full year in the minimum security facility.

Several participants conveyed the idea that as a result of living with severe and persistent mental illness, they are better equipped to diagnose and treat themselves than the institutional physicians with whom they only have a brief meeting upon admittance to the

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Adult Correctional Institutions. Likewise, several inmates feel that rather than being treated for their illness, they are targeted by their peers and the Correctional Officers alike. A female participant described how a Correctional Officer refused her basic amenities (a toothbrush, bath products, her mail, or seeing a doctor to revise her medications) until she declared that she no longer felt suicidal, a condition that had led to her being assigned to medical segregation. Another female participant relayed an experience in medical segregation that involved the institutional nurse changing her prescribed medications for depression because the nurse felt she was sleeping too much. The inmate claimed that she was sleeping a lot because there was nothing else to do.

The conditions for mentally ill offenders within the Adult Correctional Institutions are far from ideal. Inmates describe how medications often get lost in the shuffle when they are initially processed and later moved to their permanent locations; as a result, these inmates are forced to suffer more than necessary, often waiting two to three days to receive medications that may need to be taken periodically over the course of a single day. One female inmate described her condition as "mental agony," augmented by the infrequent and often incorrect medications given to her by institutional medical professionals. This individual said that she has been living with her mental illness since she was a teenager and can feel when she is "cycling" (quickly switching from mania to depression and vice versa). She describes "cycling" as a ladder: ideas lead to visions of suicide, which turn to urges to complete those visions, ultimately resulting in formulating a plan to complete those visions. This occurs, she states, when she is forced to live without her medication for extended periods of time and are not closely monitored by health care practitioners.

The limitations in this study were first and foremost the relatively small sample size, particularly regarding the female sample. Inmates were selected at random for inclusion in the control group from the Adult Correctional Institutions of Rhode Island but the experimental group was dependent upon rosters of MTT and CSP clients received by the Director of Behavioral and Clinical Health at the ACI. Every effort was made to include the entire population of mentally impaired MTT and CSP clients during the data collection phase. Indeed, only one male inmate and two female inmates from these rosters chose not to participate, so the experimental group was as large as it could possibly be given the limited time available for data collection.

One important limitation evident from this analysis is that of the inter-reliability of the medical staff responsible for documenting the inmates' medical history. These analyses are only as good as the medical records provide, and this process was cumbersome and incomplete. At an institutional level, standards for documenting specific drug use, frequency, and quantity are needed. For example, notations of cocaine use in their medical history rarely mention "crack," which is arguably a more addictive substance than the powder form. Furthermore, important documentation is missing about quantity and frequency of these drugs, which would aid in constructing clearer causal models able to predict treatment needs and provide a clearer picture of recidivism. Clearly, there is a lack of a standardized method of recordkeeping of diagnoses, resulting in a fragmented system that cannot explain why one inmate's illness may be treated in one way, while another inmate may have an entirely different experience altogether. Medical records themselves are disorganized and difficult to comprehend, particularly in cases where the inmate's record extends back many years. In such cases, the record is often split up and filed separately, losing precarious bits of up-to-

date information in the process.

Importantly, real differences between the most severely impaired (MTTs) and the lesser impaired (CSPs) groups is not straightforward. Statistically, the two groups look nearly indistinguishable from one another in these analyses. This may be due to the relatively small size of the MTT group within the sample of mentally ill offenders, but these analyses also suggest that "non-compliance" may not be completely up to the individual. Non-compliance of anti-psychotic medication is the number one reason individuals are tracked as MTT: it is clear that there are structural barriers to their compliance that involve a constellation of health care professionals, agencies, health insurance companies, and correctional staff.

FUTURE RESEARCH

Areas of future research on the relationship between mental illness and recidivism may be expanded to include an examination of correctional systems in states other than Rhode Island, where relatively small facilities may differ exponentially from larger States in both size and population. If Rhode Island chooses to be a leader in the field of mental health treatment in the country, perhaps an assessment of treatment programs in other areas of the country would reveal more of its strengths and weaknesses. Certainly Rhode Island should consider residential treatment programs as an option for the most mentally impaired inmates. Rhode Island is one of the few states in the nation that does not offer residential treatment programs, and given the significant relationship between recidivism and mental illness, it is appropriate to begin investigating alternatives to the current form of incarceration for mentally ill offenders utilized today.

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INFORMED CONSENT DOCUMENT

You are being asked to participate in a research study that examines the effect of mental illness on repeat incarceration(s). You were selected as a possible participant because you are incarcerated at the ACI and may or may not have a diagnosed mental illness. Please read this form and ask any questions that you may have before agreeing to be in the research.

Jill Harrison and Amanda Nadeau, researchers at Rhode Island College, are conducting this study.

BACKGROUND INFORMATION
The purpose of this research is to find out if having a diagnosed mental illness affects the number of times a person may be in prison.

PROCEDURES
If you agree to be a participant in this research, we will ask you to do the following things:
Permit two Rhode Island College researchers to get my medical intake form that identifies my name, address, possible mental illness diagnosis, other medical information, and criminal history and develop a file with all this information that will be used for research purposes only

RISKS AND BENEFITS TO PARTICIPATING IN THE STUDY
This research has the following risks: The researchers will know confidential information about you. However, they have signed an agreement to remain silent about names or identities of any individuals in the study.

We do not expect that there are any direct benefits of being in the study. However, we hope that results of the study may lead to better coordination of treatment services for people at the ACI and those in the community who have a mental illness

CONFIDENTIALITY
The records of this research will be kept private. In any sort of report we might publish, we will not include any information that makes it possible to identify a participant. One copy of the computer file developed from this study will be kept at the ACI. Two copies will be coded with numbers and all names will be removed, so that there is no identifying information. These files will be kept in a locked file at Rhode Island College. Access to the files at Rhode Island College will be limited to the researchers, the Committee on Human Participants in Research, and regulatory agencies. These files will be retained for five years after the end of the study, or until December, 2012.

VOLUNTARY NATURE OF THE STUDY
Your participation is completely voluntary. If you choose not to participate, it will not affect your current or future relations with the College or the ACI. There is no penalty for not participating or for discontinuing your participation.

CONTACTS AND QUESTIONS
The researchers conducting this study are Jill Harrison and Amanda Nadeau. You may ask any questions you have now. If you have any questions later, you may contact Jill at 456-8731. You may also contact the Director of Clinical Behavioral Health at the ACI, Dr. Fredric Friedman.

If the researchers cannot be reached, or if you would like to talk to someone other than the researcher(s) about; (1) concerns regarding this study, (2) research participant rights, or (3) other human subjects issues, please contact Sue Pearlmutter, Rhode Island College Committee on Human Participants in Research at (401) 456-8753 or write: Sue Pearlmutter, c/o Rhode Island College Committee on Human Participants in Research at Office of Research and Grants Administration, Roberts Hall, 600 Mount Pleasant Avenue, Providence, RI 02908.

You will be given a copy of this form for your records.

STATEMENT OF CONSENT
I have read the above information. I have received answers to the questions I have asked. I consent to participate in this research. I am at least 18 years of age.

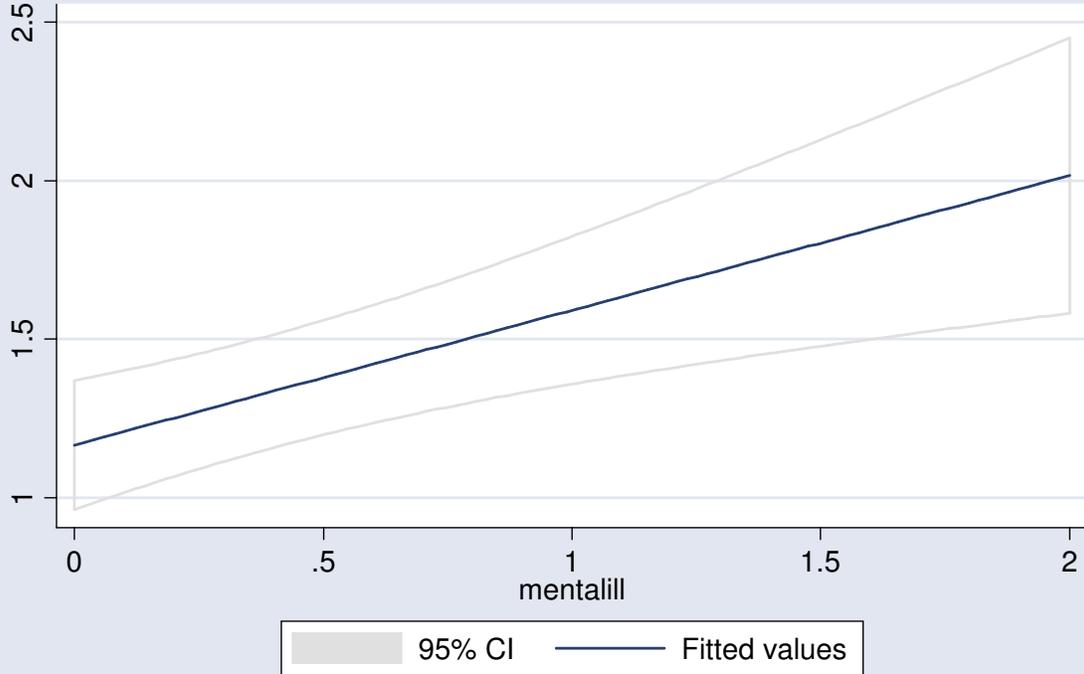This consent is null and void after November, 2007.

Print Name of Participant: _____
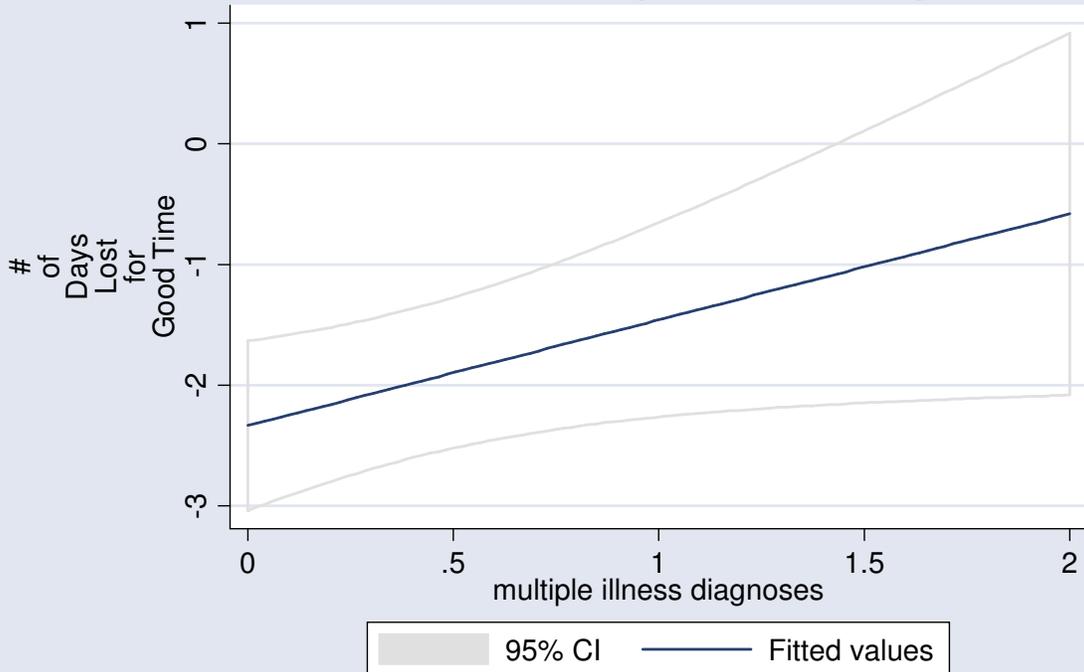
Signature of Participant: _____Date: _____

Signature of Person Obtaining Consent: _____Date:_____
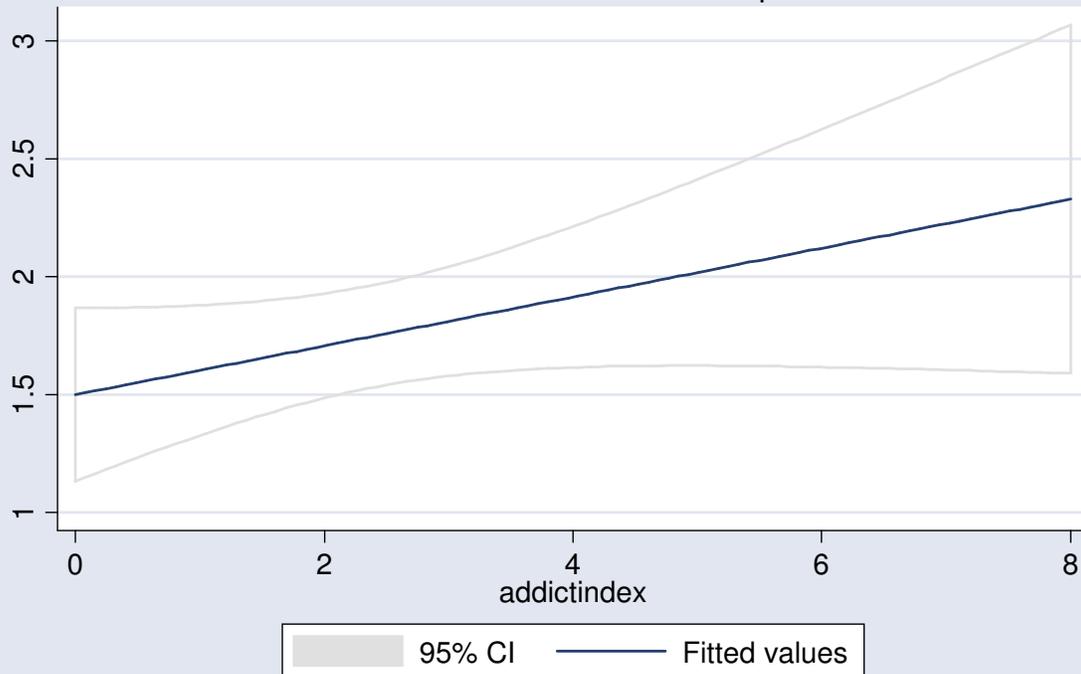
Linear Prediction of Recidivism
CSP & MTT Male Clients

mentalill

95% CI   Fitted values

Loss of Good Time Prediction
Males with Co-Occurring Mental Illness Diagnoses

# of Days Lost for Good Time

multiple illness diagnoses

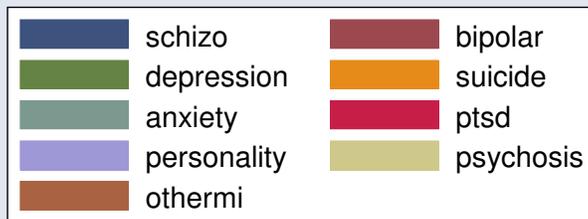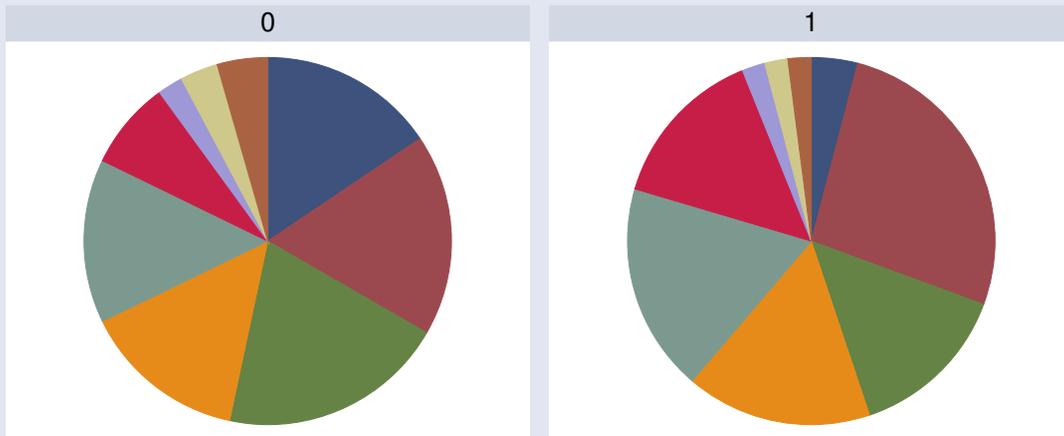95% CI   Fitted values

Time Spent in Punitive Segregation
Males with Co-Occurring Mental Illness Diagnoses
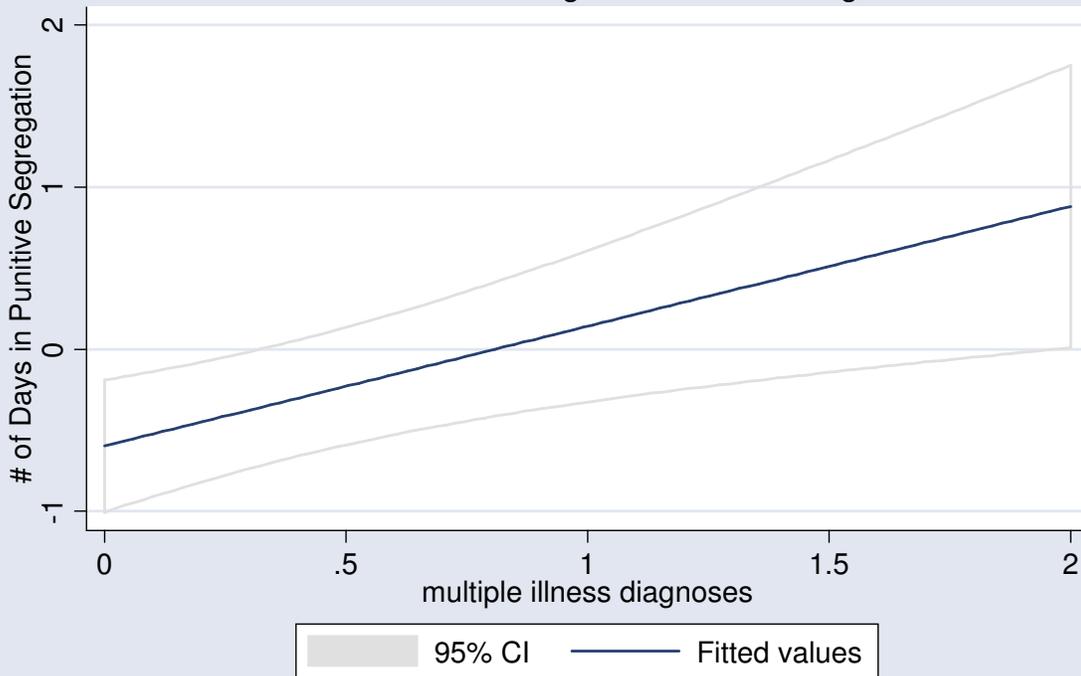
Linear Prediction of Recidivism
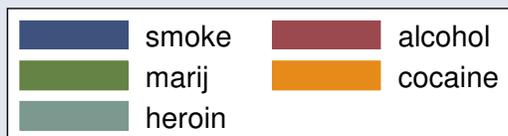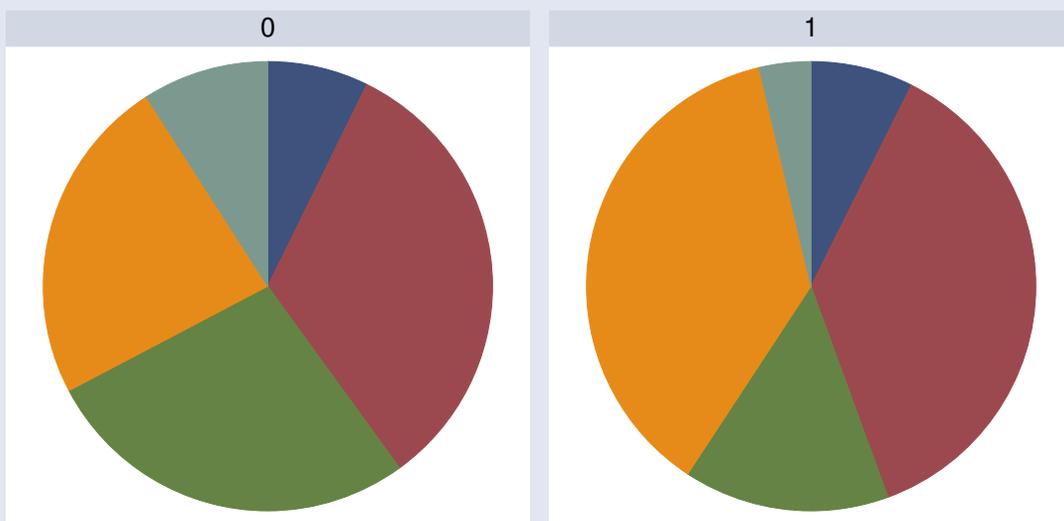### Male and Female CSP & MTT Clients with Multiple Substance Abuse

Mental Illnesses by Gender

| 0 | 1 |

Legend:
- schizo
- bipolar
- depression
- suicide
- anxiety
- ptsd
- personality
- psychosis
- othermi

Graphs by 0 = male 1 = female

Addictive Substances of Mentally Impaired Inmates

| 0 | 1 |

Legend:
- smoke
- alcohol
- marij
- cocaine
- heroin

Graphs by 0 = male 1 = female