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Fall 2010

# To what extent does prisoners' mental illness undermine programming effectiveness?

Beth Ann Skinner  
*University of Iowa*

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TO WHAT EXTENT DOES PRISONERS' MENTAL ILLNESS UNDERMINE  
PROGRAMMING EFFECTIVENESS?

by

Beth Ann Skinner

An Abstract

Of a thesis submitted in partial fulfillment of the requirements  
for the Doctor of Philosophy degree in Social Work  
in the Graduate College of The University of Iowa

December 2010

Thesis Supervisor: Associate Professor Jeanne A. Saunders

## ABSTRACT

Careful review of the literature found prison programs having a positive impact on post-release outcomes in employment and lowered recidivism rates. Most of the literature reviewed found negative effects of mental illness on post-release success. This study expands the literature on prison programming and mental illness by examining the dynamics between mental illness, program completion, and post-release success. Furthermore, this research can be linked to Hirschi's social bond theory, which created a framework to view the relationship between prison programming and increased ties to conventional society through commitment, attachment, and involvement. This study examines the impact of mental illness and prison vocational and educational programming on reentry outcomes (employment rates, length of employment, enrollment in and completion of school, and recidivism) and the relationship between mental illness and program completion. Additionally, the study examines the interactions of mental illness and prison programming on reentry outcomes. The sample consists of male offenders released onto parole in the State of Iowa (N=3426). Vocational training had positive significant effects on employment rates and full-time employment. An additional analysis found a significant indirect relationship between vocational training and recidivism through employment. Mental illness had a negative significant impact on completion of vocational programming, GED classes, and employment outcomes. Furthermore, it was found that having a mental illness significantly increased the likelihood of recidivism. The interaction of mental illness and programming on reentry outcomes did not have a significant impact. However, the interaction of mental illness and vocational programming had a positive significant impact on full-time employment in the opposite direction of prediction. The results inform social work practice and policy on the benefits of prison programming and the negative impact of mental illness on participation in programs and reentry outcomes.

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Graduate College  
The University of Iowa  
Iowa City, Iowa

CERTIFICATE OF APPROVAL

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PH.D. THESIS

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This is to certify that the Ph.D. thesis of

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has been approved by the Examining Committee for the thesis requirement for the Doctor of Philosophy degree in Social Work at the December 2010 graduation.

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To my wife, Tiffany Skinner, for being my biggest supporter and best friend. Thanks to my family and friends for their inspirational words and messages sent to encourage and support me. I could not have accomplished my doctorate without the love and support of my wife, family, and friends. Finally, this is dedicated to all the underdogs who were told they cannot achieve their dreams. With enough belief, passion, and commitment—anything is possible.

You gain strength, courage and confidence by every experience in which you really stop to look fear in the face. You are able to say to yourself, "I have lived through this horror. I can take the next thing that comes along." You must do the thing you think you cannot do.

Eleanor Roosevelt  
U.S. diplomat & reformer (1884 - 1962)



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CHAPTER I  
UNDERSTANDING THE IMPACT OF  
PRISON PROGRAMMING ON REENTRY

Introduction

The tapestry of corrections has changed vastly over the past 100 years (MacKenzie, 2006). Beginning in the 1900s, corrections operated from a rehabilitative philosophy. In the first seven decades of the 20<sup>th</sup> century, corrections managed offenders using a rehabilitative philosophy (MacKenzie, 2006). During the last 25 years, the philosophy of rehabilitation has shifted to more punitive and retributive responses to offenders. Mandatory minimum sentencing, three strikes laws, and truth in sentencing policies began to surface in response to a more punitive philosophy. With the reductions and cutbacks in correctional programs over the past 30 years, significant evidence is needed to transition corrections back from a punitive to a rehabilitative philosophy (MacKenzie, 2006). Although the transition back to a rehabilitative philosophy will be challenging, correctional administrators will face multiple barriers when advocating for rehabilitative strategies, which include the costs to implement programs, to train staff, and to compile empirical support that rehabilitation efforts improve offender success and lower recidivism (MacKenzie, 2006).

Some rehabilitative strategies have been studied in greater depth compared to others. For example, sex offender and substance abuse treatments have been key research areas in correctional programs for decades. However, the effect of educational programming and vocational training on reentry outcomes such as recidivism, employment rates, length of employment, and enrollment in and completion of school has not been researched vigorously and the results are preliminary. Additionally, educational and vocational training research has been hampered by methodological weaknesses. These weaknesses include selection bias, small samples, variations and poor descriptions of programming, and lack of a universal definition of recidivism. Moreover, little

research has examined how mental illness undermines the offender's ability to complete educational and vocational programming and the impact on reentry outcomes. Mental illness may be a factor in why offenders cannot successfully complete programming or do not have successful reentry.

Recently, educational and vocational training in correctional programming has been on the decline. The bifurcation of declining correctional programs and increasing numbers of prisoners being released into the community creates many challenges for correctional staff and the community. Approximately 7 million individuals are currently involved in the criminal justice system. Nearly 3% of all U.S. adult residents, or one in every three adults, is involved in the criminal justice system (Bureau of Justice Statistics, 2008). Approximately 1.8 million are inmates, 700,000 are parolees, and 3.4 million are probationers. At minimum, 95% of all state prisoners will be released from prison, and nearly 80% will be released to parole (Bureau of Justice Statistics, 2008). If corrections fails to rehabilitate offenders by not offering educational and vocational programs while offenders are incarcerated, offenders will return to the community with the same skills they had upon entry to prison. Unless intervention takes place in prison, offenders at their release are likely to return with the same skills and to the same environment in which they committed their offenses. More than likely, offenders will return to their communities with major deficits in education, few skills, and poor employment history. This study examined data on male parolees from the Iowa Department of Corrections to understand the relationship between completion of educational and vocational prison programming and reentry outcomes such as recidivism, employment rates, lengths of employment, and enrollment in and completion of school.

### Education

Prisoners compared to the general population are less educated, have less marketable skills, poorer work histories, and have longer lengths of unemployment (MacKenzie, 2006). According to the Bureau of Justice Statistics (2003), in 1997, 41%



of inmates in U.S. state and federal prisons and local jails and 31% of probationers had not completed high school or GED. In contrast, only 18% of the general population age 18 and older had not finished 12<sup>th</sup> grade. Nearly 26% of state prison inmates said they completed the GED while serving time (Bureau of Justice Statistics, 2003). Offenders with educational deficiencies not only face rejection due to their lack of education and skills, but also face discrimination and stigmatization from potential employers that may compound their abilities to reintegrate into their communities. Moreover, offenders who have educational deficiencies will face difficulties finding employment in an increasingly technological workforce (MacKenzie, 2006). Offenders with deficiencies in education face higher unemployment rates which may thrust them towards poverty, drug abuse, and homelessness (Petersilia, 2003). Other researchers have identified the link between school failure and adult criminal behavior (Ward & Tittle, 1994).

### Employment

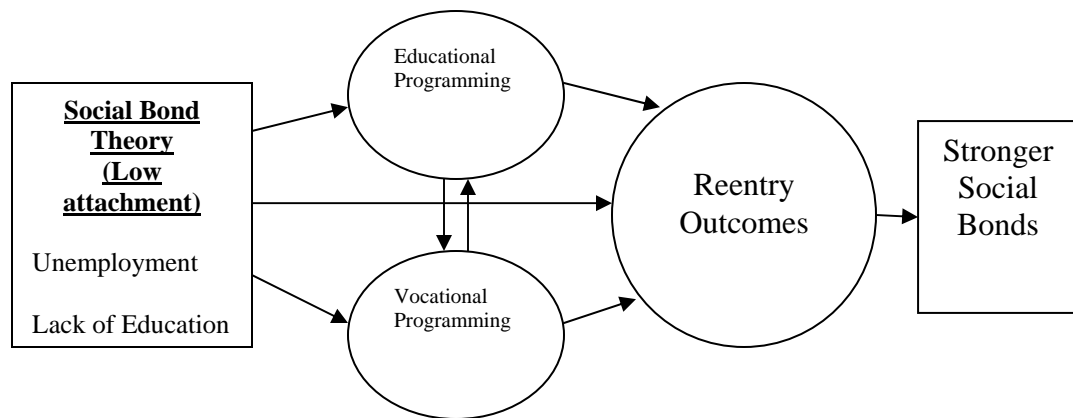
Offenders embody one of the most vocationally challenged groups in society. Research has found that offenders are more likely than non-offenders to be unemployed, underemployed, have sporadic work histories and shorter lengths of employment. Moreover, offenders are more likely to experience long-term unemployment than non-offenders. The Home Office's National Survey (2002) surveyed probation clients over several years and discovered that 60 to 70% of offenders were unemployed. Of the offenders surveyed, 40% surmised that not having a job is what led them into trouble (Walmsley, Howard, & White, 1992). It is difficult for offenders to succeed without obtaining employment (Rakis, 2005). Further research supports the importance of employment found in the statistics compiled by the U.S. Probation and Pretrial Services System. In 2003, supervisions of unemployed offenders were revoked at a rate that was more than 500% higher than for those who were employed (Petersilia, 2003). Furthermore, eighty percent of offenders whose supervisions were revoked that year were unemployed (Petersilia, 2003).

Many offenders face challenges when securing employment. Not only do offenders have deficiencies in education, they lack marketable skills and prior employment history as well as face discrimination and stigmatization of a criminal record. All of these barriers compound an offender's ability to find employment (Rakis, 2005). When offenders have deficiencies in education and face numerous obstacles to employment, their ties to society are weakened. Criminological theorist, Hirschi (1969), contended that weak ties to conventional society (e.g., education, employment) influence criminal behavior.

### Theory

Researchers have found that offenders who have consistent patterns of unemployment are more likely to engage in criminal behavior (MacKenzie, 2006). Hirschi (1969) contended that, over time, offenders become embedded in criminality and gradually weaken their bonds to conventional society (e.g., attachment to family, commitment to jobs and school). Hirschi's social bond theory suggested that individuals become engaged in crime because they become detached from society and therefore have little to lose if they engage in criminal behavior. According to Hirschi, social bond theory includes elements of attachment, commitment, involvement (e.g., school, employment), and values within an individual's society or subgroup. Understanding social bond theory can be important for understanding the potential impact of education and employment on reentry outcomes (e.g., recidivism, employment, educational achievements; see Figure 1). Many offenders in the correctional population have little attachment to conventional society such as family, school, employment, housing, and other social institutions. Improving their vocational aptitude and educational level is likely to lead to better job prospects that may improve their attachment, commitment, and involvement to conventional society. If offenders are more attached to conventional society, they have more to lose if they engage in criminal behavior.

**Figure 1. Social Bond Theory and Educational and Vocational Training**



### Recidivism

In recent years, more attention and research have been directed to the barriers faced by prisoners who are reentering society. The growing attention may be due to the increased number of prisoners being released and their high rates of recidivism. The Bureau of Justice Statistics (2002) conducted the largest study on recidivism (i.e., rearrests, reconvictions, resentence to prison, and reincarceration of inmates) that tracked 272,111 former inmates for 3 years after their release in 1994. Within 3 years of their release, an estimated 67.5% were rearrested for a felony or serious misdemeanor, 46.9% were reconvicted, and 25.4% were re-sentenced to prison for a new crime. According to the Iowa Department of Corrections in 2006, recidivism rates (new convictions for aggravated misdemeanors or felony offenses within 3 years of final discharge) reached 61% for inmates and parolees (prisoners 36.1%, parolees 24.6) (Iowa Department of Corrections, 2009). Iowa's recidivism rates may be higher than the reported national level because the Iowa offenders were still under parole supervision and were monitored more closely than the offenders discharged in the Bureau of Justice Statistics' recidivism study. Studies have measured recidivism in multiple ways (rearrests, type of arrests,

reconvictions, new sentences, reincarceration); one weakness of recidivism studies is the difficulty in comparing results across studies.

The increasing rates of prisoner releases into the community and the high rates of recidivism create public safety concerns. Crime permeates every aspect of the community and includes emotional, physical, and financial costs. The Bureau of Justice Statistics (2002) research confirmed criminal justice officials' and community members' concern about recidivism: Prisoners had accumulated 4.1 million arrest charges before their most recent incarceration and another 744,000 charges within 3 years of release. Moreover, increasing rates of incarceration cost approximately \$39.8 billion nationwide, taking into account prisons, probation, parole, and jail (Buck, 2000). Increased rates of recidivism and rising costs of incarceration will increase pressure on policymakers to address and create solutions to recidivism.

### Reentry

As the prison population continues to grow and more offenders are being released back into their communities, research will need to demonstrate whether correctional programs can reduce recidivism and increase reentry success. *Reentry* is the process of offenders being released into society (Petersilia, 2003). Prisoners who reenter their communities face numerous barriers that affect their likelihood of recidivism. Some of these barriers include lack of employment opportunities, deficiencies in education, unstable housing, lack of family support, mental health problems, substance abuse, and the fragmentation of treatment services upon reentry (Rakis, 2005). All of these factors are dynamically interconnected and can compound prisoners' problems when reentering society. In many instances, prisoners reentering society experience poverty, stigma, racism, family disorder, mental illness, and substance abuse, and become desolate with few options for successful reentry (Wheeler & Patterson, 2008). While offenders face considerable barriers when returning to their communities, many of them struggle with poor mental health. In one year in the United States, nearly 96,000 prisoners will return

to their communities with severe and chronic mental health problems (Wolff & Pogorzelski, 2005). According to the Bureau of Justice Statistics (1999), among repeat offenders, 53% of state inmates who were mentally ill had a current or past criminal history of a violent offense compared to 45% of other inmates.

### Mental Illness

Mentally ill offenders have become a greater portion of the prison population. Brink (2005) found that the overall rate for offenders with any type of mental illness, ranged from 55% to 80%. Brink (2005) reviewed 22 studies and found that rates of psychosis were much higher in correctional settings. He estimated that one in five incarcerated offenders had a major psychiatric illness. According to the Bureau of Justice Statistics (2006), at midyear 2005, more than half of all prison and jail offenders had a mental health problem, including 705,600 offenders in state prisons, 78,000 in federal prisons, and 479,900 in local jails. Approximately 16%, or an estimated 547,800 probationers reported a mental illness that caused them to stay overnight in a mental hospital at one point in their lives (Bureau of Justice Statistics, 2006). The Bureau of Justice Statistics (2006) reported that nearly 25% of both state prisoners and jail inmates had a mental illness and had served three or more prior incarcerations. According to the Iowa Department of Corrections, at yearend 2008, approximately 41% of inmates had at least one diagnosis of a mental illness (Iowa Department of Corrections, 2009). Furthermore, in 2004, the Iowa Department of Corrections reported that within a 3-year period of release from prison, 32% of mentally ill offenders with one diagnosis, 60% with two diagnoses, 75% with three diagnoses, and 85% with four or more diagnoses had returned to prison.

For offenders with mental health problems, completing prison programming and reentering society are challenging. Offenders may have difficulty completing prison programming due to the stress and difficulties of adjusting to incarceration. Moreover, having a mental illness may compound issues of adjustment and exacerbate symptoms so

that participation in programming is difficult. Offenders with mental illness who reenter their communities face difficulties with fragmentation of medical services, specifically with connecting to medical services and obtaining medication (Hein, 2008). Some offenders may be unable to sustain work or educational pursuits because of their severity and types of mental health diagnoses. The symptoms may be severe enough to impair their functioning and their ability to maintain employment and education. All these factors are likely to have a more detrimental effect on mentally ill offenders compared to offenders without a mental illness.

Moreover, many offenders with mental illness have co-occurring substance use disorders. An offender who has both alcohol or drug abuse or dependence and mental illness is identified as having a co-occurring disorder (James & Glaze, 2006). James and Glaze (2006) reported that 74% of state inmates and 64% of federal inmates had co-occurring mental and substance abuse disorders. With all the barriers and challenges offenders face, it will be crucial for corrections to respond with the most effective programs and procedures for improving outcomes for offenders with mental illness (Wolff, 2004).

### Correctional Programming

Depending on the correctional institution, a wide variety of programs are implemented in prison and upon reentry of offenders. Seiter and Kadela (2003) reviewed 32 published studies to identify effective reentry programs. The authors found that vocational training and work release programs were effective in reducing recidivism and increasing job readiness skills. Educational programs such as adult basic learning and GED classes increased educational achievement scores but did not reduce recidivism (Seiter & Kadela, 2003). However, this may not be the case for other educational programming and its relationship to recidivism. Institutions with diversified educational programs, including tutors, licensed teachers on staff, and college courses, may have a positive impact on recidivism. Many institutions' vocational programs are diverse and

may use different curricula, train staff differently, vary in program lengths, and offer different certifications. All of these variations may have different impacts on reentry outcomes.

Wilson, Gallagher, and MacKenzie (2000) conducted a meta-analysis of correctional programming based on 33 work and educational programs and found that program participants recidivated at a lower rate than nonparticipants. The reduction in reoffending appears greater for educational programs than for vocational programs. In summary, the current literature finds support for the impact of educational programming and vocational training in reducing recidivism and improving successful reentry.

Interventions such as educational and vocational programming, however, are becoming obsolete in correctional programming for multiple reasons (MacKenzie, 2006). The first reason is budgetary constraints. Correctional programming costs money to implement and maintain. The second reason is maintaining the integrity of the programs. After the initial implementation of programming, how the program is maintained over time can change (MacKenzie, 2006). In many instances, staff may use only specific parts of the curriculum, staff has fewer resources to maintain the program, outcomes are not measured to support the program, and staff does not receive updated training on the curriculum (MacKenzie, 2006). More research needs to be conducted to examine the relationship between rehabilitative programming and reentry outcomes, especially if correctional philosophy is to shift back to a rehabilitative framework.

To summarize, the research has established a variety of factors that predict recidivism. The factors are criminal history, age, sex, procriminal attitudes, and procriminal associates. Little is known, however, about the effects of educational and vocational training on post release success and recidivism. Additionally, little is known about the undermining effects of mental health on offenders' ability to participate in and complete educational and vocational programming. I identified several gaps in the research when examining educational programming, vocational training, and mental

health in prison. First, I found few studies that controlled for mental health and completion of prison programming. Second, I found few studies that examined the impact of educational and vocational programming on school enrollment and completion as well as length of employment after release.

#### Purpose of the Study

The main purpose of this study was to examine the effectiveness of educational and vocational training in prison in reducing recidivism and improving successful reentry in terms of offenders finding and maintaining full-time employment, and enrolling in and completing educational programs. I used data from the Iowa Department Corrections for males who had been incarcerated and paroled in Iowa to examine the relationships between educational and vocational completions and reentry outcomes such as recidivism, employment, length of employment, and school enrollment and completion. Additionally, I examined the main effects of mental illness on reentry outcomes. Finally, I examined how offenders' mental health may undermine their likelihood of completing educational and vocational programming and how offenders' mental health and educational and vocational programming completion interact with other outcomes such as recidivism, employment rates, length of employment, school enrollment, and school completion post release.

It is important for corrections to seek ways to reduce recidivism and improve reentry success. Educational and vocational training is just one way; my study contributes to knowledge about recidivism and reentry in two ways. First, most research on recidivism and reentry outcomes have been conducted on specific variables (e.g., criminal history, age, sex, race). My study controlled for criminal history, age, sex, and race, and was more inclusive by increasing the range of predictors of recidivism and reentry success such as educational and vocational programming and mental illness. Second, I examined the impact of mental illness on offenders' ability to participate and complete programming and their reentry success.



### Research Questions

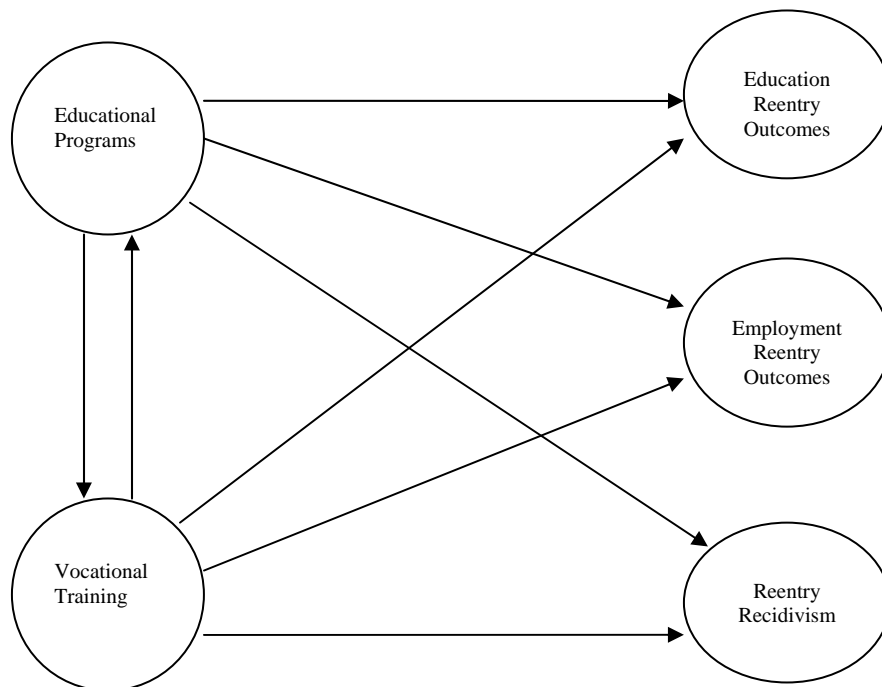
This study addressed several research questions and hypotheses. The four research questions and their attendant hypotheses were divided to examine the main effects and interactions of prison programming and mental illness on reentry and recidivism outcomes.

#### Main Effects of Prison Programming

##### Research Question 1

To what extent do educational and vocational programs during prison reduce recidivism and improve reentry success for offenders in employment and education? (See Figure 2.)

**Figure 2. Main Effects of Prison Programming on Reentry Outcomes**



H1.1 Offenders who complete educational or vocational programs will have higher employment rates during reentry than offenders who do not complete programming.

H1.2 Offenders who complete educational or vocational programs will have increased lengths of employment during reentry than offenders who do not complete programming.

H1.3 Offenders who complete educational or vocational programs will have higher school enrollments and completions during reentry than offenders who do not complete programming.

H1.4 Offenders who complete educational or vocational programs will have lower recidivism rates than offenders who do not complete programming.

#### Main Effects of Mental Illness

#### Research Question 2

To what extent does mental illness impact completion of educational and employment programs in prison and employment and educational success in reentry?

(See Figure 3.)

H2.1 Offenders with mental illness will have lower completion rates in educational and vocational training than offenders who do not have a mental illness.

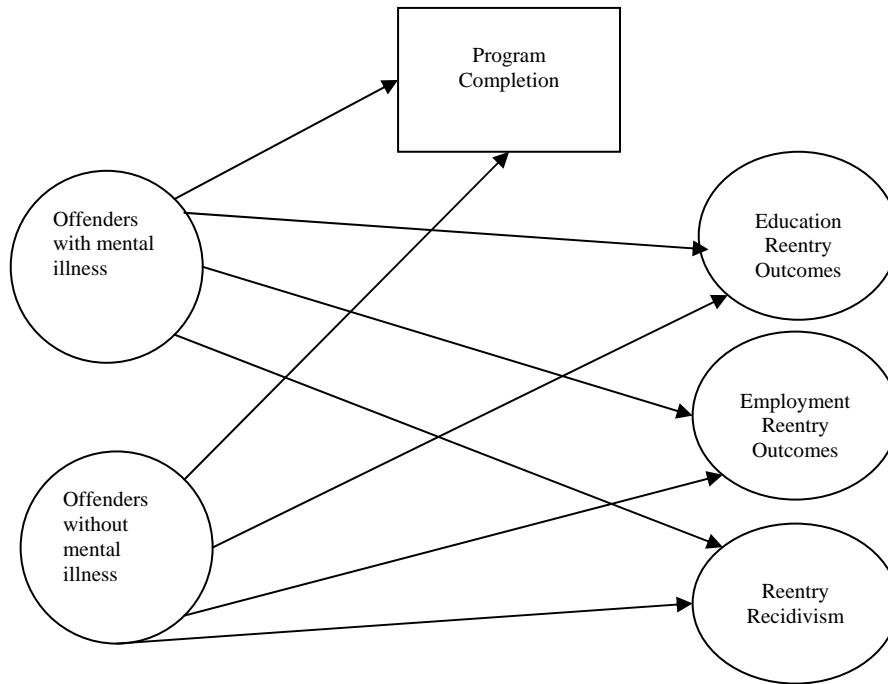
H2.2 Offenders with mental illness will have lower employment rates during reentry than offenders who do not have a mental illness.

H2.3 Offenders with mental illness will have decreased lengths of employment during reentry than offenders who do not have a mental illness.

H2.4 Offenders with mental illness will have lower school enrollments and completions during reentry than offenders who do not have a mental illness.

H2.5 Offenders with mental illness will have higher recidivism rates than offenders who do not have a mental illness.

**Figure 3. Main Effects of Mental Illness on Reentry Outcomes**



### Research Question 3

To what extent does mental illness undermine the effectiveness of educational and vocational programming in increasing the likelihood of successful reentry and reducing recidivism? (See Figure 4.)

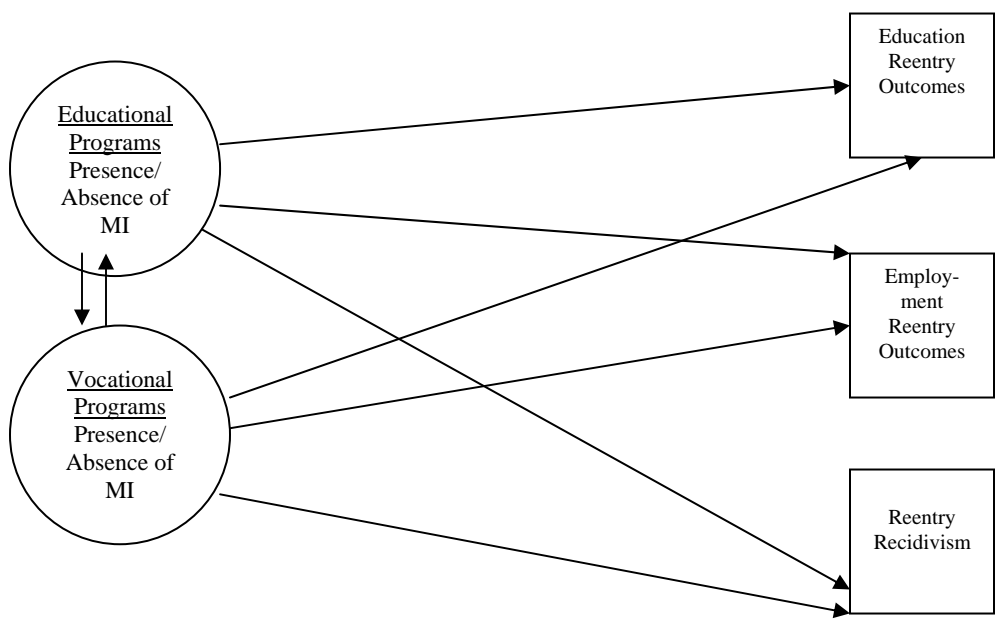
H3.1 Offenders with a mental illness who complete vocational or educational programming will have lower employment rates than offenders without mental illness who complete programming.

H3.2 Offenders with a mental illness who complete vocational or educational programming will have decreases in length of employment compared to offenders without a mental illness who complete programming.

H3.3 Offenders with a mental illness who complete vocational or educational programming will have lower school enrollments and completions than offenders without a mental illness who complete programming.

H3.4 Offenders with a mental illness who complete vocational or educational programming will have higher recidivism rates than offenders without a mental illness who complete programming.

**Figure 4. Conceptual Framework of Prison Programming with the Interaction of Mental Illness and Reentry**



Organizational Statement

Chapter Two, the literature review, is organized into several sections based on my conceptual framework (see Figure 4). The sections include (a) the historical context of corrections; (b) prior research on predictors of criminal behavior such as prior criminal history, age, sex, race, and procriminal associates; (c) relationships between crime and

deficits in education and employment; (d) the history of mental illness in corrections; (e) the research on educational and vocational rehabilitation; (f) the research on educational and vocational programming, and the impact of mental illness on participation in prison programs; and (g) research on reentry and social bond theory as it relates to education, employment, and mental illness. In Chapter Three, the methods I used to conduct my research are described in detail. In Chapter Four, I present the results of my data analyses. In Chapter Five, I discuss my results in further detail and provide the implications and future directions of my results for social work education, policy, practice, and research.

CHAPTER II  
THEORETICAL AND EMPIRICAL LITERATURE ON  
PRISON PROGRAMMING, EMPLOYMENT, AND  
EDUCATIONAL AND MENTAL HEALTH OUTCOMES  
FOR OFFENDERS

History of Correctional Philosophy

Correctional philosophy has a profound impact on prisoner rehabilitation and reentry success. How corrections has managed offenders over the past 100 years has changed considerably. Since the beginning of corrections, the philosophy has changed from rehabilitation towards incapacitation, deterrence, and retribution (MacKenzie, 2006). According to Gendreau and Cullen (2000), since the beginning of corrections in the 1900s, the philosophy was to convert offenders into productive, law-abiding individuals. It was believed offenders could change and become rehabilitated. Moreover, in corrections, the first seventy years of the 20<sup>th</sup> century focused on rehabilitation (Gendreau & Cullen, 2000). In the past 25 years, the rehabilitative perspective has diminished and the outlook for a resurgence of this perspective is ominous

Today, correctional administrators utilize a more punitive response to managing offenders. This response is demonstrated by correctional staff recommending incarceration, boot camps, violators' programs, revocation, increased surveillance, and electronic monitoring. Unfortunately, rehabilitation is no longer seen as beneficial (Logan & Gaes, 1993). However, most treatment programs are supported by community members (Applegate, Cullen, & Fisher, 1997). Even with the dichotomous perspectives between the public and correctional administrators, the viability of corrections programs is a concern. More research should be conducted to identify what strategies and programs work when working with offenders. Research has shown that some rehabilitation programs are effective. Many effective rehabilitation programs exist and not only benefit the offender, but improve reintegration and community safety.

In the early 1970s, the preclusion of offender treatment had detrimental consequences for corrections (Logan & Gaes, 1993). As Blumstein (1997) stated, “still, the tarnishing of the rehabilitative ideal created opportunities for other ways of “thinking about crime” to gain ascendancy and to influence the direction of correctional policy. The vacuum created by the trashing of rehabilitation was soon to be filled by two other crime control approaches available to the criminal justice system—deterrence and incapacitation” (p. 353). Similarly, Gendreau and Cullen (2000) argued if the desertion of rehabilitation is deserved and whether punitive philosophy should have supplanted a rehabilitative philosophy.

According to Gendreau and Cullen (2000), the most influential research that created uncertainty about if rehabilitation works was Martinson’s (1974) controversial essay “What Works?—Questions and Answers about Prison Reform.” Martinson published a review of 231 treatment studies in 1974. Martinson’s examination of the research was critical and offered a negative review of the benefits of rehabilitation. Martinson stated, “With few isolated exceptions, efforts that have been reported so far have had no appreciable effect on recidivism” (cited in Cullen & Gendreau, 2000, p. 119). Martinson’s concluded, “That nothing works and corrections has no idea how to rehabilitate offenders or reduce recidivism” (Cullen & Gendreau, 2000, p.119). Martinson’s work created doubt among correctional staff and the public, and shifted many people’s view from a rehabilitative philosophy to a more punitive. (Cullen & Gendreau, 2000). Accordingly, the focus in corrections and the criminal justice field became “get tough” proposals, mandatory minimums, three strikes laws, truth in sentencing law, and determinate sentences (Cullen & Gendreau, 2000).

After the publication of Martinson’s “nothing works” doctrine, many researchers were determined to disprove his findings. Palmer (1975) found positive results in the studies Martinson reviewed. After the dissemination of Palmer’s results, Martinson recanted his “nothing works” view and concluded that his results may be based on how

the programs were delivered (Cullen & Gendreau, 2000). According to Cullen and Gendreau (2000), other researchers, Gendreau and Ross (1979, 1987), also examined the “nothing works” doctrine. Between 1973 and 1987, Gendreau and Ross reviewed 225 studies and reached three conclusions. First, correctional programs failed because they lacked therapeutic integrity: The programs lacked trained staff, and the curriculum lacked theory and sound conceptual frameworks. Moreover, the curriculum was not based on strategies and procedures that were demonstrated effective by research. Second, cognitive-behavioral interventions reduced recidivism. They found beneficial programs targeted criminogenic needs or dynamic risk factors—known predictors of crime that can be changed. Third, they recognized each offender differs in personality characteristics and have different learning abilities. Moreover, Gendreau and Ross found higher risk offenders benefited greater than lower risk offenders from programs (Cullen & Gendreau, 2000). While constructing and addressing ways to rehabilitate offenders is imperative, it is important to first understand why individuals commit crime. This understanding of crime allows correctional institutions to respond to offenders’ needs and/or deficiencies through programming.

#### Predictors of Criminal Behavior

The research has long been established regarding some of the predictors of adult criminal behavior, such as criminal history, age, sex, race, procriminal attitudes, and procriminal associates (Gendreau, Little, & Goggin, 1996). In the literature review, recidivism is revisited in a different context than in the introduction. I examine individual predictors of recidivism, each of which will be reviewed briefly. Furthermore, the present study controlled for these predictors and evaluated additional predictors of criminal behavior, such as deficiencies in education and employment and the impact of mental illness.



### Prior Criminal History

One of the strongest predictors of recidivism is criminal history (Gendreau et al., 1996). According to the Bureau of Justice Statistics (2008), 53% of jail inmates were on probation, parole, or pretrial release at the time of arrest. Similarly, 4 of 10 jail inmates had a current or past sentence for committing a violent offense, and 25% of all those coming out of prison had served three or more prior incarcerations. The Bureau of Justice Statistics (2002) conducted one of the largest recidivism studies that measured rearrest, reconvictions, and reincarceration of 272,111 former prisoners and found that within 3 years of their release, 67% were rearrested for a new offense (almost exclusively misdemeanor and felony). Roundtree, Edwards, and Parker (1984) conducted a study of 2,419 adult probation cases that were closed by revocation or completion of supervision. They examined several different personality characteristics and found criminal record being the greatest predictor of recidivism.

Another strong predictor of recidivism is prior violent offenses. Violent crimes include offenses of murder, nonnegligent manslaughter, forcible rape, robbery, and aggravated assault (Federal Bureau of Investigations, 2009). The Bureau of Justice Statistics (2002) reported that 67.8% of offenders released from prison had a previous violent offense. Additionally, offenders with a prior violent offense had a rearrest rate of 21.6% within three years of release.

### Age

Age is considered a strong predictor of criminal behavior. Research systematically reports that young people, males, and members of disadvantaged minorities are at a high risk to become offenders. Moffitt's (1993) adolescent-limited theory proposed that individuals engage in criminal behavior at a young age and then age out of criminal activity. The Bureau of Justice and Statistics (2008) estimated that 57% of inmates were between 18 and 35 years old in 2001. In 2009, individuals under the age of 25 accounted for 43.6% of all arrestees (Federal Bureau of Investigations, 2009). The

Bureau of Justice and Statistics (2002) conducted a recidivism study and found that the younger the prisoner when released, the higher the rate of recidivism. For example, over 80% of those under age 18 were rearrested, compared to 43.3% of those 45 and older. A classic study measuring age and criminal behavior was conducted by Carlson (1973) on those admitted to the Guelph Correctional Centre in 1965. His sample consisted of 1,795 men with ages ranging from 16 to 36 with diverse criminal offenses. Most recidivists were young (16-19), and those who were 17 years old had the highest rate of recidivism (22.2%).

### Sex

The demographic of sex has been at the center of much criminological probing. Males are engaged in criminal behavior disparately as both offenders and victims. (Andrews & Bonta, 2006). According to the Bureau of Justice and Statistics (2008), in midyear 2006, men were 14 times more likely than females to be incarcerated. Their incarceration rate was 939 per 100,000 males compared to 67 per 100,000 females. Nearly 75% of the individuals arrested in the nation during 2009 were males. They accounted for 81.2% of individuals arrested for violent crime and 62.6% of individuals arrested for property crime (Federal Bureau of Investigations, 2009). Males are more likely to be rearrested (68.4%) than females (39.9%) (Bureau of Justice Statistics, 2002). Although females commit many crimes, it is important to elaborate on the intersection of gender and crime. Not only is being male a strong predictor of criminal behavior, but also understanding why males are more likely to engage in crime is important. Why males engage in more criminal behavior requires an understanding of historical and structural roots of gender roles and socialization that construct masculinity and femininity (Messerschmidt, 1993). Examining criminal behavior from a male perspective allows crime to be seen as a wellspring for “doing gender.” Therefore, it is a way of showing one’s masculinity. Messerschmidt (1993) argued that crime is most likely to occur when males cannot express their masculinity by legal means and become stifled. They engage

in criminal behavior as a way to demonstrate their male dominance. Hence, the idea that masculinity is intertwined with crime has demonstrated predictability in research by males having higher crime rates than females.

### Race

Race has been known to be a demographic correlate of crime. Research suggests that African-Americans have an overrepresentation as offenders for most types of crime (Messner & South, 2000). The Bureau of Justice and Statistics (2008) reported that 64% of prison inmates belonged to racial or ethnic minorities in 2001. At midyear 2006, the Bureau of Justice and Statistics found that black males comprised 41% of the more than two million men in custody, although they represented only a small percentage (12.8%) of the population (U.S. Census Bureau, 2009). Bonczar and Beck (1997) reported in 1991, a black male had a 29% chance of being incarcerated at least once in his lifetime, six times higher than the chance of a white male. In 2009, 69.1% of all persons arrested were White, 28.3% were Black, and the remaining 2.6 were of other races (Federal Bureau of Investigations, 2009). According to the Bureau of Justice Statistics (2002), Blacks were more likely to be rearrested (72.9%) than Whites (62.7%), and more Blacks were reconvicted (51.1%) than Whites (43.3%). While research has found that criminal history, age, sex, and race are strong correlates of crime, education level is found to be a predictor of criminal behavior.

### Level of Education and Criminal Behavior

Individuals with less education in an increasingly competitive, technological, and highly educated workforce will have difficulty competing for good jobs. Many offenders face lower wages, higher unemployment rates, underemployment, sporadic work histories, and homelessness all which are associated with criminal behavior (Petersilia, 2003). While reading level and poor academic achievement are not the strongest predictors of crime, many individuals who have substandard educational levels and poor reading skills are the majority of offenders represented in the correctional system

(Petersilia, 2003). Gendreau, Madden, and Leipziger (1979) conducted a study of 802 inmates. Most of the inmates in the study did not demonstrate any indication of successful education, with less than 20% having completed school beyond 10<sup>th</sup> grade. The highest grade level completed in school was highly correlated to recidivism.

Other research has found correlates between education, crime, and incarceration. The Bureau of Justice Statistics (2003) conducted a study using personal interviews with nationally representative samples of offenders in state and federal prisons, in local jails, and on probation. Offenders were asked about past educational achievements and educational experiences, as well about their offenses, criminal history, and other characteristics. They found that the correctional populations, including state, federal, probationers, and jail offenders, were significantly less educated than the general public. An estimated 40% of state offenders, 27% of federal offenders, 47% of offenders in jail, and 31% of those serving probation sentences had not completed high school or its equivalent while 18% of the general population failed to attain high school graduation. Consequently, participation in college-level courses or post-secondary vocational classes was less common for those in correctional populations than for persons in the general population. Only an estimated 11% of state prison offenders, 24% of federal offenders, 14% of jail offenders, and 24% of probationers attended some college or other postsecondary institution compared to 48% in the general population.

A pattern in the numbers of prison offenders without a high school education increased from 1991 to 1997 (Bureau of Justice Statistics, 2003). Approximately, 420,600 state prison offenders in 1997 compared to 293,000 in 1991 did not have a high school education or a GED. State prison offenders without a high school diploma and those with a GED were more likely to have a prior sentence than those with a diploma or some college or other postsecondary courses. The study estimated that 77% who did not complete high school or a GED, 81% with a GED, 71% who finished high school, and 66% with some college were recidivists. More importantly, approximately 1 in 6 jail

offenders dropped out of school because they were convicted of crime or sent to a correctional institution. Over a third of jail offenders, compared to a sixth of the general population, said that the main reasons they quit school were academic problems, behavior problems, or loss of interest. Approximately one-fifth of jail offenders and two-fifths of the general population gave economic reasons for not finishing school, primarily going to work, joining the military or needing money. Collectively, there is a strong relationship between educational and criminal activity.

#### Educational Impact on Employment and Criminal Behavior

It is easy to recognize the impact of education on employment, wages, poverty, downward mobility, and criminal behavior. Many incarcerated offenders have deficits in education, and there are numerous consequences for offenders with little education: specifically, their ability to obtain employment and earn competitive wages, and their likelihood of being underemployed. Research has found a strong correlation between education and employment (MacKenzie, 2006). Those with little education are either unemployed or working in marginal job sectors (MacKenzie, 2006)

The Bureau of Justice Statistics (2003) found that approximately 38% of inmates who completed 11 years or less of school were not working before prison. Furthermore, unemployment was lower for those with a GED (32%), a high school diploma (25%), or education beyond high school (21%). Additionally, about 20% without a high school diploma, 19% with a GED, 14% with a high school diploma, and 13% with training beyond high school were unemployed, but not looking for work (official labor statistics exclude persons not looking for work). Using that definition, the unemployment rate for state prison offenders at admission was 22% for those with less than a high school diploma/GED and 9% with education beyond high school.

According to the Bureau of Justice Statistics (2003), education can have an impact on offenders' ability to earn wages. Offenders with better education were more likely to receive wage income. While 57% of those with less than high school education

received wages, 76% with postsecondary education had wage income. Offenders without a high school diploma/GED were more likely than those with training after high school to receive income from family or friends (20% vs. 12%), or from welfare (11% vs. 8%). One seventh of those with some postsecondary training and almost a third without a high school diploma had lived with persons who received government assistance.

### Employment and Criminal Behavior

Research supports the relationship between employment and the reduction in criminal behavior (Petersilia, 2003). Evidence points to how an individual's criminal behavior is responsive to changes in employment status (i.e., unemployment is associated with higher crime commission rates and more arrests) (Bushway & Reuter, 2002). A survey conducted by the Government Accounting Office (2001) asked inmates whether they were employed in the month prior to arrest. Both federal and state prisoners had sparse and sporadic employment histories. Thirty-one percent of state and 27% of federal prisoners reported that they were unemployed the month prior to their arrest. The prison survey also identified that 5% of state and 3% of federal prisoners had never been employed.

### Historical Context of Mental Health in Corrections

For years researchers have been studying predictors of criminal behavior. Some of these predictors, as mentioned earlier, include age, sex, procriminal attitudes and associates, education, and employment. Recently, some attention has shifted to the impact of mental health on criminal behavior. Because mental health is becoming more aggressively researched, it is important to understand the history and treatment of mental health disorders in the correctional system. Mentally ill offenders have been treated very differently since the inception of correctional institutions. It is important to understand how corrections have historically treated mentally ill offenders and how they are currently being treated in order to provide better services.

According to Ax and Fagan (2007), until the early 18<sup>th</sup> century, the treatment of mentally ill offenders was mostly confinement. The second half of the 18<sup>th</sup> century psychiatry emerged. Before psychiatry emerged, most of the care of the mentally ill was provided by family, friends, and church members (Ax & Fagan, 2007). In the latter half of the 18<sup>th</sup> century, correctional houses, workhouses and “madhouses” began to spread into urban areas and that held most the mentally ill. More formal work with mentally ill prisoners began in 1917 (Ax & Fagan, 2007). By mid-century, clinical psychology was present and research on the prison population increased dramatically (Ax & Fagan, 2007).

Today, the treatment of persons with mental illness has changed considerably. The treatment of persons with mental illness in prison varies depending on the type of mental illness, physical health needs; the prison, security, treatment needs; and the resources available (Crow, 2004). It is a delicate balance to treat the needs of mentally ill offenders and provide the best health services and at the same time not to compromise prison safety and security. In the past 25 years, more research has been conducted on treatment, security, and mental health outcomes for prisoners with mental illness.

Before examining the mental health research, it is important to understand how mental illness is defined. Mental illness is characterized by impairment of an individual’s normal cognitive, emotional, or behavioral functioning, and is caused by social, psychological, biochemical, genetic, or other factors such as infections or head trauma (Oxford American Dictionary, 2000). Mental illness can be diagnosed on a multi-axial system, which is a comprehensive, systematic evaluation (DSM-IV-TR, 2000). This involves assessment on several axes that refer to different domains of information. There are five axes included in the DSM-IV-TR multi-axial classification: Axis I (clinical disorders), Axis II (personality disorders and mental retardation), Axis III (general medical conditions), Axis IV (psychosocial and environment problems), and Axis V (global assessment of functioning).

According to the DSM-IV-TR (2000), mental illness can be specified by severity and course. The severity can range among mild, moderate, and severe. “The measures taken into consideration are severity of signs and symptoms of the disorder (s) and resulting impairment in occupational or social functioning. Mild symptoms result in no more than minor impairment in social and occupational functioning, moderate symptoms or functional impairment are between ‘mild’ and ‘severe,’ and severe symptoms result in marked impairment in social or occupational functioning. The course of the mental illness is described as partial remission, full remission, and prior history; that is, it includes measures of progression of the illness in a particular direction. In partial remission, the full criteria for the disorder were previously met, but currently only some signs or symptoms of the disorder remain. In full remission, there are no longer any symptoms or signs of the disorder. In prior history, the criteria for the disorder were present previously even though the individual is considered recovered” (DSM-IV-TR, 2000, p. 3). Most studies include Axis I and II diagnoses. Percentages of mentally ill individuals represented in studies can range dramatically based on researchers' examination of a range of diagnostic axials.

An increasing number of individuals with mental illness are being filtered into the criminal justice system (Crow, 2004). The increasing contact of mentally ill offenders with the criminal justice system originates from several sources. In many instances, these criminal justice contacts originate from community members or business owners calling the police to handle homeless mentally ill individuals that are occupying space by their businesses, homes, and parks. Other instances include friends and family whom are afraid the mentally ill individual may self injure themselves or hurt someone else. Most of these instances require police response which may result in arrests. In order to understand how mentally ill individuals ended up in the criminal justice system requires familiarity with shifts in mental health policy over the last half decade (Crow, 2004).



In earlier years, mentally ill individuals were treated with institutional care, containment, and isolation; however, this type of care has shifted more recently to entirely community-based support (e.g., family, friends, church members, outpatient counseling, and medication management) for individuals with mental illness (Thompson, Reuland, & Souweine, 2003). In 1955, the state mental hospital population peaked at 559,000 people; in 1999, this number was less than 80,000. Numerous reasons for the change include fiscal, political, philosophical, and medical advances (Thompson et al., 2003). Unfortunately, many of the individuals with mental illness face multiple barriers including access to medical services, obtaining stable housing, and active psychosis which results in disruptive behavior in their community. When attention is brought to the mentally ill individual, law enforcement is forced to address the problem with little education and training when working with mentally ill individuals. (Thompson et al., 2003). Therefore, law enforcement has few choices when dealing with a mentally ill individual with little training and the increasing pressure from the community to manage the problem.

Changes in criminal justice policies and practices over the past few decades have also heightened the involvement of individuals with mental illnesses in the criminal justice system. Unfortunately, requests for crackdowns on “quality of life” crimes and offenses, such as the possession of illegal substances, have identified many individuals with mental illness who are self-medicating (Thompson et al., 2003). On any given day, 3,300 mentally ill individuals are held in the Los Angeles County Jail. The reported jail statistics are higher than any state hospital or mental health institution in the United States (Thompson et al., 2003).

Before we can evaluate the need for mental health treatment among offenders, it is important to assess the relationship between mental illness and criminality. In 1983, Monahan and Steadman reviewed over 200 studies examining the relationship between crime and mental illness. They found that the crime and mental disorder relationship

could be explicated by shared demographic and historical characteristics. When these factors were controlled for statistically, the relationship between crime and mental illness tended to decrease. Swanson, Holzer, Ganju, and Jono (1990) found, in contrast, that the rate of violence was higher among individuals with a mental disorder. They reported that violent offenses were three times more prevalent in the group of mentally ill and five times more likely among those with combined conditions of mental illness and substance abuse.

In more recent research, Steadman (1998) conducted a large-scale multi-site research project using the MacArthur Violence Risk Assessment Study. One of their most important results was the higher rate of violence among those with mental illness. Moreover, Steadman found that the 1-year violence rate for patients discharged from acute mental health facilities was 27%.

Based on the research, the rates of criminality are increasing among people with mental illness. Unfortunately, a weakness of mental health research is that many offenders are undiagnosed. These offenders are not identified by law enforcement and correctional staff as mentally ill or needing treatment. Furthermore, these offenders slip through the cracks, and the numbers of mentally ill in the correctional population may be underestimated. Hence, correctional institutions are not prepared with the proper staff and resources for the influx of identified mentally ill offenders. Not only do offenders with mental illness have difficulties managing their illnesses and receiving proper treatment, they also have to adjust to prison life and engage in prison programming.

### Rehabilitation Programs and Reentry Outcomes

#### Educational Programs

While education is believed to be a strong predictor of crime and employment opportunities as discussed above, research has demonstrated the benefits of participation in prison educational programming. Despite the current correctional philosophy of deterrence, incapacity and retribution, there appears to be general consensus that

education during prison has the benefit of lowering recidivism rates (Applegate et al., 1997; Cullen, Skovron, & Scott, 1990). Even with the change in correctional philosophy, some prisons continue to offer educational programs. Many institutions require GED completion before release. The GED is incorporated into the prisoner's case plan. A survey conducted by Di Vito (1991) found that 26% of the prison systems had mandatory educational programs. Other institutions encourage enrollment in educational programming and offer incentives to offenders by giving them extra privileges, early parole, and promotion to a higher wage class (MacKenzie, 2006). One reason for the continual commitment to educational programming is the positive relationship between educational level and decreased criminal behavior (MacKenzie, 2006). Increasing an offender's educational level can bring about positive changes including better problem solving skills, increased self-esteem, and greater chances to obtain employment (Andrews, Bonta, & Hoge 1990). Some researchers argue that education may increase offender's maturity levels and moral development (Baituk et al., 1997). According to social bond theory (Sampson & Laub, 1993), education may increase skills and employability, which can lead to stronger ties to conventional society.

Research has found a relationship between educational programming in prison and recidivism. Smith, Steurer, and Tracy (2001) conducted a three-state recidivism study to examine the relationship between correctional education, recidivism and employment outcomes. The study compared correctional education participants and non-participants in three states: Minnesota, Maryland, and Ohio. The authors used a quasi-experimental design with a release cohort. Recidivism was measured as rearrest, reconviction, and reincarceration. The sample consisted of 1,373 releasees who were followed for 3 years. Data were collected from self-report, criminal history, institutional records, and employment and wage data. Smith et al. (2001) found that for re-arrest, correctional education participants had statistically significant lower rates of rearrest (48%) than non-participants (57%). For Ohio and Minnesota, all three measures of recidivism (e.g.,

rearrest, reconviction, and reincarceration) demonstrated lower rates for participants than for non-participants. Maryland showed no statistically significant relationship. Maryland participants had higher annual earnings than non-participants. Year 1 total for participants was \$7775 compared to \$5980 for non-participants. Like many other studies comparing program participants versus non-participants, this study suffered from selection bias. Inmates could volunteer into programming; thus, motivation may have influenced the study's outcomes. Motivated inmates who select into prison programming may be more motivated than those who do not. Hence, the inmates who select into programming may also be more motivated to find employment after they leave prison.

Another study by Langenbach, North, Aagaard, and Chown (1990) examined the effect of a distance education program on recidivism in prison measuring the benefits of education with inmates participating in college-level courses via televised instructional system (TIS). The researchers were interested in participants' behaviors, specifically, rates of recidivism and frequency of disciplinary actions before, during, and after participation while incarcerated. The sample consisted of 360 participants who were matched with non-participating cohorts on the variables of age, race, gender, type of offense, and length of sentence. They found the TIS participants had lower projected recidivism than the matching group.

One of the larger educational studies was conducted by Adams et al. (1994), who examined the post release recidivism of more than 14,000 inmates released from the Texas prisons in 1991 and 1992. Adams et al. used a treatment group and a non-participant group in prison education programs to examine various behavioral outcomes. They found the most effective programs focused on educationally disadvantaged prisoners. Data showed that inmates with the lowest levels of educational attainment benefited the most (as indicated by lower recidivism rates) from participation in academic programs. Conversely, participation in vocational programs showed smaller effects on reincarceration rates.

Overall, research has found that educational programming decreases recidivism. However, the association is weak, and the research is hampered by methodological issues. There is no doubt that the quantity of research examining effectiveness of educational programming in prison is immense, but the quality of the research due to methodological issues weakens the results. An alternative method that could be used would be an experimental design in which offenders are randomly assigned to either an educational program or become a non-participant. However, this type of design presents ethical issues for researchers by not providing all inmates with equal opportunity to address educational needs and does not seem to be acceptable to many prison administrators. Unfortunately, most educational program research is severely limited by methodological weaknesses of self selection. (MacKenzie, 2006). Offenders who select into programming may be more motivated than offenders who do not choose to participate. Hence, the offenders who select into programming may be more motivated to find employment when released. Additionally, many studies on educational programming fail to differentiate the effects of various types of correctional education: vocational education, GED or adult basic education, and post-secondary education (e.g., Harer, 1995; Lipton, Martinson, & Wilkes, 1975).

#### Vocational Programs

Research studies have also indicated a relationship between vocational programming and the reduction of recidivism. Offenders and ex-offenders constitute one of the most vocationally challenged groups in society (MacKenzie, 2006). Vocational programming has long been a strategy correctional officials use in order to reduce disruption inside the institutions, assist offenders in gaining marketable skills and wages, increase problem solving skills, and reduce criminal behavior (Luftig, 1978). Wilson et al. (2000) conducted a meta-analysis of 33 studies of correctional vocational programming based on work programs and found that program participants recidivated at a lower rate than nonparticipants.

Lattimore, Witte, and Baker (1990) conducted a study on an enhanced vocational program with 109 prison inmates. They compared program participants and non-participants. Recidivism was measured as rearrest. The program included assessments of vocational interest, aptitude, specific skills, and post release employment assistance. Participants in the program had lower arrest rates within 2 years following release from prison than the control group or comparison. The participants recidivated at a rate of 36% compared to the non-participants at 46%. However, the study was weakened because the participants were not randomly selected in the study.

Another study that examined vocational training and recidivism was conducted by Saylor and Gaes (1992) with U.S. federal prison inmates who participated in vocational programs. The authors conducted a 12-month follow-up with 1,502 released inmates who did or did not receive programming. They found a significant relationship: Vocational education reduced recidivism for participants (6.6%) compared to non-participants (10.1%).

In a classic study, Luftig (1978) examined the relationship between offender participation in institutional vocational educational programs and employment status of the offender after release on parole. The study examined two populations. The first consisted of offenders paroled from the Minnesota State Reformatory at St. Cloud for youthful offenders, and the second included youth paroled from the Minnesota State Prison at Stillwater. The parolees from these Minnesota State Prisons were divided into two groups: those who had successfully completed vocational programs and those who had not participated in any program. Fifty individuals were randomly assigned to each group. Subjects were selected from both institutions in the same manner. Among youthful parolees who participated in programming, the author found a significant relationship between participation in vocational education and increased employment status. There was also a significant relationship between type of program participation

(welding and office repair, upholstery, graphic arts) and increased employment status for youthful parolees.

There are challenges in the evaluation of correctional vocational programs. In addition to the weaknesses of self-selection and different measures of recidivism in research designs used in educational programming, research on vocational programming faces unique challenges. Measuring post-release employment is difficult because much of the information is absent from correctional data bases, and there is no standard employment outcome measures such as length of employment, employment status, and type of job.

Studies in educational and vocational training for offenders often lack a clear picture of how the program was implemented, and its intensity, frequency, and duration. Many of the reviewed studies failed to take prior education into consideration along with economic conditions and prior work histories. Consequently, there is reason to question the findings of a positive relationship between educational and vocational programming and recidivism. However, even in light of the many methodological weaknesses in studying the effects of educational and vocational training on recidivism, there is much strength to this type of research. The strengths are in the results of the studies using random assignment that found lower recidivism rates. A careful review of the research revealed a moderate relationship between the effect of educational and vocational training and the reduction of recidivism. This suggests that corrections will need to continue improving the vocational and educational aptitude of offenders by creating more programs that research has proven to be beneficial not only for the offender but also for the community by reducing recidivism. Corrections administrators will need to develop a more strategic approach for maximizing the use of resources for offenders in prison and upon reentry (Crow, 2004).

### Mental Health and Criminal Behavior

As noted previously, while educational and vocational training have been researched considerably, mental health is gaining greater attention in correctional research. Gunn, Maden, and Swinton (1991) conducted a study on mental health in prisons in the late 1980s to determine the extent of mental illness among the prison population. In 5% of the sample of the sentenced prison population (2,042 prisoners serving 6 months or more), they found that 37% of males and 56% of females in the sample had at least one psychiatric diagnosis. The authors approximated that over 9,000 (19%) of the 46,500 prisoners at that time might have been suffering from significant mental disturbance. In a 1995 study, Johnson and Taylor (2000) found that 53% of offenders suffered from some form of psychiatric disorder. More recent studies have been carried out suggesting a higher prevalence of mental illness among incarcerated offenders. The Bureau of Justice Statistics (2006) reported that 61% of mentally ill state prisoners compared to 56% of other state prisoners were incarcerated for violent crimes.

It is critical that prison staff identify mentally ill prisoners when they are being processed into prison. These offenders can receive treatment and be potentially successful in completing other programming offered in prison. Identifying mentally ill prisoners is the first step in providing needed services. According to the report based on the 2000 *Census of State and Federal Adult Correctional Facilities*, 1,394 of the nation's 1,558 state public and private adult correctional facilities reported that they provided mental health services to offenders. Approximately 70% of facilities housing state offenders reported that according to policy, they screened offenders at intake: 65% conducted psychiatric assessments, 51% provided 24-hr mental health care, 71% provided therapy/counseling by trained mental health professionals, 73% distributed psychotropic medications, and 66% helped released offenders obtain community mental health services.



According to the Bureau of Justice Statistics (2006), 60% of the mentally ill in state and federal prisons received some type of mental health treatment during their current incarceration: Fifty-percent had been prescribed medication, 44% had received counseling or therapy, and 24% had been admitted overnight to a mental hospital or treatment program. When prisoners with mental illness are receiving mental health services and treatment, these services may interfere with other rehabilitative opportunities, such as educational programming and vocational training, depending on the severity of the illness and time committed to mental health treatment.

Research has examined differences among prisoners with mental illness and the general population. In one of the largest prison studies on mental health, O'Keefe and Schnell (2007) conducted research in Colorado's prison system and identified ways that the mentally ill inmates varied from the general population. The sample included 26,442 adult inmates in state-run facilities, privately operated facilities, and transitional halfway houses, and parolees. Offenders were grouped into three categories (qualifying, nonqualifying, and none) according to their mental health status during prison intake. O'Keefe and Schnell's study found that inmates with mental health illnesses had higher recidivism rates, failed under parole, and displayed greater rehabilitative needs compared to inmates without a mental illness. In summary, mental illness correlated to higher needs across multiple areas: academic, vocational, sex offender, substance abuse, medical, anger, developmental disabilities, and self-destruction. O'Keefe and Schnell found that vocational and substance abuse were the greatest needs. Additionally, offenders' mental health severely impacted their ability to participate in other rehabilitative programming, especially when they were in survival mode in a harsh environment. While educational and vocational programming provides offenders with valuable skills, offenders' mental health may undermine the effectiveness of these programs.

A large portion of incarcerated offenders will be exiting prison and will eventually reenter their communities on parole. Reentry is another aspect of the correctional environment and has an impact on offenders' success.

Impact of Education, Employment, and Mental Illness  
on Reentry

The reentry process includes the release of offenders back into their communities and post release activities, such as treatment programming, educational and vocational planning, surveillance, connecting offender to health care providers and community resources, housing plans, family support, and transportation. All of these activities help smooth the offender's transition back into their communities (Petersilia, 2003). Many offenders released back into their communities suffer from the stigma of being a criminal and of possibly being undereducated, unemployed, unskilled, a substance abuser, and mentally ill. Many of the factors that are related to criminal behavior and rehabilitation also influence offenders' reentry into the community and their recidivism rates.

Continued education can encourage desistance from criminal behavior for offenders reentering their communities. As mentioned earlier, education may improve offenders' social bond to society. Education subjects offenders to increasing ties to conventional society and may reduce criminal behavior by the offender not wanting to "risk" losing an opportunity for continuing education or its benefits.

Research has been conducted on the relationship between education and crime for many years. Walsh (1985) conducted a study that examined GED preparation and recidivism and re-arrest rates. The sample included 50 adult probationers who participated in a GED preparation program in comparison to 50 non-participant probationers. Walsh used record checks that occurred after probation placement during which offenders signed an agreement with their probation officer. Walsh found that GED participation significantly reduced recidivism during a three and one half-year period. In the non-participant group, 20% more members were rearrested. A major weakness of

this study was that Walsh used record checks to identify rearrest. He was not able to include offenders who did not get caught reoffending because of his reliance on official records. Self-report might have improved the validity of his outcomes if participants had reported honestly.

Batiuk, Moke, and Rountree (1997) conducted a 10-year follow-up study on parolees in Ohio who participated in a post-secondary education program. The researchers used a quasi-experimental time series design of 318 male inmates. They examined the program's impact on recidivism by splitting inmates into two comparison groups based on level of education. The treatment group had received an associate's degree from Wilmington College while in prison. The authors found that education reduced recidivism. Participation in the Wilmington College program for at least 2 years (in contrast to participation for 3 months or less) reduced the odds of recidivism by roughly 58%. College education was positively related to post release employment, which reduced the likelihood of recidivism by 76%.

Empirical evidence has demonstrated a relationship between employment and recidivism. Most offenders face multiple barriers when attempting to obtain employment once released. The main obstacle many offenders have difficulty overcoming is securing employment because the stigma that is attached to a criminal history—particularly a criminal record. In a competitive labor market, many offenders are excluded from decent jobs because of their criminal records (Petersilia, 2003). It has been found that offenders are much more likely than non-offenders to be unemployed, to be more susceptible to long-term unemployment, to have sporadic work histories, and to lack the skills and training that enable them to compete in the job market (Crow, 2004). Most researchers, as well as offenders themselves, believe that finding a job is critical to successful reentry and reducing recidivism. Employment helps create social bonds for offenders in their communities. Employment offers many benefits to offenders including: helps offenders occupy their time, be productive, build confidence, financially support their families,

develop marketable skills, improve self-esteem and strengthen social connectedness (Petersilia, 2003). Lipsey (1995) conducted a meta-analysis of 400 studies from 1950 to 1990 and found that the single most effective factor in reducing reoffending rates upon reentry was employment.

Dejong (1997) used survival analysis to test the relationship of custodial sentence time until rearrest. For those individuals with fewer ties to conventional society and for first-time arrestees, Dejong found that a sentence of incarceration increased the probability of rearrest. The data were collected by the National Development and Research Institute between April and October of 1984. Male arrestees detained in Manhattan, New York City, were asked to voluntarily participate in an interview. The sample consisted of 4,847 males. Data were collected on age, race, current charge type, drug test results, criminal history, and current arrest data, and whether the individual was on supervision (probation or parole). Recidivism was defined as rearrest. The author included variables that tested the strength of ties to conventional society such as marital status, employment status, and length of education. Those individuals with few bonds to society (job, family, education) were more likely to recidivate following a period of incarceration.

Most research has focused on the relationship between either employment or education and crime. Little research has broadened the scope beyond this dichotomous outcome when examining offenders. Only a few researchers have examined job stability and types of jobs in relation to criminal reoffending. Several researchers have argued that the quality of work, such as duration and intensity, wages, and the skills required to do the job can affect offenders' propensity toward crime through attachment to work and ties to conventional society (Petersilia, 2003).

Crutchfield and Pitchford (1997) argued that those with sporadic employment history, low income, have little chance to improve their circumstances and have diminished stakes in conformity, which lessen social bonds. They proposed that marginal

and sporadic employment exposes people to, and gives them little incentive to avoid, situations that are likely to lead to criminal behavior. The authors conducted a study using the National Longitudinal Surveys of Youth (NLSY) Labor Market Experience. The sample included 12,000 males and females between the ages of 14 and 21 in the initial year of the survey (1979). Data that were tracked for four cohorts of adults, beginning in 1966, consisted of personal history, work history, criminal history, education, and local labor markets. They found that not only was income important but also the stability that goes with good work (or with academic involvement) decreased criminal behavior. Moreover, individuals in secondary sector occupations (e.g., manufacturing, construction) are more likely to experience less job stability. As a consequence, they have higher levels of criminal involvement. Crutchfield and Pitchford observed “that labor stratification, specifically occupational stratification, creates collective processes that lead to lifestyles conducive to crime, particularly in circumstances where others share marginal employment” (Crutchfield & Pitchford, 1997, p. 6). Finally, they observed that longer job duration and labor force participation, along with educational attainment and good school performance, reduced criminal involvement. Crutchfield and Pitchford’s research confirmed that individuals with stakes in conformity are less likely to recidivate. An interpretation of their findings could be seen as consistent with social bond theory (Hirschi, 1969), which will be discussed in greater detail. Although stable employment and education are known to improve reentry, untreated mental health may undermine offenders’ success.

In addition to the lack of mental health services and case planning provided in the community, offenders with mental illness may do worse in reentry because they not only are marginalized for being a criminal but also are mentally ill. Furthermore, the environmental changes of prison and reentry can have an impact on their stability. Many offenders will have difficulties adjusting to freedom and independence. Offenders leaving prison may have difficulty connecting to psychiatric services and medications

and making adjustments living back in their communities. Some offenders may have difficulties sustaining work or educational pursuits due to the severity and type of diagnoses. The symptoms may be severe enough to impair their functioning and their ability to maintain employment and education. All these factors are likely to have a more detrimental effect on mentally ill offenders compared to offenders without a mental illness.

Mental illness may compound offenders' ability to reenter society. Many mentally ill offenders suffer from homelessness, unemployment, and substance abuse, and rely on government assistance. The Bureau of Justice Statistics (2002) conducted a study on offenders based on personal interviews through three surveys. The authors distributed the 1997 Survey of Inmates in State and Federal Corrections Facilities, the 1996 Survey of Inmates in Local Jails, and the 1995 Survey of Adults on Probation. According to their findings, mentally ill offenders reported high rates of homelessness, unemployment, alcohol and drug usage, and sexual and physical abuse prior to their current incarceration. During the year after their arrest, 30% of mentally ill offenders were in jail, and 20% of those in state and federal prisons reported a period of homelessness. Moreover, mentally ill offenders were less likely than others to report that they were working in the month prior to arrest. Approximately 38% of mentally ill state and federal prison offenders and 47% of mentally ill jail offenders were not employed during the month prior to arrest compared to 30% of other state offenders, 28% of federal offenders, and 33% of other jail offenders who were unemployed.

More recent research conducted by the Bureau of Justice Statistics (2006) found that for those offenders in custody, half of mentally ill prison and jail offenders reported wages as their source of income prior to arrest. Probationers with mental illness were asked about their current employment and sources of income in the past year. Over half of the mentally ill probationers and three-quarters of probationers without mental illness were currently employed.

Mentally ill offenders who are being released onto parole often receive little help from their parole officer or other community resources (O'Keefe & Schnell, 2007). Discharge planning for mentally ill offenders is fragmented between prison staff and the parole officer. Discharge planning for mentally ill offenders entails careful planning and coordination of social services and housing assistance (O'Keefe & Schnell, 2007). Offenders released onto parole with mental illness face many challenges. One primary challenge other than connecting with existing mental health services is employment. Often offenders with mental illness have difficulty finding and maintaining employment. The obstacles for offenders with mental illness are exacerbated by not only having a criminal record and sustaining employment, but also struggling with chronic symptoms. A study by Ditton (1999) found that 38% of mentally ill offenders in state and federal prisons were unemployed in the month prior to arrest. Moreover, lack of employment and social assistance was reported as a major predictor of homelessness in mentally ill populations reentering (O'Keefe & Schnell, 2007). Ditton (1999) found that 20% of mentally ill offenders were homeless at some point during the year prior to arrest.

As stated previously, mentally ill offenders may rely more heavily on government support. This reliance may demonstrate their inability to support themselves due to their illness. According to the Bureau of Justice Statistics (2001), mentally ill offenders rely more heavily on government assistance in comparison to offenders without mental illness. Nearly 52% of mentally ill probationers and 27% of other probationers said they received income from government agencies in the past year. Additionally, an estimated 30% of mental ill offenders and 13% of other offenders in state prisons received some type of financial assistance from government agencies prior to their arrest. More than 15% of mentally ill offenders receive welfare, 17% supplemental security income or other pensions, and 3% compensation payments, such as unemployment or workman's compensation. While many mentally ill offenders rely on government assistance, fewer offenders seek out mental health treatment and services.

More recent research conducted by the Bureau of Justice Statistics (2006) reported the types of symptoms that offenders experienced. More than two-fifths of state offenders (43%) and more than half of jail offenders (54%) reported symptoms that met the criteria for mania. About 23% of the offenders and 30% of jail offenders reported symptoms of major depression. Approximately 15% of state prisoners and 24% of jail offenders reported symptoms that met the criteria for psychotic disorder. These types of mental illness (compared to anxiety, for example) are more likely to be a barrier to stable employment, housing, and educational achievements.

When offenders receive a sentence for probation, they may be mandated by the courts or probation agency to meet various conditions of the sentence, such as maintaining employment, submitting to drug testing, or participating in treatment. These requirements have been the mainstay of corrections for decades. According to the Bureau of Justice Statistics (2001), an estimated 13% of probationers were required to seek mental health treatment as a condition of their sentences. Only 43% of those required to participate in treatment had done so by the time of the Bureau of Justice Statistic's survey. Counseling was the most common form of treatment (44%), followed by medication (37%) and overnight care in a mental hospital or treatment program (12%).

There is little research and practice that attempts to link mentally ill offenders returning from prison to post release mental health intervention in community-based corrections even though the recidivism rates are high for mentally ill offenders. Recidivism for offenders with mental health issues reached more than 70% in some jurisdictions (Ventura, Cassel, Jacoby, & Haug, 1998). Similarly, Feder (1991) found that 64% of mentally ill offenders were rearrested within 18 months of release. Despite the high rates of mentally ill offenders, surprisingly little is known about the challenges they face after release into the community (Lovell, Gagliardi, Petersen, & Jemelka, 2004).



Lovell et al. (2004) reported community outcomes for 337 mentally ill offenders released from Washington's state prisons in 1996 and 1997. The study was limited to mentally ill offenders released from prison who had persisting mental disorders that impaired cognitive functioning. Data were provided by several public agencies. Summary statistics were computed on subjects' characteristics and post release outcomes, and logistic regression analysis was conducted to identify variables that predicted convictions of new felonies and new crimes against persons. Men and women differed by diagnoses, rates of drug abuse, and use of mental health resources. Seventy-three percent of the individuals (n=337) received post release social or mental health services; however, few received clinically meaningful levels of service during the first year after release. Seventy percent of the individuals received charges for new crimes or supervision violations. Lovell et al. (2004) argued that most of the research on correctional intervention lacks the specificity needed to assess whether offenders are being linked to effective clinical treatment.

Lovell et al.'s (2004) study suggested that there are serious deficiencies in returning offenders' connection to effective mental health services. The results of Lovell et al.'s study confirmed the lack of mental health services and case planning for offenders with mental health issues returning to the community. The effect of attitude toward treatment is not clear in this study, that is, if they were willing participants or if they were required to attend treatment while on supervision. Either of these factors could impact the outcome of individuals participating in treatment.

Mental health research has been limited by the failure to account for how mental illness undermines other rehabilitative interventions and reentry. Much of the research examines mental health and recidivism but fails to take other factors in consideration, such as employment, duration of employment, enrollment and completion of school, and participating or completing prison interventions. Completing programming for offenders with mental illness may be difficult due to the chronic nature or severity of the illness. It

is clear from the research that mental health is a large issue in the offender population, and there is some support for the compounding effects of mental illness on other rehabilitative strategies.

### Social Bond Theory

Many of the research studies reviewed above suggested that increased levels of education and employment opportunities reduced recidivism and improved reentry success. Offenders who are tied to work or to an education program may develop social bonds to others and their community (see Figure 1). Creating these relationships in work or education may strengthen their ties to society and decrease the likelihood of engaging in criminal behavior. Hirschi's (1969) social bond theory can be used to explicate how this relationship works. According to Hirschi (1969), social bond theory includes elements of attachment to family, commitment, involvement (school, employment), and values within an individual's society or subgroup. Hirschi suggested that the primary reason individuals become involved in crime is that they become detached from society and therefore have little to lose if they engage in criminal behavior. He based his theory on the fact that social bonds exist, and when the bonds are broken or weakened, then deviant behavior can occur.

Educational and vocational training may serve as a tie to conventional society. Offenders who participate in prison programming may be motivated to find employment or enroll in school after release as a return for their investment in prison. The cost of committing crimes increases the risk of loss of the investment and time in educational and vocational training. Hirschi (1969) described this investment as commitment: The person invests time, energy, and himself to a certain activity. When the person considers deviant behavior, he must consider the costs of the behavior and the risk of losing the investment. Educational and vocational programming may increase employment rates and enrollment in school, which in turn may increase offenders' bonds to pro-social individuals within society. Increasing offenders' bonds to society is one way for them to

feel accepted and part of society. For many years, offenders have been discriminated against and stigmatized for their criminal history. Starting with employment and education, offenders can begin to rebuild their connection to the community. Building these ties through employment and education will give offenders continued support and additional opportunities. Moreover, employment is likely to serve as a deterrent to illegal behavior by limiting chances for misconduct and encouraging legal behavior. Hirschi (1969) considered this type of behavior in his social bond theory as involvement; engagement in conventional activities leaves little time for an individual to engage in deviant behaviors. The individual is tied to appointments, deadlines, and scheduled hours; hence the opportunity to engage in criminal behavior is reduced. Social bond theory may explain the relationship between offenders and high recidivism rates. Offenders have sporadic incarcerations, work histories, and lower educational tenure, which have contributed to their weak ties to conventional society and increased their likelihood to recidivate.

#### Mental Illness and Social Bond Theory

Until the 1990s, many people believed that mentally ill individuals could not engage in conventional activities such as school, recreation, and employment (Leff & Warner, 2006). Little research had been conducted on mentally ill individuals and work. Vocational services and employment outcomes were so negative that the results deterred further research. More recent data are demonstrating positive outcomes for mentally ill individuals and work. Recent improved outcomes for mentally ill individuals may be due to better treatment, improved medications, and increased awareness of how to address mental illness (Leff & Warner, 2006).

Researchers are beginning to find that people with mental illness who are involved in vocational rehabilitation and employment are more likely than people who do not participate in vocational rehabilitation and employment to engage in activities with friends, perform better in family roles, obtain a driver's license, and take their

medications regularly (Leff & Warner, 2006). Leff and Warner also found a decrease in symptoms, fewer psychiatric hospital admissions, improvements in self-esteem, and expansion of the client's social network. As mentioned earlier, social bonds may have an impact on offenders' ability to desist from crime. Offenders with mental illness may also benefit from forming social bonds in their community. Social bond theory emphasizes that ongoing association with conventional groups increases individuals' ties to society. Leff and Warner (2006) found that individuals with mental illness who were employed and engaged in school expanded their social networks. By creating stronger bonds to society, mentally ill offenders have more to lose and are less likely to engage in criminal activity. Offenders may not want to risk the relationships they have built by engaging in criminal behavior. Social bond theory may have a greater impact on mentally ill offenders than on offenders without a mental illness because mentally ill offenders are more likely to be stigmatized and marginalized by society because of their mental illness. These offenders begin to form networks and relationships they had been unable to form previously because of their illnesses. However, depending on their mental disorder, offenders may not be able to form bonds due to the type and severity of mental illness. It may vary on an individual basis. For example, an offender with schizophrenia may have difficulty forming relationships with others because of delusions, hallucinations, affective flattening, and detachment from reality.

#### Summary

There is considerable statistical support for the relationship between educational programming and vocational training in reducing recidivism and improving reentry success for offenders. Little is known about how mental illness may undermine the benefits of educational and vocational programming and ties to conventional society. Recidivism studies present several methodological problems inherent in recidivism research, such as sampling bias, complications collecting data, and length of follow-up. Not only do these challenges call into question the validity of the findings, but these types

of studies have low reliability. Furthermore, it is difficult to replicate studies that operationalized variables differently, such as educational and vocational programming, mental illness, recidivism, employment, length of employment, and enrollment in school. Moreover, even in well-designed correctional studies, it is difficult to form equivalent experimental and control groups, or to assign offenders randomly to one or the other when conducting correctional research. Human subjects protocols protect offenders from being coerced into experimental programming in which they can be manipulated by researchers (Maltz, 1984). Most correctional research uses quasi-experimental designs and has weaknesses, such as selection bias, that affect internal validity. Furthermore, mental health issues compound valid and reliable data because most recidivism and rehabilitation data do not distinguish between offenders who have mental illness and those who do not (Hulnick, 2000).

This research focused on the impact of mental health on educational and vocational programming completion in prison. Furthermore, this research examined how mental health may undermine the effects of educational and vocational programming during reentry. Finally, the research examined how educational and vocational programming impact reentry success. The research indicates that these factors have moderate to strong impacts on recidivism and reentry success. Not only does each factor have an impact on criminal behavior, but research indicates a connection among them. Offenders can be dealing with multiple deficits. By extension it is possible to see the development of a cycle of deterioration in which deficits in education lead to unemployment or being underemployed, which may lead to unsatisfactory housing and may create or compound mental health issues and homelessness. Existing treatment provisions tend to be fragmented and may not work holistically.

Research has demonstrated a relationship between age, race, sex, deficits in education and employment, and recidivism. Moreover, research has found that mental illness has an impact on recidivism and reentry outcomes. Research has demonstrated a

positive relationship between educational and vocational programming and recidivism. Methodological weaknesses continue to plague recidivism studies with selection bias and reliance on criminal records. Research continues to improve in recidivism studies with new designs and analyses. This study will use statistical methods to control for a number of variables that have contributed to bias in previous research. I controlled for numerous pre-test characteristics in order to have the best match between groups. Given that it is not possible to randomly assign participants, this type of analysis provides the best results possible.

## CHAPTER III

### DATA, METHODS, AND STATISTICAL MODELS

#### Design and Sample

This study is a secondary analysis of data obtained from the Iowa Department of Corrections (IDOC) data base from January 2005 through January 2009. The research design was quasi-experimental with a non-equivalent control group; four offender groups were compared. One group consisted of prisoners who completed educational or vocational programming in prison. The second group consisted of prisoners who did not complete educational or vocational programming in prison. The third group consisted of offenders with a diagnosed mental illness. The fourth group consisted of offenders without a mental illness. The issue of selection was dealt with statistically by controlling for criminal history, violence, time on work release, time served in prison, prior incarcerations, and demographic factors, among others described below. The offenders were followed a minimum of 12 months and up to 4 years after release from prison onto parole.

#### Data Collection Procedures and Human

##### Subjects Approval

Data were compiled by Research Director Lettie Prell from the Iowa Department of Corrections (IDOC). She extracted data from several sources, including the Iowa Corrections Offender Network (ICON) and Iowa Courts Online and created multiple data files for each of my variables (e.g., convictions, employment, programming, demographic information, prior prison programming, release dates). Next, I aggregated and merged all the files into one base file that I used to conduct my analyses. I accomplished merging the data by matching the offender identification numbers in each file. For files with multiple rows for the same individual, aggregation by offender was used prior to merging.

The study was approved by the University of Iowa's Human Subjects Institutional Review Board (IRB) in December 2009 (see Appendix A). I submitted a modification to my IRB application because of the change in my committee chair in January 2010. There was little risk to the participants in this study because I used a secondary dataset. The offenders in the data were assigned state numbers to which the public does not have access. However, correctional employees have access to offenders' state numbers and are allowed full access to offender data through the ICON correctional data base. Because I am a correctional employee, I have full access to offender data. However, to protect the data and identifying information, Lettie Prell de-identified the data before releasing it to me to protect the mental health data as much as possible. She assigned offenders new identification numbers in place of their ICON (state number), which prevented me and other correctional employees from identifying the offenders in the sample. Furthermore, names, addresses, social security numbers, driver's license information, and birth month were not included in the dataset. De-identifying the data resulted in low risk for identification of offenders and their information. All data and paperwork were locked in a file cabinet in a locked office at my residence to which I have the only key,. I conducted data analyses on the University of Iowa's School of Social Work computer in North Hall. Data files on the computer were protected with my username and password. Additionally, the University of Iowa's firewall protection prevents others from having unauthorized access to data placed on the hard drive. My methodologist, University of Iowa Professor Robert Baller, had access to my data as well as my chair, University of Iowa Professor Jeanne Saunders. When I have completed my dissertation, I will delete all computer files containing participant data.

### Participants

The sample consisted of adult males who were arrested and sentenced for committing crimes in the state of Iowa and were incarcerated at Fort Dodge, Clarinda, Rockwell City, Mt. Pleasant, and Newton correctional institutions, the five largest



releasing prisons in the state. These institutions were selected because they not only are the largest releasing facilities but also offer the majority of vocational and educational programming to offenders.

Only males were used in the sample for several reasons. First, males comprised the largest proportion of prisoners (78%; Iowa Department of Corrections, 2009). Second, males were 14 times more likely than women to be incarcerated. Their rate of incarceration was 939 men per 100,000 males, compared to 67 women per 100,000 females (Bureau of Justice Statistics, 2006). Third, males were more likely to be rearrested (68.4%) than females (57.6%; Bureau of Justice Statistics, 1999). Fourth, there was only one female correctional institution in Iowa and it offered minimal vocational programming, a key variable in this study. Unfortunately, Iowa prisons continue to be designed for males as reflected in the stereotypical programming that is offered to males and not to females.

In addition to males sentenced in Iowa to the five largest releasing institutions, the sample consisted of males who were incarcerated as early as January 1, 2005, and released onto parole as late as January 1, 2009. The participants were followed for a minimum of 12 months on parole. Some offenders were released onto a work release program (i.e., minimum security residential facility operated by correctional staff) and later were released onto parole. Offenders who died or absconded during the period of incarceration or parole were excluded from the sample.

This sample is not generalizable to all offenders released from prison. The sample was limited to offenders released from prison who were male, on parole, and sentenced to Iowa prisons, and offenders who had not absconded from parole. This makes it difficult to generalize to females, probationers, offenders from other states and countries, absconders, and offenders who have discharged their sentence from prison. However, the participants in this analysis are believed to be similar to the general prison population across the country. The benefits of using the sample/data were that the

sample size was large (N=3,426), and the data included compelling measures of mental health, recidivism, program completion, and criminal history that were not included in other studies of this population. Approximately 39% of the sample had a diagnosed mental illness that included Axis I or II diagnoses. Prior to fiscal year 2005, the collection of mental health data was incomplete; therefore, I selected fiscal year 2005 when mental health data collections had improved.

The sample consisted of 3,426 offenders. Offenders in the sample were released from Clarinda Correctional facility (n = 694), Fort Dodge Correctional Facility (n = 695), Mount Pleasant Correctional Facility (n = 639), North Central Correctional Facility (n = 681), and Newton Correctional Facility (n = 715). The sample's race composition was 75% Whites, 3.8% White Hispanics, 19.3% African Americans, .5% Asian non-Hispanics, and 1.4% Native American non-Hispanics (see Table 1). The age range was 19-78 years of age; the mean age was 36 years. The mean level of education was 11.5 years. Thirty-two percent (n=1,222) of the offenders participated in vocational programming (18% vocational training and 14% employment services), and 17% (n=564) offenders participated in educational programming (15.2% GED and 1.3% college). A complete list of descriptive measures can be found in Table 1.

### Measures

#### Dependent Variables

The five dependent variables were full-time employment, length of employment, recidivism, program completion, and enrollment/completion of school upon reentry.

#### Full-time Employment

An offender was considered working *full-time* if his job status was labeled full-time in the data. Full-time employment was coded as 1 (1=job status was full-time employment), and all other types of job status were coded as 0 (0=part-time, seasonal, spot job, unemployed). In other words, the presence of full-time work, no matter how long lasting, resulted in a participant's receiving a 1 on this outcome.

### Employment Length

The dependent variable *employment length* was measured by the total number of days worked since release in any type of paid employment. If offenders were currently working at a job when the data were extracted, their end date would be February 26, 2010.

**Table 1. Descriptive Statistics**

	%	Minimum	Maximum	Mean	SD
<b>Dependent Variables</b>					
Length of employment (days)		0	3276	452.09	463.53
Fulltime employment	74.6				
Time to recidivism (days)		3	365	338.82	70.99
Recidivism	16.2				
Reentry school enroll/completion	2.2				
<b>Independent Variables</b>					
Mental health diagnosis	39				
Mental illness-psychotic	%	0	3	.08	.31
Prior violent history	%				
Time on work release (days)		0	349	38.07	60.72
Time served in prison (months)		6.01	51.99	15.32	7.60
Prior adult convictions	%	0	97	7.12	7.33
Prior incarcerations	%				
Age		19	78	35.80	9.72
<b>Race</b>					
White Hispanic	3.8				
African Americans	19.6				
Asian non-Hispanic	.5				
Native American non-Hispanic	1.4				
Level of education prior to prison		2	18	11.51	.97
<b>Programming</b>					
Vocational training	18	0	6	.27	.69
Institutional college classes	1.3	0	4	.02	.24
Institutional GED classes	15.2	0	2	.15	.37
Institutional employment classes	13.6	0	3	.15	.39

*Note:* Vocational training, college courses, and employment classes refer to programs completed.

## Recidivism

I chose reconvictions as a measure of *recidivism* for two reasons. First, the IDOC currently measures recidivism by reconvictions. I measured recidivism the same way to be consistent with the IDOC's measure of recidivism as conviction (e.g., aggravated or serious misdemeanor and felonies). Additionally, offenders who return to the supervision of IDOC for new crimes are considered recidivists. This definition of recidivism excluded the lesser offenses and focused on the more serious offenses. Offenders who had been arrested but not convicted because of the length of time for court procedures were not counted as recidivists because all were considered not guilty. Court procedures can take from 1 day to 18 months depending on the type of crime, court dockets, and continuances. I also chose to measure recidivism using reconvictions because Maltz (1984) argued the importance of arrest being followed by a conviction before it can be an indicator of behavior. Hence, an individual should be considered innocent until found guilty. Many arrest charges are dropped or individuals found not guilty because there is a lack of evidence, a witness changes statements, a police officer fails to show up for court, a county attorney drops charges, or new evidence is brought to light. Furthermore, Maltz (1984) argued against using raw arrest data because the standard of arrest is less rigorous than the standard of conviction.

The dependent variable, recidivism, was coded 1 if convicted crime code in the data set equaled felonies A, B, C, D, enhancement to original penalty, mandatory minimum, and aggravated and serious misdemeanors, and was coded 0 if no new convictions occurred, the convicted crime was for a simple misdemeanor, traffic offense, or the reconvictions did not lead to supervision by the IDOC. Most studies follow offenders for 1 year because recidivism is the highest in the first year of release. I followed this convention in my analyses.

*Time to recidivism* was measured in days by subtracting the new offense date from the prison release date. For those who were not convicted again during the first

year of release, the time to recidivism variable was set to 365. Furthermore, when I requested the dataset from Lettie Prell, I gave her my parameters for measuring recidivism (e.g., time out after release, reconvictions). She created a separate file called “reconvictions” in which she had already calculated offenders who had been out 12 months or less who were reconvicted. I confirmed her measures by recalculating the offender’s release date to offense date by subtracting the difference between the two dates.

#### Institutional Program Completion

The next dependent variable was *program completion*. Institutional programming included the following programs: vocational training, employment services (see Appendix B), GED, college programs, and the sum of all programs mentioned above (see Appendix C). For each type of program, an offender’s completion of programming was coded as 1 (1=completed requirements, sentence discharged/terminated, case manager discretion, transferred to different location) and was coded as 0 if the offender unsuccessfully completed programming (0=not admitted, noncompliant/behavioral issues, ineligible to attend, referred to alternative interventions, inappropriate referral).

#### Educational Enrollment and Completion in Reentry

The final dependent variable was *enrollment and completion of educational programs* upon reentry. The types of programs were GED, vocational, and college courses (see Table 1). For each type of programming, an offender’s enrollment and completion of programming was coded as 1 (1=completed requirements, case manager discretion, sentence discharged/terminated, transferred to different location, or reflects enrollment—had no closure type with a date the data was extracted [February 26, 2010]), and an offender was coded as 0 if he did not fit the descriptions (0=did not enroll and/or complete school upon reentry, revoked, noncompliant/behavioral issues, death, jail, ineligible to attend, referred to alternative interventions, not admitted, absconded or escaped, and inappropriate referral).

### Independent Variables

When offenders enter prison, they proceed through a classification center where they are screened for mental illness and service needs. Upon intake into prison, offenders' needs are assessed using the Level of Service Inventory Revised (LSI-R) (Andrews & Bonta, 1995). Staff members can conduct the LSI-R after they have attended training and are certified to use the tool. The LSI-R identifies offenders' need areas and levels of risk for recidivism. The LSI-R needs assessment includes emotional and personal, mental health, substance abuse, housing, attitudes and orientation, financial, family and marital, and employment and education. The LSI-R has been a validated instrument and proven to have good interrater reliability and predictive validities (Gendreau, Goggin, & Smith, 2002).

Offenders are assessed and diagnosed for mental illness by one of several master's level clinical psychologists. The initial mental health-screening instrument is the Modified Mini Screen (MMS; Sheehan et al., 1998). It is a 22-item scale designed to identify individuals in need of an assessment in the domains of Mood Disorders, Anxiety Disorders, Psychotic Disorders, and substance abuse/dependence disorders. The MMS can identify offenders who have co-occurring disorders (mental illness and substance abuse/dependence disorder). The questions are based on gateway questions and threshold criteria found in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR, 2000), the Structured Clinical Interview for Diagnosis, and the Mini International Neuropsychiatric Interview. However, no specific diagnosis is inferred at this point. It is the responsibility of the psychiatric unit at the classification center to determine the score that will trigger a referral for a complete psychiatric assessment. After a referral has been initiated, the clinician uses the DSM-IV-TR as the diagnostic tool (American Psychiatric Association, 2000). The diagnosis is specified by type of mental illness.

When assessments are completed, offenders are assigned to counselors who examine their needs using the LSI-R and clinical recommendations. Offenders are required to participate in adult literacy programs if they cannot read above a sixth-grade level, and they are required to complete their GED while incarcerated. However, some offenders refuse to participate in educational programming. Participation in vocational programming is voluntary. Prison counselors can recommend specific types of vocational training and programming but cannot require offenders to participate. Mental health treatment is recommended; however, offenders can refuse treatment. The refusal may negatively impact their parole date from prison. None of the institutions in this study excluded mentally ill offenders from prison programming. Data for three variables were based on this assessment process: *violence, prior incarcerations, and prior criminal convictions.*

#### Mental Illness

*Mental illness* was measured as a dichotomous variable. If offenders were diagnosed with an anxiety, general anxiety and panic disorder, bipolar, depression and major depressive disorders, psychosis, schizophrenia, dementia/organic disorders, developmental disabilities, dysthymia/neurotic depression, other adjustment disorders, sexual disorders/paraphilia, sleep movement and eating disorders, somatization disorders, post traumatic stress disorder, personality disorders, substance use disorder, and impulse control, they were coded as 1 (see Appendix D for descriptions of each mental illness category). Offenders who were not diagnosed with a mental illness were coded as 0. The number of diagnoses was considered as an alternative measure; however, the number of diagnoses and presence/absence measures performed similarly in preliminary analyses.

#### Prior Violent History

The variable, *violence*, was measured using the LSI-R (Andrews & Bonta, 1995). The LSI-R, as noted above, is conducted during intake in prison. During the assessment, the offender is asked a series of questions regarding level of violence. The information

received from the offender can be self-reported and is validated by records. To be considered violent, an offender may have any of the following: both juvenile and adult history of violence and recorded incidents of violent behavior where intent to harm, threaten, coerce, or intimidate, by whatever means, was demonstrated. Convictions were not necessary. School records, military incidents, institutional behavior and offender admission that met the above criteria were counted as violence. Additionally, vehicular manslaughter was counted as violence (Andrews & Bonta, 1992). The violence variable was recoded into a dichotomous variable. The offender was coded as 1 if he received a “yes” to the violence questions and was coded as 0 if he received a “no” to the violence questions.

#### Work Release

Some offenders were paroled onto *work release* and field supervision. Residential release occurs when offenders are released from the institution into a minimum security facility where they temporarily live and are monitored daily. Offenders work with a parole agent who case plans and assists them with needed services. Offenders are considered released into the field when they live in their communities and report to a parole agent on a regular basis. Field services include monitoring in the community, case planning, and connection to needed services. Because of the differences in these two types of parole supervision, I controlled for offenders who were released from the institution to work release. I created a work release variable that calculated the difference between the offenders’ prison release date and their release from work release onto field parole. This variable ranged from 0 to 349 and was measured in days.

#### Time Served

*Time served* was measured by the total number of months an offender was incarcerated during his most recent prison stay.



### Prior Adult Convictions

The LSI-R assesses the number of offenses to which the offender has pleaded guilty and the offenses for which he is under supervision at the time of incarceration. The LSI-R interviewer records the number of charges on the assessment tool. The offenses are verified by the criminal and court records. The number recorded on the assessment was used in the analyses.

### Prior Incarcerations

The LSI-R assesses the number of *prior incarcerations*. In the assessment, the offender answered "yes" or "no" to any prior incarcerations. The prior incarceration answer was recoded from "yes" on the assessment to a value of 1 for the analysis if the offender had ever been in an institution as an adult or juvenile, in any county jail (as long as it was for conviction), and in residential placement for operating while intoxicated (OWI) sentence, and any juvenile placements that were a result of a delinquency petition only (Andrews & Bonta, 1992). The answer "no" on the assessment was recoded to a value of 0 if the offender did not meet the criteria for prior incarcerations

### Age

*Age* was converted into years. I calculated the difference between the birth year and the extraction of the data (February 26, 2010).

### Race

A series of four dummy variables were created for *race* with White non-Hispanics being the reference category (=1). The dummy variables referred to White Hispanics, all African Americans, all Asian and Pacific Islanders, and all Native Americans (=0).

### Level of Education Prior to Prison

*Educational level* was measured as highest level of education completed prior to incarceration. Education was recoded as no diploma or certificate=0, first=1, second=2, third=3, fourth=4, fifth=5, sixth=6, seventh=7, eighth=8, ninth=9, tenth=10, eleventh=11, GED=11.5, High School Diploma=12, special education diploma=12, technical

training=12.5, freshman level of college=13, sophomore level of college or Associate's degree=14, junior level of college=15, Bachelor's degree=16, Master's degree=18, or Unknown=999.

#### Control for Prior Programming

The history of *completing prison programming* either in the most recent prison stay or in a prior stay in the study period was measured via count variables. For any program completion, the offender received 1 count. If an offender completed one program, he was scored as 1; if he completed each program, he was assigned a 4. The areas of programming captured by these variables were vocational training, employment services, institutional college, and institutional GED.

#### Vocational Training

The *vocational training* variable included certificate and training programs, Iowa Prison Industries, and private sector work (see Appendix B). In one of the largest prison studies, Saylor and Gaes (1996) followed 7,000 individuals and measured vocational training as industrial work, in-prison vocational training, and vocational programs. In this study, vocational training refers to certificate and training programs that included carpentry, electrical wiring and maintenance, welding, and college vocational technical classes. Iowa Prison Industries and private sector included welding, woodworking, carpentry, screen printing, metal fabrication, assembly, manufacturing, and cell construction. Vocational training was measured as a count variable for which successful completion (+1) included the following program closure types: completed requirements, sentence discharged or terminated, case manager discretion, released from institution, job change, reclassified, transferred to another institution, and medical. Unsuccessful completion (+0) included those who did not participate in programming and the following closure types: did not participate in programming, unsatisfactory work performance, placed in segregation, noncompliant/behavioral issues, not admitted, ineligible to attend, and inappropriate referral.

### Employment Services

The *employment services* variable included classroom activities that prepare offenders for work, such as how to fill out applications, interviewing skills, grooming, career assessments, and answering the criminal history question (see Appendix B). The employment services variable was measured as a count variable for which successful completion (+1) included the following program closure types: completed requirements, sentence discharged or terminated, case manager discretion, released from institution, and transferred to another institution. Unsuccessful completion (+0) included those who did not participate in programming and the following program closure types: noncompliant/behavioral issues, not admitted, ineligible to attend, and inappropriate referral, or if the offender was placed in segregation.

### Institutional GED Programs

The *GED* variable was measured as a dichotomous variable (see Appendix C). If the offender completed the program, he was coded as 1 (1=completed requirements sentence discharged or terminated, case manager discretion, released from institution, transferred to another institution); unsuccessful completion was coded as 0 (0=if he did not complete programming, noncompliant/behavioral issues, not admitted, ineligible to attend, and inappropriate referral, or if the offender was placed in segregation).

### Institutional College Programs

*College classes* were offered in a variety of subjects and different institutions (see Appendix C). College classes were measured as a count variable for which successful completion (+1) included the following program closure types: completed requirements, sentence discharged or terminated, case manager discretion, released from institution, and transferred to another institution. Unsuccessful completion (+0) included those who did not participate in programming and the following program closure types: noncompliant/behavioral issues, not admitted, ineligible to attend, and inappropriate referral, or if the offender was placed in segregation.

### Data Analysis Procedures

Some preliminary bivariate analyses were conducted to assess multicollinearity among independent variables. None of the bivariate relationships was considered strong enough to produce multicollinearity. Bivariate correlations were typically smaller than .3 in absolute value.

### Missing Data

I examined these data for missing data. There were few missing data because Lettie Prell extracted the data for each variable of interest. Moreover, Lettie assured that the data were very clean because of the ongoing activities of staff who conducted quality assurance and clean-up when errors were detected. However, level of education prior to prison was missing some values. Missing values were filled via mean substitution with a dummy variable control added to all models that included education.

### Multivariate Analysis

Cox hazard regression was used to examine the effect of the independent variables of vocational programming (vocational training, employment services) and educational programming (institutional GED and college courses) on the likelihood of recidivism. Additionally, I used a Cox regression to examine the effect of my independent variable, mental illness, on the likelihood of recidivism. The final Cox regressions included interaction terms involving mental illness and each vocational program (vocational training, employment services) and educational program (institutional GED and college courses). Odds ratio gives the reader a sense of the relative impact of the significant independent variables.

I created regression models to examine the effect of the independent variables vocational programming (vocational training, employment services) and educational programming (institutional GED and college courses) on length of employment. Additionally, I used a regression model to examine the effect of mental illness on length of employment. The final regression models examined the interaction between mental

illness and each vocational program (vocational training, employment services) and educational program (institutional GED, and college courses) on the length of employment. Standardized beta coefficients give the reader a sense of the relative impact of the significant variables.

A series of logistic regression models were used to test some of the hypothesized relationships. Logistic regression was used to model the effects of the independent variables of vocational programming (vocational training, employment services) and educational programming (institutional GED and college courses) on full-time employment. I created a second model using the effects of the independent variables of vocational programming (vocational training, employment services) and educational programming (institutional GED, and enrollment in college courses) on the likelihood of enrollment and completion of educational programs upon reentry. My third logistic regression model examined the effect of the independent variable, mental illness, on the likelihood of enrollment and completion of educational programs upon reentry. The fourth logistic model examined the effect of mental illness on full-time employment. My final logistic models identified the effect of the interactions of mental illness and each vocational program (vocational training, employment services) and educational program (institutional GED, and college course) on the likelihood of full-time employment, and enrollment and completion of educational programs upon reentry. Odds ratios give the reader a sense of the relative impact of the significant independent variables.

I used negative binomial regression to model count dependent variables. Specifically, the effects of mental illness on the count of vocational programming (vocational training, employment services) and educational programming (institutional GED and college courses) completions were the focus. As is true of the Cox- and logistic-regression models, odds ratios computed from negative binomial coefficients give the reader a sense of the relative impact of the significant independent variables.

## CHAPTER IV

### RESULTS

#### Bivariate Analyses

Bivariate analyses among all variables (see Table 1) were conducted to test for multicollinearity. Bivariate correlations were inspected and none were above .4 in absolute values. No evidence of serious multicollinearity was found, and the significant bivariate relationships are noted in the tables. Because the bivariate relationships were not meaningful to test the hypotheses, they are not reported in detail. Multivariate models were used to test the hypotheses and are reported in detail below.

#### Multivariate Analyses

I conducted multivariate analyses to test my hypotheses. My models controlled for criminal history, age, race, violence, prior incarcerations, and level of education. Full tables are displayed in Appendix E.

#### Main Effects of Prison Programming

##### Research Question 1

To what extent do educational and vocational programs during prison reduce recidivism and improve reentry success in employment and education?

Hypothesis 1.1. The first hypothesis stated that offenders who complete educational or vocational programs will have higher employment rates than offenders who do not complete programming. This was tested by using a logistic regression of the presence of full-time employment after prison comparing odds ratios of vocational training, employment services, institutional college, and institutional GED to determine if the odds ratio was greater for those who completed in each program relative to offenders who did not. Table 2 shows that vocational training had a significant effect on full-time employment at the .01 level. According to the table, the odds ratio for vocational training (1.187) indicated that a one unit increase in vocational program completion increased the odds of full-time employment by roughly 19%. This is consistent with my hypothesis.

Employment services, institutional college, and GED were not significantly related to full-time employment.

**Table 2. Logistic Regression of Programs Predicting Full-time Employment**

Predictors	Model 1	Model 2	Model 3	Model 4
Vocational Training	.171** (.074) [1.187]			
Employment Services		-.053 (.108) [.949]		
Institutional College			.021 (.202) [1.021]	
Institutional GED				.079 (.120) [1.083]

*Note:* See full models in Appendix E, Table E1. In results reported, top line is *b* coefficient, second line is standard error, third line is Exp(B). All four models exhibited significance at the .000 level based on Chi-Square.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

The aforementioned result led me to consider that an indirect effect may exist in the data that runs from completion of vocational training to recidivism through full-time employment. Table 3 shows that full-time employment had a significant negative effect on recidivism at the .01 level. The odds ratio of that effect was .753, meaning that the hazard, or chances of recidivism in the next time period, was 25% less for offenders who had full-time employment than offenders who did not have full-time employment. The

results in Tables 2 and 3 point to a significant, indirect effect that runs from vocational training to recidivism via full-time employment.

**Table 3. Cox Hazard Regression of Full-time Employment Predicting Recidivism**

Predictors	Model 1
Full-time employment	-.284** (.098) [.753]

*Note:* See full models in Appendix E, Table E2. In results reported, top line is b coefficient, second line is standard error, and third line is odds ratio. The model exhibited significance at the .000 level based on a chi-square.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

Hypothesis 1.2. The second hypothesis stated that offenders who complete educational or vocational programs will have increased lengths of employment compared to offenders who do not complete programming. This was tested using an ordinary least squares regression on the effect of educational and vocational programs on length of employment. Table 4 shows that vocational training had a significant effect on length of employment. The unstandardized coefficient indicated that length of employment in days increased by 19 for vocational training. This is partially consistent with my hypothesis. Based on the results displayed in Table 4, employment services, institutional college, and GED were not significantly related to length of employment.



**Table 4. Regression of Programming Predicting Length of Employment**

Predictors	Model 1	Model 2	Model 3	Model 4
Vocational Training	19.290* (11.614) [.029]			
Employment Services		-12.273 (19.886) [-.011]		
Institutional College			32.113 (32.302) [.017]	
Institutional GED				-45.722 (21.695) [-.037]
R <sup>2</sup>	.052	.052	.053	.053

*Note:* See full models in Appendix E, Table E3. In results reported, top line is *b* coefficient, second line is standard error, and third line is *Beta*. All four models exhibited significance at the .000 level based on *F* tests.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

Hypothesis 1.3. The third hypothesis stated that offenders who completed educational or vocational programs will have higher school enrollments and completions after prison than offenders who do not complete programming. This was tested using a logistic regression of educational enrollment and completion comparing odds ratios of vocational training, employment services, institutional college, and institutional GED to determine if the odds ratio was greater for those who participated in each program. Based on the results displayed in Table 5, there was no significant effect of any prison programs on school enrollments and completions. My hypothesis was not supported. However, completing GED programming in the institution had a significant effect on school enrollments and completions with a negative coefficient (-1.174) in the opposite direction

of my hypothesis. Thus, if offenders completed GED programming, they were less likely to participate in school enrollments and completions.

**Table 5. Logistic Regression of Vocational and Educational Programs Predicting Enrollment and Completion of School**

Predictors	Model 1	Model 2	Model 3	Model 4
Vocational Training	-.146 (.228) [.864]			
Employment Services		-.030 (.316) [.970]		
Institutional College			.428 (.278) [1.534]	
Institutional GED				-1.174 <sup>a</sup> (.526) [.309]

*Note:* See full models in Appendix E, Table E4. In results reported, top line is *b* coefficient, second line is standard error, third line is Exp(B). <sup>a</sup>Variable was significant but in opposite direction (one-tailed test). All four models exhibited significance at the .000 level based on Chi-Square.

\**p.* <.05, \*\**p.* <.01, \*\*\**p.* <.001

Hypothesis 1.4. The fourth hypothesis stated that offenders who complete vocational or educational programming will have lower recidivism rates than offenders who do not participate in programming. This was tested using a Cox regression for each program. This hypothesis was not supported by my analysis. The results displayed in Table 6 demonstrates that neither educational nor vocational programming have

significant effects on recidivism. The reader is encouraged to keep in mind the indirect effect of vocational training on recidivism shown in Tables 2 and 3.

**Table 6. Cox Regression of Vocational and Educational Programming Predicting Recidivism**

Predictors	Model 1	Model 2	Model 3	Model 4
Vocational Training	.100 (.061) [1.105]			
Employment Services		-.037 (.104) [.964]		
Institutional College			-.122 (.199) [.885]	
Institutional GED				-.013 (.114) [.987]

*Note:* Note: See full models in Appendix E, Table E5. In results reported, top line is *b* coefficient, second line is standard error, third line is Exp(B). All four models exhibited significance at the .000 level based on Chi-Square.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

### Main Effects of Mental Illness

#### Research Question 2

To what extent does mental illness impact completion of educational and employment programs in prison and employment and educational success in reentry?

Hypothesis 2.1. The first hypothesis stated that offenders with mental illness will have lower completion rates in educational and vocational programming than offenders who do not have a mental illness. A negative binomial model was used to test the effect

of mental illness on vocational training, employment services, and institutional college courses. A logistic regression was used to model completion of a GED program. Based on Table 7, mental illness had both a significant effect on both vocational training and GED completion. Vocational training had a significant effect at the .001 level, and GED completion had an effect at the .05 level. The odds ratio for vocational training was .73, indicating that program completion was 27% lower for mentally ill offenders relative to those individuals with no mental illness. Likewise, the odds ratio for GED completion was .82.

**Table 7. Negative Binomial and Logistic Regression of Mental Illness Predicting Program Completion**

Predictors	Model 1 Vocational Training	Model 2 Employment Services	Model 3 Institutional College	Model 4 Institutional GED	Model 5 Institutional Total
Mental Health Diagnosis	-.308*** (.0813) [0.7349]	.098 (.0989) [1.102]	-.227 (.2731) [0.796]	-.200* (.107) [.818]	.098 (.0989) [1.102]

*Note:* See full models in Appendix E, Table E6. In results reported, top line is *b* coefficient, second line is standard error, third line is Exp(B). All four models exhibited significance at the .000 level based on Chi-Square. In model 4 GED was tested with logistic regression.

\**p.* <.05, \*\**p.* <.01, \*\*\**p.* <.001

Hypothesis 2.2. The second hypothesis stated that offenders with mental illness will have lower employment rates than offenders who do not have a mental illness. This was tested using logistic regression that is presented in Table 8. Mental illness had a significant impact on full-time employment at the .001 level. According to the table, the odds ratio for mental illness (.645) indicated that an offender having a mental illness

decreased the odds of full-time employment by roughly 36%. This is consistent with my hypothesis.

Hypothesis 2.3. The third hypothesis stated that offenders with mental illness will have decreased lengths of employment compared to offenders who do not have a mental illness. This relationship was tested using an ordinary least squares model of length of employment. Similar to the effect on full-time employment, this model showed that mental illness was negatively related to time spent in the paid labor force. Table 8 shows that mental illness had a significant effect on length of employment at the .001 level. The unstandardized coefficient indicated that the length of employment in days decreased by 105 with the presence of a mental illness. The standardized Beta for that effect -.111 of mental illness was the strongest of the significant predictors in the model other than African American (-.130) (see Appendix E7). This is consistent with my hypothesis.

Hypothesis 2.4. The fourth hypothesis stated that offenders with mental illness will have lower school enrollments and completions than offenders without a mental illness. The relationship was tested using a negative binomial model of the number of completions and enrollments in various educational programs. Mental illness did not have a significant impact on enrollments and completions (see Table 8).

Hypothesis 2.5. The fifth hypothesis stated that offenders with mental illness will have higher recidivism rates than an offender who does not have a mental illness. The relationship was tested using a Cox regression model of recidivism (see Table 8). Mental illness had a significant impact on recidivism at the .01 level. The odds ratio for that effect was 1.24, meaning that the hazard or chances of recidivism in the next time period was 24% greater for those with mental illness compared to those without a mental health diagnosis.

**Table 8. Models of Mental Illness for Predicting Various Reentry Outcomes**

Predictors	Model 1 Full-time Employment	Model 2 Employment Length	Model 3 Educational Enrollment and Completions	Model 4 Recidivism
Mental Health Diagnosis	-.438*** (.087) [.645]	-105.001*** (16.175) [-.111]	.400 (.252) [1.492]	.215** (.088) [1.240]
R <sup>2</sup>		.051		

*Note:* See full models in Appendix E, Table E7. In results reported, top line is *b* coefficient, second line is standard error, and third line is Exp(B) except for length of employment is *Beta*. All four models exhibited significance at the .000 level based on logistic regression (full-time employment), negative binomial (education), least squares regression (length of employment), and Cox regression (recidivism).

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

#### Interaction of Mental Illness and Program Completion

##### Research Question 3

To what extent does mental illness undermine the effectiveness of educational and vocational programming in increasing the likelihood of successful reentry and reducing recidivism?

The same estimators mentioned above were used again for each outcome shown in Table 9. The beneficial effects of vocational training and earning a GED on full-time are actually greater for the mentally ill. The opposite was expected. The models of employment length, school enrollment and completion, and recidivism produced no significant effects in either direction (see Tables 10, 11, 12).

**Table 9. Logistic Regression with Interaction of Mental Illness and Programs Predicting Full-time Employment**

Predictors	Model 1	Model 2	Model 3	Model 4
Vocational Training	.066 (.089) [1.068]			
Mental health X Vocational Training	.295* <sup>a</sup> (.156) [1.343]			
Employment Services		-.121 (.140) [.886]		
Mental Health X Employment Services		.160 (.214) [1.174]		
Institutional College			.025 (.249) [1.025]	
Mental Health X Institutional College			-.012 (.423) [.988]	
Institutional GED				-.079 (.153) [.924]
Mental Health X Institutional GED				.403* <sup>a</sup> (.245) [1.497]

*Note:* See full models in Appendix E, Table E8. In results reported, top line is *b* coefficient, second line is standard error, third line is Exp(B). All four models exhibited significance at the .000 level based chi-squared test. <sup>a</sup>Variables were significant but in opposite direction (one-tailed test).

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

**Table 10. Regression with Interaction of Mental Illness and Programs Predicting Employment Length**

Predictors	Model 1	Model 2	Model 3	Model 4
Vocational Training	13.719 (14.303) [.021]			
Mental health X Vocational Training	15.435 (23.127) [.015]			
Employment Services		-31.859 (25.496) [-.027]		
Mental Health X Employment Services		48.968 (39.903) [.028]		
Institutional College			28.021 (37.264) [.015]	
Mental Health X Institutional College			16.215 (73.602) [.004]	
Institutional GED				-58.939 (26.605) [-.047]
Mental Health X Institutional GED				37.475 (43.660) [.019]
R <sup>2</sup>	.05	.05	.05	.05

*Note:* See full models in Appendix E, Table E9. In results reported, top line is b coefficient, second line is standard error, and third line is *Beta*. All four models were estimated with least squares regression and all exhibited significance at the .000 level based on *F* tests.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001



**Table 11. Negative Binomial Regression with Interaction of Mental Illness and Programs Predicting Educational Enrollments and Completions**

Predictors	Model 1	Model 2	Model 3	Model 4
Vocational Training	-.274 (.336) [.760]			
Mental Health X Vocational Training	.257 (.440) [1.294]			
Employment Services		.012 (.417) [1.012]		
Mental Health X Employment Services		-.095 (.625) [.909]		
Institutional College			.517 (.274) [1.678]	
Mental Health X Institutional College			-17.009 (7019.345) [.000]	
Institutional GED				-.951 (.611) [.387]
Mental Health X Institutional GED				-.687 (1.180) [.503]

*Note:* See full models in Appendix E, Table E10. In results reported, top line is *b* coefficient, second line is standard error, third line is Exp(B). All four models exhibited significance at the .000 level based chi-squared test.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

**Table 12. Cox Regression with Interaction of Mental Illness and Programs Predicting Recidivism**

Predictors	Model 1	Model 2	Model 3	Model 4
Vocational Training	.165 (.076) [1.179]			
Mental Health X Vocational Training	-.161 (.122) [.851]			
Employment Services		-.003 (.135) [.997]		
Mental Health X Employment Services		-.079 (.208) [.924]		
Institutional College			-.216 (.268) [.806]	
Mental Health X Institutional College			.272 (.402) [1.312]	
Institutional GED				.015 (.144) [1.016]
Mental Health X Institutional GED				-.074 (.227) [.929]

*Note:* See full models in Appendix E, Table E11. In results reported, top line is b coefficient, second line is standard error, third line is Exp(B). All four models exhibited significance at the .000 level based on Chi-Square.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

## CHAPTER V

### DISCUSSION

The purpose of this study was to develop a better understanding of how completion of prison programming impacts offenders' reentry outcomes (full-time employment, length of employment, school enrollment/completion, and recidivism) and to test the main effects of mental illness on reentry outcomes. Additionally, this study considered the extent to which mental illness undermines the benefits of prison programming. When developing the hypotheses, I reviewed the research to gain a greater insight into the factors that were related to recidivism and successful reentry. Furthermore, I examined the literature on Hirschi's social bond theory (1969) and utilized propositions of the theory to develop my hypotheses. I hypothesized that several factors (vocational training, employment services, institutional college classes, and GED classes) would lower recidivism rates and improve reentry outcomes. Additionally, I hypothesized that the main effects of mental illness would increase recidivism and reduce the likelihood of reentry success. Moreover, I hypothesized that mental illness would undermine the benefits of vocational and educational programming during reentry.

This study contributes to the research literature by controlling for numerous pre-existing factors such as age, sex, race, level of education, time on work release, prior incarcerations, prior violent history, criminal history, prior program participation, and mental illness. The control variables in this study were more extensive than those of most research studies on this topic. Furthermore, this study had the advantage of my experience working in corrections and my familiarization with the type of data that were available. I had the benefit of knowing the strengths and limitations of the data by working with the Iowa Corrections Offender Network (ICON) for over 7 years. I argued that the results of my analyses may have a significant impact for the Iowa Department of Corrections, social work practice, policy, education, and create new pathways for future research in corrections.

Of the four programs that made up prison programming in my study, vocational training was the only program that had a significant positive effect on full-time employment and length of employment. Similar outcomes were found in a large study (N=6464) of prison industries that were defined as private sector companies, industries that produced a product and required skilled craftsmanship, and welding. That study found that offenders who participated in prison industries programs were significantly more successful in post release employment and had longer lengths of employment (Smith, Bechtel, Patrick, Smith, & Wilson-Gentry, 2006). In the current study, an additional analysis was conducted that assessed the indirect effect of vocational training through employment on recidivism. The results of my analysis confirmed that chances of recidivism were less for offenders who received vocational training while in prison because they were more likely to find full-time work after prison. Vocational training may have a stronger impact on employment than other programs because the program offers immediate transferrable skills that can be applied upon release. Moreover, vocational training programs offer “real” work experience that mirrors jobs in offenders’ communities by conducting interviews, on the job training, supervisory feedback, pay, and 40-hour work weeks. Full-time employment may have reduced recidivism by engaging the offender in conventional society as mentioned earlier by Hirschi’s social bond theory.

Absent from most literature is the theoretical link between vocational and educational programs in prison and reentry outcomes. In my study, I was able to draw upon Hirschi’s (1969) social bond theory and relate it to prison programming and my outcomes. Hirschi’s social bond theory rests on the propositions that when individuals are more attached, committed, and involved in activities (work, school), they are less likely to engage in criminal behaviors. Based on my analysis, completion of vocational training significantly increased full-time employment and duration of employment, and indirectly reduced recidivism through employment. These main findings support

Hirschi's theory by demonstrating how vocational training generates full-time employment, which creates an attachment, commitment, and involvement to society, and indirectly affects criminal behavior through full-time employment. Therefore, offenders who are full-time employed or have increased tenure at their jobs may have a lower risk for criminal behavior due to the attachment, commitment, and investment they have made towards their jobs. Other research has supported that participation in educational or vocational programs may lead to instructor and employer connection and a commitment to conventional aspects of society (Wilson et al., 2000).

As noted in Chapter IV, the models of full-time employment and length of employment, and recidivism did not identify any significant relationships between employment services, college courses, and GED. The lack of relationship between these variables may have occurred for several reasons. First, employment services programs are basic level courses for offenders that offer job-seeking skills. This type of program may not have an effect on employment outcomes or recidivism because the basic nature of the course does not give offenders any new, diverse, marketable skills. Second, college courses did not have a significant impact on employment outcomes or recidivism because college courses in prison had low completion rates in my sample that may not have generated enough power in my models to identify a significant relationship. Some reasons why college courses had low completions may be due to the minimal courses offered in prison, treatment requirements that are intensive and do not allow enough time for other activities, and offenders not having the funds to pay for tuition. Third, although GED participation in the institution is strongly encouraged and perceived as an accomplishment, it may not be viewed in the competitive labor market as a strong indicator of employability. Furthermore, completing a GED in prison may no longer be seen as valuable in a competitive job market with more highly educated individuals. GED completion may no longer help offenders obtain employment and lower recidivism rates because the GED is no longer seen as valuable as it was 10 years ago. Other

reasons why prison educational programming did not have a significant impact on employment outcomes may be due to offenders having very different needs that few prisons can accommodate because of an inadequate number of programs. The quality and integrity of educational programming has suffered because of budgetary constraints.

Other reasons are cited in the literature; for example, among the offenders who receive educational programming, the quality of the programs may be poor because of low staff-to-offender ratios (Lawrence, Mears, Dubin, & Travis, 2002). Moreover, the lack of completion of institutional education classes may be due to factors at the individual level. Some offenders may have a poor academic history, may be frustrated with the educational system, have learning disabilities, or have little confidence in their abilities to do well. According to the research conducted by Management and Training Corporation (2003), individual level factors may get in the way of offenders completing educational programs and reaping the benefits of such programs upon release. Specific factors included failing at school, apathy as learners, emotional and drug problems, a history of violence, and low self-esteem.

There were no significant effects of completion of prison programming on school enrollment and completion during reentry in this study. The fact that few offenders enrolled or completed after release in this sample may have accounted for the null effects. Low enrollment and completion rates may be due to the high number of interventions an offender is required to assume once released, such as substance abuse treatment, anger management, mental health treatment, batterer's education, Alcoholics Anonymous, and victim impact classes. Similarly, offenders may not have time to engage in school activities until they complete treatment interventions or have the financial resources to participate. Many offenders do not have the necessary financial means to pay for their education because they owe fines, restitution, treatment fees, and child support. Moreover, many offenders cannot supplement tuition cost because they do not qualify for educational grants due to having a criminal background.

The most powerful and exciting findings were based on the mental health measures. This topic has not been extensively explored in the literature, specifically, measurement of the impact of mental illness on program completion and its interaction with prison programming on reentry outcomes. Mental illness was a potent predictor of program completion in prison, full-time employment, length of employment, and recidivism. As hypothesized, offenders with mental illness were less likely to complete vocational training and GED classes compared to offenders without a mental illness. Offenders with a mental illness may not have completed vocational training or GED programs due to the intensity of the programs (e.g., 40-hour per week vocational training programs; multiple hours per week dedicated to GED classes) and other program requirements; specifically, substance abuse and mental health treatment, and Life Skills classes. Mental illness was not related to college courses and employment services completion, possibly because college courses and employment service classes are less strenuous and more time is allowed for the offender to complete them. Therefore, offenders with mental illness can complete these programs with fewer time constraints so they can fulfill treatment obligations.

Also, consistent with my hypothesis was that mentally ill offenders were significantly less likely to have full-time employment and more likely to work fewer days upon reentry than offenders without a mental illness. Mentally ill offenders may have difficulty maintaining full-time employment because of their difficulties managing their illnesses. Moreover, they may have difficulty sustaining employment due to treatment obligations, side effects of their medications, and reduced confidence in their ability to work. The results also demonstrated that an offender with a mental illness is more likely to recidivate than an offender without a mental illness. Mentally ill offenders may engage in criminal behavior because they may be self-medicating their symptoms using illegal drugs, and making poor decisions based on feeling little control in their lives. Further support for this can be found in a large study conducted by O'Keefe and Schnell

(2007), who followed adult offenders out for 1 year and found that those with a mental illness had higher recidivism rates.

The analyses of the interactions between prison programming and mental illness on reentry outcomes did not generate significant effects. This may be due to the effect of mentally ill offenders actually receiving benefits of programming on reentry outcomes. If this is the case, this is a promising effect because the percentage of mentally ill offenders continues to rise throughout the correctional systems. This conclusion is supported by other findings from this analysis. Several models in the study had outcomes in the opposite direction of the hypothesis. For example, I predicted that mental illness would undermine the benefits of prison programming to reentry outcomes and it did not. However, the presence of mental illness and completion of vocational training or GED improved rates of full-time employment. Thus, instead of mental illness undermining the positive effect of vocational training, which had a significant positive effect on full-time employment, and mental illness having a negative effect on full-time employment, the interaction had a significant positive effect on full-time employment. Interestingly, in the results mentioned earlier, having a mental illness significantly decreased completion of vocational training. These results reflect the benefits of vocational training or GED programming on employment outcomes for mentally ill offenders in comparison to offenders who do not have a mental illness. The mentally ill offenders who gained new skills through programming were able to generate employment and potentially may have discovered how being engaged was better for their illnesses. Brewster and Sharp (2002) found that offenders who completed their GEDs while incarcerated gained a better chance of not committing new criminal behaviors because achieving a goal put them at a more equal level with other high school graduates when searching for a job. Recent advances in the research of mental illness and employment found that employment leads to improved outcomes and higher functioning (Leff & Warner, 2006). This relationship may be supported by social bond theory; that is, offenders who have a mental illness are



keeping engaged, involved, and attached to their community through full-time employment. Research (Angell & Test, 2002; Bond, 2001; Casper & Fishbein, 2002) has found that individuals who participated in vocational rehabilitation were more likely to engage in activities with friends and family, to perform well in social roles, to obtain a drivers license, to take their medications, and to drink less alcohol. Moreover, these studies demonstrated that participation in vocational rehabilitation or having employment reduced psychiatric hospital admissions, decreases of symptoms, and improvement in self-esteem (Angell & Test, 2002; Bond, 2001; Casper & Fishbein, 2002). Other possible reasons for positive outcomes for mentally ill offenders may be due to the recent new reentry initiatives in the State of Iowa that include preplanned release. In the past year a team has been formed to create policy and procedure for offenders returning to their communities from prison; however, during this study no formal procedures were being used to assist in offender reentry. Some prisons and districts were making better efforts to assist in offender transition; however, it has not been consistently practiced statewide. Unfortunately in Iowa, there has been a history of fragmentation in services when offenders are released from prison and reenter society. Many offenders have issues with finding service providers, running out of medication, and have unstable housing. IDOC reentry efforts have markedly improved the transition for mentally ill offenders from the institution to parole.

The results of the study imply that there are significant relationships among some of my hypotheses. The most potent and influential variables were the effects of vocational training and mental illness on reentry outcomes. All other programs (GED, college courses, and employment services) had no significant impact on reentry outcomes except for the interaction between mental illness and participation in GED increasing full-time employment. The findings are mostly consistent with the literature on the relationship between vocational training and improved employment outcomes, and mental illness having a negative impact on reentry outcomes.

The finding that there was not a significant relationship between vocational training and recidivism was surprising. Some research has found a 20% reduction in recidivism for program participants (Bushway & Reuter, 2002). However, as noted above, many studies that test the relationship between prison programming and recidivism are hampered by methodological issues with poor controls for pre-existing differences and motivation to participate (self-selection) (Bushway & Reuter, 2002). Because vocational training had a significant effect on full-time employment, and full-time employment reduced recidivism, the indirect effect of vocational training on recidivism was captured in this analysis through employment. Additionally, I did not expect to discover the interaction was positive and significant between mental illness and vocational training on full-time employment. I predicted mental illness would undermine the positive effects of vocational training because of the unstable nature of many mental illnesses. Stress caused by employment or enrollment in school could induce or make symptoms worse in some cases. As discussed earlier, social bond theory can support this dynamic relationship between mental illness, vocational training, full-time employment, and recidivism. Employment can constitute an integrated framework of values, such as self-maintenance, work, play, and recreational activities that connect offenders with mental illness to conventional society (Lindstedt, Ivarsson, & Soderlund, 2006). Moreover, I was surprised that completion of college courses in prison did not increase reentry outcomes such as full-time employment, length of employment, and educational enrollment and completion. As noted above, this may be due to the high number of interventions an offender is required to complete once released. Some of these activities may include substance abuse treatment, mental health treatment, anger management classes, batterer's education, Alcoholics Anonymous, and victim impact classes.

The literature on the effects of prison programming and mental illness on reentry outcomes is not conclusive and needs further examination. In the literature, numerous studies found that prison programming reduced recidivism and improved reentry

outcomes for offenders in general. However, there is sufficient literature that does not support the positive relationship between prison programming and reentry outcomes (Piehl, 1995), whereas some researchers concluded that the evidence was mixed (MacKenzie & Hickman, 1998). I fully expected there to be a strong relationship between prison programming and reentry outcomes because prison programming has demonstrated increases in employment rates and reductions in recidivism. Furthermore, the relationship between crime and unemployment has been consistently researched over the last 60 years and has found a link between lack of employment and crime (Bouffard, MacKenzie, & Hickman, 2000). The lack of relationship may be due to several reasons. First, prison programming has been scaled down for the past 15 years and the integrity of programs has not been a priority. This means that there are fewer programs being offered, and if they are available, it is with minimal staff and resources. Second, some of the work assignments in the prison, Iowa Prison Industries, and private sector may not be offering skills that can be translated into the labor market for full-time employment (e.g., making bars of soap or license plates). More research needs to be conducted on the relationship between specific types (e.g., woodworking, furniture making, welding, and fabrication) of prison programming and the effect on reentry outcomes.

#### Limitations

The data were collected from the IDOC. It is difficult to generalize these results to corrections programming outside of Iowa. Many programs outside Iowa may conduct their programs differently. It is difficult to establish consistency across programming even in the same state. The results found a positive impact on vocational training; however, readers should be cautioned that the results may not be generalizable to other states across the country.

In this study, not being able to control for self-selection (motivation to participate) presents limitations for the results. Offenders may be motivated to select into prison programming for a variety of reasons. Offenders may be intrinsically motivated to select

into programming and may have better reentry outcomes because they are more motivated than other offenders in the study who did not participate. Other factors relating to self-selection may be that offenders are motivated to participate in programming to obtain early release from the Parole board and desire to gain extra privileges or earnings during incarceration. Other unmeasured selection factors that may have an impact on participating in programming are perceived ability (physically and/or mentally) to participate, inaccurate perception of possible release date (offender believes he is going to get out sooner than later), hostility towards prison staff, disdain for prison industries (prison's profit from offender work), having other commitments (groups, family visits, recreational activities), and perceiving vocational programming as worthless or below their capabilities.

As noted above, there are threats to the internal validity because of unmeasured, causally prior variables, specifically self-selection. Many studies have examined prison programming and its impact on reentry outcomes while attempting to improve the problem of self-selection by controlling for stable pretest attributes such as age, race, criminal history, and educational level. Because motivation is difficult to measure, controlling for as many attributes as possible helps to improve internal validity. I controlled for several pretest attributes including age, race, criminal history, educational level, prior incarceration, work release, violence, and prior prison programming. These statistical controls reduce concerns over selection but do not fully eliminate them. Another unmeasured variable that could potentially impact the results is participation in other programs that incorporate cognitive-behavioral techniques. Research has found prison programming with cognitive-behavioral components can be beneficial for offenders. The positive results of vocational training on reentry outcomes could be influenced by other cognitive-behavior based programs that the offender completed while in prison.

Other potential limitations are that new reentry initiatives are being used in many districts across Iowa. Reentry planning has improved and may positively impact employment rates due to better prerelease employment planning. However, reentry policy and procedure has not been implemented statewide. Informal reentry planning may be a factor in the positive outcomes of vocational training on full-time employment. Furthermore, the decreases in recidivism through employment may be impacted by improved reentry practices. Offenders are becoming increasingly more integrated into their communities through prerelease planning, and this may have a significant impact on the reduction of recidivism opposed to vocational training.

Another limitation of the study was how mental illness was measured. Mental illness was measured as the presence or absence of a diagnosed mental illness. I did not distinguish between types of mental illnesses. I only measured presence or absence of a mental illness to capture the general impact of mental illness. Although this may limit the findings because some illnesses may have greater impact on participation in programming and reentry outcomes, it creates a platform for future research. Further research should address the effects of different types of mental illnesses on programming and reentry outcomes. Another limitation of the mental health measure was not controlling for severity of the illnesses and co-occurring disorders. Some of the mentally ill offenders' outcomes may be different based on the severity of the illnesses. I was not able to capture the severity of mental illness due to the limitations of the mental health data. The IDOC has not utilized any validated instrument to measure severity. Moreover, co-occurring disorders were not identified in the data. The IDOC did not include co-occurring illnesses as a diagnosis. This is a limitation of the data; however, future research should examine the effects of severity of illness and co-occurring disorders on reentry outcomes.

Other threats to the validity of the results may be issues of discrimination and socio-economic status. Not all prison programming had a positive effect reentry

outcomes. Some offenders may have been unable to gain employment due to discrimination by employers because of a prior criminal record. Therefore, programming may have improved reentry outcomes, but the stigma and discrimination that accompanies a criminal record may reduce positive reentry outcomes. Furthermore, many offenders have low socio-economic status when released from prison which may decrease enrollment in school during reentry. In summary, factors of discrimination, stigma, and poverty were not controlled for in this study, which may impact the results of programming on reentry outcomes.

This study cannot be generalized to women in Iowa. Although women are a growing segment of the prison population, they were not included in this study. For the purpose of this study, it would be difficult to include women because their vocational training opportunities are different than those of men. Furthermore, women's reentry outcomes may be different based on gender. Some of these differences can be seen in women having higher prevalence rates of mental illness, experiencing more physical abuse, being primary care-givers, and using different types of drugs than males. Any one of these differences may impact the results between men and women. Future research should examine women's programming and reentry outcomes.

Another limitation of the study is sample size. Although the sample was large, there were not always enough program participants to confidently examine all potential interaction effects. For example, the interaction of prison educational programs and mental illness on enrollment and completion of school by race had large standard errors. Consequently, I had to reduce the race categories to White and African-American (Asian, Native American moved to reference category). Therefore, future studies may need larger sample sizes to capture the race variables and the interaction effects. Finally, using a secondary data set limited my ability to know how correctional staff defined variables such as full-time employment and program completion. Furthermore, types of intervention categories may be defined differently by correctional staff. Some staff may

think some programs are more vocational or technical in nature versus educational. However, to alleviate this issue with data entry errors on types of interventions in prison, I called the Treatment Coordinators at every institution and asked them what types of programs fell under intervention categories. While this did not control for all variance given the data set, this was a good step to gain a better understanding of program categories.

### Implications for Social Work Policy and Practice

This research study is relevant to the field of social work in general and specifically in Iowa because of the 8, 626 offenders who are incarcerated (Iowa Department of Corrections, 2010). There are 2.3 million inmates in state and federal prisons with 95% being released into their communities (Bureau of Justice Statistics, 2008). More strikingly, in 2006, 1 in every 131 U.S. residents was in custody in local, state, and federal prisons (Bureau of Justice Statistics, 2008). Consequently, working with a population of this size, correctional institutions have been seeded in a punitive framework for decades and have been a dumping ground for mentally ill individuals because of the deinstitutionalization of mental health facilities. It is imperative for social workers to be present in the capacity of correctional officers, probation/parole officers, counselors, treatment coordinators, supervisors, program administrators, and policymakers in the correctional field. As discussed earlier, the philosophy of corrections is beginning to transition back to rehabilitation. It is the responsibility of social workers to maintain the momentum of this shift and to continue to redirect correctional philosophy over time. *Evidence-based practice*, which is at the forefront of corrections, uses scientific evidence to make decisions about correctional programs and policies (MacKenzie, 2006). Social workers need to advocate for more research and the support of evidence-based practices. Moreover, social workers should be prepared to understand the research literature on programs, treatment, and reentry outcomes. My results have implications for education, policy, and practice.

### Social Work Education

Social workers need to educate offenders, correctional staff, administrators, and policymakers as well as students on the importance of addressing mental illness and the benefits of prison programming. Social work students should be exposed to and educated on how to work with adults on correctional supervision given that 2.3 million adults are incarcerated (Bureau of Justice Statistics, 2008) and 1,600 offenders are being released each day (Petersilia, 2003). Additionally, in 2006, the Bureau of Justice Statistics (2008) reported that 798, 202 adults were being supervised on parole. Whether or not students eventually work in a correctional capacity, they are likely to have indirect contact with correctional offenders when working in other agencies. It will be imperative for social work curriculum to reflect a social worker's roles and responsibilities when working in corrections and the criminal justice field. Unfortunately, few classes are offered that combine social work and criminal justice systems. Curriculum should be designed to educate social workers on policy and practice for corrections and the criminal justice system. More importantly, students should be encouraged to research correctional outcomes and create a position to move corrections toward rehabilitation versus a punitive perspective. The importance of evidence-based practice should be taught in terms of what works in corrections instead of following meager trends in the latest programming.

### Policy Implications

The results for the effects of prison programming and mental health on reentry outcomes suggest several implications for policy in Iowa. First, this study demonstrated the positive effects of vocational training on employment outcomes, which lowers recidivism and increases public safety. Considerations should be made regarding directing funds to sustain and support more programs that work as demonstrated by this study, and funds should be aimed at programs that are known to work and to incorporate proven principles of rehabilitation. Vocational programs that are not proven to benefit



offenders should be eliminated and the funds be directed to programs that improve reentry success. Many times programs are sustained because they were once a traditional way of looking at rehabilitation or they were created during a trend in corrections. Corrections no longer needs to keep programming that is not working and demonstrates very little benefit to the offender. The findings of the research point to sustaining and developing more vocational training programs. Most vocational programs suffer from inconsistent delivery of programming and lack of standardization. A standardized model of vocational training should be developed in order to deliver consistent and integral programming. This model can be diffused throughout different institutions across the state of Iowa and to prisons that do not offer vocational training. Moreover, procedures and policy should be developed to audit and evaluate all vocational programming. Furthermore, a closer examination should be conducted on all types of vocational programming offered, specifically the types of skills that are learned. The skills gained through vocational programming should reflect labor market needs and be easily transferable to the labor market. For example, many vocational programs do not match labor market demands, such as manufacturing license plates and street signs. The vocational training programs selected for this study had to incorporate skills and training, and simulate a work environment that matched closely to work found in offenders' communities. More programs should be developed that reflect labor market needs and the needs of the specific community.

The results of this study did not demonstrate the positive effects of prison educational programs on reentry outcomes. Many of the educational opportunities in prison are narrow in scope and are not diversified enough to meet the needs of the offender population. More funds should be directed towards educational programs so that they are meeting the diverse needs of the population. Programming should offer more diverse educational classes that are easily assessable and address offenders' barriers to engaging in educational programs. In an Ohio study, a survey of incoming offenders

was conducted in which offenders were asked how likely they were to participate in educational programs. More than 68% of the offenders reported that they would be very likely to participate (Petersilia, 2003). However, research has found low enrollment in such programs; for example, in 1997, the Government Accounting Office (2001) reported that only 38% of offenders participated in educational programming. Furthermore, a closer evaluation of the needs of the population should be conducted, and educational classes should be comparable to courses offered in local communities. Classes should be offered that move offenders toward a degree or certificate rather than offering classes that will not count towards a degree. The results did not demonstrate the benefits of educational programming; however, by diversifying educational programming, expanding educational programming, and offering classes for degrees, corrections may potentially improve reentry success of offenders in finding employment and reducing recidivism.

The results of my study suggest several policy implications for offenders with mental illness within prison and upon reentry. With nearly half of the Iowa prison population having a mental illness (and with similar statistics having been reported across the country), it will be imperative to identify mentally ill offenders using ongoing mental health screens and evaluations. The results indicated that offenders with a mental illness were less likely to participate in vocational training and GED programming. This may be indicative of how mental illness may impede rehabilitation. With these results, policy should include continual and regimented follow-ups for mentally ill offenders that include reassessment and readjustments to treatment plans. Moreover, an evaluation of potential institutional barriers to participation should be conducted (e.g., treatment requirements) and an allowance of flexibility in scheduling treatment and programs.

In this study, the results indicated a negative impact of mental illness on vocational training and GED completion. However, further results found a positive relationship between vocational training and mental illness on full-time employment. The

more vocational training an offender with a mental illness completes the more it reduces the negative effect of mental illness on full-time employment. Based on these results, mentally ill offenders should be encouraged to participate in vocational training. Prison administrators and coordinators should reserve openings and give offenders with mental illness the opportunity to participate and to succeed in vocational programming. Mentally ill offenders should be allowed flexibility in their treatment schedules to participate in vocational programming. More research needs to be conducted on mental health treatment in prisons in order to explore the types of treatment, the intensity, and the duration and to understand how these factors impact participation in prison programming.

The results demonstrated the negative effect of mental illness on full-time employment and decreased lengths of employment. Moreover, offenders with a mental illness were more likely to recidivate. Policies and procedures should be established to help improve reentry outcomes for offenders who have a mental illness and are preparing for release. Prison counselors in conjunction with the offender's new parole officer should initiate prerelease planning for medication, treatment, employment, and family support. A recent survey found that 65% of prisons reported helping offenders obtain mental health treatment once released (Beck & Maruschak, 2001). Most prerelease program guidelines are vague and generic, and do not offer specific time frames to complete procedures before release. Reentry procedures and policy should create seamless transitions from prison back to the community for offenders. This may include formalizing reentry procedures, such as creating policy for transitioning the offender back into the community in procedural steps and time frames. While particular attention should be paid to mentally ill offenders transitioning out of prison, other offenders should have similar reentry procedures. All offenders should be incorporated into prerelease procedures that include prerelease discussion with a prison counselor, initiating contact with a new parole officer, the prison counselor and parole officer developing a transition plan with offender, identifying barriers to reentry, establishing stable housing, the parole

officer scheduling community referrals with needed services (e.g., mental health and substance abuse treatment), and the parole officer identifying potential educational and employment opportunities before release. Furthermore, the reentry procedure should include the parole officer's gaining a greater understanding of the offender's employment and educational history. Parole officers may want to begin identifying education and employment goals with offenders prior to release. When the offender is released, the parole officer can connect the offender to workforce development or to their workforce specialist in their respective agency.

Statewide committees need to be developed to monitor consistent program delivery, improve the integrity of programs, and create new evidence-based programs and treatments. Quality assurance and auditing should be conducted on each prison and district to ensure that the delivery of programs is conducted in a consistent and integral manner. Furthermore, audit teams should focus on how corrections are implementing and delivering mental health treatment and vocational and educational programs and should expand the auditing process to include needs such as housing, substance abuse treatment, community resources, and other interventions. When the information is gathered, the audit teams can use the information to inform decision-making on policy and procedure.

Another way to apply the results to policy and procedure is disseminating the information to corrections administrators and executives. As an employee in corrections in the State of Iowa, I have an insider advantage. I know most people at the management and administrative level. I intend to share the results with the Director of Corrections, Wardens, The Board of Corrections, and all District Directors. The results can help identify what programs are demonstrating beneficial results and assist in future decision making on programming.

As social work practitioners, we have an ethical obligation to offer individuals opportunities for second chances and for change. Social workers can fulfill these obligations by expanding the quantity and quality of prison programming and mental

health treatment that research has proven will improve the quality of offenders' lives and increase public safety. At the local and state levels, social workers need to improve the interventions offered to offenders, and social work policymakers can work to sustain and implement correctional programs. Budget cuts are reducing the number of programs offered in prison and upon reentry. More research is needed to support the positive results of prison programming and develop programs that are characterized by integrity. Mental health treatment should no longer be an afterthought and should be pushed to the forefront of correctional issues. Offenders are a diverse group of individuals who have unique needs and are not homogenous; programming should depend on recognizing the diversity, needs, and risk of offender population when implementing programs. Unfortunately, a significant portion of correctional funding is distributed to control methods (e.g., incarceration, electronic monitoring, and surveillance). Redistributing funds to programs that are proven to work toward rehabilitation should be a priority. Program decisions should no longer be based on traditions, trends, and customs but on research knowledge that is proven to work.

#### Practice Implications

The results of this research are useful for case managers in several ways. Based on the positive impact of vocational training on employment outcomes, and the indirect effect on recidivism, case managers in prison should strongly encourage offenders to participate in vocational programs. The benefits of participating should be explained to the offender with the potential rewards for completing (e.g., early release, recognition, and extra privileges). In many instances, the case plan in prison includes substance abuse classes, cognitive behavior groups, work readiness classes, and adult basic education classes. Vocational training should be incorporated into the case plan during incarceration. Even though there was not a significant relationship between educational programs and reentry outcomes, it should be included in offender's case plan in prison. Research supports the relationship between educational programming and successful

reentry outcomes. Future research should continue to examine the relationship of educational programs and reentry outcomes. Furthermore, parole boards should consider the benefits of vocational programming and consider early release for offenders who successfully complete programming as a reward.

Future considerations should be made to extend vocational training to Iowa community-based corrections (CBC) (e.g., parole and probation). Vocational training in CBC can reflect similar types of programming in prison. It may be more beneficial to offer vocational training in CBC because offenders are learning to readjust to their communities while having the opportunity to work with staff, which can help troubleshoot employment issues while simultaneously reintegrating offenders into their community.

In this study, offenders with mental illness were significantly less likely to participate in vocational training and GED classes. Case managers need to pay particular attention to mental health needs and potential barriers to participation in prison programming. Some of these barriers may be at the institutional level, such as treatment conflicts. Other barriers may be at the individual level, such as low self-esteem, lack of confidence in skills, and side effects of medication. Case managers should explore potential barriers and problem solve with the offender to overcome potential barriers to participation. Furthermore, case managers should attempt to include vocational training in tandem with other treatment programs in the case plan. Many times treatment will take a priority; however, the results indicate vocational training and GED classes have a positive effect on full-time employment for mentally ill offenders.

Although mental illness had a negative impact on completion of vocational training in this study, being African American also had a negative impact on program completion. African Americans were 58% less likely to complete vocational programs than Whites. The practice implications for this finding should focus on identifying the potential barriers for why African Americans are not completing vocational

programming. Potential institutional and individual barriers should be explored. Further research should be conducted to gain a better understanding of the disparity between African Americans and Whites in completion of vocational training.

The negative impact of mental illness on reentry outcomes has several practice implications. The results indicate the negative impact of mental illness on full-time employment and length of employment. Furthermore, the results demonstrate that offenders with a mental illness are more likely to recidivate. Reentry for mentally ill offenders can be challenging and difficult. The stress and readjustment back into their communities may cause instability. Case managers will need to be vigilant in addressing potential difficulties before and after the offender is released. When working with the mentally ill in prison, social workers who practice as case managers should be addressing the mental health needs of offenders before they are released, specifically making sure that treatment services are in place in the offender's community and that the offender has enough medication until the first treatment appointment. The case manager should initiate contact with the offender's parole officer and discuss release plans and potential concerns. The case manager should create a prerelease plan that includes mental health management, employment, and educational opportunities.

Once offenders are released, case managers should assist in linking offenders to services such as mental health care, employment services, educational programs, substance abuse treatment, and other interventions. Case managers may need to focus on multiple provisions of services while assisting with employment and educational needs. Case managers will need to develop partnerships with outside agencies for mental health services, workforce development, and educational institutions. Developing these partnerships and collaborations will require case managers to develop strong relationships and communication in order to make the transition back to the community smoother for the offender. Furthermore, case managers will need to extend the typical model of case planning (e.g., substance abuse and mental health treatment, changing attitudes and

orientations) to be more inclusive with educational and employment planning. Additionally, case managers should encourage employment for mentally ill offenders and set goals for employment and education. Case managers will need to be aware of potential barriers to employment and education and be prepared to address them for mentally ill offenders. Some barriers will be external and internal; external barriers include facing stigma by employers, relatives, family, and friends, whereas internal barriers include low self-esteem, rejection, depression, anxiety, and feelings of loneliness. In essence, mentally ill offenders may deny or be denied participation in normal life, family life, employment, and social activity.

The research demonstrated the benefits of vocational training for mentally ill offenders in obtaining full-time employment. While it will be important to assist the offender with services to stabilize in the community, it will also be important to encourage and case plan for full-time employment. Research supports the benefits of full-time employment. Leff and Warner (2006) reported that mentally ill offenders who were employed had fewer hospitalizations, shorter lengths of hospitalization, higher self-esteem, and decreases in symptoms.

Practice in corrections should be based on programs that are proven to work. Practice with mentally ill offenders should be based on interventions and procedures that improve completion of prison programming and reentry outcomes. Practice with offenders should be based on respect for the data, programs based on theoretical frameworks, evaluation of programs and procedures, performance measures, and auditing.

After examining all the different types of vocational and educational programs, I identified numerous programs that were missing social learning principles and cognitive-behavioral components that research supports to be beneficial to offenders. Vocational training was effective at targeting different types of skills and trades; however, vocational training as well as other programs offered lacked components of cognitive-behavioral and



social learning principles to address deficits simultaneously. Based on a review of the research, effective programming consists of several components. The most effective practices generally match offenders' needs with program characteristics to ensure that there is a good match (Petersilia, 2003). This practice can be defined as the responsivity principle. *Responsivity* is the delivery of appropriate correctional services and programs. Appropriate service reflects three psychological principles: targeting criminogenic needs, delivering services to high risk cases, and providing styles and modes of treatment (cognitive-behavioral) that are matched with offender need and learning styles (MacKenzie, 2006). Appropriate types of services would include the use of behavioral and social learning principles of interpersonal influence, skills enhancement, and cognitive change. Many correctional institutions do not base their programs on the responsivity principles. In order for social workers to understand the responsivity principle, a review of the research and literature should be conducted. Social workers should use the responsivity principle when selecting specific types of assessments, case plans, and programs while working to develop a strategy for rehabilitation with offenders. Lipsey's meta-analysis (1992, 1995) found that treatment modality had the largest effect of 397 studies of interventions. There is no doubt that working with and treating offenders is very complex and challenging for practitioners. Each offender brings unique strengths and weaknesses into the correctional setting. It is social workers' challenge to identify these needs and respond effectively.

This study demonstrated the positive effect of vocational training on employment outcomes and the negative impact of mental illness on completing vocational programs and reentry outcomes. As mentioned earlier, social workers' case planning and levels of responsivity are essential components of offender management. Social workers should develop extensive case plans that include vocational and educational programming and mental health services if needed.

### Future Research

Social workers should expand the quality of research of prison programming and the impact of mental illness by conducting future research on the topic of correctional interventions. To accomplish this goal, social workers should advocate for private, state, and federal funding to support additional research on prison programming, mental illness, and reentry outcomes. This study demonstrated the benefits of prison programming on reentry outcomes and the issues related to mental illness and the importance of additional research. Future research should address several areas of corrections. First, research should continue to focus on vocational and educational programming. As demonstrated by the results, vocational training had a significant effect on employment outcomes and had an indirect effect on recidivism through full-time employment. These results should be replicated in other analyses with additional factors such as housing stability, specifically if prison programming increases housing stability through full-time employment or the impact of mental illness on housing stability. Moreover, researchers should examine the relationship of prison program completion and its impact on parole violations.

Research in this area also should be expanded to women in prison. Research should examine the relationship between women's participation in vocational and educational programming and reentry outcomes. Research should examine how the results may be similar or different between male and female offenders who complete programming and the impact of mental illness. Other research on female offenders may explore if gender-specific roles impact choices of types of prison programming selection and reentry outcomes due to childcare, care-taking, managing households, single parenthood, and caring for other extended family members.

Additional research should expand on measuring the effects of specific programs (e.g., welding, carpentry, electrical, woodworking) on reentry outcomes and examining the relationships between the type of prison program completed and the type of job an

offender retains once released. Other research could examine the impact of type of prison program completed on the wages earned by offenders once released.

Other research may take a qualitative approach to understanding the relationship of prison programs and reentry outcomes, specifically having the researcher spend time at each institution observing the process of screening and program selection. The researcher could conduct interviews with offenders to increase their understanding of an offender's motivation for participation. This approach may help alleviate some of the issues of self-selection. Moreover, the researcher should spend time in each program observing the interactions of offenders, staff, and the public. Interviews can be conducted with staff to obtain their impressions of programming and its benefits. Furthermore, interviews could be conducted with the public entities that provide work for the offenders. Questions may explore the benefits and issues that may arise when hiring incarcerated offenders. Conducting interviews may allow for the researcher to discover the nuances in the operation and delivery of programming. Moreover, the researcher can observe the nature and intensity of programming. Most research can measure the number of participants but fails to capture the details and nature of the programs. Moreover, the results of this study identified a disparity in race and completion of vocational programming. More qualitative research should examine race and how it impact completion. Interviews with offenders, staff, and administrators should be conducted to identify potential barriers. The researcher should observe the interactions between different races among staff, offenders, and industries employers to gain a better understanding of relationships and potential barriers. However, researchers may have difficulty accessing the offender population for interviews because they are a highly protected population for research purposes.

My research examined the impact of mental illness on program completion and reentry outcomes and found significant effects. A future study should examine if treatment improves reentry outcomes and lowers recidivism rates. Moreover, research

should test how types of mental health diagnoses (e.g., schizophrenia, major depression, anxiety disorders) may impact program participation and reentry outcomes. Other research should examine how the severity of mental illness may impact completion of programming and reentry outcomes. Additionally, research should examine whether specific treatments of mental illnesses (e.g., medication, individual therapy, group therapy) improve program completion and reentry outcomes. Future considerations for research should examine how the level of severity of mental illness impacts program participation and reentry outcomes.

### Conclusion

This research study provided initial steps in assessing the benefits of prison programming and the impact of mental illness on completion of prison programming and reentry outcomes. This study was found to support components of social bond theory, specifically attachment, involvement, and commitment through employment outcomes. More research is needed on this subject, and with continued support and practices based on research, the results can increase public safety by reducing recidivism. I recommend that researchers continue to study and improve the programming and treatment offered to offenders under correctional supervision.

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APPENDIX A  
IRB APPROVAL

**IRB ID #:** 200910711  
**To:** Beth Skinner  
**From:** IRB-02            DHHS Registration # IRB00000100,  
Univ of Iowa,        DHHS Federalwide Assurance # FWA00003007  
**Re:** Does Prisoners' Mental Illness Undermine Educational and Vocational Effectiveness?

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**Approval Date:** 11/20/09

**Next IRB Approval Due Before:** 11/20/10

**Type of Application:**

- New Project  
 Continuing Review  
 Modification  
Fetuses, Neonates

**Type of Application Review:**

- Full Board:  
Meeting Date:  
 Expedited  
  
 Exempt

**Approved for Populations:**

- Children  
 Prisoners  
 Pregnant Women,

Source of Support:

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This approval has been electronically signed by IRB Chair:  
Janet Karen Williams, PHD  
11/20/09 1510

**IRB Approval:** IRB approval indicates that this project meets the regulatory requirements for the protection of human subjects. IRB approval does not absolve the principal investigator from complying with other institutional, collegiate, or departmental policies or procedures.

**Agency Notification:** If this is a New Project or Continuing Review application and the project is funded by an external government or non-profit agency, the original HHS 310 form, "Protection of Human Subjects Assurance Identification/IRB Certification/Declaration of Exemption," has been forwarded to the UI Division of Sponsored Programs, 100 Gilmore Hall, for appropriate action. You will receive a signed copy from Sponsored Programs.

**Recruitment/Consent:** Your IRB application has been approved for recruitment of subjects not to exceed the number indicated on your application form. If you are using written informed consent, the IRB-approved and stamped Informed Consent Document(s) are attached. Please make copies from the attached "masters" for subjects to sign when agreeing to participate. The original signed Informed Consent Document should be placed in your research files. A copy of the Informed Consent Document should be given to the subject. (A copy of the *signed* Informed Consent Document should be given to the subject if your Consent contains a HIPAA authorization section.) If hospital/clinic patients are being enrolled, a copy of the signed Informed Consent Document should be placed in the subject's chart, unless a Record of Consent form was approved by the IRB.

**Continuing Review:** Federal regulations require that the IRB re-approve research projects at intervals appropriate to the degree of risk, but no less than once per year. This process is called "continuing review." Continuing review for non-exempt research is required to occur as long as the research remains active for long-term follow-up of research subjects, even when the research is permanently closed to enrollment of new subjects and all subjects have completed all research-related interventions and to occur when the remaining research activities are limited to collection of private identifiable information. Your project "expires" at 12:01 AM on the date indicated on the preceding page ("Next IRB Approval Due on or Before"). You must obtain your next IRB approval of this project on or before that expiration date. You are responsible for submitting a Continuing Review application in sufficient time for approval before the expiration date, however the HSO will send a reminder notice approximately 60 and 30 days prior to the expiration date.

**Modifications:** Any change in this research project or materials must be submitted on a Modification application to the IRB for prior review and approval, except when a change is necessary to eliminate apparent immediate hazards to subjects. The investigator is required to promptly notify the IRB of any changes made without IRB approval to eliminate apparent immediate hazards to subjects using the Modification/Update Form. Modifications requiring the prior review and approval of the IRB include but are not limited to: changing the protocol or study procedures, changing investigators or funding sources, changing the Informed Consent Document, increasing the anticipated total number of subjects from what was originally approved, or adding any new materials (e.g., letters to subjects, ads, questionnaires).

**Unanticipated Problems Involving Risks:** You must promptly report to the IRB any serious and/or unexpected adverse experience, as defined in the UI Investigator's Guide, and any other unanticipated problems involving risks to subjects or others. The Reportable Events Form (REF) should be used for reporting to the IRB.

**Audits/Record-Keeping:** Your research records may be audited at any time during or after the implementation of your project. Federal and University policies require that all research records be maintained for a period of three (3) years following the close of the research project. For research that involves drugs or devices seeking FDA approval, the research records must be kept for a period of three years after the FDA has taken final action on the marketing application.

**Additional Information:** Complete information regarding research involving human subjects at The University of Iowa is available in the "Investigator's Guide to Human Subjects Research."

Research investigators are expected to comply with these policies and procedures, and to be familiar with the University's Federalwide Assurance, the Belmont Report, 45CFR46, and other applicable regulations prior to conducting the research. These documents and IRB application and related forms are available on the Human Subjects Office website or are available by calling 335-6564.

APPENDIX B  
VOCATIONAL PROGRAMMING



**Table B1. Vocational Programming**

Program	Type of Program	Description
Vocational Training	Welding Carpentry, Electrical Maintenance Certification	The certificates are provided by Des Moines Area Community College, and Iowa Central College. Offenders must have GED. The program last between three to six months.  Math and blueprint classes are 48 hours each and welding is 60 hours.
	Iowa Prison Industries	Woodworking. Offenders make repairs and stains office furniture. Offenders are trained how to operate woodworking tools and use measurements. The positions are treated as private sector jobs. Specifically, offenders have to apply and interview for positions.
	Iowa Prison Industries	Cell construction/welding. Offenders are trained in welding skills and assembly. A welding certificate is offered that requires several months of training.
	Iowa Prison Industries	Furniture construction and assembly. Offenders are trained to construct office furniture and assemble furniture for dorms and classrooms.
	Iowa Prison Industries	Other industries include: chemicals, printing, braille, license tags, textiles, embroidery, garment printing, data entry, tourism, plastics, and signs.

**Table B1 (continued)**

Private Sector	Offenders are provided (OJT) in various sectors. Tree nursery, groundwork, gardening, packaging, screen printing, welding, electric, sandblasting, printing, telemarketing, and maintenance.
Employment Services	Learning job seeking skills. Resume writing, filling out applications, mock interviews, learning how to answer the criminal history questions, soft skills-grooming, preparing for the interview, career interest assessments, and guest speakers.

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APPENDIX C  
EDUCATIONAL PROGRAMMING

**Table C1. Educational Programming**

Program	Type of Program	Description
Educational Programs	College Courses	College courses are offered through Grinnell College, Iowa Central College, Milwaukee Technical College, and Southern Community College. Some courses are offered through the correctional library, on site, via satellite, and correspondence classes. There are over 70 classes to select from. Some of these include: Introduction to Business, Accounting, Psychology, Art, History, Algebra, psychology, Religion, Accounting, Computer, and Sociology.
	GED	GED classes are offered on an ongoing basis. GED classes are offered to offenders who read below a sixth grade level on the TABE test. Offenders are provided tutors and state licensed teachers to assist in the completion of their GED.
	School Reentry	Kirkwood Community College, GED Classes, employment services (e.g., job seeking/keeping, job development, job retention workshops, and job clubs.

APPENDIX D  
MENTAL HEALTH CODES

**Table D1. Mental Health Codes**

ICD-9 Description	MI Category
Anxiety state, unspecified	Anxiety, general anxiety and panic disorders
Panic disorder	Anxiety, general anxiety and panic disorders
Generalized anxiety disorder	Anxiety, general anxiety and panic disorders
ANXIETY STATE NEC	Anxiety, general anxiety and panic disorders
Conversion disorder	Anxiety, general anxiety and panic disorders
Dissociative disorder	Anxiety, general anxiety and panic disorders
Factitious disorder, NOS	Anxiety, general anxiety and panic disorders
Panic disorder w/agoraphobia	Anxiety, general anxiety and panic disorders
Socially inadequate (Social phobia)	Anxiety, general anxiety and panic disorders
Acrophobia	Anxiety, general anxiety and panic disorders
Obsessive-compulsive disorders	Anxiety, general anxiety and panic disorders
Bipolar affective disorder, manic	Bipolar disorders
Bipolar I Disorder (Recurrent Episodes Most Recent Manic) - Mild Severity	Bipolar disorders
Bipolar I Disorder (Recurrent Episodes Most Recent Manic) - Moderate Severity	Bipolar disorders
Bipolar I Disorder (Recurrent Episodes Most Recent Manic) - Severe w Psychotic Features	Bipolar disorders
Bipolar I Disorder (Recurrent Episodes Most Recent Manic) - In Partial Remission	Bipolar disorders
Bipolar I Disorder (Recurrent Episodes Most Recent Manic) - In Full Remission	Bipolar disorders
BIPOlar AFF, DEPR-UNSPEC	Bipolar disorders
Bipolar I Disorder (Most Recent Episode Major Depression) - Mild Severity	Bipolar disorders
Bipolar I Disorder (Most Recent Episode Major Depression) - Moderate Severity	Bipolar disorders
Bipolar I Disorder (Most Recent Episode Major Depression) - Severe w/o Psychotic Features	Bipolar disorders
Bipolar I Disorder (Most Recent Episode Major Depression) - Severe w Psychotic Features	Bipolar disorders
Bipolar affective disorder, depressed; in full rem	Bipolar disorders
Bipolar affective disorder, mixed	Bipolar disorders
Bipolar I Disorder (Most Recent Episode Mixed) - Mild Severity	Bipolar disorders
Bipolar affective disorder, mixed, mod	Bipolar disorders
Bipolar I Disorder (Most Recent Episode Mixed) - Severe w/o Psychotic Features	Bipolar disorders
Bipolar affective disorder, mixed, w/psychotic beh	Bipolar disorders

**Table D1 (continued)**

Bipolar I Disorder (Most Recent Episode Mixed) – In Partial Remission	Bipolar disorders
Bipolar affective disorder, mixed; in full remission	Bipolar disorders
Bipolar affective disorder, NOS	Bipolar disorders
Bipolar I Disorder (Most Recent Episode Unspecified) – Unspecified	Bipolar disorders
Bipolar I Disorder (Most Recent Episode Unspecified) – Moderate Severity	Bipolar disorders
Bipolar I Disorder (Most Recent Episode Unspecified) – Severe w Psychotic Features	Bipolar disorders
Bipolar I Disorder (Most Recent Episode Unspecified) – In Partial Remission	Bipolar disorders
Bipolar I Disorder (Most Recent Episode Unspecified) – In Full Remission	Bipolar disorders
Bipolar Disorder NOS	Bipolar disorders
Bipolar disorder II	Bipolar disorders
CYCLOTHYMIC DISORDER	Bipolar disorders
Civil commitment	Civil commitment
Organic delusional syndrome	Dementia/organic disorders
Dementia	Dementia/organic disorders
DEMENTIA W BEHAVIOR DIST	Dementia/organic disorders
Organic brain syndrome	Dementia/organic disorders
Organic personality syndrome	Dementia/organic disorders
Post-concussion syndrome	Dementia/organic disorders
Major depressive disorder, single episode, NOS	Depression and major depressive disorders
Major depressive disorder, single episode; mild	Depression and major depressive disorders
Major depressive disorder, single episode; mod	Depression and major depressive disorders
DEPRESS PSYCHOSIS-SEVERE	Depression and major depressive disorders
Major depressive disorder, w/psychosis	Depression and major depressive disorders
DEPR PSYCHOS-PART REMISS	Depression and major depressive disorders
Major depressive disorder, recurrent	Depression and major depressive disorders
Major depressive disorder, recurrent, mild	Depression and major depressive disorders
Major depressive disorder, recurrent, mod	Depression and major depressive disorders
Major Depressive Disorder (Recurrent) – Severe w/o Psychotic Features	Depression and major depressive disorders
Major depressive disorder, recurrent, w/ psychotic	Depression and major depressive disorders
RECUR DEPR PSYC-PART REM	Depression and major depressive disorders
Major depressive disorder, in full remission	Depression and major depressive disorders

**Table D1 (continued)**

Depression	Depression and major depressive disorders
ATTN DEFIC NONHYPERACT	Developmental disabilities
Attention deficit disorder, w/hyperactivity	Developmental disabilities
Reading disorder	Developmental disabilities
Learning disorder	Developmental disabilities
Development delay, other specified	Developmental disabilities
Learning Disorder NOS	Developmental disabilities
Mental retardation, mild	Developmental disabilities
Mental retardation, mod	Developmental disabilities
Mental Retardation – Severity Unspecified	Developmental disabilities
Borderline intellectual functioning	Developmental disabilities
Dysthymia/Neurotic depression	Dysthymia/Neurotic depression
Conduct disorder	Impulse control disorders
Impulse control disorder	Impulse control disorders
Intermittent explosive disorder	Impulse control disorders
Trichotillomania	Impulse control disorders
Acute Stress Disorder	Other adjustment disorders (not PTSD)
Adjustment Disorder w/ Depressed Mood	Other adjustment disorders (not PTSD)
Adjustment reaction w/depressed mood	Other adjustment disorders (not PTSD)
Adjustment reaction w/anxiety	Other adjustment disorders (not PTSD)
Adjustment reaction w/ mixed emotions	Other adjustment disorders (not PTSD)
ADJ REACT-EMOTION NEC	Other adjustment disorders (not PTSD)
Adjustment Disorder w/ Disturbance of Conduct	Other adjustment disorders (not PTSD)
Adjustment Disorder w/ Mixed Disturbance of Emotions & Conduct	Other adjustment disorders (not PTSD)
ADJUSTMENT REACTION NOS	Other adjustment disorders (not PTSD)
Paranoid personality disorder	Personality disorders
Schizoid personality disorder	Personality disorders
Schizotypal personality	Personality disorders
Explosive personality disorder	Personality disorders
Obsessive-Compulsive Personality Disorder	Personality disorders
Histrionic personality disorder	Personality disorders
Dependent personality disorder	Personality disorders
Antisocial personality disorder	Personality disorders
Narcissistic personality disorder	Personality disorders
Borderline personality disorder	Personality disorders
Personality disorder	Personality disorders
PROLONG POSTTRAUM STRESS	Posttraumatic stress disorder (PTSD)
Posttraumatic stress disorder (PTSD)	Posttraumatic stress disorder (PTSD)
Mood disorder	Psychosis/Psychotic disorders
Delusional disorder	Psychosis/Psychotic disorders
Brief reactive psychosis	Psychosis/Psychotic disorders
Psychotic disorder, NOS	Psychosis/Psychotic disorders



**Table D1 (continued)**

Schizophrenia, simple	Schizophrenia
Schizophrenia, disorganized	Schizophrenia
Schizophrenic, disorganized, chronic	Schizophrenia
Schizophrenia, catatonic	Schizophrenia
Schizophrenia, paranoid	Schizophrenia
Schizophrenia, paranoid, chronic	Schizophrenia
Schizophrenia, paranoid, chronic w/exacerbation	Schizophrenia
Schizophrenia, paranoid, in remission	Schizophrenia
Schizophreniform disorder	Schizophrenia
Schizophrenia, residual	Schizophrenia
Schizophrenia, residual, chronic	Schizophrenia
Schizoaffective disorder	Schizophrenia
SCHIZOPHRENIA NEC-UNSPEC	Schizophrenia
SCHIZOPHRENIA NEC-CHR	Schizophrenia
Schizophrenia	Schizophrenia
Schizophrenia, undifferentiated, chronic	Schizophrenia
Schizophrenia, chronic, w/acute exacerbation	Schizophrenia
Pedophilia	Sexual disorders/Paraphelias
Transvestic fetishism	Sexual disorders/Paraphelias
Exhibitionism	Sexual disorders/Paraphelias
Trans-sexualism	Sexual disorders/Paraphelias
Psychosexual disorder	Sexual disorders/Paraphelias
Stammering & stuttering	Sleep, movement & eating disorders
Anorexia nervosa	Sleep, movement & eating disorders
Tourette's disease (syndrome)	Sleep, movement & eating disorders
Persistent sleep disorder	Sleep, movement & eating disorders
SLEEP STAGE DYSFUNC NEC	Sleep, movement & eating disorders
EATING DISORDER NOS	Sleep, movement & eating disorders
Bulimia	Sleep, movement & eating disorders
Enuresis, psychogenic	Sleep, movement & eating disorders
Somatization disorder	Somatization disorders
Alcoholic dementia	Substance use disorders
Substance abuse mood disorder	Substance use disorders
Alcoholic psychosis	Substance use disorders
Drug withdrawal syndrome	Substance use disorders
Psychotic Disorder NOS, Substance-Induced	Substance use disorders
DRUG MENTAL DISORDER NEC	Substance use disorders
Hallucinogen perception disorder	Substance use disorders
Alcohol dependence	Substance use disorders
ALCOH DEP NEC/NOS-CONTIN	Substance use disorders
Opioid dependence	Substance use disorders
Sedative -, Hypnotic-, Anxiolytic Dependence	Substance use disorders
Cocaine dependence	Substance use disorders
Cannabis Dependence	Substance use disorders

**Table D1 (continued)**

Cannabis dependence	Substance use disorders
Amphetamine dependence	Substance use disorders
AMPHETAMIN DEPEND-CONTIN	Substance use disorders
Hallucinogen dependence	Substance use disorders
Drug dependence, NEC	Substance use disorders
Polysubstance dependence	Substance use disorders
Inhalant dependence	Substance use disorders
Alcohol abuse	Substance use disorders
ALCOHOL ABUSE-CONTINUOUS	Substance use disorders
Nicotine dependence	Substance use disorders
Cannabis Abuse	Substance use disorders
Cannabis abuse	Substance use disorders
Hallucinogen Abuse	Substance use disorders
Cocaine abuse	Substance use disorders
Amphetamine abuse	Substance use disorders
Mixed substance abuse	Substance use disorders

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APPENDIX E  
FULL MODELS

**Table E1. Logistic Regression of Programs Predicting Full-time Employment**

Predictors	Model 1 Vocational Training	Model 2 Employment Services	Model 3 College	Model 4 GED
Mental Health Diagnosis	-.425*** (.087) [.654]	-.437*** (.087) [.646]	-.438*** (.087) [.646]	-.436*** (.087) [.647]
Prior Violent History	.139 (.101) [1.149]	.142 (.101) [1.153]	.141 (.100) [1.151]	.141 (.100) [1.152]
Work Release	.014*** (.001) [1.014]	.014*** (.001) [1.014]	.014*** (.001) [1.014]	.014*** (.001) [1.014]
Time Served in Prison	.012* (.006) [1.012]	.016** (.006) [1.016]	.016** (.006) [1.016]	.015 (.006) [1.016]
Prior Adult Convictions	.001 (.006) [1.001]	.001 (.006) [1.001]	.001 (.006) [1.001]	.001 (.006) [1.001]
Prior Incarcerations	.174 (.131) [1.191]	.193 (.131) [1.213]	.190 (.131) [1.210]	.194 (.131) [1.215]
Age	-.036*** (.004) [.964]	-.037*** (.005) [.964]	-.037*** (.005) [.964]	-.036*** (.005) [.965]
White Hispanic	-.172 (.217) [.842]	-.182 (.217) [.834]	-.182 (.217) [.834]	-.183 (.217) [.833]
Black	-.509*** (.106) [.601]	-.534*** (.105) [.586]	-.538*** (.105) [.290]	-.539*** (.105) [.584]
Asian non- Hispanic	-1.271** (.536) [.281]	-1.231* (.536) [.292]	-1.237* (.536) [.290]	-1.232* (.536) [.292]
Native Americans non- Hispanics	-.028 (.356) [.973]	-.053 (.357) [.948]	-.60 (.357) [.941]	-.063 (.356) [.939]

**Table E1 (continued)**

Years of education	.069* (.041) [1.072]	.078* (.041) [1.081]	.077* (.041) [1.080]	.076* (.041) [1.079]
Year Dummy Variable	-.587** (.235) [.556]	-.623** (.235) [.536]	-.618** (.235) [.539]	-.609** (.235) [.544]
Vocational Training	.171** (.074) [1.187]			
Employment Services		-.053 (.108) [.949]		
Institutional College			.021 (.202) [1.021]	
Institutional GED				.079 (.120) [1.083]

*Note:* In results reported, top line is *b* coefficient, second line is standard error, third line is Exp(B). All four models exhibited significance at the .000 level based on Chi-Square.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

**Table E2. Cox Hazard Regression of Full-time Employment Predicting Recidivism**

Predictors	Model 1 Recidivism
Mental health diagnosis	.195* (.088) [1.216]
Prior Violent History	.308** (.119) [1.360]
Work release	.000 (.001) [1.000]
Time served in prison	-.011* (.006) [.989]
Prior adult convictions	.023*** (.006) [1.023]
Prior Incarcerations	.509*** (.166) [1.664]
Age	-.041*** (.006) [.960]
White Hispanic	-.293 (.265) [.746]
African-Americans	.301** (.102) [1.351]
Asian non-Hispanic	-.871 (1.003) [.419]
Native American non-Hispanic	.043 (.358) [1.044]
Years of education	.021 (.047) [1.021]
Year education dummy variable	-.456 (.320) [.634]
Full-time employment	-.284** (.098) [.753]

*Note:* In results reported, top line is b coefficient, second line is standard error, and third line is odds ratio. The model exhibited significance at the .000 level based on a chi-square test.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

**Table E3. Regression of Programming Predicting Length of Employment**

Predictors	Model 1 Vocational Training	Model 2 Employment Services	Model 3 College	Model 4 GED
Mental Health Diagnosis	-103.441*** (16.198) [-.109]	-104.864*** (16.1780) [-.110]	-104.706*** (16.178) [-.110]	-106.230*** (16.177) [-.112]
Prior Violent History	-38.510* (19.177) [-.035]	-37.823* (19.191) [-.034]	-37.881* (19.183) [-.034]	-38.592* (19.172) [-.035]
Work Release	1.102*** (.134) [.144]	1.103*** (.134) [.144]	1.103*** (.134) [.145]	1.096*** (.134) [.144]
Time Served in Prison	-3.413*** (1.096) [-.056]	-2.962** (1.061) [-.049]	-3.050** (1.065) [-.050]	-2.859** (1.061) [-.047]
Prior Adult Convictions	-2.205* (1.172) [-.035]	-2.230* (1.173) [-.035]	-2.193* (1.173) [-.035]	-2.270* (1.172) [-.036]
Prior Incarcerations	15.934 (25.134) [.011]	18.496 (25.137) [.013]	18.375 (25.119) [.013]	14.732 (25.145) [.010]
Age	.979 (.866) [.021]	.867 (.877) [.018]	1.028 (.870) [.022]	.529 (.889) [.011]
White Hispanic	22.009 (41.406) [.009]	20.632 (41.411) [.008]	21.403 (41.418) [.009]	20.754 (41.384) [.009]
Black	-148.311*** (20.254) [-.127]	-151.169*** (20.185) [-.129]	-152.243*** (20.136) [-.130]	-151.496*** (20.126) [-.130]
Asian non- Hispanic	-279.533** (107.444) [-.044]	-276.183** (107.491) [-.043]	-276.265** (107.470) [-.043]	-280.625** (107.421) [-.044]
Native Americans non- Hispanics	-145.566* (66.197) [-.037]	-148.916* (66.197) [-.038]	-150.111* (66.152) [-.038]	-149.959* (66.119) [-.038]

**Table E3 (continued)**

Years of education	5.553 (8.039) [.012]	6.540 (8.037) [.014]	6.213 (8.028) [.013]	6.411 (8.024) [.014]
Year Dummy Variable	-91.704* (47.252) [-.033]	-96.999* (47.246) [-.034]	-95.417* (47.202) [-.034]	-101.156* (47.246) [-.036]
Vocational Training	19.290* (11.614) [.029]			
Employment Services		-12.273 (19.886) [-.011]		
Institutional College			32.113 (32.302) [.017]	
Institutional GED				-45.722 (21.695) [-.037]

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*Note:* In results reported, top line is *b* coefficient, second line is standard error, and third line is Beta. All four models exhibited significance at the .000 level based on *F* tests.

\**p.* <.05, \*\**p.* <.01, \*\*\**p.* <.001



**Table E4. Logistic Regression of Vocational and Educational Programs Predicting Enrollment in and Completion of School**

Predictors	Model 1 Vocational Training	Model 2 Employment Services	Model 3 College	Model 4 GED
Mental Health Diagnosis	.391 (.252) [1.478]	.401 (.252) [1.493]	.416* (.252) [1.515]	.366 (.252) [1.442]
Prior Violent History	-.151 (.305) [.860]	-.151 (.305) [.860]	-.145 (.305) [.865]	-.165 (.306) [.848]
Work Release	.010*** (.002) [1.010]	.010*** (.002) [1.010]	.010*** (.002) [1.010]	.010*** (.002) [1.010]
Time Served in Prison	-.011 (.018) [.990]	-.013 (.017) [.987]	-.015 (.017) [.985]	-.011 (.017) [.989]
Prior Adult Convictions	.014 (.017) [1.014]	.014 (.017) [1.014]	.014 (.017) [1.014]	.014 (.017) [1.014]
Prior Incarcerations	-.417 (.357) [.659]	-.430 (.356) [.651]	-.417 (.356) [.659]	-.511 (.359) [.600]
Age	-.033* (.015) [.968]	-.430* (.356) [.651]	-.031* (.015) [.970]	-.511** (.359) [.961]
White Hispanic	-1.674 (1.092) [.187]	-1.669 (1.093) [.188]	-1.652 (1.093) [.192]	-1.671 (1.095) [.188]
Black	.329 (.291) [1.389]	.352 (.291) [1.422]	.345 (.290) [1.412]	.364 (.290) [1.439]
Asian non- Hispanic	1.325 (.867) [3.763]	1.329 (.866) [3.777]	1.351 (.867) [3.862]	1.279 (.869) [3.593]
Years of education	-.522*** (.087) [.593]	-.528*** (.087) [.590]	-.533*** (.087) [.587]	-.506*** (.086) [.603]

**Table E4 (continued)**

Year Dummy Variable	1.086* (.494) [2.962]	1.112* (.493) [3.041]	1.131* (.492) [3.100]	.997* (.494) [2.710]
Vocational Training	-.146 (.228) [.864]			
Employment Services		-.030 (.316) [.970]		
Institutional College			.428 (.278) [1.534]	
Institutional GED				-1.174* <sup>a</sup> (.526) [.309]

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*Note:* In results reported, top line is *b* coefficient, second line is standard error, third line is Exp(B). <sup>a</sup>Variable was significant but in opposite direction (one-tailed test). All four models exhibited significance at the .000 level based on Chi-Square.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

**Table E5. Cox Regression of Vocational and Educational Programming Predicting Recidivism**

Predictors	Model 1 Vocational Training	Model 2 Employment Services	Model 3 College	Model 4 GED
Mental Health Diagnosis	.220** (.088) [1.246]	.216** (.088) [1.241]	.214** (.088) [1.239]	.215** (.088) [1.240]
Prior Violent History	.302** (.119) [1.353]	.305** (.119) [1.357]	.303** (.119) [1.353]	.304** (.119) [1.355]
Work Release	.000 (.001) [.999]	.000 (.001) [.999]	.000 (.001) [.999]	.000 (.001) [.999]
Time Served in Prison	-.014* (.007) [.986]	-.012* (.006) [.988]	-.011* (.006) [.989]	-.012* (.006) [.989]
Prior Adult Convictions	.023*** (.006) [1.023]	.022*** (.006) [1.023]	.022*** (.006) [1.023]	.022*** (.006) [1.023]
Prior Incarcerations	.490** (.166) [1.632]	.500** (.166) [1.648]	.495** (.166) [1.640]	.496** (.166) [1.642]
Age	-.040*** (.006) [.961]	-.040*** (.006) [.961]	-.040*** (.006) [.961]	-.040*** (.006) [.961]
White Hispanic	-.275 (.266) [.759]	-.285 (.265) [.752]	-.289 (.266) [.749]	-.285 (.266) [.752]
Black	.346*** (.102) [1.413]	.330*** (.102) [1.391]	.328*** (.102) [1.388]	.328*** (.102) [1.388]
Asian non- Hispanic	-.836 (1.003) [.433]	-.797 (1.003) [.451]	-.808 (1.003) [.446]	-.805 (1.003) [.447]
Native Americans non- Hispanics	.084 (.359) [1.088]	.065 (.359) [1.067]	.058 (.358) [.871]	.059 (.358) [1.061]

**Table E5 (continued)**

Years of education	.012 (.048) [1.012]	.017 (.047) [1.017]	.017 (.047) [1.017]	.016 (.047) [1.017]
Year Dummy Variable	-.403 (.320) [.668]	-.429 (.320) [.651]	-.426 (.320) [.653]	-.426 (.320) [.653]
Vocational Training	.100 (.061) [1.105]			
Employment Services		-.037 (.104) [.964]		
Institutional College			-.122 (.199) [.885]	
Institutional GED				-.013 (.114) [.987]

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*Note:* In results reported, top line is *b* coefficient, second line is standard error, third line is Exp(B). All four models exhibited significance at the .000 level based on Chi-Square.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

**Table E6. Negative Binomial and Logistic Regression of Mental Illness Predicting Program Completion**

Predictors	Model 1 Vocational Training	Model 2 Employment Services	Model 3 Institutional College	Model 4 Institutional GED	Model 5 Institutional Total
Mental Health Diagnosis	-.308*** (.0813) [0.7349]	.098 (.0989) [1.102]	-.227 (.2731) [0.796]	-.200* (.107) [.818]	.098 (.0989) [1.102]
Prior Violent History	.087 (.0958) [1.090]	.208* (.1246) [1.231]	-.559* (.2800) [0.571]	-.069 (.122) [.933]	.208 (.1246) [1.231]
Work Release	.000 (.0006) [1]	.001 (.0008) [1.001]	.001 (.0023) [1.001]	.000 (.001) [.999]	.001 (.0008) [1.001]
Time Served in Prison	.062*** (.0044) [1.063]	-.003 (.0067) [0.997]	.099*** (.0139) [1.104]	.019** (.007) [1.020]	-.003*** (.0067) [0.997]
Prior Adult Convictions	-.001 (.0064) [0.999]	-.003 (.0087) [0.997]	-.111* (.0506) [0.894]	-.012 (.011) [.988]	-.003 (.0087) [0.997]
Prior Incarcerations	.397** (.1366) [1.487]	.364* (.1610) [1.439]	.099 (.3022) [1.104]	-.333** (.141) [.717]	.364** (.1610) [1.439]
Age	-.008* (.0044) [0.992]	-.057*** (.0067) [0.944]	-.245*** (.0382) [0.782]	-.099*** (.008) [.905]	-.057*** (.0067) [0.944]
White Hispanic	-.287 (.2222) [0.750]	.135 (.2481) [1.144]	–	.068 (.246) [1.071]	.135 (.2481) [1.144]
Black	-.848*** (.1205) [0.428]	.389*** (.1129) [1.475]	.129 (.2889) [1.137]	.019 (.127) [1.019]	.389*** (.1129) [1.475]
Asian non- Hispanic	.302 (.4408) [1.352]	.539 (.5723) [1.714]	–	-.524 (.788) [.592]	.539 (.5723) [1.714]
Native Americans non-Hispanics	-1.850** (.7258) [0.157]	.699* (.3361) [0]	–	.157 (.458) [1.170]	.699 (.3361) [2.011]

**Table E6 (continued)**

Years of education	.194*** (.0480) [1.214]	.158** (.0578) [0]	.500* (.2219) [1.648]	.038 (.058) [1.039]	.158 (.0578) [1.171]
Year Dummy Variable	-1.769*** (.5188) [0.170]	-1.188* (.5162) [0]	—	-2.661** (1.011) [.070]	-1.188* (.5162) [0.304]

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*Note:* In results reported, top line is b coefficient, second line is standard error, third line is Exp(B). The dashes represent small cell size and the variables were placed in the reference category. All four models exhibited significance at the .000 level based on Chi-Square and logistic regression (GED).

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

**Table E7. Logistic Regression, Regression, OLS of Mental Illness Predicting Reentry Outcomes**

Predictors	Hypothesis 6 Full-time Employment	Hypothesis 7 Employment Length	Hypothesis 8 School Enrollment and Completions	Hypothesis 9 Recidivism
Mental Health Diagnosis	-.438*** (.087) [.645]	-105.001*** (16.175) [-.111]	.400 (.252) [1.492]	.215** (.088) [1.240]
Prior Violent History	.141 (.100) [1.151]	-38.177* (19.181) [-.034]	-.152 (.304) [.859]	.304** (.119) [1.355]
Work Release	.014*** (.001) [1.014]	1.102*** (.134) [.144]	.010*** (.002) [1.010]	.000 (.001) [.999]
Time Served in Prison	.016** (.0060) [1.016]	-2.956** (1.061) [-.048]	-.013 (.017) [.987]	-.012* (.006) [.989]
Prior Adult Convictions	.001 (.006) [1.001]	-2.216* (1.172) [-.035]	.014 (.017) [1.014]	.022*** (.006) [1.023]
Prior Incarcerations	.190 (.131) [1.209]	17.864 (25.113) [.012]	-.430 (.356) [.650]	.497** (.166) [1.644]
Age	-.037*** (.004) [.964]	.952 (.866) [.020]	-.033* (.015) [.968]	-.040*** (.006) [.961]
White Hispanic	-.183 (.217) [.833]	20.353 (41.405) [.008]	-1.669 (1.092) [.188]	-.285 (.265) [.752]
Black	-.538*** (.105) [.584]	-152.028*** (20.135) [-.130]	.350 (.290) [1.419]	.328*** (.102) [1.388]
Asian non- Hispanic	-1.237* (.536) [.290]	-277.383** (107.464) [-.043]	1.328 (.865) [3.775]	-.804 (1.003) [.448]
Native Americans non- Hispanics	-.060 (.357) [.941]	-150.320* (66.152) [-.038]	–	.059 (.358) [1.061]

**Table E7 (continued)**

Years of education	.077* (.041) [1.080]	6.312 (8.028) [.013]	-.529*** (.087) [.589]	.016 (.047) [1.016]
Year Dummy Variable	-.618** (.235) [.539]	-95.775* (47.200) [-.034]	1.116* (.492) [3.052]	-.424 (.320) [.654]

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*Note:* In results reported, top line is b coefficient, second line is standard error, and third line is Exp(B) except for length of employment is Beta. The dash represent small cell size and the variable was placed in the reference category. All four models exhibited significance at the .000 level based on logistic regression (full-time employment), negative binomial (education) least squares regression (length of employment), Cox regression (recidivism). OLS = ordinary least squares.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001



**Table E8. Logistic Regression with Interaction of Mental Illness and Programs Predicting Full-time Employment**

Predictors	Model 1 Vocational Training	Model 2 Employment Services	Model 3 College	Model 4 GED
Mental Health Diagnosis	-.482*** (.092) [.617]	-.462*** (.093) [.630]	-.437*** (.087) [.646]	-.491*** (.093) [.612]
Prior Violent History	.132 (.101) [1.141]	.143 (.101) [1.154]	.141 (.100) [1.151]	.142 (.101) [1.152]
Work Release	.014*** (.001) [1.014]	.014*** (.001) [1.014]	.014*** (.001) [1.014]	.014*** (.001) [1.014]
Time Served in Prison	.012* (.006) [1.013]	.016** (.006) [1.016]	.016** (.006) [1.016]	.016** (.006) [1.016]
Prior Adult Convictions	.001 (.006) [1.001]	.001 (.006) [1.001]	.001 (.006) [1.001]	.001 (.006) [1.001]
Prior Incarcerations	.174 (.131) [1.190]	.192 (.131) [1.212]	.190 (.131) [1.210]	.196 (.131) [1.217]
Age	-.036*** (.004) [.964]	-.037*** (.005) [.964]	-.037*** (.005) [.964]	-.036*** (.005) [.964]
White Hispanic	-.171 (.217) [.843]	-.186 (.217) [.830]	-.182 (.217) [.834]	-.187 (.217) [.830]
Black	-.509*** (.106) [.601]	-.528*** (.106) [.590]	-.538*** (.105) [.584]	-.538*** (.105) [.584]
Asian non- Hispanic	-1.242** (.535) [.289]	-1.223* (.536) [.294]	-1.236* (.536) [.290]	-1.240* (.536) [.289]
Native Americans non- Hispanics	-.035 (.357) [.966]	-.051 (.357) [.951]	-.060 (.357) [.941]	-.067 (.357) [.935]

**Table E8 (continued)**

Years of education	.070* (.041) [1.072]	.079* (.041) [1.082]	.077* (.041) [1.080]	.077* (.041) [1.080]
Year Dummy Variable	-.584** (.235) [.557]	-.621** (.235) [.537]	-.618** (.235) [.539]	-.609** (.235) [.544]
Vocational Training	.066 (.089) [1.068]			
Mental health X Vocational Training	.295* <sup>a</sup> (.156) [1.343]			
Employment Services		-.121 (.140) [.886]		
Mental Health X Employment Services		.160 (.214) [1.174]		
Institutional College			.025 (.249) [1.025]	
Mental Health X Institutional College			-.012 (.423) [.988]	
Institutional GED				-.079 (.153) [.924]
Mental Health X Institutional GED				.403* <sup>a</sup> (.245) [1.497]

*Note:* In results reported, top line is b coefficient, second line is standard error, third line is Exp(B). All four models exhibited significance at the .000 level based chi-squared test. <sup>a</sup>Variables were significant but in opposite direction (one-tailed test).

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

**Table E9. Regression with Interaction of Mental Illness and Programs Predicting Employment Length**

Predictors	Model 1 Vocational Training	Model 2 Employment Services	Model 3 College	Model 4 GED
Mental Health Diagnosis	-107.562*** (17.336) [-.113]	-112.554*** (17.348) [-.118]	-105.015*** (16.241) [-.111]	-111.776*** (17.421) [-.118]
Prior Violent History	-38.868* (19.186) [-.035]	-37.405* (19.193) [-.034]	-37.887* (19.186) [-.034]	-38.627* (19.173) [-.035]
Work Release	1.102*** (.134) [.144]	1.102*** (.134) [.144]	1.104*** (.134) [.145]	1.096*** (.134) [.144]
Time Served in Prison	-3.412*** (1.096) [-.056]	-2.966** (1.061) [-.049]	-3.050** (1.065) [-.050]	-2.858** (1.062) [-.047]
Prior Adult Convictions	-2.199* (1.172) [-.035]	-2.219* (1.173) [-.035]	-2.193* (1.173) [-.035]	-2.270* (1.172) [-.036]
Prior Incarcerations	15.743 (25.137) [.011]	18.637 (25.135) [.013]	18.468 (25.126) [.013]	14.725 (25.146) [.010]
Age	.996 (.867) [.021]	.847 (.877) [.018]	1.030 (.870) [.022]	.522 (.889) [.011]
White Hispanic	22.221 (41.411) [.009]	20.038 (41.411) [.008]	21.417 (41.424) [.009]	20.425 (41.388) [.008]
Black	-148.407*** (20.256) [-.127]	-149.582*** (20.224) [-.128]	-152.174*** (20.141) [-.130]	-151.313*** (20.128) [-.130]
Asian non- Hispanic	-278.780** (107.459) [-.044]	-274.360** (107.493) [-.043]	-276.353** (107.486) [-.043]	-281.352** (107.428) [-.044]
Native Americans non- Hispanics	-146.102* (66.207) [-.037]	-148.659* (66.192) [-.038]	-150.127* (66.192) [-.038]	-150.407* (66.123) [-.038]

**Table E9 (continued)**

Years of education	5.563 (8.039) [.012]	6.739 (8.038) [.014]	6.214 (8.030) [.013]	6.436 (8.024) [.014]
Year Dummy Variable	-91.505* (47.257) [-.032]	-96.474* (47.245) [-.034]	-95.399* (47.209) [-.034]	-100.891* (47.249) [-.036]
Vocational Training	13.719 (14.303) [.021]			
Mental health X Vocational Training	15.435 (23.127) [.015]			
Employment Services		-31.859 (25.496) [-.027]		
Mental Health X Employment Services		48.968 (39.903) [.028]		
Institutional College			28.021 (37.264) [.015]	
Mental Health X Institutional College			16.215 (73.602) [.004]	
Institutional GED				-58.939 (26.605) [-.047]
Mental Health X Institutional GED				37.475 (43.660) [.019]

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*Note:* In results reported, top line is *b* coefficient, second line is standard error, and third line is Beta. All four models were estimated with least squares regression and all exhibited significance at the .000 level based on *F* tests.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

**Table E10. Negative Binomial Regression with Interaction of Mental Illness and Programs Predicting Educational Enrollments and Completions**

Predictors	Model 1 Vocational Training	Model 2 Employment Services	Model 3 College	Model 4 GED
Mental Health Diagnosis	.343 (.265) [1.409]	.415 (.269) [1.515]	.447* (.254) [1.564]	.401 (.259) [1.493]
Prior Violent History	-.150 (.305) [.861]	-.152 (.305) [.859]	-.139 (.305) [.870]	-.161 (.306) [.851]
Work Release	.010*** (.002) [1.010]	.010*** (.002) [1.010]	.010*** (.002) [1.010]	.010*** (.002) [1.010]
Time Served in Prison	-.011 (.018) [.989]	-.013 (.017) [.987]	-.015 (.017) [.985]	-.011 (.017) [.989]
Prior Adult Convictions	.014 (.017) [1.014]	.014 (.017) [1.014]	.014 (.017) [1.014]	.014 (.017) [1.014]
Prior Incarcerations	-.420 (.357) [.657]	-.432 (.356) [.649]	-.432 (.357) [.649]	-.511 (.359) [.600]
Age	-.032* (.015) [.968]	-.033* (.015) [.968]	-.031* (.015) [.969]	-.039** (.015) [.961]
White Hispanic	-1.677 (1.093) [.187]	-1.667 (1.092) [.189]	-1.646 (1.091) [.193]	-1.661 (1.094) [.190]
Black	.326 (.292) [1.385]	.351 (.291) [1.421]	.348 (.291) [1.416]	.363 (.290) [1.437]
Asian non- Hispanic	1.322 (.870) [3.752]	1.329 (.865) [3.778]	1.363 (.866) [3.909]	1.287 (.867) [3.624]
Native Americans non- Hispanics	—	—	—	—

**Table E10 (continued)**

Years of education	-.521*** (.087) [.594]	-.529*** (.087) [.589]	-.532*** (.087) [.587]	-.506*** (.086) [.603]
Year Dummy Variable	1.088* (.494) [2.970]	1.112* (.493) [3.040]	1.123* (.493) [3.075]	.994* (.494) [2.703]
Vocational Training	-.274 (.336) [.760]			
Mental Health X Vocational Training	.257 (.440) [1.294]			
Employment Services		.012 (.417) [1.012]		
Mental Health X Employment Services		-.095 (.625) [.909]		
Institutional College			.517* (.274) [1.678]	
Mental Health X Institutional College			-17.009 (7019.345) [.000]	
Institutional GED				-.951 (.611) [.387]
Mental Health X Institutional GED				-.687 (1.180) [.503]

*Note:* In results reported, top line is b coefficient, second line is standard error, third line is Exp(B). The dashes represent small cell size and the variables were placed in the reference category. All four models exhibited significance at the .000 level based chi-squared test.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001

**Table E11. Cox Regression with Interaction of Mental Illness and Programs Predicting Recidivism**

Predictors	Model 1 Vocational Training	Model 2 Employment Services	Model 3 College	Model 4 GED
Mental Health Diagnosis	.266** (.094) [1.305]	.229** (.095) [1.257]	.209** (.088) [1.232]	.227** (.095) [1.255]
Prior Violent History	.308** (.119) [1.361]	.305** (.119) [1.356]	.302** (.119) [1.353]	.304** (.119) [1.356]
Work Release	.000 (.001) [.999]	.000 (.001) [.999]	.000 (.001) [.999]	.000 (.001) [.999]
Time Served in Prison	-.014* (.007) [.986]	-.012* (.006) [.989]	-.011* (.006) [.989]	-.012* (.006) [.989]
Prior Adult Convictions	.023*** (.006) [1.023]	.022*** (.006) [1.023]	.022*** (.006) [1.023]	.022*** (.006) [1.023]
Prior Incarcerations	.495* (.166) [1.640]	.499* (.166) [1.648]	.496** (.166) [1.642]	.496** (.166) [1.642]
Age	-.040*** (.006) [.961]	-.040*** (.006) [.961]	-.040*** (.006) [.961]	-.040*** (.006) [.961]
White Hispanic	-.282 (.266) [.755]	-.284 (.2650) [.753]	-.289 (.266) [.749]	-.283 (.266) [.754]
Black	.347*** (.102) [1.414]	.327*** (.1020) [1.387]	.329*** (.102) [1.390]	.328*** (.102) [1.388]
Asian non- Hispanic	-.863 (1.003) [.422]	-.803 (1.003) [.448]	-.810 (1.003) [.445]	-.803 (1.003) [.448]
Native Americans non- Hispanics	.089 (.359) [1.093]	.064 (.359) [1.067]	.058 (.358) [1.060]	.060 (.358) [1.062]

**Table E11 (continued)**

Years of education	.012 (.048) [1.012]	.017 (.047) [1.017]	.017 (.047) [1.017]	.016 (.047) [1.017]
Year Dummy Variable	-.408 (.320) [.665]	-.430 (.320) [.651]	-.425 (.320) [.654]	-.427 (.320) [.652]
Vocational Training	.165 (.076) [1.179]			
Mental Health X Vocational Training	-.161 (.122) [.851]			
Employment Services		-.003 (.135) [.997]		
Mental Health X Employment Services		-.079 (.208) [.924]		
Institutional College			-.216 (.268) [.806]	
Mental Health X Institutional College			.272 (.402) [1.312]	
Institutional GED				.015 (.144) [1.016]
Mental Health X Institutional GED				-.074 (.227) [.929]

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*Note:* In results reported, top line is b coefficient, second line is standard error, third line is Exp(B). All four models exhibited significance at the .000 level based on Chi-Square.

\*p. <.05, \*\*p. <.01, \*\*\*p. <.001