

**Pretrial Diversion & Record Sealing: A Promising Approach to
Reduce Recidivism among Substance Abusing Offenders**

by

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ABSTRACT

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Pretrial diversion programs, which provide treatment and other ancillary support, have consistently demonstrated an ability to reduce recidivism for substance abusing offenders. However, prior research has almost always overlooked the fact that diversion programs have the potential to promote record sealing, and therefore the effect of record sealing on recidivism has rarely been studied. The current study compared re-arrest rates for two groups of a first-time, substance-abusing, nonviolent felony offenders—those convicted versus diverted to treatment in lieu of conviction. Results from the path analysis show that the effect of criminal justice disposition (i.e., diverted vs. convicted) on recidivism is in fact mediated by record sealing. Specifically, being convicted actually increased the odds of re-arrest because being convicted decreased the odds of record sealing and getting a record sealed decreased the odds of re-arrest. Overall, results point to the importance of record sealing in suggesting that the success of these competing dispositions (i.e. conviction vs. diversion) depends largely upon the extent to which they can facilitate record sealing. Evidence from this study suggests that diversion currently offers the best path to record sealing. Criminal justice policy makers should give more consideration to the potential benefits that may be realized by implementing strategies designed to promote record sealing for first-time, substance-abusing, nonviolent felony offenders.

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I. Introduction

1.1. The Problem

For the first time in the history of the United States, 1 in 99 adults are now confined in an American jail or prison (PEW, 2008). The significant increase in the U.S prison population over the past two decades has been attributed to the dramatic increase in the number of persons incarcerated for a drug-related offense (The Sentencing Project, 2001). However, policy makers have come to recognize that the expansion of prison capacity to accommodate these drug offenders has not had any discernible effect on crime rates. In response, a number of states have begun to divert low-risk drug offenders away from jail and prison and into less costly community-based settings. Since 2004, thirteen states have adopted legislation creating or expanding community corrections options for nonviolent offenders, including drug courts and other types of “diversion” programs that combine the “carrot” of substance abuse treatment with the “stick” of penalties for failing to comply with treatment (VERA, 2008). During the past two decades evidence has mounted to suggest that diversion alternatives are effective for crime reduction. Also, diversion minimizes the unintended consequences of criminal justice involvement (i.e. arrest, conviction, incarceration), the effect of which on criminal behavior has rarely been studied.

More than 65 million people have a criminal history on file with a state government—meaning that about 30% of the nation’s adult population has to contend with the consequences of a criminal record (Legal Action Center, 2004). Inevitably, all social policies present unintended collateral consequences, or what Travis (2002, p. 16) has termed “invisible punishments,” which are those laws

that “operate largely beyond the public view yet have very serious, adverse consequences for the individuals affected.” The number and reach of these “invisible” forms of punishment have expanded greatly in recent years and is a growing problem for policymakers looking to reduce rates of recidivism.

A history of substance abuse, felony conviction, or imprisonment creates a stigma that attaches to the individual and affects every area of his or her life. Historically, probation and parole were intended to offer the prospect of gradual reintegration into the community, diminishing the stigma over time (Rothman, 1980), but this use of probation and parole is less common today than it was in the past (Simon, 1993). Today, the stigma of a criminal conviction remains almost indefinitely, marking the ex-offender for life and often creating angry and defiant responses to the associated feelings of shame and rejection (Scheff & Retzinger, 1991). Thus, most substance abusing, nonviolent felons cannot leave the stigma of their substance abuse and criminal activity behind even after treatment has been successful and a criminal justice sanction has been satisfied. Their loss of many privileges hinders their attempts to effectively reenter society.

Historically, labeling theorists have argued that the stigma resulting from criminal justice involvement has a criminogenic effect whereby “criminal” labels (applied following arrest, conviction, and/or incarceration) become a self-fulfilling prophecy which serves only to promote deviant behavior. That is, an individual who is labeled “criminal” has little choice but to conform to the expectations of that label as they are constantly rejected from society, which drastically alters their self-concept and damages their quality of life. This rejection promotes

deviant subcultures where “criminals” tend to associate with one another, unite in opposition against mainstream society, and ultimately receive positive reinforcement from their peers for their deviant attitudes and behaviors.

Although labeling theory has always held considerable intuitive appeal, early labeling theories have generally not demonstrated an empirical connection to recidivism. This may be partially attributable to the fact that labeling as a traditional theoretical construct is rather abstract in its focus on cognition that makes it difficult to demonstrate an empirical link to deviant behavior. This dissertation will attempt to better explicate the effect of a “criminal” label on subsequent offending behavior by focusing more on the “unintended consequences” associated with a criminal conviction. That is, the application of a criminal label limits offender access to legitimate opportunities (e.g., employment, education, public assistance). It is believed that such marginalization breeds frustration, rather than the cognitive association they make with being “criminal.”

This study will examine the impact of a criminal label (i.e., conviction) on subsequent offending behavior with an implicit focus on comparing the competing theoretical premises of labeling and deterrence. While labeling theorists would argue that criminal justice involvement promotes subsequent offending, deterrence theorists would argue that it has preventative value. Deterrence has been the theoretical underpinning of the get tough approach that has dominated much of the last quarter century and has resulted in the largest number of individuals under criminal justice supervision in our nation’s history. However, the failure to demonstrate any crime reduction benefits associated with

increased incapacitation, coupled with mounting empirical evidence regarding the effectiveness of diversion alternatives, suggests that criminal justice involvement has a labeling rather than deterrent effect. This dissertation will further explore this intriguing contrast in a sample of first time nonviolent felony offenders.

1.2. Study Overview

The Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA), provided a grant to support a Treatment Alternatives to Street Crimes (TASC) case management model in Cuyahoga County, Ohio, and a cooperative agreement between COSMOS, Inc. and the National Development and Research Institutes, Inc. (NDRI) to study of the motivation for certain non-violent substance abusing ex-offenders to have their records sealed. The projects delivered case management and treatment services to help individuals remain substance and crime abstinent so that their criminal records become eligible for sealing. Project goals include (1) reducing criminal activity; (2) reducing substance use; and (3) reducing the stigma associated with a criminal record by increasing the percentage of offenders who avoid or expunge a criminal record. CSAT awarded the grant in May 2002, providing five years of funding for the project in Ohio to be implemented within the Cuyahoga TASC case management program.

Cuyahoga is a large county in Ohio that encompasses the city of Cleveland. A sample of 645 first-time nonviolent felony offenders was recruited with the help of the Cuyahoga County Probation Department in Ohio. The target

population was first-time, non-violent felony offenders who were eligible to have their record sealed and who were diagnosed with a substance use disorder (i.e. abuse or dependence, including in remission), and therefore eligible to participate in TASC and drug treatment. However, two groups of offenders emerged, distinguished by their path to record sealing. The “Convicted” group is comprised of offenders who were convicted of their offense and therefore eligible to have their records sealed three years after successful completion of probation as specified in the Ohio felony sealing statute. The “Diverted” group is comprised of offenders whose convictions were held pending successful completion of TASC, treatment and probation, making them eligible to have their guilty pleas dismissed and their arrest records sealed immediately; typically after one year.

A comparison of these two groups allows for a relative examination of the impact of conviction and the associated stigma on re-offending. While both groups had the opportunity to seal their records eventually, it is hypothesized that the convicted group was exposed to far greater stigma through more extensive criminal justice involvement in two important respects. First “convicted” offenders actually had their conviction imposed and therefore had the official label with which to contend. Because diverted offenders receive intervention in lieu of conviction, they are not officially labeled with a conviction, which makes their criminal justice involvement less visible during their year of probation. Second, “convicted” offenders had to wait significantly longer to apply for record sealing. That is, offenders in the convicted group had to complete probation (at minimum one year), then wait three more years before they could apply to have their

records sealed. During these (minimum) four-years, the convicted group had to contend with the consequences of conviction (e.g., difficulty obtaining employment), making it very difficult to reintegrate. On the other hand, diverted offenders, if successful, could apply to have their records sealed immediately after their (typical) one-year probation. Thus, convicted offenders are exposed to a more serious sanction (conviction) for a significantly longer period of time.

1.3. Dissertation Overview

Chapter two of this dissertation will examine incarceration trends specifically as it relates to the treatment of drug offenders over the past several decades. This will include a discussion of the effectiveness of drug treatment and the recent shift from more punitive punishments to alternative sanctions for drug offenders. Chapter three will discuss the theoretical underpinnings of these competing perspectives on punishment, specifically whether punishment serves as a deterrent to prevent criminal behavior or acts as a label to promote further offending. Chapter four outlines the study's methodology, including the main hypothesis, research design, operationalization of key concepts, and the analytic plan. Chapter five provides a description of study participants (i.e. "who comes to treatment") while comparing the two study groups (i.e. "convicted" and "diversion") to identify key baseline differences that could influence the outcome analysis. Chapter six provides the results of the study. Chapter seven presents a discussion of the findings along with the relevant policy implications.

II. Sentencing Addicted Offenders

In the past quarter century the United States has become increasingly punitive towards crime, a stance which has resulted in the highest incarceration rate in our nation's history and worldwide. Much of this unprecedented increase can be explained not by rising crime rates but instead by changes in sentencing policy, which have resulted in an increased number of drug offenders incarcerated for longer periods of time. This shift in philosophy has been attributed to influential findings published in the Martinson Report (1974), which led to a widespread disillusionment with the effectiveness of drug treatment and the sentiment that "nothing works." A much closer examination reveals that ample evidence exists on the effectiveness of correctional drug treatment and rehabilitation, particularly diversion alternatives to incarceration.

This chapter will review the past 30 years of correctional reform with an emphasis on drug policy in the United States. The body of available evidence will suggest that not only does drug treatment for offenders work, but alternative sanctions provide the most promising approach for rehabilitating the majority of substance abusers that are involved with the criminal justice system.

2.1. Incarceration Trends in the United States

For nearly half a century between 1925 and 1975, despite economical, political, and social turbulence (e.g., Great Depression, civil rights movement, several wars and the cold war), there was remarkable stability in the U.S. incarceration rate, consistently hovering around 107 prisoners per 100,000

people (Blumstein & Cohen, 1973). Since the mid 1970s, and especially during the 1980s and 1990s, the U.S. incarceration rate soared to an all time high reaching approximately 700 inmates per 100,000 (Sabol, Minton, & Harrison, 2007; Mauer, 2003; Pew Center of the States, 2008), a seven-fold increase.

In 2002, the Nation's prison and jail population exceeded two million inmates (2,019,234) for the first time (Harrison & Karberg, 2003). Overall, the national inmate population (jail and prison) has increased seven fold over the past 35 years from 330,000 in 1972 (Mauer, 2003) to 2,319,258 in the beginning of 2008 (PEW Report, 2008). The current figures represent an incarceration rate of 1 in every 99 adults, a rate that is even higher for men 18 and over (1 in 54), Hispanic men 18 and over (1 in 36), Black men 18 and over (1 in 15), and Black men 20-34 (1 in 9) (PEW Report, 2008). In an attempt to explain record high rates of incarceration in the United States researchers have compared U.S. crime rates over time and to those of other similar countries.

Historically, there is little evidence domestically to suggest that changes in crime rates have been the stimulus in the expanding prison population. Indeed, the heightened level of arrests evident in the past quarter century is juxtaposed with declining rates of crime and drug use in the United States. According to the Bureau of Justice Statistics (2008) violent crimes were on the rise throughout the 1980s, reaching a peak in 1992 (1,932,270), and then declining through 2006 (1,417,745) approaching the level of violent crime in 1980 (1,344,520). Property crimes fluctuated throughout the 1980s, peaking at 12,961,100 in 1991 and then declining to less than 10 million in 2006, approaching the level of property crime

in the late 1970s. With respect to drug use, Government household surveys of drug use indicate that approximately 14% of the population could be considered monthly drug users in 1979, a figure which decreased to 6.6% by 1991, and remained relatively stable throughout the 1990s (SAMHSA, 2000, p.13). Despite such fluctuations in offending rates and an overall decline in crime and drug use during the past quarter century, arrest rates have consistently been rising.

International comparisons show that the U.S. incarcerates more people than any other country in the world. The U.S. rate of incarceration is 5-8 times greater than that of industrialized nations we are most similar to such as England, Canada, Australia, Spain, Germany, France, Italy, and Japan (Mauer, 2003). Of course, comparing crime rates internationally is a difficult task considering the many distinct criminal codes and reporting practices. The best available estimate comes from a series of victimization surveys conducted among 17 industrialized nations, including the United States (Van Kesteren, Mayhew, & Nieuwbeerta, 2000). This report indicates that overall U.S. rates of victimization are generally in the middle of the seventeen countries surveyed.

2.2. Role of Drug Policy and Sentencing Reform

Much of the unprecedented increase in the prison population over the past quarter century can be explained not by an increase in crime rates, but instead by changes in sentencing and drug policy. It has been argued that changes in penal policy are due to some combination of crime policy's broad public appeal in an era of partisan politics, unintended consequences of the war on drugs, and

the increased reflexivity of the justice system that, with improved accountability and efficiency, becomes a major source of demand for its penal services (Caplow & Simon, 1999). More specifically, the intensification of the war on drugs in the 1980s coincided with the introduction of crack cocaine and the proliferation of an illegal mass drug market. This intersection produced a virtually limitless supply of candidates for imprisonment who are easily apprehensible. The penal system has expanded to accommodate this growth; maintaining large populations of offenders under conditions that promote discovery or “production” of a greater number of violations, often described by others as a net-widening effect.

Blumstein and Beck (1999) set out to explain the near tripling in the prison population between 1980 and 1996 by decomposing the growth in incarceration rates into two sources: higher crime rates and more punitive criminal justice policies. They found that changes in crime rates explained only 12% of the increase in incarceration rates. The other 88% of the increase could be explained by changes in sentencing policy, such as mandatory sentencing practices, “truth in sentencing,” “three strikes and you’re out,” which made it far more likely that an individual arrested for a felony offense would be sentenced to prison, for a longer term. The authors concluded that the role of law enforcement in the nation’s efforts to combat drug abuse was a major contributing factor to this growth, such that the incarceration rate for drug offenses alone is now similar to the total crime rate that prevailed in the U.S. for the preceding fifty years.

Throughout the 1980s, legislatures across the country adopted harsher sentencing laws with regard to drug offenses. According to the 1996 National

Survey of State Sentencing Structures, every State, and the federal system, employ some version of mandatory minimum sentencing laws, many of which (36 and the District of Columbia) target offenders who possess and/or distribute drugs (Bureau of Justice Assistance, 1998). These laws remove discretion from the sentencing judge to consider a range of factors pertaining to the individual and/or offense that might mitigate the sentence. In all, the aggressive policing and prosecution of less serious drug offenders multiplied their risk of an arrest, a felony conviction, and a lengthy prison sentence under the new laws.

Indeed, the most significant change in the composition of the U.S prison population has been the dramatic increase in the number of persons incarcerated for a drug offense. For example, in 1980 there were a total of 581,000 drug arrests that nearly tripled to a record high of 1,584,000 in 1997. During this time, the number of arrests for drug offenses was increasing at a rate five times greater than the number of arrests for all other types of crime (126% vs. 28%). Also, in 1980, 6% of the state prison population was comprised of drug offenders, a figure which increased to 21% by 1999. A similar pattern was evident in Federal prisons where drug offenders made up 25% of the total population in 1980 but 57% by 1999. Furthermore, by 1999, approximately 80% of these drug arrests were for possession with only 20% for sales while approximately 40% of all drug arrests involved marijuana (The Sentencing Project, 2001). Currently, approximately 60% of all federal prisoners and 20% of all state prisoners have been sentenced for a drug offense (Sabol, Couture, & Harrison, 2007).

As an example of the potential impact, perhaps the most stringent of such mandatory minimum sentencing laws were the Rockefeller Drug Laws passed in 1973 by then New York State Governor Nelson Rockefeller. These new drug laws established mandatory prison sentences for the unlawful possession and sale of controlled substances keyed to the weight of the substance involved. Generally, the statutes require judges to impose a sentence of 15-years to life for anyone convicted of selling two ounces, or possessing four ounces of a “narcotic drug” (typically cocaine or heroin). The passing of this law contributed significantly to the overall growth of the New York State prison population, from approximately 20,000 in 1980 to more than 70,000 by 1999 (NYS Department of Correctional Services, 2006). This represents an increase in offenders serving time for drug offenses from 9% in 1980 to 33% in 1999, during which time the proportion of incarcerated violent offenders decreased from 57% to 28%.

In December, 2004, Governor George Pataki signed into law the Rockefeller Drug Law Reform Bill (A.11895) (S.7802) to amend sentencing practices; namely creating three separate categories of drug offenders that take into account the number and nature (violent or nonviolent) of prior felony offenses; eliminating life sentences for felony drug offenses; and doubling the weight threshold and applying it only to the possession (not sale) of narcotic drugs. These reforms coincided with a significant reduction in the NYS prison population. According to the NYS Department of Corrections (DOCS, 2008), Rockefeller Drug Law Reform momentum leading up to and including the passage of this bill has been associated with a decline in the NYS prison

population from a peak of 71,600 in 1999 to fewer than 62,500 inmates in 2007, a trend that is expected to continue in the coming years. From 1995 to 2007, 87,528 drug offenders were released from prison on average 8.4 months earlier than had the Rockefeller Drug Laws remained unchanged.

Though excessively harsh and largely ineffective by most standards, the Rockefeller Drug Laws and similar laws in existence throughout the country were created in response to a very serious and real problem, the high prevalence of drug involvement (use and sales) among the offender population. Indeed, a large body of research has established a strong connection between drug use and criminal activity. In order to break the cycle of recidivism, the criminal justice system must determine the best method for sanctioning drug involved offenders and the extent to which rehabilitation should be integral to that approach.

2.3. Relationship between Drug Use and Criminal Behavior

The connection between drug use and criminal activity is well established. Theoretically, there are essentially four ways that drugs are linked to criminal behavior. Goldstein and colleagues (1985) put forth a tripartite conceptual framework positing three ways in which involvement with drugs may lead to criminal behavior: 1) psychopharmacological—crime resulting from the effects of the substance itself (e.g. reduced inhibitions or impaired judgment); 2) economic-compulsive—crime committed in order to obtain drugs or money for drugs (e.g. prostitution, fraud); 3) systemic—crimes resulting from an individual's involvement with the drug dealing and distribution network. Of course, this model ignores the

simplest connection between drugs and crime which is that drug use or possession is in and of itself criminal. Each of these relationships may reflect different types of crimes being committed by different types of offenders.

In 1998, the Center on Addiction and Substance Abuse at Columbia University released a report entitled "Behind Bars: Substance Abuse and America's Prison Population" that represents the most in-depth analysis ever of the relationship between substance abuse and addiction to the explosion of America's prison population (Belenko, 1998a). The report revealed that 80% of those incarcerated in the U.S. were "substance-involved" offenders meaning that they had at least one of the following characteristics: ever used illegal drugs regularly (i.e., at least once a week for a month); convicted of a drug law violation; convicted of a DUI; under the influence of drugs and/or alcohol during the commission of the crime that led to the incarceration; committed offense to get money for drugs; and/or had a history of alcohol abuse (i.e. ever in alcohol treatment). Similarly, the Arrestee Drug Abuse Monitoring Program (ADAM) that measures the extent of drug use among arrestees through urinalysis results found that 65% used at least marijuana, cocaine, methamphetamines, opiates, and/or PCP, with that percentage ranging from 51% to 79% in the 35 participating sites (Taylor, Fitzgerald, Hunt, Reardon, & Brownstein, 2001).

Research has also shown that drug dependence or abuse is much more common among prison inmates compared to those in the general population (Fazel, Bains, & Doll, 2006). For example, in the general U.S. population an estimated 7 million persons (approximately 2-3% of the population aged 12 and

older) are classified with substance abuse or dependence on illicit drugs (U.S. DHHS, 2002; SAMHSA, 2007). Comparatively, a survey conducted by the Bureau of Justice Statistics (Mumola & Karberg, 2006) of State and Federal prisons revealed that nearly half of the inmates met criteria for a substance use disorder. Another study found substance use disorders occurring in the 30-day period before incarceration in 37% of prison inmates with lifetime prevalence rates at 58% (Peters, Greenbaum, Edens, Carter, & Ortiz, 1998). Teplin (1994) found current substance use disorder in 29% and lifetime substance use disorder in 61% of male urban jail detainees. Belenko and Peugh (2005) found that 50% of male and 66% of female inmates were in need of long-term drug treatment.

Alcohol use is also more prevalent among offenders. An estimated 15.6 million persons (6% of the general population aged 12 and older) are considered to be dependent on or abusing alcohol (SAMHSA, 2007). Comparatively, Peters and colleagues (1998) found that 34.5% of prison inmates reported alcohol abuse/dependence in the 30 days prior to incarceration, with lifetime prevalence rates of 53.9%. The Epidemiological Catchment Area Study found 1-year prevalence rates for alcohol abuse/dependence of 26% with lifetime prevalence rates of 56% and Teplin (1994) found current rates of alcohol abuse/dependence of 19.1% and lifetime prevalence rates of 51.1% among a sample of jail inmates.

While very few would debate the fact that offenders are disproportionately involved with drugs, the appropriate response to this problem by the criminal justice system has been hotly contested. The trend over the past 20 or so years has been to increase punishment associated with drug use. However, this has

resulted in historically high rates of incarceration without any evidence that this response has any discernible effects on overall crime rates. If harsher sanctions are indeed ineffective at reducing overall rates of crime, why continue incarcerating alcohol and drug-involved Americans at record rates? Moreover, the “get tough” approach has been implemented at the expense of rehabilitation with much fewer programs being offered in correctional settings. Thus, it must be determined whether there are more effective approaches for sanctioning drug offenders that put a greater emphasis on rehabilitation. If there is evidence of potentially more effective rehabilitative approaches, isn't it the responsibility of researchers, practitioners, and policy makers to collectively determine the most effective, cost-efficient, and safest method for positively impacting crime rates?

2.4. Effectiveness of Drug Treatment

The 1970's were characterized by a general disillusionment regarding the effectiveness of offender treatment programs and once popular rehabilitative strategies became associated with leniency. This shift toward punishment has been attributed largely to the Martinson Report (1974), which reviewed studies evaluating the effectiveness of correctional programs between 1945 and 1967. In total, 231 studies met the following criteria for inclusion requiring: 1) the evaluation of a treatment method; 2) an outcome variable measuring improvement; and 3) a control group. Martinson concluded that with few exceptions, the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism. This conclusion was widely interpreted as

suggesting “nothing works” with the phrase itself becoming an instant cliché that had enormous influence on both popular and professional thinking.

However, critics of the report argued that the results were entirely too inconclusive to suggest definitively “nothing works.” In many of the studies examined, the research methodology was so inadequate that few studies warranted any unequivocal interpretations about what works. Furthermore, many of the programs studied were so poorly implemented that they could not reasonably be expected to have an impact. In response to a congressional mandate for a “comprehensive evaluation of the effectiveness of more than \$3 billion annually in Department of Justice (DOJ) grants to assist state and local criminal justice and community efforts to prevent crime,” Sherman and colleagues (1998) assessed the quality of the research methods of more than 500 studies of various crime prevention programs. The authors created the “University of Maryland Scale of Scientific Methods,” which ranked each scientific evaluation on a scale of 1 (weakest) to 5 (strongest) for the level of certainty that could be given to its conclusions based upon the methodological rigor of the studies. In general, the review concluded that the majority of program evaluations funded by the government are “process” evaluations describing program implementation rather than “outcome” evaluations assessing effectiveness. Ultimately, the report suggested that the current state of scientific evidence is inadequate for informing policy and therefore evaluation funds should be reserved for outcome studies that use significantly more rigorous scientific methods capable of reaching at least minimally valid conclusions.

Critics of the report also felt that such broad generalizations of the conclusions put forth by the authors overlooked many positive instances of success. That is, there was some evidence to suggest that certain correctional programs can effectively change offenders when the “appropriateness” of the intervention is taken into account; which is to say that some service programs can be effective with at least some offenders under some circumstances. Specifically, Martinson gave little attention to the critical issue regarding the fit between the type of offender and the type of treatment provided. Indeed, reviews of evaluations published after Martinson’s essay indicates that there is substantial research evidence demonstrating the effectiveness of correctional treatment (Sherman et al., 1998). Examples of success include: family therapy and parent training for at-risk pre-adolescents; vocational training for older male ex-offenders; extra police patrols for high crime spot areas; on scene arrests for domestic abusers; nuisance abatement action of landlords for rental housing with drug dealing; and therapeutic community treatment for drug offenders in prison.

An important lesson to be learned here is that correctional policy and practice should be evidence-based rather than driven by ideology or popular belief. Many “principles” have been identified that can guide research and begin to effectively distinguish treatment interventions that work from those that do not work. Such basic principles include but are not limited to: 1) treatment must directly address characteristics that can be changed (dynamic factors) and that are directly associated with an individuals’ criminal behavior (criminogenic factors); 2) effective programs must be delivered as planned and designed

(demonstrate implementation integrity or fidelity); 3) programs must target offenders who are at sufficient risk for recidivism so that a reduction is measurable; and 4) programs must deliver treatment in a style and mode that address the learning styles and abilities of offenders (MacKenzie, 2000). Meta-analyses examining treatment studies that have classified treatment programs as appropriate according to these principles have found support for their importance. In general, programs that follow the principles are found to reduce recidivism, although the extent of the reduction varies by the study and principle being examined (Andrews et al, 1990, Lipsey, 1992; Pearson & Lipton, 1999).

Overall, there is mounting evidence to suggest that treatment is effective in reducing crime and recidivism among offenders. A 1997 study by RAND's Drug Policy Research Center found that treatment is the most effective option in the fight against drug abuse, reporting that treatment reduces 15 times more serious crime than mandatory minimum sentences (Correctional Association of NY, 1999). Several studies sponsored by the National Institute on Drug Abuse have also shown that drug treatment programs, on the whole, are successful in reducing the levels of drug abuse and crime among participants. Despite mounting evidence, the lack of sufficient reliable outcome evaluations leaves enough room to perpetuate the debate (Correctional Association of NY, 1999).

Currently, the system has reached a crossroad where the punitive approach that has been embraced over the last quarter-century has resulted in the largest rate of incarceration in our nation's history that has placed an excessive burden on our criminal justice system. According to the U.S.

Department of Justice Statistics, by yearend 2006, 23 State prison systems and the federal prison system operated at more than 100% of their highest rated capacity, while an additional 17 States operated at 90% to 99% of their highest rated capacity (Sabol & Harrison, 2007). As a result, the overwhelming focus has been on managing offenders rather than providing the necessary rehabilitation. Clearly, better options exist for drug-abusing offenders and society as a whole.

2.5. Drug Treatment in Corrections

Due mainly to conditions of prison overcrowding in recent years, policy makers have increasingly sought and utilized alternatives to incarceration. This has resulted in an increased flow of offenders into the community comprised of those who have been released from prison and those who have been diverted from prison. As a result, the field has placed a greater emphasis on offender reintegration, and more specifically in establishing principles, programs, and services that effectively address the special needs of this population. From a systems perspective, reintegration can be conceptualized along a continuum of sorts. There is the more traditional conceptualization of reintegration of an offender returning to the community following a prison sentence, known as the re-entry phase. However, reintegration can also be viewed in terms of an individual's attempts to assimilate following involvement with the criminal justice system even if restricted to community supervision. Both of these options present challenges to the system and the offender, but in the case of the drug offender,

diversion alternatives offer numerous advantages to incarceration, particularly with respect to the potential for offenders to access treatment and services.

2.5.1. Prison and Aftercare—Addressing the Problem at the “Back Door”

The substantial increases in prison populations nationwide have resulted in an influx of offenders into institutions who are in need of substance abuse treatment and, ultimately, a large number of drug-involved offenders leaving prison facilities and entering the community who are in continuing need of treatment. Clearly, the research evidence to date strongly supports the drug treatment need among incarcerated offenders. A CASA survey of prison facilities across the U.S. in 1996 showed that nearly 75% of State inmates were in need of substance abuse treatment (Belenko, 1998a). Despite this overwhelming need, in 1997, only 15% of State prisoners considered to be alcohol- or drug-involved reported that they had participated in drug treatment (e.g., residential unit, detoxification, counseling, or maintenance drug therapy) since entering prison. In total, only 38% of alcohol- or drug-involved State inmates reported participation in any kind of intervention, which includes other types of drug or alcohol programs such as self-help or education programs (Mumola, 1999).

Certainly, prison would seem to be the optimal place to provide treatment as incarcerated individuals are logistically easier to reach, are supposedly using fewer drugs and more likely to be sober, are sometimes reevaluating their life choices, and have fewer demands being made on their time. In reality, there are many disincentives for inmate participation in treatment, including:

- *Limited resources* - most prisons are working with limited resources so that treatment cannot be made available to all those in need. Typically, the limitations include budgetary constraints, space limitations, shortage of counselors, lack of volunteer participants, frequent movement of inmates, security issues, legislative barriers, and other general facility issues.
- *Institutionalization* - prison can be a violent, harsh, psychologically damaging environment that is both depersonalizing and dehumanizing and can lead to feelings of hopelessness and powerlessness to change.
- *Prison culture/Stigma/Peer pressure*- prisoners often learn to identify with the inmate culture as a matter of survival. The “macho” attitude adopted within this culture can discourage offenders from participating in treatment, as it is perceived as a sign of weakness in the prison community.
- *Increased surveillance* – although prevalence levels are typically lower in prison, there is still substance use, and when enrolled in treatment, the offender must confront the necessity to stop using drugs as they will often be subject to frequent urinalysis during the treatment phase.
- *Loss of relationships* – Inmates (women especially) may resist treatment because they have the perception that participation could interfere with or result in the loss of in-prison intimate relationships.
- *Loss of income* –it is often a requirement to give up prison jobs in order to enter treatment, which is considered only one of a few perks in prison.
- *Lack of treatment continuum* –treatment inside the prison is of limited use if there are no services available upon release into the community.
- *Mandatory sentences that prohibit early release* – Without the incentive of early release or if treatment is perceived to be delaying release, inmates are less likely to voluntarily enter and remain in treatment (CSAT, 2005).

Unfortunately, for these reasons, the prison environment is often unable to support drug treatment and rehabilitation efforts. Given the limited availability of treatment, it becomes critical that prison institutions identify individuals who are the most appropriate candidates for their programs (Simpson & Knight, 2001).

This means that a large portion of substance-involved inmates will return to the community with their treatment needs unmet. In addition, there will be the burden of those who were provided in-prison treatment, but still require continued treatment upon release. This raises the potential that many offenders, especially those who went untreated, will be no better off (and often worse off) than when they first entered prison, which at the very least places a tremendous burden on the correctional aftercare system to provide the necessary services.

Despite resource limitations and disincentives for inmate participation in drug treatment, in-prison treatment has been effectively delivered by incorporating several different models, approaches, and philosophies (CSAT, 2005). These include: individual and group counseling (e.g. cognitive-behavioral, self-help, family counseling, anger management, and parenting); educational and vocational training; therapeutic techniques; role playing; video feedback; as well as a blend of these different approaches and techniques. Perhaps the most striking example of successful in-prison treatment is the Therapeutic Community (TC). The TC has been widely recognized as an approach that is highly effective due to its intensity. Model TCs in New York (Wexler et al., 1988; 1990), Delaware (Inciardi et al., 1997; Martin et al., 1999), California (Prendergast et al., 2004; Wexler et al., 1999a; 1999b), and Texas (Knight et al., 1997; 1999) have been shown to reduce recidivism rates, especially if followed by community aftercare.

Not surprisingly, prison re-entry has become a major issue in the United States due to the sheer number of offenders being released from institutions each year. According to the Bureau of Justice Statistics approximately 650,000

State prison inmates are released to the community each year after serving time in prison and by yearend 2006, nearly 800,000 (i.e. 798,202) adults were under State parole supervision (Glaze & Bonczar, 2007). This population of returning prisoners is generally at high risk along several critical dimensions; most have not completed high school, have limited employment skills, have unstable or inadequate living situations, and have histories of substance abuse and physical and/or mental health problems making it very likely that they will commit another crime and many will eventually return to prison (Travis, Solomon, & Waul, 2001).

For example, of the adult parolees at risk of re-incarceration during 2006, 16% were re-incarcerated for either a parole revocation or new offense, a trend that has remained relatively unchanged since 1998 (Glaze & Bonczar, 2007). Longer-term examinations suggest that the failure rate is much higher. The Bureau of Justice Statistics has carried out two of the most comprehensive recidivism studies to date. The first (Beck & Shipley, 1989) tracked a cohort of prisoners released from prisons in 11 states in 1983. The second (Langan and Levin, 2002) tracked a cohort of prisoners released from prisons in 15 states in 1994. Results indicate that within three years of release, 63% and 67% respectively, were arrested for the commission of a new crime. Langan and Levin (2002) also found that within three years nearly 50% were convicted of a new crime, 25% were sentenced to a prison term for a new crime, while more than 50% of those released were back in prison for a new crime or technical violation.

Ultimately, the limitations of in-prison treatment, the subsequent burden placed on the aftercare system, and the resulting high recidivism rates suggests

that a more effective way to deal with many drug offenders should be explored; one that whenever possible utilizes community-based alternatives to incarceration that sufficiently address treatment issues while also providing adequate supervision to ensure community safety. While it is acknowledged that some “drug” offenders are also dangerous criminals, community-based alternatives are especially appropriate for a large portion of offenders whose nonviolent crimes are a product of their recreational drug use, many of whom are incarcerated for drug possession. For these individuals, harsher sanctions may only serve to complicate reintegration and increase the likelihood of recidivating.

2.5.2. Diversion – Addressing the Problem at the “Front Door”

In response to the challenges of prison overcrowding and other burdens on the system, a number of states have passed legislation to amend drug laws and create residential and nonresidential programs designed as alternatives to prison for these nonviolent offenders. These programs have focused largely on providing treatment, employment assistance and housing to help offenders become functioning and productive members of society without the stigmatizing effects of incarceration and with the goal of breaking the cycle of recidivism. While there are numerous community-based alternatives to incarceration, the focus here will be on pretrial diversion programs. That is, the focus will be on programs instituted in lieu of incarceration rather than programs designed for early release from jail/prison or to aide in community transition (e.g., residential halfway houses, work release, intensive parole supervision, etc.).

The National Advisory Commission on Criminal Justice Standards and Goals (1973) defined diversion as “halting or suspending before conviction formal criminal proceedings against a person on the condition or assumption that he will do something in return” (p.27). Diversion programs are typically designed to enable offenders (usually those charged with nonviolent offenses) to avoid criminal prosecution by completing a variety of program requirements. Diversion often occurs at the pre-trial phase where after arrest a defendant charged with a minor offense is offered a postponement of court action if they participate in a program of employment, counseling, or treatment services for periods ranging anywhere from ninety days to one year or more. Satisfactory completion of the program results in a dismissal of charges; "failure" means the resumption of criminal proceedings and an imposition of the original charge/ conviction.

Diversion programs can be implemented as deferred prosecution or deferred sentencing models. Typically, such options are not available to serious or violent offenders but often are available to less serious repeat offenders. The accused who enter the program must waive their right to a speedy trial, a preliminary hearing, the time period in which the grand jury may consider an indictment against the accused, and arraignment (unless the event has already occurred). The accused must then agree, in writing, to all periods of limitation established by statutes or the rules of the court that are applicable to the offense with which the accused is charged and to the conditions of the diversion program that the accused has agreed to enter. Finally, if applicable, the accused must agree, in writing, to pay any reasonable fee for supervision services.

The diversion approach is of particular interest as it burdens the offender with far less stigma than more traditional sanctions. The stigma of criminal justice involvement is minimized by giving the offender an opportunity to avoid prosecution and conviction. This is of great importance especially when dealing with first time nonviolent offenders. A conviction of any sort can be life-altering. Individuals with criminal convictions are often marginalized in a variety of critical areas (e.g., employment, education assistance, housing assistance, licensing, etc.) regardless of whether they have been incarcerated, but face particularly serious barriers to reintegration following a period of incarceration. Indeed, diversion originated in the juvenile justice system and was based on the belief that processing certain youth through the juvenile justice system may do more harm than good by inadvertently stigmatizing some for committing relatively petty acts that might best be handled outside the formal system (Lundman, 1993).

The diversion approach has a strong theoretical background that is based on "labeling" principles that initially evolved from Tannenbaum (1938) who wrote on the "dramatization of evil," to Lemert's (1951) classic statements about labeling leading to "secondary deviance," to Becker's (1963) notion that social groups create deviance by labeling certain acts as "deviant" and treating individuals who commit those acts as "outsiders." Thus, legal intervention by the juvenile justice system may actually perpetuate delinquency by processing cases of children and youth whose misbehavior might be remedied more appropriately in informal settings within the community (more regarding the role and relevance of labeling theory in criminal justice sanctioning will be discussed in Chapter 3).

Partly in response to the issues raised by the labeling perspective, the President's Commission on Law Enforcement and the Administration of Justice report (1967) called for the creation of youth services bureaus to develop alternative programs for juvenile offenders within local communities. The establishment of these bureaus, which quickly appeared in most communities, began a movement toward diverting youth, especially status offenders and non-serious delinquents, from the juvenile court. Of course, any benefits of diversion evident for a juvenile population would not necessarily be evident for an adult offender population. For the adult offender population diversion is valued mainly for its potential to relieve prison overcrowding, rather than for the purpose of reducing stigma, however its theoretical appeal still holds true. That is, minimizing exposure to the criminal justice system potentially has great benefits.

While there are many different diversion models and approaches, one of the most recognized and utilized models for addicted adult offenders is the drug court. Although this study did not recruit a drug court population, the pretrial diversion program from which participants were recruited operates according to all the key procedural components that have been identified (NADCP, 1997):

- (1) Integrate alcohol and other drug treatment services with justice system case processing.
- (2) Using a non-adversarial approach, prosecution and defense counsel promote public safety while protecting participants' due process rights.
- (3) Participants identified early and promptly placed.
- (4) Provide access to a continuum of alcohol, drug, and other related treatment and rehabilitation services.
- (5) Abstinence is monitored by frequent alcohol and other drug testing.
- (6) Coordinated strategy governs drug court responses to compliance.
- (7) Ongoing judicial interaction with each drug court participant is essential.

- (8) Monitoring and evaluation measure the achievement of program goals and gauge effectiveness.
- (9) Continuing interdisciplinary education promotes effective planning, implementation, and operations.
- (10) Forging partnerships with public agencies and community-based organizations generates local support and enhances effectiveness.

The notion that coercive treatment can be effective has been supported by the National Institute on Drug Abuse (NIDA) in putting forth its “Thirteen Principles of Effective Treatment” (principle #10) (NIDA, 1999). Drug Courts and other pretrial diversion programs, through coercive oversight, are able to provide a structure that links treatment with supervision so that not only are offenders adequately supervised to ensure the safety of the community, but they stay in treatment long enough to realize the benefits. This is important, as treatment research has consistently noted that longer time in treatment is associated with improved outcomes (Carroll, 1997; Chou et al., 1998; Lang & Belenko, 2000; Simpson, Joe, & Rowan-Szal, & Greener, 1997). Prior research has shown that 80-90% of conventional drug treatment clients drop out before 12 months, the period generally found to be the minimum effective duration (Huddleston, West, & Boone, 2004). In contrast, more than two-thirds of participants who begin treatment through a drug court complete it in a year or more—a six-fold increase in retention compared to community-based programs operating independent of the criminal justice system (Huddleston et al., 2004). The *National Drug Control Strategy Update* by the White House (2004) hailed the proliferation of drug courts as one of the most promising trends in the criminal justice system.

A number of positive benefits of drug court participation have been identified. Due to similarities in procedural components, it is reasonable to expect that such benefits would be evident for other diversion programs. First, treatment retention is substantially better in drug courts compared to other community-based offender treatment programs (Belenko 1998; 1999; 2001). Second, drug use and recidivism rates are relatively low while the clients are actively participating (Brewster, 2001; Deschenes, Moreno, & Condon, 2001; Stageberg, Wilson, & Moore, 2001). Third, while much less is known about longer term outcomes, post-participation drug use and recidivism rates have been reduced in most studies that analyzed such data (Harrison, Parsons, Eddings, Byrnes, & Sahami, 2001; Truitt et al., 2002). Fourth, studies that calculated program costs found that drug courts save money, primarily through the reduction of recidivism (Belenko 1998; 1999; Finigan, 1999; Harrell, Cavanaugh, & Roman, 1998).

Studies that compare recidivism rates of drug court clients with those of similar groups of offenders who did not receive drug court services generally report more favorable outcomes for drug court clients (Brewster, 2001; Carey, Finigan, Crumpton, & Waller, 2006; Deschenes et al., 2001; Finigan, 1998, Finigan, Carey, & Cox, 2007; Gottfredson, Coblenz, & Harmon, 1997; Peters & Murrin, 1998; Rhodes, Kling, & Shively, 2006; Sechrest, Shichor, Artist, & Briceno, 1998; Stageberg et al., 2001). Drug courts have consistently demonstrated an ability to reduce recidivism (Government Accountability Office, 2005). Four independent meta-analyses have now concluded that drug courts significantly reduce crime rates an average of approximately 7 to 14 percentage

points (Aos, Miller, & Drake, 2006; Lowenkamp, Holsinger, & Latessa, 2005; Shaffer, 2006; Wilson, Mitchell, & MacKenzie, 2006). Drug courts have also proven to be cost-effective (Aos et al., 2006, Carey et al., 2006; Finigan et al., 2007). For example, a net cost-benefit has been estimated per client of \$4,767 (Aos et al., 2007), \$8,000 (Carey et al., 2006), and \$6,744 but as high as \$12,218 when victimization was also accounted for (Finigan et al., 2007).

Research on drug courts has also attempted to examine specific factors of the drug court leading to its effectiveness. Many of these factors are common elements practiced in other pretrial diversion models and therefore should be considered for their potential to influence outcomes. A recent meta-analytic review (Shaffer, 2006) of 60 drug court evaluations found that:

- programs seem to be more effective when the consequence of failure is the imposition of charges (pre-adjudication) rather than the imposition of a sentence (pre-sentencing);
- mixed models (i.e. serving both pre- and post-adjudication clients) appear to be less effective; programs designed to provide longer-term services (8 to 16 months) are significantly more effective than those designed to last less than 8 months or longer than 16 months;
- inclusion of violent offenders results in reduced effect sizes; releasing an offender from supervision upon graduation may be less effective; and
- drug courts that provide a more formal response to the first positive drug test (e.g. barring failures from participation) are more effective.

Drug courts and other pretrial diversion programs were initially created in response to the perception that the traditional, adversarial, more punitive criminal justice response does not adequately address the issues of nonviolent drug

offenders. The proliferation of drug courts in the past decade or more can be fairly characterized as an attempt to reinvigorate the ideal of rehabilitative justice. Pretrial diversion programs reject the punitive model in favor of a system where the universally shared goal, the defendant's recovery from drug addiction and increased public safety, is expressed at the outset and shared by all parties; judge, prosecutor, defense attorney and defendant alike. Considering, at the very least, a shift in philosophy coupled with a demonstrated potential to significantly reduce recidivism relative to more expensive alternatives such as incarceration, criminal justice systems throughout the country have begun to implement programs consistent with the drug court approach. More recently, many State statutes permit the establishment of diversion programs that operate on similar principles (i.e., treatment in lieu of conviction) evident in drug courts although these interventions are not specifically characterized as a drug court.

The Kings County (Brooklyn, NY) Drug Treatment Alternative-to-Prison (DTAP) program, created by District Attorney Charles J. Hynes in October 1990, has been recognized as one of the nation's most successful diversion programs. DTAP aims to treat nonviolent, drug-addicted felons who face a mandatory prison sentence under New York State's second felony offender law. DTAP's objective is threefold: to (1) reduce drug abuse, (2) improve public safety, and (3) save money. DTAP was initiated on the premise that defendants would return to society in a better position to resist drugs and crime after treatment than if they had spent a comparable amount of time in prison at twice the cost. DTAP is a deferred sentencing model where qualified defendants enter a felony guilty plea

and receive a deferred sentence (including a specific prison term to be imposed in the event of noncompliance) that allows them to participate in a residential TC drug treatment program for a period of 15 to 24 months. Those who successfully complete the program have their charges dismissed; those who fail are brought back to court by a special warrant enforcement team and sentenced accordingly.

As of February 1, 2008, 2568 defendants have been accepted into the program, 363 are still in treatment and 1065 have completed the program and have had their charges dismissed. Since 1998, when DTAP shifted from a deferred-prosecution to a deferred-sentencing model, the program has achieved an impressive one-year retention rate of 76% (compared to a 64% retention rate when previously operating as a deferred prosecution model). Much of the program's success, especially with respect to the high retention rates, has been attributed to the very certain and swift prospect of prison in the event of noncompliance. That is, 90% of the participants who failed treatment have been returned to court for prosecution and sentencing in a median time of 18 days. DTAP has also been shown to be highly cost effective. An analysis of the savings realized on corrections, health care, public assistance and recidivism costs combined with the tax revenues generated by the DTAP graduates reveals economic benefits of \$42.4 million for the 1065 graduates (Brooklyn DA, 2008).

Since its inception, the DTAP program has been evaluated annually by the Kings County District Attorney's office, with the most recent being the Sixteenth Annual Report (Brooklyn DA, 2007). The National Center on Addiction and Substance Abuse (CASA) at Columbia University conducted a five-year outcome

evaluation of DTAP. In a white paper, *Crossing the Bridge: An Evaluation of the Drug Treatment Alternative-to-Prison (DTAP) Program* (Belenko, Sung, & O'Connor, 2003), CASA endorsed the program as “a promising example of what law enforcement can do to reduce the number of addicted drug offenders in America’s prisons” (p.ii). The report cites the following dramatic findings:

- DTAP participants remain in treatment six times longer than those in the most recent national study of long-term residential treatment;
- participants had re-arrest rates that are 26% lower, re-conviction rates that are 36% lower, and were 67% less likely to return to prison two years after leaving the program than those of a matched comparison group;
- graduates had re-arrest rates that were 33% lower; re-conviction rates that were 45% lower; and were 87% less likely to return to prison two years after leaving the program than those of a matched comparison group;
- graduates are three and one-half times more likely to be employed than they were before their arrest; and perhaps most importantly all of these results are achieved at about half the cost of incarceration.

DTAP has been extremely successful in melding a very tough yet compassionate approach that has proven to be effective with a repeat drug offender population. DTAP participants are more serious offenders, and in many ways typify the general adult prison population (Belenko et al., 2003). Thus, if the model can be effective with a more “serious” offender, a similar approach should hold great promise for first time nonviolent drug offenders. The deferred sentencing model (and the deferred prosecution model) has proven very effective in maintaining high retention rates. This balance between competing criminal justice and treatment goals has often been very difficult to achieve. Despite

having a significant shared population, the criminal justice and drug treatment systems have traditionally operated substantially apart from each other.

2.6. Conclusion

Having advanced the argument that diversion alternatives for drug-involved offenders are most effective and therefore most appropriate, it is important to consider some of the theoretical justifications for punishment that might inform criminal justice policy. The fact of the matter is, despite the knowledge that: 1) increased incarceration does not reduce rates of offending; 2) the consequences of mass incarceration have placed an excessive burden on the criminal justice system, which has arguably exacerbated the problem; and 3) effective rehabilitative alternatives have been identified; it is still common practice for criminal justice policy makers to favor a “get tough” approach on crime.

This next chapter will review two competing crime control objectives—punishment vs. rehabilitation. At the expense of rehabilitation, objectives consistent with deterrence and incapacitation have been the driving force behind the punitive approach based on the belief that harsher sanctions will prevent future offending. However, in the past decade, the “collateral” or “unintended” consequences associated with harsher punishment (e.g. conviction and/or incarceration) have been increasingly recognized as problematic with some actually suggesting such policies have a criminogenic effect.

III. Theoretical Rationale for Punishment

The previous chapter included a detailed review of the effectiveness of various criminal justice rehabilitation programs and approaches for drug offenders. There is now sufficient empirical support demonstrating the capacity of some correctional programs to reduce recidivism, and correctional treatment is generally supported by the public (Applegate, Cullen, & Fisher, 1997). Taking into account the demonstrated promise of rehabilitation efforts it would seem these programs should be prioritized. However, the reality is that rehabilitation has often been relegated as secondary to punishment (Logan & Gaes, 1993).

Historically, the debate on the goals of punishment has been reduced to two competing correctional philosophies. On the one hand, the rehabilitative philosophy closely resembles a medical model where treatment and programming are provided with the expectation that, if the disorder or problem is ameliorated, the individual will not engage in future criminal behavior. On the other hand, the “get tough” philosophy is based upon the multiple justifications of deterrence, incapacitation, and/or retribution. The state has the right and duty to protect its citizens through the exclusion of dangerous members. Currently, the “get tough” philosophy supersedes the rehabilitative goal and is justified based on the belief that rehabilitation is ineffective and therefore a waste of resources.

For those who break the law, punishment serves as retribution or to incapacitate and deter offenders. Incapacitation and deterrence are similar in that both imply that punishment will also serve to benefit society by reducing overall rates of offending. In contrast, retribution is essentially the only pure form of

punishment and cannot be considered a crime reduction strategy. That is, retribution subscribes to the notion that punishment is an acceptable response to crime, regardless of whether it produces any tangible benefits to the offender or society. Rehabilitation promotes the belief that offenders can be helped rather than simply punished. Proponents of rehabilitation take the position that punishment does not address the underlying causes of offending behavior (Sentencing Project, 1998). Instead, changing the offender will help to prevent his or her re-offending, which in turn will promote society's right to safety and protect individuals from further victimization. Critics of the rehabilitative ideal contend that this approach is too lenient on offenders, lacks accountability, and in doing so ignores the importance of retribution to society and the victim.

Although often viewed in competition to one another, decades of research have demonstrated that both of these theoretical perspectives have some merit, especially when a shared approach is implemented. Diversion programs have largely been successful because the approach combines the carrot of treatment with the stick of punishment, which assures both accountability and an opportunity for rehabilitation. At the same time, diversion minimizes exposure to the criminal justice system often sparing the offender the burden of an official criminal label (i.e. "conviction"). Alternatively, it is believed that meting out punishment without incorporating treatment is counterproductive as for many it will promote further offending due to the criminal label that has been applied and the resulting barriers that place ex-offenders at a significant disadvantage.

Labeling theory is a theoretical perspective popular in the 1950's that may be expanded and used to explain this criminogenic phenomenon. In the past, the theory focused exclusively on the cognitive processes of labeling. More recently, labeling theory has garnered increased attention as the perspective has been broadened to address more tangible effects. Thus, the argument becomes that punishment impacts the offender's ability to reintegrate in that it serves to stigmatize and marginalize offenders by reducing opportunities for jobs, housing, or education, which increases frustration and, in response, re-offending. Thus, the potential exists to minimize this stigma through diversion and record sealing.

In summary, this chapter will argue that not only is there a lack of evidence regarding the effectiveness of incapacitation and deterrence as viable crime control strategies, but that these approaches can, in fact, be criminogenic. There is growing evidence that punishment alone (in whatever form) is ineffective for reducing crime and instead actually promotes further offending. This is not to say that offenders should not be held accountable for their behavior. Instead, punishment should be complimented by efforts to provide offenders while under criminal justice supervision with some necessary services that will increase their chances for success as they attempt to reintegrate. For first-time nonviolent offenders especially, diversion offers a well deserved chance at rehabilitation while effectively assuring some much needed accountability in the event that the offender does not make good on this second chance. More to the point, because diversion minimizes stigma via record sealing, this approach also better positions the offender for successful reintegration, which should reduce re-offending rates.

3.1. Incapacitation as a Crime Control Strategy

Incapacitation, simply put, operates by taking away an individual's ability to commit crime against the general society during his or her period of incarceration. That is, criminals are institutionalized so that during the period while they are behind bars they will be physically unable to engage in criminal acts perpetrated against society. More specifically, a theory of selective incapacitation suggests that individuals at high risk of repeating criminal behavior (or those known to engage in a lot of crime) can be identified and incarcerated for long periods of time to achieve the greatest impact on crime rates.

Incapacitation is often mentioned but rarely studied possibly because it is so methodologically complex. Conceptually it is quite simple, the incarceration of those who are most likely to commit crimes will help prevent future crime (Darley, Carlsmith, & Robinson, 2000). It is an attractive strategy if you consider that every year nearly 600,000 inmates are released from custody (Hughes & Wilson, 2008) with a 40-50% chance of a new conviction and a two-thirds chance of being re-arrested (Beck & Shipley, 1989; Langan & Levin, 2002). These figures suggest the potential to prevent hundreds of thousands of new crimes committed each year by keeping these individuals segregated from the rest of society.

From an empirical perspective, the determination of any incapacitation effect on crime is much more complex. There have been two main approaches to developing estimates of the impact of incarceration on crime. General incapacitation strategies aim to reduce criminal activity as a consequence of increasing the total level of incarceration. The effectiveness of this strategy is

generally determined through the use of cross-sectional data at the aggregate level to capture the impact of incarceration on crime rates (e.g., Levitt, 1996; Marvell & Moody, 1994). Selective incapacitation strategies focus on trying to incarcerate the offenders who represent the greatest risk for future offending. The effectiveness of this strategy is generally determined by creating estimates of the crime an offender would have committed during a “criminal career” had s/he not been incarcerated (e.g., Greenberg, 1975; Shinnar & Shinnar, 1975).

3.1.1. Effect of General Incapacitation on Crime Rates

Studies that have examined the incapacitation effect at the aggregate level have generally not found support. Although it is difficult to assess on a national level due to varying policies and incarceration and/or crime trends, statistics show that crime rates are declining across the nation regardless of individual state law enforcement policies while most drastic incapacitation and deterrence strategies (e.g. three-strikes) were adopted long after crime rates began to fall (Tonry, 1999). There have been several studies at the local level to suggest the absence of an incapacitation effect. For example, a study analyzing the impact of strict drug law enforcement on crime rates in California revealed that counties that sharply increased their imprisonment rates for drug offenses showed significantly slower decreases in the most serious Part I felony offenses while counties that placed less emphasis on arresting and imprisoning low-level drug offenders in favor of other alternatives showed significantly larger declines in violent and property crime (Males, Macallair, Rios, & Vargas, 2000).

Perhaps most important is the fact that the measures of simple correlation between incarceration rates and crime rates are not sufficient to assess incapacitation effects and in some instances may be quite misleading. For example, examining the incarceration rates in California between 1963 and 1998¹ for robbery offenses shows that between 1963 and 1980 the incarceration rate for robbery remained roughly stable whereas during the same period the robbery rate increased by a factor of four. This would suggest a correlation close to zero, as the first was rising sharply and the second was roughly stable. Between 1980 and 1988 the correlation is negative as the imprisonment rate steadily increased and the crime rate steadily decreased; this suggests a large incapacitation effect. From 1988 through 1993, the correlation switches to a positive value with the robbery imprisonment rate continuing its ascent at a constant rate relative to the prior period while the robbery rate showed a steep increase, suggesting the incapacitation effect is counterproductive. Thus depending on the point of view one can find support for claims that the incapacitation effect is large, nonexistent, or counterproductive. However, if one were to examine burglary rates in California during this same time frame, the trend would almost uniformly support the incapacitation hypothesis as the incarceration and crime rates consistently move in the opposite direction. This demonstrates an inconsistent relationship across time and crime types.

¹Accessed online at [href="http://law.jrank.org/pages/1353/Incapacitation-scholarly-literature-on-incapacitation-measurement-incapacitative_effects.html"](http://law.jrank.org/pages/1353/Incapacitation-scholarly-literature-on-incapacitation-measurement-incapacitative_effects.html)>Incapacitation - The Scholarly Literature On Incapacitation And The Measurement Of Incapacitative Effects.

3.1.2. Effect of Selective Incapacitation on the Criminal Career

Of all the crime control strategies, the criminal career paradigm has focused the most attention on selective incapacitation. The criminal career approach partitions the study of crime into two primary dimensions: “participation,” the distinction between those who commit crime and those who do not, and “frequency,” the rate of offending among active offenders. Other dimensions of the active criminal career include “duration,” the interval between initiation and desistance, and “seriousness.” In general, estimates of participation (more commonly termed as prevalence) in criminal activity are fairly consistent with most criminological research. For example, it is well accepted that male participation rates are typically higher than those for females, black participation rates are typically higher than those for whites, and that the rate of offending generally decelerates with age, a phenomenon termed as “aging out.”

Most relevant to the study of selective incapacitation is the ability to estimate the individual offending frequency of active offenders during their criminal career (commonly denoted by the Greek letter, λ). However, there are several inherent estimation difficulties. First, in order to estimate the number of crimes the offender will commit in the future, a rate of past offending must be established as a basis for that estimation. Early research on incapacitation used official records of arrests or convictions to estimate these individual-level offense rates (Blumstein & Cohen, 1979; Greenberg, 1975; Petersilia & Greenwood, 1978; Van Dine, Dinitz, & Conrad, 1977). Because offenders are not arrested for the majority of offenses they commit, this method results in a vast

underestimation of prior rates of offending. Second, researchers had to estimate the length of an individual criminal career, including determining when the criminal activity began, when it ended, and how rates of criminal activity may have varied during the active portion of their criminal career. Again, available records do not provide sufficient information to enable researchers to make these types of detailed estimates of these parameters of the criminal career.

In the early 1980s, self-report surveys were used to help estimate individual rates of crime (Chaiken & Chaiken, 1982; Greenwood & Abrahamse, 1982; Peterson & Braiker, 1980; Peterson, Braiker, & Polich, 1981; Peterson, Chaiken, Ebener, & Honig, 1982). These surveys asked offenders who were entering prison to report on their patterns of offending during a recent period prior to their incarceration. This allowed for more comprehensive estimates of the number of crimes committed. Though self-report methods led to much improved estimates, several methodological complexities and limitations remained:

1. Many of the key dimensions of the criminal career are not subject to reliable measurement. Detailed observation of a large number of persons who commit crime would be required over a long period of time before it would be possible to assemble the necessary data to uncover the complex patterns of offending.
2. Estimates of lambda often reflect a process that once initiated continues consistently at a fixed rate for a finite period and then suddenly ceases. This is completely inconsistent with any known theory of crime and assumes that psychological and environmental "causes" of crime are held constant.
3. Estimates of lambda have been known to vary substantially by crime type (English, 1993; Horney & Marshall, 1991). Furthermore, a substantial amount of research suggests that offenders tend to be generalists rather than specialists (McGloin, Sullivan, Piquero, 2009), which suggests that their rate of offending may fluctuate depending upon the offenses in which they engage.

4. The fact that there are a large number of offenders who commit very few crimes (low lambda) and a small number of offenders who commit a large percentage of crimes results in a skewed distribution tending toward larger mean estimates of offending (Visher, 1987).
5. Previous studies have shown that criminal activity substantially declines following arrest during periods of probation supervision (MacKenzie et Souryal, 1997). Thus, estimates of lambda based on the pre-arrest period may greatly overestimate crime savings since these offenders would be offending at a much lower rate had they been sentenced to community sanctions.

Following numerous efforts at quantification, Piquero and Blumstein (2007) point out that the cited incapacitation effect on crime varies considerably, with most based on old and incomplete estimates of the longitudinal pattern of criminal careers. They argue that considering there are more than 2 million individuals currently incarcerated in this country, some incapacitation effect is likely, but it is still uncertain how much that affects the crime rate and how it is distributed among individual offenders. Nagin (1998) further argues that despite substantial progress in methods and theory, disparities in the estimates of incapacitation continue to be huge, leading him to conclude that "The evidence [about incapacitation] is of limited value in formulating policy. [Predicting] the timing, duration, and magnitude of the impact of incremental adjustments in enforcement penalties remains largely beyond our reach" (p. 367).

Critics of incapacitation theory argue that it serves only to delay not prevent crimes. That is, unless you are going to incarcerate offenders for life, they will eventually be released from prison at which time they will likely commit their share of crimes. Furthermore, if longer prison sentences do in fact contribute to increased recidivism as prior research has suggested, greater incapacitation may result in some offenders' recidivating who otherwise may not

have; committing more overall offenses, or committing more serious offenses. Perhaps the greatest difficulty in determining the effectiveness of incapacitation is sorting out whether crimes averted due to incarceration aren't ultimately replaced by another potential offender in the community. That is, because a very small percentage of crimes committed are actually known to the police, if certain individuals are incarcerated and therefore unable to commit crimes, would this increase the likelihood of detection for other crimes so that in effect the end result is the exact same number of crimes being detected by police?

Incapacitation theory has one specific and crucial limitation relevant to this study. Selective incapacitation strategies have limited utility with low level offenders (i.e. those that offend less frequently) and are completely irrelevant with a target population of offenders whose sanction is not institutionally based (e.g., prison or jail). That is, incapacitation effects are realized as a direct result of incarceration while the strategy itself is not intended to address what motivates individuals to commit crimes. Thus, from a policy perspective, it fails to lend any explanation to how to impact crime among the general population of potential offenders who have the opportunity to commit crimes. In contrast, deterrent strategies are theoretically relevant to a range of offenders and non-offenders.

3.2. Deterrence as a Crime Control Strategy

Deterrence has its roots in behavioral psychology as it focuses on preventing or controlling behavior through the fear of consequences. Deterrence can be divided into two distinct forms—general and specific (Zimring & Hawkins,

1973). General deterrence focuses on the societal prevention of crime by making examples of specific criminals. The idea is that if members of society see others suffering consequences for their actions, they will be less inclined themselves to engage in such acts due to the perceived consequences. Specific deterrence focuses on the individual with the aim of punishment being to discourage the criminal from future criminal acts by instilling a personal understanding through experience of the consequences. For example, an individual sentenced to prison would dislike his/her experience so much that s/he would do whatever it takes to ensure s/he never returns. Deterrence is rooted in Rational Choice Theory (Siegel, 1992), which suggests that individuals are rational actors who often weigh the associated costs and benefits of action and then act accordingly.

3.3. Evidence for the Effectiveness of Deterrence Strategies

While some scholars, especially economists, believe that the decision to become a criminal is made in much the same way other routine life choices are made (e.g., where to work, where to live, where to attend school, whom to date, etc), other scholars, especially sociologists, contend that this is too simplistic. Specifically, critics of deterrence contend that, unlike the consequences of making other more routine life choices, consequences associated with the commission of a crime are much less evident to the actor in many respects.

First and foremost, this rational choice assumes that individuals are rational rather than impulsive actors. Second, assuming that all potential criminals are rational and not impulsive actors, there are numerous limits to that

rationality. At the very least, a potential criminal would have to be aware of the penalties associated with a given act in order to sufficiently assess the cost of action. While most individuals will be aware that serious crimes carry stiff penalties, the majority of crimes committed are of a less severe nature where the consequences are relatively unknown to the offender. Thus, in most instances the benefits will be more obvious to the offender, who will be largely ignorant to the cost. Furthermore, even if the penalty for a given action is known, the certainty of being apprehended is not. In fact, the odds of avoiding apprehension are in most cases good enough to justify the risk, especially since the reward is typically immediate. Finally, even if the individual is apprehended, there are often long delays associated with court dispositions, plea bargains result in the reduction of charges, charges can be altogether dropped or dismissed, and ultimately the chance of being sentenced to time in prison is minimal. In summary, the impact of deterrence depends on perceptions and the realities of the certainty, celerity, and severity of punishment for a given act (Tittle, 1969).

In addition to its theoretical limitations, the deterrence concept is especially difficult to subject to empirical testing. Typically, the term deterrence is used to apply to instances where a threat causes an individual who would have committed a specific behavior to refrain from doing so. Thus, in essence the outcome measure of interest is a non-event or a crime that did not occur. With this complexity in mind, deterrence has typically been conceptualized in two ways—*absolute deterrence* where rates of behavior that would result from a particular threat or sanction are compared to the rates of behavior if that threat or

sanction were removed and *marginal deterrence* where the goal is to determine the relative effect of a harsher penalty in reducing the rate of the threatened behavior experienced under a lesser penalty (Zimring & Hawkins, 1973).

3.3.1 Evidence for the Effectiveness of General Deterrence

Two nationally visible issues are conducive to the study of the general deterrence theory—drunk driving sanctions and the death penalty. Over the last three decades, considerable attention has been given to the general deterrent effect of drinking and driving sanctions on rates of drunk driving and alcohol-related crashes. This provides an examination of absolute deterrence where rates of alcohol fatalities are compared prior to and following the application of legal sanctions intended as general deterrents to drinking and driving, including fines, license actions (restriction or removal of driving privileges), vehicle sanctions (impoundment, immobilization), and confinement. Statistics show that following application of these sanctions the number of drunk driving fatalities has declined 39% since 1982, going from 21,113 fatalities in 1982 to 13,407 fatalities in 2006 (NHTSA, 2007). These notable findings of sanctions on drunk-driving fatality rates provide the most compelling evidence for a general deterrent effect.

It is important to note, however, the prevailing view is that the most effective sanctions are those that are certain and swift, such as licensing actions, while more severe penalties (confinement) are much less effective and more costly to implement (Watson, 1998). For example, several studies have suggested that measures such as licensing actions (Beirness, Simpson,

Mayhew, & Jonah, 1997; DeYoung, 1997; Nichols & Ross, 1990; Peck, 1991; Williams, Weinberg, & Fields, 1991), sobriety checkpoints (Elder et al., 2002), and vehicle-based sanctions (Voas, Tippetts, & Lange, 1997) act effectively as a general deterrent by reducing the overall rate of crashes that involve alcohol. Community surveys have identified license suspension as the most commonly known, understood, and feared sanction for driving while intoxicated (Voas & Lacey, 1990). Thus, while it may be beneficial to promote new laws to deter problem behavior, excessively harsh responses (e.g., mandatory jail time) may not produce the desired effect. Thus, careful consideration should be given to the type of sanctions that are most likely to reduce a specific criminal behavior.

Perhaps the most recognized examination of the impact of sanction severity on crime is on the use of capital punishment. Being the only western democracy that has retained the death penalty, the United States has become the focus of research on the deterrent effects of capital punishment. Initially ruled by the Supreme Court as unconstitutional in 1972, it was reinstated four years later setting the stage for individual states to decide whether to reintroduce the death penalty. The subsequent reintroduction of the death penalty in some states and not in others created a natural experiment where evaluations could be conducted using a simple before/after comparison (absolute deterrence), cross-jurisdictional comparisons (marginal deterrence), or a combination of both.

There is a vast literature of empirical research on the deterrent effect of capital punishment. A recent meta-analytic review by Chan and Oxley (2004) summarizes the findings of 74 research studies conducted and published (mainly

in the United States) between 1952 and 2003. Results show that in most studies (66%), the use of capital punishment did not deter the commission of homicide; 23% of studies found evidence consistent with a deterrent effect; and 11% were inconclusive or found contradictory results. Overall, the authors concluded that the weight of the research evidence strongly supports the position that no consistent deterrent effect of capital punishment has been demonstrated.

Out of the three components of deterrence (i.e., severity, celerity, and certainty) only two have been studied extensively, certainty and severity. Research has found the component of certainty to be more effective than severity in changing behaviors such as tax evasion (Varma & Doob, 1998); drinking and driving (Pogarsky, 2002); property crimes (Baron & Kennedy, 1998); theft, illegal gambling, tax evasion, and assault (Grasmich & Bryjak, 1980); and cheating on tests (Nagin & Pogarsky, 2003). This general pattern suggests that increasing certainty through apprehension is the best way to reduce crime (Lab, 2004), while at the same time suggesting that if research fails to support severity, general deterrence cannot be considered an effective strategy.

Overall, support for general deterrence as a strategy for crime control is weak. Offenders in particular are believed to be irrational and impulsive actors, possessing low self-control as depicted in Gottfredson & Hirschi's general theory of crime (1990). According to Gottfredson and Hirschi (1990), given the opportunity to do so, individuals lacking self-control will engage in a wide range of criminal and other deviant behavior (e.g., smoke, drink, use drugs, gamble, engage in illicit sex, etc). Low self-control comprises six essential dimensions:

impulsivity, preference for simple tasks, risk-seeking potential, preference for physical (as opposed to mental) activities, self-centeredness, and the possession of a volatile temper. Regardless of the measures employed, the large majority of empirical tests have been supportive of the theory's core propositions (see for example, Bolin, 2004; Jones & Quisenberry, 2004; Pratt & Cullen, 2000; Tittle, Ward & Grasmick, 2003; Vazsonyi, Pickering, Junger, & Hessing, 2001; Vazsonyi, Wittekind, Belliston, & Van Loh, 2004; Vazsonyi & Crosswhite, 2004). This overwhelming body of evidence in favor of a theory of low self-control coupled with weak evidence of a general deterrent effect suggests that harsh penalties are unlikely to produce any measurable reduction in crime.

3.3.2. Evidence for the Effectiveness of Specific Deterrence

Numerous studies examining the impact of prison sentences on future offending have failed to support the theory that longer prison sentences result in a reduction in offending and in some instances actually demonstrate an increase in the rates of re-offending. For example, a meta-analysis of 50 studies with 336,052 offenders found that those incarcerated had a rate of recidivism 7% higher compared to those sentenced to community-based corrections (Gendreau, Coggin, & Cullen, 1999). Among those incarcerated, longer sentences were associated with a 3% increase in recidivism. Furthermore, high risk (3%) and low risk (4%) offenders who spent more time in prison had comparable increased rates of recidivism, which suggests that longer prison sentences fail to deter less serious offenders. Similarly, a meta-analysis of 117

studies with 442,471 offenders found that incarceration and longer sentences produced a 3% increase in recidivism (Smith, Coggin, & Gendreau, 2002).

One famous example of a program created with specific deterrence in mind is the “Scared Straight” program. This program introduced at-risk youth offenders to adult inmates serving substantial sentences for the commission of violent crimes. The inmates literally attempted to scare these youth straight by introducing them to the harsh realities of prison life. A subsequent evaluation of the program (Finckenauer, 1982) revealed that within 6 months of the sessions, 41.3% of the youth committed a new offense compared to 11.4% of the control group. Such findings not only bring into question the value of specific deterrence and its effectiveness, but also suggest that it can be counterproductive in that it actually produces higher rates of recidivism. Therefore, it could be concluded that the use of imprisonment is not an effective measure of crime prevention and may be instead criminogenic (Laub, Sampson, Corbitt, & Smith, 1995).

3.4. Theories Positing Deviance Amplification

Numerous criminal justice theories disagree with the threat of punishment as an effective means of crime control. In fact, many of these theories posit that harsher punishment only serves to further amplify criminal behavior. Again, this dissertation will argue that punishment for the sake of punishment that makes no attempt to also rehabilitate offenders will not only fail to have any measurable impact on crime rates, but also will serve to promote further offending behavior.

3.4.1. Social Learning Theories. One of the earliest learning theorists, Edwin Sutherland (1939), argued through his Differential Association Theory that the process of learning criminal behavior involves all the common mechanisms that are inherent in any other form of learning. Sutherland suggested that criminal behavior is learned through face-to-face interaction with others; that learning depends on the priority, intensity, and duration of that interaction; and that learning involves techniques, motives, attitudes, and definitions of criminal behavior. Burgess and Akers (1966) proposed a revised theory known as Differential Reinforcement positing that learning involves the application of rewards and punishments. We tend to associate with individuals who reward our behavior and in doing so individuals engage in behavior, receive rewards, and repeat behavior; and we learn to define those behaviors which are rewarded as positive. This is similar to Cloward and Ohlin's Subculture of Delinquency theory (1960) that suggests that those who are unsuccessful (or blocked) in the more conventional and legitimate avenues of life tend to identify with others who have also been marginalized. Within this subgroup, these individuals find acceptance of their deviance, which only serves to reinforce their negative behavior.

Social learning theories in almost every manifestation posit that individuals can learn to be criminal through interactions with others. Exposure to criminals or like-minded individuals (taking into consideration the intensity and duration of exposure) allows individuals to rationalize their criminality, provides additional motives for committing crime, and in some instances may help them to become better criminals by providing both opportunity and technique. As such, it is safe to

assume that most learning theorists would promote sanctions, when appropriate, that limit exposure to other criminals as a viable approach to crime control.

3.4.2. General Strain Theory. Strain theory claims that crime is a result of lower-class frustration and anger. That is, the inability to achieve certain socioeconomic goals creates an increased amount of strain, causing crime. Agnew (1985) developed what is known as General Strain Theory (GST), which suggests that crime is an individual adaptation to stress. Agnew identifies three types of strain that produce deviance in an individual: failure to achieve positively valued goals (e.g. money, status, autonomy), removal of positively valued stimuli (e.g. death of a loved one), and confrontation with negative stimuli (e.g. abuse, neglect, negative experiences and relationships). GST sees harsher sanctions as criminogenic in that imprisonment satisfies all three strains (Agnew, 1985). Having a criminal conviction alone can present a major barrier, making it very difficult to pursue of a “conventional” lifestyle; incarceration makes it impossible. Conviction and incarceration can also promote alienation from the more positive individuals and influences in an offender’s life. Perhaps most importantly, involvement in the criminal justice system promotes interactions with other offenders, introducing a range of negative influences and circumstances.

3.4.3. Control Theories. Unlike most crime theories that attempt to explain the motivation of individuals to engage in crime, control theories assume that most individuals are naturally motivated toward crime and instead attempt to explain why individuals conform to conventional behavior. Travis Hirschi, the most prominent control theorist, argued that delinquent acts result when an

individual's bond to society is broken. His Social Bond Theory (1969) cites four bonds—attachment, commitment, involvement and belief. Attachment reflects the degree to which individuals value the close relationships (e.g., parents, peers, or teachers) in their lives and care about how they are perceived. Close attachments encourage conformity as we honor those we admire by adhering to conventional standards. Commitment is an investment or stake in conformity. It is the aspiration, pursuit and attainment of future success (e.g., higher education, a prestigious job, and/or respect in the community). Commitment to such goals ensures conformity because an individual is unlikely to risk all the conventional rewards they covet for a delinquent opportunity. Involvement suggests that the actual amount of time it takes to pursue conforming activities (e.g., studying or working) requires a sufficient portion of available time, thus leaving an individual little or no time to engage in criminal behavior. Belief is the acceptance of a common morality that rejects deviance and promotes conforming behavior.

The theoretical tenets of control theory imply that involvement in the criminal justice system can remove positive stimuli by weakening attachments to more conventional individuals and reducing commitment to more conventional goals. That is, criminal justice involvement can carry social stigma, which might negatively impact the perceptions of friends and family. Criminal justice involvement can also create barriers to conventional goals such as obtaining a prestigious job, which might serve to reduce the offender's commitment on the basis that it is a waste of time and energy to aspire to unrealistic goals. Likewise, criminal justice intervention (particularly incarceration) without vocational or other

skills training damages the offenders' ability to maintain or create bonds to individuals or employment during reintegration. Without these bonds, individuals are more inclined to commit crime (Laub, Sampson, Corbett, & Smith, 1995).

3.4.4. Labeling Theory. The idea that punishment, intended to serve as a deterrent for future crime, can be criminogenic has its roots in labeling theory. This perspective can be traced back as far as Frank Tannenbaum's theory of the "dramatization of evil" (1938). This theory argued that while acts of delinquency (e.g., breaking windows, theft, or truancy) are a normal part of life for most youth, it is the "tagging" of that individual as delinquent that has the greatest impact. That delinquent label becomes the lens through which others view the offender, which can damage his/her self-concept and eventually becomes a self-fulfilling prophecy. Though Tannenbaum's theory put forth logical and common sense explanations for deviance, it wasn't until the 1950s and 1960s that the theory was revived and redeveloped to what is now known widely as labeling theory.

In its most common expression, labeling theory has not drifted far from what was proposed by Tannenbaum. Perhaps the most well known labeling theorist is Edwin Lemert. He suggests that while primary deviance may be a product of biological, sociological, or psychological factors, sanctions imposed following one's initial involvement in criminal behavior lead to "secondary" deviance when deviant labels are accepted (Lemert, 1951). This perspective is derived from symbolic interactionism in sociology that is founded on the theory that humans interact with one another based on definitions that people construct around circumstances. Most individuals who have committed crimes do not view

themselves as criminal (see Sykes & Matza's *Theory of Neutralization*) until others view and treat them as such. The resulting focus of social interactions around this new status promotes acceptance of that label, and the acceptance of the label becomes a "self-fulfilling prophecy" that leads to more offending.

Howard Becker developed his theory of labeling (aka social reaction theory), described in his book "Outsiders: Studies in the Sociology of Deviance" (1963) in the early 1960s. Becker (1963) suggests that those who engage in rule breaking are essentially different than those who abide by the rules, and that these two groups are morally at odds with one another. It is those in positions of power who make and enforce the rules. Primary deviance is the first step, which according to Becker may or may not be intentional. The second step is the acceptance of the deviant label that eventually leads to a deeper immersion in a deviant subculture where deviants find moral support and justification for their deviance. Becker (1963) uses the term "outsiders" to describe labeled rule-breakers who accept the label and view themselves as different from "mainstream" society. Thus, "outsiders" are unlikely to conform and in fact find that their deviant behavior is positively reinforced by those around them.

In summary, all of these theories advance the argument that punishment (e.g. conviction or incarceration) puts the offender at a distinct disadvantage, which increases the likelihood that they will re-offend. This dissertation will argue that labeling theory, in its more contemporary form, advances the most practical argument for how criminal justice involvement may serve to promote offending behavior if the proper remedies are not taken. Furthermore, this dissertation will

argue that diversion offers the greatest potential remedy in that it can minimize stigma through record sealing and thus spare ex-offenders the many unintended consequences associated with criminal justice involvement and/or conviction.

Early research on labeling theory as an explanation for criminal behavior typically focused on the cognitive components of labeling such as the existence of deviant self concepts among delinquents (Al-Talib-Nadhim & Griffin, 1994; Bliss, 1977); the ability to perceive the reactions of others to criminal behavior, whether perceptions of self are consistent with those perceived perceptions of others, and the effect of deviant labels on self-esteem (Leger, 1981); and how these perceptions impact future delinquency (e.g., Friday & Stewart, 1977). While some research has suggested a mild deviance-enhancing effect of criminal labels (e.g., Farrington, 1977; Hagan & Palloni, 1990), it has been argued that empirical research has failed to lend sufficient support to its central proposition, that those who are officially labeled have an increased chance of developing a deviant identity or self-concept, which in turn increases the likelihood that the labeled person will engage in subsequent deviance. More specifically, the preponderance of evidence finds that criminal labels make little difference in the continuation of a deviant career, especially when non-labeling correlates of deviant behavior are held constant (Braithwaite, 1989; Gove, 1975; Shoemaker, 1984; Smith & Paternoster, 1990; Thomas & Bishop, 1984). Labeling theory has also been routinely criticized for ignoring the cause of primary deviance (or for suggesting that it is the normal course of action) and seriously underestimating the influence that other factors have on both primary and secondary deviance.

While many critics make valid claims about the inadequacies of the theoretical perspective, no one has systematically analyzed the full body of prior work on labeling. Most previous tests of the theory have not been appropriate, while the most rigorous tests tend to show more empirical support for the theory (see e.g., Bernburg, Crohn, & Rivera, 2006; Johnson, Simons, & Conger, 2004). A lack of acceptance for labeling theory can be partially attributed to the fact that labeling as a theoretical construct is rather abstract in its focus on the cognitive process, making it difficult to operationalize and subject to empirical testing.

More recent studies have refined their examination of labeling theory to take into account the impact of socioeconomic factors. For example, one study argued a declining significance of delinquent labels in disadvantaged communities, challenging whether the processes thought to mediate and moderate “labeling effects” among the disadvantaged who are disproportionately represented in the criminal justice system are in fact operative. Some results indicate that arrests typically carry little stigma and do minimal discernible harm to self-concept or social relationships (Hirschfield, 2008). Likewise, research has suggested that stigma might operate differentially depending on an individual’s perceived status and stake in conformity. For example, a study investigating the endorsement of secrecy among Black and White male inmates found that Whites were significantly more secretive than Blacks about their ex-convict status (Winnick & Bodkin, 2009). The authors suggest that “White privilege” may play a role in stigma management. That is, because ex-inmate status suspends “White

privilege,” secrecy might help White ex-convicts maintain their advantage, which is considered to be especially important for navigating the job market.

3.5. Unintended Consequences of Criminal Labeling

This strict focus on cognition has likely limited our understanding of the impact of labeling on offending. One critical contribution of labeling theory is attention to the “unintended consequences” of social control. A more practical focus on the consequences associated with being a convicted criminal, specifically the blocked access to conventional opportunities that often will result, might better explain the effect of a “criminal” label on subsequent offending behavior. That is, the application of a criminal label limits offender access to legitimate opportunities, the most common barrier being employment. This and numerous other unintended consequences associated with a criminal label could potentially serve to frustrate and marginalize offenders as they attempt to reintegrate. At the very least, an explicit focus on “unintended consequences” as opposed to cognitive consequences of criminal labeling allows a more tangible examination of how being labeled a criminal impacts the lives of offenders.

Inevitably, all social policies present “unintended” consequences, or what Travis (2002) has termed “invisible punishment.” Such consequences reach not only the individual but also affect family, friends, and community networks in which that individual resides. Essentially, there are common consequences suffered by all offenders that stem from a criminal conviction and its resultant label. Travis (2002) describes “invisible punishment” as those laws that, “operate

largely beyond the public view yet have very serious, adverse consequences for the individuals affected” (p.16). While prisons and community sanctions are quite visible to the public, there are many laws less visible that serve to diminish the rights and privileges of those convicted of crimes. Most problematic is that such invisible punishments are meted out by legislative enactments that are not typically considered by the judiciary as part of the traditional sentencing practice and not codified by criminal law. For example, the Higher Education Act of 1998 makes individuals convicted of drug-related crimes ineligible for any grant, loan, or work assistance. These sorts of statutes subject offenders to debilitating consequences beyond the scope and satisfaction of judicially imposed sanctions.

Although the belief that offenders should be denied certain basic rights and privileges of citizenry is not new, the sheer number and reach of these “invisible” forms of punishment have expanded greatly in recent years. Perhaps most detrimental, as Travis (2002) argues, is the fact that many of the more recent laws passed by Congress impact critical support systems for the economically disadvantaged who are disproportionately represented in the criminal justice system, particularly minorities. As summed up by Travis (2002), throughout the 50’s, 60’s, and 70’s there was a concerted effort to minimize the imposition of collateral sanctions based on the belief that rehabilitation was the goal of corrections. During this time period there were several constitutional rulings granting new protections to individuals accused or convicted of a crime.

For example, the National Council on Crime and Delinquency passed the Standard Probation and Parole Act in 1955, proposing the restoration of an

offender's civil rights immediately upon satisfaction of a criminal sentencing. More specifically, it included a provision that allows for the expungement of a criminal record, which would in effect restore that individual to his or her status prior to conviction. The American Bar Association argued that the imposition of civil disabilities was inconsistent with the goal of reintegration and should only be imposed in those cases where the restriction is related directly to the offense (e.g., refusing employment in a day care center to a sex offender). During this same time period state legislatures reduced the number of state laws imposing collateral sanctions while increasing the number of laws intended to restore offender's civil rights. It wasn't until the 1980's in conjunction with more punitive sentencing policy that collateral sanctions regained their popularity.

Although legal restrictions vary from state to state, most states allow employers to deny jobs and housing authorities to deny eligibility for federally assisted housing to people who were arrested but never convicted of a crime; allow employers to deny jobs to anyone with a criminal record, regardless of how long ago or the individual's work history and personal circumstances; ban some or all people with drug felony convictions from being eligible for federally funded public assistance and food stamps; make criminal history information accessible to the general public through the internet; restrict the right to vote (e.g., while incarcerated, under community control, or permanently) for people with criminal convictions; and automatically suspend or revoke licenses for some or all drug convictions (not necessarily driving-related) for a minimum of six months (Legal Action Center, 2004). Such measures make it difficult for ex-offenders to lead a

productive lifestyle as fully engaged citizens participating in mainstream society. A brief review of some barriers to ex-offender integration is presented below.

3.5.1. Employment. According to the Legal Action Center (2004) employers in most states can deny jobs to or fire anyone with a criminal record regardless of individual circumstances. Twenty-nine states have no standards governing the relevance of conviction records when individuals apply for occupational licenses; in other words, licensing agencies can deny licenses based on any criminal conviction. The remaining 21 states do require a relationship between the denial of specific licenses and the criminal history of the applicant. Thirty-seven states have laws permitting all employers and licensing agencies to ask about, consider, and deny jobs to people who were arrested but never convicted of a crime, whereas only 10 states prohibit employers from considering arrests. Moreover, states have actually increased the number of occupational bars in recent years for individuals with a criminal conviction (Travis, 2002). Some statutes even allow the revocation of operating licenses of businesses that hire individuals with a criminal record (Hirsch et al., 2002).

States have the power to restore civil liberties that offenders have lost as a result of a state criminal conviction. States can offer executive clemency or a pardon though very few individuals meet the stringent qualifications required. As an alternative, some states have created certificates of rehabilitation and make them available to individuals with criminal records to restore their voting, employment, and other rights critical to successful reintegration. While any state could choose to offer these certificates of rehabilitation, only seven (Arizona,

California, Connecticut, Illinois, Nevada, New Jersey, and New York) currently offer them (or a similar mechanism) to remove bars to certain occupations for those with conviction records. The application processes, eligibility requirements, and the extent of relief these certificates provide vary from state to state.

Employment is arguably the most problematic barrier for ex-offenders. The relationship between employment and crime has been extensively studied, and there is ample evidence that episodes of unemployment are associated with higher crime rates (Farrington, Ohlin, & Wilson, 1986). Glaser (1969) studied rates of recidivism among parolees and found that limited employment skills and experience were major obstacles to finding a job and that job instability was, in turn, linked to criminal recidivism among the sample. Sampson and Laub (1993) found that job stability, defined by employment status (employed or unemployed), maintenance of employment (length of time employed on most recent job), and quality of work habits, was significantly related to changes in adult crime (i.e., strong adult ties to work were associated with less crime). An experimental study by Uggen (2000) with participants from nine U.S. cities found that participants were significantly more likely to desist when provided marginal employment (defined as minimum wage jobs). Another study by Uggen (1999) found that job quality was related to both economic and non-economic criminal behavior even after controlling for sample selection bias, prior criminality, and other personal characteristics. Mischkowitz (1994) found that subjects reported an occupational career interest as an important reason for desistance from crime. Using the 1979 National Longitudinal Survey of Youth, Davies and Tanner (2003) examined

whether experiences of incarceration between the ages of 15 and 23 can predict occupational status, income, and employment at ages 29 to 37. Results demonstrate that more severe forms of labeling (i.e., sentencing and incarceration) had the strongest negative effects on employment opportunities.

If unemployment doesn't lead directly to crime, there is ample evidence to suggest other potential pathways. That is, in substance abuse treatment research, there is believed to be a reciprocal relationship between employment status and substance use with employment often viewed as both part of the treatment and recovery process and as a criterion of treatment outcome. On the one hand, work is viewed as a means for establishing economic support and stability and also as a way to boost self-esteem and socialization, which, in turn, is expected to improve treatment retention and subsequent outcomes. A number of studies have demonstrated that employment is often associated with an increased likelihood of treatment retention (e.g., Kelly, Blacksin, & Mason, 2001; McCaul, Svikis, & Moore, 2001; Platt, 1995), while the loss of a job is associated with relapse (Fisher & Anglin, 1987). Thus, if unemployment doesn't lead directly to criminal behavior, it may lead to further drug use, and then crime.

On the other hand, substance use problems have been shown to be serious barriers to work and economic self-sufficiency (Atkinson, Lee, Dayton-Shotts, & French, 2001; Bray, Zarkin, Dennis, & French, 2000). For example, Bray et al. (2000) found that for men, substance use with symptoms of dependence was associated with a lower likelihood of full-time employment, fewer weeks worked in the past year, and fewer hours worked in the past month.

Because addicts often require repeated episodes of treatment to attain abstinence it is likely that the relationship between substance use and employment will vary during the course of recovery. For substance-abusing offenders, both their criminal label and drug habits pose barriers to employment.

3.5.2. Public Housing. Generally, local housing agencies, not state law, determine public housing policy. According to the Legal Action Center (2004), federal laws give local housing agencies the leeway to decide whether to consider applicants' individual circumstances and criminal histories as determining factors in the process. Congress has authorized the exclusion of certain offenders from federally supported public housing and has passed additional statutes permitting public housing agencies and Section 8 housing providers to deny individuals who have engaged in drug-related, violent, or any other activities perceived as detrimental to the premises and its occupants. A survey of the largest city housing agency (Legal Action Center, 2004) revealed that in a majority of states (47) public housing authorities make individualized determinations about an applicant's eligibility that include a consideration of the person's criminal record, as well as any evidence of rehabilitation. The remaining three states flatly ban applicants with a wide range of criminal records from consideration. This survey also revealed that more than half (27) of the agencies surveyed made decisions based on arrests that never led to a conviction.

Housing is considered by many experts to provide the critical foundation for successful reintegration. It has been suggested that, of all the issues facing offenders, especially returning prisoners, none is more immediate — or arguably

more important — than the need to secure housing. Without access to safe and affordable housing, offenders will often have difficulty obtaining some of the other necessary support services such as employment, mentoring, and substance abuse counseling due to the instability of their living situation. This is particularly problematic for offenders in that the lack of housing has been shown to increase the risk of recidivism. For example, a recent study showed that parolees without housing are 7 times more likely to be re-arrested (Metraux & Culhane, 2004).

A number of independent studies conducted across the country have demonstrated significant reductions in recidivism resulting from the placement of offenders in supportive housing, which combines quality affordable housing with comprehensive support services. A landmark study by the University of Pennsylvania found that for individuals with prison records, supportive housing reduced re-incarceration rates by 85% over a two year period (Culhane, Metraux, & Hadley, 2002). Similarly, an evaluation by John Jay College of a pilot program conducted in New York City called the Frequent Users Service Enhancement (FUSE), which identifies the highest users of both jails and shelters and offers them affordable housing along with support services, demonstrated a 53% reduction in the number of jail days over a one-year period. Similarly, a study of 100 homeless individuals in Denver found that supportive housing led to a 76% reduction in the number of days spent in jail (Parvensky & Perlman, 2008).

For those who face additional barriers to stability, such as co-occurring substance abuse issues, linking offenders to permanent, affordable housing will be especially critical. A number of state and local agencies in the U.S. have

implemented programs that successfully reduce recidivism for offenders who have a history of substance abuse by providing stable homes. However, Federal laws that enable local housing agencies to exclude offenders from public housing will effectively eliminate one of very few viable housing options for many lower income ex-offenders. Prior research has shown this will lead to re-offending.

3.5.3. Education. As part of the 1998 reauthorization of the Higher Education Act of 1965, Congress deemed individuals with prior convictions for the sale or possession of a controlled substance to be ineligible for any grant, loan, or work assistance. *The New York Times* reported on December 29, 2001, that more than 43,000 college students faced possible denials of federal aid because of this ban. In the 2000-2001 academic year, about 67,000 of the 7.5 million applicants for financial aid indicated they had been convicted of a drug offense. Unlike the Welfare Reform Law of 1996, states cannot alter this barrier. No other class of offense, including violent, sex, or repeat offenses, results in the limitation of federal financial aid eligibility (Legal Action Center, 2004).

Research has shown that lower educational attainment increases the likelihood that individuals will be arrested and/or incarcerated. For example, the Coalition of Juvenile Justice found that high school dropouts are nearly four times more likely than high school graduates to be arrested (2001), while a more recent survey concluded that high school dropouts are more than eight times as likely to be in jail or prison (Bridgeland, Diluilo, & Morison, 2006). Thus, it should not come as a surprise that many individuals are severely undereducated when they enter the criminal justice system. For example 19% of adult inmates are

completely illiterate while an additional 40% are functionally illiterate (Haigler, Harlow, O'Connor & Campbell, 1994) compared to a national illiteracy rate for Adult Americans of 4%, with 21% functionally illiterate (U.S. Dept. of Education, 1992). Furthermore, 11% of inmates in adult correctional facilities have a learning disability compared to only 3% of the general adult population (Haigler et al. 1994). Low literacy levels and learning disabilities within this population have contributed to high dropout rates. Nationwide, approximately 70% of all people incarcerated have not completed high school (Maguire & Pastore, 1996) while the number of inmates without a high school diploma is rising (Harlow, 2003).

There is a great deal of research demonstrating an inverse relationship between recidivism rates and correctional based education; the more education received the less likely an individual is to be re-arrested or re-incarcerated. The state of Texas has done a considerable amount of research on the success of correctional education programs. Findings from this body of work demonstrate that the overall recidivism rates for degree holders leaving the Texas Department of Criminal Justice during a one year period was 15%, which was four times lower than the general recidivism rate of 60%. A two year follow-up for the same sample found that the higher level of degree awarded the lower the rate of recidivism; 13.7% for an associate's degree, 5.6% for a bachelor's degree, and 0% for a master's degree (Tracy & Johnson, 1994). Similarly, the "Three State Recidivism Study" also looked at the impact of correctional education on rates of recidivism among 3099 inmates in Maryland, Minnesota, and Ohio. Results indicate that compared to non-participants correctional education participants

had statistically significant lower rates of re-arrest (48% vs. 57%), re-conviction (27% vs. 35%), and re-incarceration (21% vs. 31%) (Steurer & Smith, 2003).

There are a number of plausible theories as to why people with more education commit less crime; possibly none more obvious than the connection between education and employment. Simply put, schooling increases the potential for earning higher wages through legitimate work, which either reduces an individual's perceived need to commit a crime for financial gain or raises the potential cost of getting caught as the stigma of a criminal conviction is likely to be greater for a professional compared to those in lower paying, lower skilled jobs. Limiting opportunity for education is particularly problematic for those involved with the criminal justice system as most come from low-income communities where financial aid may be the only means to obtain an education. Thus, restrictions placed on financial aid for drug offenders make it difficult for many to obtain the education that is necessary to make a good living.

3.5.4. Public Assistance and Food Stamps. The Federal Welfare Reform Law of 1996 prohibits anyone convicted of a drug-related felony from receiving federally funded food stamps and cash assistance. This law is particularly restricting in that it provides for a lifetime ban on such services even if the individual has completed his or her sentence. States do have the option of passing legislation to limit, modify, or eliminate the ban. According to the Legal Action Center (2004), 17 states have adopted the federal ban as is, keeping the lifetime prohibition intact; 21 states have modified the ban to enable those with felony drug convictions to receive public assistance if they satisfy a variety of

conditions; and 12 states have eliminated the ban entirely. Within states that enforce it, the ban affects an estimated 92,000 women either directly (they have criminal records) or indirectly (their spouses have records) and places over 135,000 children at risk because their parents have criminal records and are no longer eligible for public assistance or food stamps (Allard, 2002).

The loss of welfare benefits is a critical issue that adversely affects an ex-offender's ability to become self-sufficient and provide for their families and represents an unfair added burden for individuals, many of whom are already facing monumental obstacles ranging from trying to find housing and work all while readjusting to their families and communities. Punitive policies related to employment, housing, education, and welfare make it extremely difficult for ex-offenders to live normal lives and successfully reintegrate into society.

3.6. Reducing Recidivism by Minimizing Stigma

Taking many of these aforementioned consequences into consideration, it becomes apparent that the ability to reduce rates of re-offending, especially for first-time or low-level offenders, may depend upon strategies that limit involvement with the criminal justice system and, thus, reduce the associated stigma that substantially impacts the lives of ex-offenders. The inclination towards harsher punishment, whether a means of retribution, deterrence, or incapacitation, ignores the reality that even punishment has moral and practical limitations. Ironically, the theoretical basis for these get-tough philosophies that have dominated criminal justice practice espouses the principle of proportionality

despite the fact that “when sex offenders are subjected to lifetime parole supervision, drug offenders are denied student loans, families are removed from public housing, and legal immigrants with decades-old convictions are deported from this country, all without judicial review, even the harshest variants of just-deserts theories cannot accommodate these outcomes” (Travis, 2002, p. 19).

The notion of proportionality is perhaps most integral when debating the role and appropriateness of “invisible punishments.” In this sense, the consideration of proportionality is not strictly theoretical but is also deeply rooted in common and constitutional law. Simply put, the proportionality principle requires that the punishment “fit” the crime. Since its inception, the common-law tradition in the United States of punishment has been conceived to be commensurate with the wrongdoing, sufficient to provide retribution for the victims and to deter further criminal activity. When the Constitution was framed, great lengths were taken to ensure that punishment be applied fairly rather than excessively in a manner that would violate the intrinsic rights afforded to all citizens. Over the years the judiciary has repeatedly addressed the notion of proportionality through a number of landmark Supreme Court decisions (see e.g. *Weems vs. U.S.*, 1910 217 U.S. 349; *Robinson vs. California*, 1962, 370 U.S. 660; *Solem vs. Helm*, 1983 463 U.S. 277). However, despite the relative conceptual importance of proportionality, it is hard to define and apply the principle in a uniform way that provides for punishment commensurate with the criminal behavior in question, specifically the harm caused. The recent rise in the sheer number of unintended consequences expands the boundaries of

proportionality beyond criminal and constitutional law. Yet, because they remain “invisible” to the public and beyond the scope of the criminal justice system, little has been done to address the fairness of these various legislative measures.

There are two current movements within the criminal justice system that provide opportunities for stigma reduction, and thereby reduce disproportionality: the sealing/expungement of criminal records and diversion programs. Both of these avenues are made available to nonviolent offenders, typically those convicted of drug-related crimes. These have in common the advantage of concealing the occurrence of an arrest and/or conviction and limiting public knowledge of criminal justice involvement, though the mechanism for doing so is different while stigma reduction might not be the primary intended purpose.

3.6.1. Sealing Criminal Records: One Solution

Record sealing/expungement provides ex-offenders with the opportunity to have an existing misdemeanor or felony conviction sealed or completely expunged when specific mandates of the court are satisfied. Typically the offender must satisfy all terms of community supervision and avoid any further criminal convictions in order to be eligible to apply. Any application remains subject to judicial discretion. States that allow the “sealing” of criminal records provide limited and authorized access to records without destroying them. Ordinarily, an individual with a sealed record is permitted to deny a criminal history on most employment or housing applications. Thus, an order to seal records restores to the applicant all rights and privileges enjoyed previously.

There are at least three potential ways that record sealing may be beneficial to both the offender and society. First, it should be viewed as a way to avoid the potential stigma and collateral consequences associated with having a criminal record. Second, it may serve as incentive for some offenders to enter and remain in treatment. Third, it may help to extend the positive effects of treatment by acting as a second “carrot” to remain abstinent from drugs and crime in instances where offenders have to wait an additional period to apply to have their record sealed but are no longer receiving treatment or under probation supervision (Festinger, DeMatteo, Marlowe, & Lee, 2007).

States have the right to pass laws that permit the sealing or expungement² of arrest and conviction records after an appropriate time has elapsed, proscribed mandates have been successfully completed, and certain administrative procedures (e.g., filing a petition or paying a filing fee) have been met (Eastman, 2002). However, most states never expunge or seal *conviction* records but do allow for *arrest* records to be sealed or expunged in instances where the arrest did not lead to a conviction. According to the Legal Action Center (2004), 33 states do not permit criminal convictions to be expunged or sealed while 17 states allow some convictions to be sealed or expunged typically when a conviction constitutes a first offense. The large majority of states (40) allow people to seal or expunge arrests that did not lead to a conviction but only 30 states allow the individual to deny the existence of that arrest on an employment application. Of those states that do seal or expunge convictions,

² Record sealing refers to the legal protection of records secrecy except under certain conditions; expungement refers to a process of completely removing a criminal record so that it is irretrievable.

very few allow this for felony convictions, though these laws typically require that the ex-offender wait an extensive period of time before they are eligible to apply to have their record sealed. For example, the state of Ohio requires three years of time after completion of probation before an ex-offender can apply to have a felony record sealed, the shortest length of time proscribed under state law.

In addition to the lengthy wait periods, perhaps the greatest obstacle facing record sealing is the fact that with the advent and expansion of the internet, criminal record information has essentially become available to anyone as most criminal justice and corrections agencies operate public websites where entering a name will often produce a picture and description of an individual's criminal involvement. In total, 28 states allow internet access to criminal records or to post records on the internet, 14 of which make all conviction records available. Six states make available the records of those incarcerated or on probation or parole while 8 post only the records of people currently incarcerated (Legal Action Center, 2004). Furthermore, there are numerous private websites that contain this information that are not regulated by the government and therefore do not typically remove such information following a sealed record.

3.6.2. Diversion: An Alternative Solution

Diversion programs can be implemented at various phases of the criminal justice process (e.g. following arrest, arraignment, sentencing) and are granted in lieu of conviction meaning that a plea of guilty is entered but held pending successful completion of court mandates, typically all terms of community

supervision and some measure of drug treatment intervention. Should the individual fail to fulfill these terms, the individual's diversion status is revoked and the original conviction is subsequently imposed. Diversion programs have two critical advantages compared to record sealing in terms of stigma reduction. First, the conviction is never imposed and therefore the individual effectively has not been officially "labeled" as a convict. Second, most diversion programs require approximately one year of treatment and probation supervision, upon successful completion of which the case is immediately and automatically dismissed. Thus, the wait period to sealing is shorter and as such diverted offenders will likely benefit from limited exposure to the collateral consequences.

3.7. Conclusion

Typically, drug offenders will be given the opportunity to reintegrate back into society. If incarcerated, the challenges of addressing the problem at the "back door" are much greater. Those sentenced to community supervision have the advantage of maintaining a continued presence in the community. This is important as it is well recognized that prolonged periods of incarceration will diminish family ties and job opportunities. For many offenders, any assistance at this point is too little too late. However, an arrest or conviction for an offense that warrants community supervision could nonetheless result in similar consequences, (i.e., marginalization from employment, education, and the family). Relative to a law-abiding citizen, an individual who has been arrested and/or convicted of a crime is at a much greater disadvantage with respect to

opportunity. Instead, diversion alternatives that attempt to address the problem at the “front door” target individuals at the beginning of their criminal careers and attempt to interrupt the cycle of offending when it is more feasible to do so.

The present study provides an examination of the effect of punishment on future offending behavior. Specifically, this study will compare recidivism rates of two distinct groups of first-time nonviolent felony offenders who are either: 1) convicted and sentenced to a term of probation not to exceed five years and who are eligible to apply to have their record sealed three years following the completion of probation; or 2) diverted to drug treatment in lieu of conviction with the opportunity to complete treatment and probation and have their case dismissed within one year. In comparing re-offending behavior between these two groups, the study implicitly examines whether conviction for a felony offense has a deterrent or criminogenic effect. If a conviction serves as a deterrent, “convicted” offenders would demonstrate lower rates of recidivism. Conversely, if criminal labeling promotes offending, convicted offenders would demonstrate higher rates of recidivism. No other known study has explored the labeling effect in this specific context among a population of first time nonviolent offenders. The methodology for this project and dissertation will be presented in Chapter 4.

IV. Methodology

This dissertation is a secondary analysis of a recently completed study examining the motivation of first time nonviolent felony offenders towards record sealing. This chapter will first review the research methodology employed in conducting the original study. Of particular interest will be a review and discussion of the critical methodological components of the original study that will impact the secondary analysis being proposed for this dissertation. Finally, a detailed review of the analytic plan that will guide this study will be presented.

The Center for Substance Abuse Treatment (CSAT) within the Substance Abuse and Mental Health Services Administration (SAMHSA) provided a grant to support a TASC case management model in Cuyahoga County, Ohio, and a cooperative agreement between COSMOS, Inc. and the National Development and Research Institutes, Inc. (NDRI) supported the study of the motivation for certain non-violent substance abusing ex-offenders to have their records sealed. The project delivered case management and treatment services to help individuals remain crime abstinent so that their criminal records become eligible for sealing. Project goals include (1) reducing criminal activity; (2) reducing substance use; and (3) reducing the stigma associated with a criminal record by increasing the percentage of offenders who seal their criminal record. CSAT awarded the grant in May 2002, providing five years of funding for the project in Ohio to be implemented within the Cuyahoga TASC case management program. Cuyahoga is a large county in Ohio that encompasses the city of Cleveland.

4.1. Study Overview

This dissertation represents a targeted examination of the impact of minimizing stigma (through diversion and record sealing) on rates of recidivism among a sample of first-time, non-violent, substance abusing offenders. Diversion alternatives minimize exposure to the criminal justice system and the resulting stigma by holding convictions pending the successful completion of treatment and probation. If successful in a diversion program, the conviction is never imposed and the arrest record is sealed, a process which typically takes approximately one year. In contrast, convicted felony offenders must contend with the consequences of that conviction, typically for the rest of their lives.

This study will compare rates of re-arrest among a sample of diverted and convicted offenders. It is hypothesized that diverted offenders will demonstrate significantly lower rates of re-arrest compared to convicted offenders due to the stigma reduction benefits of the diversion approach. Specifically, those diverted are: 1) never officially labeled as “convicts” unless they fail to adhere to the terms of probation; and 2) subsequently given the opportunity to seal their record if they can successfully fulfill all court mandates. Therefore, it is hypothesized that diverted participants will be significantly more likely to obtain quality employment and significantly less likely to experience other barriers to reintegration with regard to public housing, education, and welfare. Without having to contend with such barriers, diversion participants will be significantly less likely to re-offend.

The previous chapters have demonstrated the influence of employment, housing, education, and welfare on rates of re-offending. This study will examine

these critical factors in comparing two groups of first-time offenders that have been differentially exposed to these potential barriers. Strong consideration will also be given to the influence of drug use and demographic factors such as age, gender, and race/ethnicity as all of these variables have demonstrated a significant relationship to the rate of offending. Drug use is particularly relevant to this study considering the well documented link between substance use and criminal behavior reviewed in Chapter 2 and the fact that all study participants are known substance users. Demographic characteristics such as age, gender, and race/ethnicity are well established risk factors for offending. Research has overwhelmingly shown that those who are younger, male, and/or Black are disproportionately represented in the criminal justice system. Furthermore, a preliminary analysis of the study data shows that convicted participants are significantly more likely to be young (18-24), male, and Black. Thus, these demographic characteristics distinguish group membership as well as influence the likelihood of re-offending and therefore must be controlled for in the analysis.

The rest of this methods section provides a detailed review of the original study components that are most relevant for this secondary analysis (e.g. target population, recruitment and data collection procedures, random assignment) followed by a discussion of the key variables to be considered for the secondary analysis and a comprehensive overview of the analytic plan to be employed.

4.2. Target Population

4.2.1. Site Selection

The state of Ohio was chosen for this project because: a) it is one of only a handful of states that permit sealing of a *felony conviction*; and b) the “post paper” wait period is only three years as specified by Ohio statute (Kansas was the next shortest at five years while the remaining states required a minimum of 10 years). The three-year “post paper” requirement in Ohio was the best case scenario since it would allow for at least some records to be eligible for sealing (some might actually be sealed) during the study timeframe. Overall, these circumstances made Ohio the state of choice by default as choosing any other state would have necessitated a longer study period and in turn more funding.

4.2.2. Criminal Justice Criteria

The population targeted for participation in this study is first time offenders who are eligible to have their felony conviction sealed as specified under section 2953 of the Ohio Revised Code (ORC). According to Section 2953.31 of the ORC, “first offender” means anyone who has been convicted of an offense in this state or any other jurisdiction and who previously or subsequently has not been convicted of the same or a different offense in this state or any other jurisdiction; “first offenders” considered to be ineligible for record sealing are those whose current conviction is for a violent offense, crime against a minor, drug offense involving large amounts of schedule I and II substances, DUI, DUS, and/or some burglary charges. In summary, study participants are offenders whose current conviction must be their first and only conviction and must *not* be for a violent

offense. Under Ohio law an offender is eligible to apply to have their record sealed three years after successfully completing probation at which time a hearing can be scheduled and a determination made by a judge depending on whether the offender has met all the qualifications specified under the Ohio Revised code and the court is satisfied that the offender has been rehabilitated.

4.2.3. TASC Criteria: Drug Use

The Cuyahoga County Court of Common Pleas referred all sealing eligible “first offenders” to TASC to determine TASC eligibility. Only those “first offenders” eligible to participate in TASC were considered eligible to participate in the study. Participation in TASC requires a current diagnosis of substance abuse or dependence (including those in remission) as determined by the Comprehensive Intake Assessment Instrument (CIAI). Those who declined to be part of the study were still required to participate in TASC to fulfill their court mandates.

4.3. Participant Recruitment

A total of 800 substance-abusing “first offenders” were targeted for recruitment over a 15-month period, requiring approximately 55 baseline interviews be conducted per month. Limiting the recruitment period to 15 months allowed for sufficient time to conduct follow-up across three-years within the five-year study timeframe. However, the first five months of recruitment produced only 101 sealing eligible referrals and just 50 baseline interviews (attrition due mostly to “first offenders” not meeting TASC participation criteria and some additional participant refusals), well short of the necessary 55 baseline interviews per month. It became apparent through discussions with the Cuyahoga County

Probation Department that the shortage of sealing eligible “first offenders” was due to the fact that these offenders were being referred to one of two Diversion programs—Intervention in Lieu of Conviction (ILC) and the Early Intervention Program (EIP); both fall under the ILC statutory requirement (O.R.C. 2951.041).

ILC and EIP are quite similar in many respects. In all cases defendants are required to enter a guilty plea to the pending charge. Further criminal proceedings are then stayed pending successful completion of the program. In order to be eligible there must be a drug offense (or offense connected with offender’s substance abuse), no prior felony offenses, no drug trafficking offenses, no violent components of instant offense, and instant offense cannot be for a First, Second, or Third degree Felony (i.e. 4,5 only). EIP clients are eligible per ILC requirements, but are typically limited to Drug Possession and/or Possession of Criminal Tools. Similarly, there can be no prior felony convictions and no violent offense convictions. In practice, the differences between these two programs are minimal and the decision to refer to one and not the other often depends on the party (e.g., District Attorney, Public Defender, or Judge) making the motion for consideration as well as certain specifics relevant to the case.

It was decided that the target population would be expanded to include “first offenders” who had been diverted based on the rationale that both avenues provide opportunity for stigma reduction albeit through distinct mechanisms. That is, sealing of criminal records for “convicted” offenders as specified in Section 2953 of the Ohio Revised Code is one legal mechanism for reducing the stigma associated with criminal justice involvement that involves a formal conviction and

requires “first offenders” to wait three years post completion of probation to apply to have their conviction sealed. In contrast, “diverted” offenders plead guilty to a felony conviction (which is stayed rather than imposed) pending successful completion of treatment intervention and probation, which typically requires a period of only twelve months. Similar to sealing eligible offenders, diversion clients have no prior felony convictions, so the expectation is that clients in both groups would be motivated to avoid the stigma of that first felony.

Thus, there are two distinct groups of first-time felony offenders participating in the study; convicted offenders referred directly from Common Pleas Court that are sealing eligible according to the terms specified in Section 2953 of the ORC (herein referred to as “Convicted”) and those with a conviction that is being held as part of a plea agreement, pending successful completion of treatment, TASC, and probation (herein referred to as “Diverted”). These groups will serve as the basis for comparison in the secondary analysis for this study.

4.4. Random Assignment

All new probation cases were screened by a probation officer prior to sentencing and if *sealing eligible* (whether diverted or convicted) were referred to TASC. TASC then conducted its CIAI assessment to determine whether the client was eligible to participate in TASC (i.e., has a substance abuse/dependency diagnosis, including those in remission). Clients meeting this criterion were administered an informed consent detailing all aspects of their proposed role in the project, and were given the opportunity to volunteer their participation. Those who declined to join the study were still required to

participate in TASC to fulfill their court mandates. Those who volunteered for the research were asked to complete a baseline interview and then were randomized to either the experimental (Enhanced TASC case management) or control (TASC-as-usual) condition. Clients were provided detailed instructions and assurances during the informed consent phase of the volunteer process and were compensated for completing all study-related interviews.

4.4.1. The Intent of Random Assignment for the Original Study

With random assignment considered the gold standard in research, the grantor required that an experimental study be proposed and conducted. However, because the original study was intended to examine the impact of the opportunity for record sealing on recidivism, the designation of a control group was problematic. That is, the experimental study of the motivational effect of record sealing opportunity on recidivism would require random assignment of first time nonviolent felony offenders to two separate groups, one which was afforded the opportunity for record sealing and one which was not afforded such an opportunity. Because it is the Ohio statute that determines eligibility based on an individual's criminal record, there is essentially no method by which first-time nonviolent felony offenders could be randomly assigned to a control group that would remove the opportunity for record sealing. Even if there were a potential method, it would be highly unethical to deprive an offender of that opportunity as a result of the random assignment to the control condition in a study.

Ultimately, it was decided that the best compromise (allowing for the study of the effect of record sealing motivation on recidivism via random assignment)

was to propose an intervention designed to facilitate the sealing of criminal records. The logical platform for this intervention was TASC case management being that such a large proportion of “first offenders” are drug involved and therefore likely to be mandated to receive services in TASC following their arrest. From this pool of TASC referrals, offenders could then be randomly assigned to participate in one of two TASC programs. The control condition would be TASC-as-Usual comprised of the standard TASC case management intervention that had been in operation in Cuyahoga County for several decades. The experimental condition would be a newly implemented TASC intervention that would be “enhanced” to include a strengths-based and client-centered approach and designed to advertise and promote the opportunity for record sealing.

The specific practice model of case management used for the experimental condition was the Strengths-Based perspective originally developed at the University of Kansas, School of Social Welfare to help persons with serious mental illness transition from institutional to community living. This approach was successfully adapted to enhance substance abuse treatment by the School of Medicine at Wright State University. Strengths-based programming is based on two principles: 1) providing clients support to assert direct control over their search for resources, such as job skills, education and health care; and 2) identifying and using the client's own strengths, experiences and assets as the way to acquire them. Case managers help their clients take control and find their strengths by identifying and using informal helping networks (as opposed to wholly institutional ones), endorsing and promoting the primacy of the client-case

manager relationship, emphasizing the advocacy function of case management, and using active, assertive outreach to engage clients. “Strengths-based” is becoming a recognized evidence based practice (Siegal & Rapp, 1996; Siegal, 1998) that builds on client strengths while the caseworker consistently provides positive reinforcement to support the client’s morale and optimistic attitude.

4.4.2. Random Assignment in the Secondary Analysis

For the purpose of this dissertation’s secondary analysis, the random assignment of subjects to two distinct case management conditions will be of considerably less importance for three critical reasons. First, comparisons of experimental and control subjects at baseline revealed no significant differences between groups on any of the key study variables. This indicates that the random assignment had been implemented without bias and therefore there is no need to control for statistical differences that might exist between groups at baseline. Second, an outcome analysis could not establish any systematic differences between experimental and control clients on any of the critical outcome measures such as re-arrest and self-reported drug use. Third, random assignment to the experimental and control conditions was stratified within the “convicted” and “diverted” groups. That is, 56% (n=360) of the total study sample was diverted, with near equal proportions of the control (58%) and experimental (55%) groups comprised of diverted subjects. Thus, if there is an undetected experimental effect of enhanced case management, that effect would be expected to exert an equal influence on both diverted and convicted participants. Nevertheless, random assignment will be included as a statistical covariate.

4.5. Data Collection Methodology & Sources

Data for the outcome study were collected over time. TASC case managers administered the research protocol at baseline (i.e., upon admission to TASC). An outside agency was then subcontracted to locate participants and administer follow-up interviews at 6-, 12-, 24-, and 36-months post baseline. Locator procedures and forms with information for tracking clients for follow-up were based on the CSAT manual, *Staying in Touch: A Fieldwork Manual of Tracking Procedures for Locating Substance Abusers for Follow-Up Studies, 2nd Edition* (Hall et al., 2003). The study locator form was adapted from the model in the manual. The manual's primary author provided training on locating techniques including the creation and maintenance of a tracking database. This system stores all locator information, monitors interview eligibility dates, generates letters and reminders, and tracks follow-up progress (e.g., interview status). Ongoing technical assistance was provided through monthly conference calls involving key study personnel, Dr. Hall, and grantee staff who reviewed follow-up rates, addressed specific locator problems with participants, and refined location strategies and techniques to improve upon interview rates.

TASC staff completed the locator at baseline since the most useful information to locate subjects for follow-up is that supplied by subjects upon admission to the program. Staff used the form to gather client information, including driver's license, vehicle license, and social security number; names, addresses, and phone numbers of all immediate relatives and two unrelated

friends; date of birth; areas the subject frequented (particularly if there was a history of homelessness); and locations where the subject received services or other agency contacts (if relevant). Other sources for tracking subjects were the Department of Corrections, Department of Motor Vehicles, Social Security Administration, and local jails. The locator form was updated at each subsequent interview, including the final interview, to provide CSAT or others with locator information for future observation of the long-term effects of the program.

The Center for Therapeutic Community Research (CTCR) Baseline Protocol is a self-report interview that is administered at baseline then repeated again at each follow-up point. The staff of the CTCR developed this protocol from a review of the major interview scales used in the drug field (De Leon, 1991). The major domains of the CTCR are: demographic characteristics; alcohol and other drug use (inventory of 22 illegal drugs assessing lifetime use and frequency of use during period preceding each interview); criminal behavior (inventory of 20 illegal activities assessing frequency of involvement and number of arrests during period preceding each interview); education and training; employment and financial support; family and social relationships, psychological status, physical health status; abuse; HIV/AIDS risk behavior; and motivation for record sealing.

The CTCR interview is based on self-report interviews similar to the Addiction Severity Index (ASI; McLellan et al., 1980; 1985; 1992) and the Drug Abuse AIDS-Risk Reduction (DATAR; Simpson et al., 1991) instrument. The CTCR Baseline Protocol has been used successfully in a number of community and prison evaluation studies including the Amity evaluation (Graham & Wexler,

1997). In addition to the aforementioned domains, standardized instruments and scales have been incorporated into the interview protocol, including the following.

- 1) *The Indiana Job Satisfaction Scale* (IJSS; Bond & Miller, 1991) is used to measure job satisfaction. The IJSS consists of 34 Likert-scaled items. Internal consistency reliability estimate was 0.95 (Bond & Dietzen, 1992).
- 2) *The Quality of Life Interview* (QOLI; Lehman, Possidente & Hawker, 1986) was used to measure subjects' satisfaction with various aspects of their lives. The subjective domains of the QOLI include global well-being (GWB) and eight sub-domains: Work and education, Leisure, Family relations, Social relations, Finances, Living situation, Personal safety, and Health. Each item is rated on a seven-point scale ranging from "Terrible" (1) to "Delighted" (7). Results from factor analysis indicate good construct validity for the QOLI (Lehman, 1983). Internal consistency reliabilities (Cronbach's alpha) for Lehman's QOLI have been reported to range from 0.79 to 0.88 (median 0.85), and test–retest reliability ranges from 0.41 to 0.95 (median 0.72) (Lehman, Postrado, & Rachuba, 1993).
- 3) *Circumstances, Motivation & Readiness* (CMR). The CMR assesses motivation to change and readiness for treatment. The CMR consists of 18 Likert type items; requiring less than 10 minutes for clients to complete. A repeated measures version of the CMR was utilized at baseline and all follow-up points. Previous research has found a significant relationship between the CMR motivation scale and reduced recidivism and relapse among prison-based substance abusers (De Leon et al., 2000).

Cronbach's alpha for the Total score ranges from .70 to .87 across 30 separate studies; reliability is similar across gender, race/ethnic, age, and primary drug of choice (De Leon et al., 1994; De Leon et al., 2000).

- 4) *Risk Assessment Battery* is a 38-item self-report measure used to assess HIV risk behaviors (Metzger et al., 1993). A total 6-month HIV risk score (range 0-64), drug risk (range 0-35) and sex risk (range 0-29) subscores were obtained, with higher scores representing increased HIV risk behavior. Overall, there is good test-retest reliability and concurrent validity data to support the psychometric properties of the RAB (Metzger et al., 1993). To date, norms of RAB scores have not been published. However, scores from a sample of male veterans consecutively admitted to a methadone clinic demonstrated a total risk score of 7.64 (Zanis, Cohen, Meyers, & Cnaan, 1997) while another study by Metzger et al (1996) reported on the RAB risk scores of 17 seronegative heroin users who later tested positive for HIV (total RAB risk scores of 10.94).

In addition, data were gathered from two key project partners to provide an official record source of criminal justice outcomes. The Cuyahoga County Adult Probation Department provided criminal histories (e.g., commitment offenses, prior arrests, juvenile record histories); probation supervision information (e.g., length of supervision, warrants, technical violations); and a final record check (e.g., arrests, convictions, or incarcerations since participation in PRR began). The Cuyahoga County Public Defender's Office provided individual outcomes regarding record-sealing; specifically whether a client was able to

maintain eligibility, successfully seal the record, or, if not, why (i.e., warrant, probation violation, new arrest, conviction, or incarceration).

4.6. Description of Key Measures

4.6.1. Recidivism measure of “re-arrest.” The Cuyahoga County Adult Probation Department conducted a final record check for each study participant that spanned a minimum of three years post-baseline and as long as five years for some participants depending on when they entered the study. Each individual report conducted for each study participant included the overall number of arrests, convictions, and/or incarcerations since baseline. An in-depth review of the data provided in conjunction with subsequent discussions with the Department of Probation suggest that the logging of convictions and/or incarcerations was significantly less reliable than data provided for re-arrests. Thus, the official measure of recidivism being used for this proposal is limited to re-arrest. Information regarding the nature of the incident (probation violation vs. new offense) and offense type was also provided for each arrest. This variable (re-arrest) will represent the primary outcome of interest for the analysis.

4.6.2. Substance Use. At each interview phase, respondents were asked to indicate for each of 22 illicit drugs: a) whether there was any use during the 12-month period preceding the interview and if so; b) frequency of use during that 12-month period; c) frequency of use during the most recent 3-month period, d) whether they injected the drug (if applicable) and, if so, e) frequency of injection during that 12-month period; and f) frequency of injection during the

most recent 3-month period. A dichotomous outcome measure “abstinent” captured whether there was use of any illicit drugs (yes/no) during the interview period and a variable “regular user” will be coded to account for those reporting use of an illicit substance at least once per week. Reported patterns of use at baseline will help to determine whether the overall frequency or severity of use has declined, stayed the same, or increased at follow-up. The variable “abstinent” will be treated as an outcome measure to compare groups on “any” drug use at follow-up; it is expected that diverted offenders will be less likely than convicted offenders to use drugs. It will also be assessed as a mediator variable to evaluate the impact of drug use on crime outcomes. It is expected that those using drugs (or those using more regularly) will be more likely to be re-arrested.

4.6.3. Sealed Record. A critical outcome for the original study was to assess the effectiveness of the competing case management approaches by comparing the number of offenders in each group who successfully sealed their sealed. However, because the 285 participants in the “convicted” group were required to wait three years post probation completion (a minimum of four total years) before they could apply to seal their record, the vast majority would not be eligible to apply to have their record sealed within the five-year time frame of the study (they could of course lose that eligibility at any time). Simply put, substantially fewer “convicted” clients were able to apply to seal their records. Therefore, any analysis focused on “sealed records” as the outcome would require the removal of a substantial number of cases from the “convicted” group.

Likewise, because “diverted” participants were eligible to have their record sealed immediately following the completion of Probation, TASC, and treatment, typically within a year, substantially more “diverted” participants were able to seal their record. Ultimately, this could provide “diverted” participants with a distinct advantage in that a sealed record theoretically restores the individual to their pre-arrest status. A major advantage, for example, would be that it would allow diverted participants to deny the existence of a criminal record on job applications, making it easier for them to obtain employment and otherwise reintegrate, which in turn would make it less likely that they would be re-arrested.

To address this shortcoming in the original study the measure shifted from the number of sealed records to instead indicate record sealing eligibility status. While this method allowed for the inclusion of all study participants in the analysis, it was imperfect in several critical respects, a detailed review of which is beyond the scope of this dissertation. Nonetheless, because diverted participants were significantly more likely to seal their criminal records, a dichotomous measure of record sealing (0=not sealed; 1=sealed) will be employed in the outcome analysis as a statistical covariate; it is expected that those who were able to seal their record will be significantly less likely to be re-arrested.

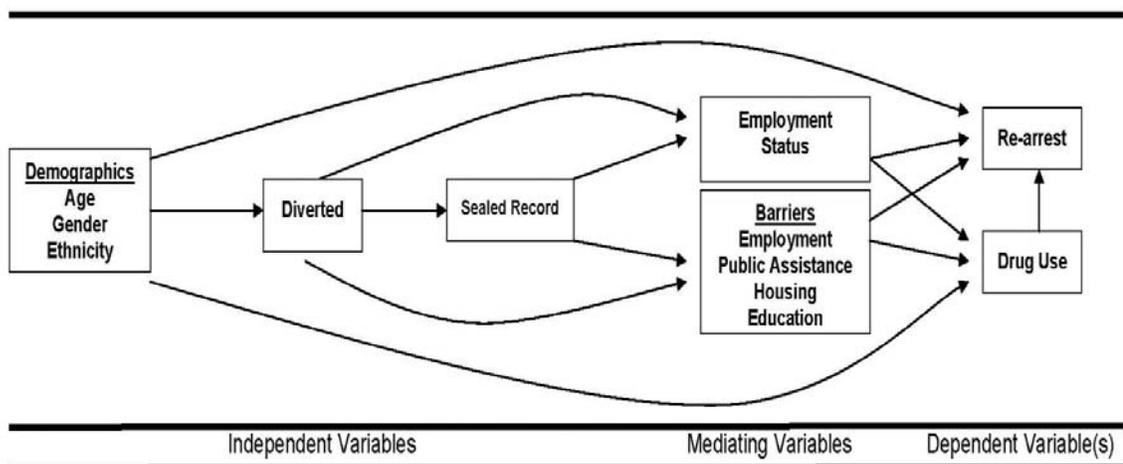
4.6.4. Employment. Respondents were asked to provide a range of information regarding their employment history. Of particular interest to this proposal will be: a) whether or not the respondent was employed at the time of the interview and if not; b) whether or not the individual was employed during the year prior and if so; c) the total number of days worked; d) the number of hours

typically worked per week (part or full time); e) the average take-home pay; and f) job satisfaction. Employment variables will be treated as independent outcome measures to determine whether diverted offenders are more successful in obtaining employment; which is expected. It will also be assessed as a mediator variable to evaluate the impact of employment on crime outcomes; it is expected that those with more stable employment will be less likely to be re-arrested.

4.6.5. Demographic Variables. Age (continuous measure in years), gender, and race/ethnicity (Black, Non-black) will also be included in the outcome analysis as statistical covariates. The decision to employ a dichotomous measure of Black/Non-black to capture race/ethnicity is based on the fact that the majority of study participants identified as Black. It is important to note that approximately 95% of the “Non-black” category identified as Caucasian. It is expected that those who are younger, male, and/or Black will be more likely to be re-arrested.

4.7. Study Aims

Figure 1. Hypothesized Relationship between Key Study Variables



- ⇒ Aim 1: To examine the independent effect of age, gender, ethnicity, criminal justice disposition, employment, drug use, and record sealing on re-arrest.
- ⇒ Aim 2: To examine the independent effect of criminal justice disposition on employment, drug use, and record sealing while controlling for demographic covariates such as age, gender, and race/ethnicity.
- ⇒ Aim 3: To determine the effect of criminal justice disposition on re-arrest when controlling for all other statistical covariates presented in Figure 1.

4.8. Analytic Plan

The analytic plan will be executed in two steps. First, due to the fact that study participants were not randomly assigned to the “convicted” and “diverted” groups, a propensity score will be calculated for each subject to reduce selection bias. Indeed, group comparisons at baseline revealed that these groups differed significantly on several characteristics, most notably age, gender, and race/ethnicity, all of which are characteristics that have demonstrated a strong influence on offending. Second, propensity scores will be used as a variable in the prediction model where disposition groups will be compared on a dichotomous outcome measure of recidivism (re-arrest); then a survival analysis will be conducted to compare the time elapsed to the occurrence of a re-arrest.

4.8.1 (Step 1): Balancing Selection Bias in a Nonrandomized Design

Groups compared in nonrandomized studies are often different because of lack of randomization (Cepeda, Boston, Farrar & Strom, 2003). That is, subjects with specific characteristics may have been more likely to be exposed to an

intervention than those who did not possess such characteristics. If these characteristics also affect the outcome, a direct comparison of the groups is likely to produce biased conclusions that may merely reflect the lack of initial comparability. These characteristics are called confounders. Confounding in non-experimental studies can occur when baseline covariates that predict the exposure are independently related to the outcome (Brookhart et al., 2006). Failure to account for confounders would increase the likelihood that any proposed causal relationship between a hypothesized predictor (in the case of this study criminal justice disposition) and outcome is in fact spurious (due to some other explanation). That is, without the proper statistical controls, findings that suggest the diversion group was significantly less likely to be re-arrested could be attributed to differences in age, gender, and race/ethnicity, in that these characteristics were found to predict both assignment to diversion and re-arrest.

In a well-designed experiment, random assignment of participants to treatment conditions makes causal inference straightforward by eliminating threats to internal validity. However, if participants are not randomized as is the case with a nonequivalent control-group design, group comparisons may be biased by confounders that influence both the outcome and the proposed cause. Traditionally, a popular strategy for ruling out alternative causal explanations is to measure as many confounders as possible and then estimate what the difference in average response between treated and untreated persons would be if the average values of the confounders in both groups were equal (Schafer & Kang, 2008). This is the inherent concept with statistical techniques such as analysis of

covariance (ANCOVA) and regression. Over the last two decades, however, another set of methods based on propensity scores (Rosenbaum & Rubin, 1983) has become widely accepted. ANCOVA, regression, and propensity scores share a common goal, which is to eliminate biases due to confounding. However, they attack the problem in a unique manner. ANCOVA and regression model relationships between the confounders and the outcome to test whether certain factors have an effect on the outcome after removing the variance for which covariates accounts. On the other hand, a propensity score models relationships between the confounders and treatment status. More specifically, a propensity score is the probability of a study participant being assigned to a particular condition given a set of known covariates. Propensity scores are used to reduce selection bias by equating groups based on these covariates.

Logistic regression is the most commonly used method to control for group imbalances. Its primary advantage is the ability to control for many variables simultaneously. Here, the various predictors are included in the regression model as independent variables, some of which are considered confounders (predictors of treatment assignment) and others (e.g. treatment condition) the hypothesized predictors of the outcome. Here, the researcher would be testing the effect of the hypothesized predictor (diversion) on the outcome (e.g. re-arrest or relapse) after removing the variance accounted for by the confounders (e.g. age, gender, race/ethnicity). While simultaneous adjustment is appealing, it can also be inaccurate, especially when fitting a model with too many covariates relative to the number of events (Cepeda et al., 2003).

Foster (2003) addresses additional limitations for applying regression as a means for adjusting between group comparisons for pre-existing differences. First, regression generally assumes a set of linear relationships between the covariates and the outcome. Although this assumption can be relaxed (using interactions or polynomials), the models fundamentally remain linear. This will be problematic in instances where the covariates and the outcome are not in actuality experienced linearly or temporally. A more subtle limitation involves the distribution of the covariates. Not only might the groups differ in terms of the means of the covariates, but the distributions may not overlap. In this case, regression essentially projects the behavior of individuals in one group outside the observed range to form a comparison for the other at common values of the covariate. Such projections can be highly sensitive to functional form.

An alternative to regression involves statistical matching. These methods generally specify a function that measures the proximity of one case to another based on one or many characteristics (Rosenbaum & Rubin, 1983). Cases are then grouped to minimize the distance between matched cases. Unlike regression, the various forms of matching do not presume linearity. This approach also addresses problems with the distribution of the covariates. That is, one could identify individuals in one group that are a poor match to anyone in the other group and exclude those individuals from the analysis. However, the process of statistical matching is quite complex, especially when attempting to incorporate a large number of characteristics (Foster, 2003). For example, an attempt to match on 10 factors, each having 4 categories, will result in

approximately one million combinations of characteristics. This level of detail is cumbersome and will likely necessitate the removal of difficult-to-match cases.

Another method to control for imbalances is the propensity score, which is the conditional probability of a subject's receiving a particular exposure given the set of confounders. For calculation of a propensity score, the confounders are used in a logistic regression to predict the *exposure* of interest, without including the outcome (Rosenbaum & Rubin, 1983). As a result, the collection of confounders is collapsed into a "single" variable or summary measure that reflects the probability (propensity) of being exposed. Thus, controlling for the propensity score has the effect, in a very precise way, of controlling simultaneously for any group differences due to any of the variables included in the creation of the propensity score. This approach keeps the model as simple as possible while also leading to a better understanding of the extent to which the treatment groups contain similar subjects. Furthermore, a large number of covariates can be included for estimation. In fact, propensity score methodology has been applied to adjust for 74 covariates in one model (Arbogast, 2007).

4.8.1a. Informing the Propensity Score

Despite a growing popularity of propensity scoring models, relatively little has been written about variable selection strategies for these models (Brookhart et al., 2006). Rubin & Thomas (1996) suggested including in a propensity scoring model all variables thought to be related to the outcome, whether or not they are related to the exposure. Conversely, including variables that are strongly related

to the exposure, but unrelated to the outcome, can decrease the efficiency of an estimated exposure effect by increasing the variance of an estimated exposure effect without decreasing its bias (see e.g., Brookhart et al., 2006; Rubin, 1997). Other research has shown that, in small studies, situations exist in which it might be advantageous to exclude true confounders from a propensity scoring model in instances when a covariate is only weakly related to the outcome, but very strongly related to the exposure. Here the loss of efficiency due to the inclusion of the covariate is not offset by a large enough decrease in bias. However, in large studies a covariate would be excluded only if it was known to be completely unrelated to the outcome of interest (Brookhart et al., 2006).

To date, little has been accomplished in the way of identifying practical strategies or rules of thumb that practitioners can use to help them select variables for inclusion in a propensity score model. Based on a review of the literature by Brookhart and colleagues (2006), it seems safe to say that general guidelines have emerged to help with the selection process: 1) variable selection should not be based on prediction of the exposure only as this fails to consider the critical relationship to the outcome; 2) variables that are unrelated to the exposure but related to the outcome should always be included; and 3) including variables that are related to the exposure and not the outcome will decrease the precision of the estimated treatment effect without decreasing bias.

Using these general guidelines, diverted and convicted participants will be compared on a number of potential covariates to be ultimately included in the multivariate logistic regression model that will be used to create the propensity

score. Each covariate will be examined in terms of its independent relationship to exposure (diverted or convicted) and the primary outcome of interest (re-arrest). Differences between groups will be evaluated using the rank-sum test for continuous data and the chi-squared test for binary data. Ultimately, the propensity scoring model will include only those covariates for which there is a significant relationship ($p < 0.05$) to the outcome (re-arrest) regardless of whether there is a significant relationship to the exposure. However, it will be of interest to examine the number of covariates that are related to the outcome and not the exposure, as inclusion of these variables is optimal for the model.

4.8.1b. Calculating Propensity Scores

SAS/STAT[®] LOGISTIC procedure code will be used to create the propensity score. A user-written SAS[®] macro will be used to create a propensity score matched pair sample using greedy matching techniques. SAS/STAT[®] allows users to perform multivariate logistic regression with the LOGISTIC procedure. PROC LOGISTIC options allow users to calculate and save the predicted probability of the dependent variable, the propensity score, for each observation in the data set. This single score (between 0 and 1) is calculated for each individual in the study and represents the relationship between multiple characteristics and the dependent variable as a single characteristic. The propensity score is the predicted probability of receiving the treatment.

4.8.1c. Creating an Independent Variable from the Propensity Score

Once propensity scores have been calculated, their distribution will be examined separately by treatment group. To the extent the predictions of treatment group are very good (i.e., there is substantial separation between the treatment groups and little overlap) comparisons between groups will be suspect. If the predictions are not good, adjusting for the propensity score will have a milder effect on the equation. After examining the distribution of the propensity scores, there are two common approaches to using propensity scores to adjust for group differences; using the propensity score to perform matching between groups and including the propensity score as a covariate.

Using the Propensity Score to Perform Matching. One approach is to use the propensity score to perform matching between groups. This might be a one-to-one or a many-to-one matching and would be based on ranges of propensity scores. This approach is similar to discriminant score matching, one of the predecessors to propensity score matching. It suffers from the usual objections to matching, most notably its failure to make use of all the available data. Nonetheless, propensity score matching can create well-matched pairs, while it has been demonstrated that a sample matched on propensity score will be similar for all covariates used to compute the propensity score (Stuart, 2008).

Because Propensity Score Matching (PSM) techniques often require very large sample sizes, it is anticipated that the sample N for this study may be too small to maintain a sufficient matched sample. PSM techniques are most effective when there is a more extreme imbalance in group size, as this presents

significantly more opportunities for an exact match to be made. For example, using the greedy matching algorithm specified below, an attempt to match a sample of 298 AOD service users to a sample of 2,460 AOD service nonusers, yielded 260 matches (Total N=520) (Guo, Barth, & Gibbons, 2004). In contrast, this study contains 360 diversion participants and 285 convicted (comparison) participants. Therefore, it seems likely that a substantial portion of the sample will be unmatched and subsequently lost. Nonetheless, the PSM technique will be explored to determine its potential contribution to the analysis.

Diversion cases will first be matched to convicted cases on the propensity score using a matching algorithm. Specifically, two types of biases, incomplete and inexact matching, can be introduced when using this procedure. While trying to maximize exact matches, cases may be excluded due to incomplete matching. Incomplete matching may result due to missing data or disjoint ranges of case and control propensity scores. Data must be complete for all covariates included in the multivariate analysis used to calculate the propensity score. If any covariate data is missing, the individual case is eliminated from the analysis and a propensity score will not be calculated. This will result in an incomplete match and the cases with missing data will be excluded. In addition, the cases and the controls may contain a disjoint range of propensity scores where the minimum and maximum propensity score for cases and controls lacks comparability. Incomplete matching will result and the cases with the highest propensity score and the controls with the lowest propensity score will be excluded. However, should the result be too many incomplete matches resulting in the exclusion of a

large number of cases, techniques are often used to maximum the number of cases however this often will introduce an alternative bias, inexact matching.

There are basically two types of matching algorithms that can be utilized—an optimal match algorithm and a greedy match algorithm. A greedy algorithm is frequently used to match cases to controls in observational studies such as this where comparison groups are significantly different on a number of individual characteristics. In a greedy algorithm, a set of X cases is matched to a set of Y controls in a set of X decisions. Once a match is made, the match is not reconsidered. That match is the best match currently available. In an optimal matching algorithm, previous matches are reconsidered before making the current match. The algorithm can also use the nearest available pair matching method. The cases are ordered and sequentially matched to the nearest unmatched control. The algorithm makes "best" matches first and "next-best" matches next, in a hierarchical sequence until no more matches can be made. Best matches are those with the highest digit match on propensity score. The algorithm proceeds sequentially to the lowest digit match on propensity score.

A match macro will be developed that specifies the number of digits of the calculated propensity score on which cases and controls are to be matched. For example, a Greedy 5→1 Digit Match means that the cases will first be matched to controls on five digits of the propensity score. For those that cannot be matched according to this criterion, cases will then be matched to controls on four digits of the propensity score. This will continue down to a 1-digit match on propensity score for those that remained unmatched. Several variations of the

same algorithm (e.g., 6→1, 5→3, 5→2) will be performed and matched populations will be evaluated for completeness of match (% of total cases matched), goodness of matched sample (mean difference between groups on selected characteristics) and goodness of matched pairs (absolute difference in propensity score of matched pairs). It will be necessary to determine which match, if any, can provide a satisfactory outcome on all three criteria. As the completeness of the match improves (i.e., more cases are matched), the goodness of the match will likely improve (i.e., mean difference will be reduced) yet the goodness of the matched pairs might decrease (i.e., absolute difference in the propensity score will increase). Thus, picking up more matches will reduce the bias due to incomplete matching whereas picking up fewer but better matched pairs will reduce the bias due to inexact matching.

Including the Propensity Score as a Covariate. A competing and sometimes preferable approach is to use the propensity score as a variable in the prediction model. This can be accomplished by including the treatment group and the propensity score (expressed as a continuous measure) in a logistic regression. However, because there is no reason to believe that the propensity score would predict the outcome linearly, it is considered more appropriate to use classifications that divide the propensity score into groups to be included as a categorical variable. When stratified, it has been recommended for smaller samples that the propensity score should be divided into at least five strata based on the distribution of scores (Cepeda et al., 2003; Pasta, 2009).

After propensity scores are estimated, subjects will be classified into propensity quintiles, $q_1(x)$, $q_2(x)$, $q_3(x)$, $q_4(x)$, $q_5(x)$, as has been suggested by Rosenbaum & Rubin (1983). This method is based on the work of Cochran (1968) who demonstrated that in linear regression analysis quintiles are sufficient for about a 90 percent reduction in bias for normally distributed independent variables, and that further sub-classification is generally unnecessary. As such, a two-by-five contingency table of propensity quintiles by treatment (present, absent) will be created. The number of subjects populating each cell will be examined. Should the number of subjects represented in any of the 10 cells be insufficient for either group that quintile will be eliminated from the analyses.

In estimating the effects of diversion on re-arrest, the ability of the propensity score to adjust for group differences will be examined according to the best option available. The preferred method is to use the propensity score to create newly matched groups and proceed with the analysis by substituting those newly matched pairs for the original sample without including the propensity score as a covariate in the models. However, with a sample size of 645, it is questionable whether a sufficient number of subjects can be satisfactorily matched and retained. If not, the propensity score will be included in a logistic regression as a categorical variable (quintiles) and a statistical control.

4.8.2. (Step 2): Estimating the Effects of Predictors on Re-Arrest

The comparative effect of all predictors will be examined on one primary outcome, recidivism, which will be defined as re-arrest. This outcome will be

explored in two distinct manners. First, all predictors will be individually examined for their effect on re-arrest as a dichotomous outcome, specifically whether or not the respondent was re-arrested (yes/no) according to official records provided by the Cuyahoga County Department of Probation. Second, all predictors will be examined in the context of a survival analysis to determine the amount of time that elapsed prior to re-arrest. This will help to provide more sensitivity to the analysis by potentially teasing out more complex effects of the predictors on the outcome. For both of these analyses, the propensity score will be included as a covariate in order to minimize selection bias that might have occurred.

4.8.3. Exploratory Bivariate Analysis

Initially, a separate analysis will be conducted to examine the effect of each predictor on recidivism as well as the effect of the independent variables on the mediators. For the dichotomous outcome measure, logistic regression will be employed due to the inclusion of a binary dependent variable. For recidivism, the dependent variable will be defined as re-arrest during the three-year follow-up period, with each respondent coded as “1” (arrested) and “0” (no re-arrest).

AIM 1. Bivariate comparisons will be conducted using Pearson’s chi-square for all categorical variables (i.e., gender, race/ethnicity, criminal justice disposition, employment, drug use, and record sealing) and a T-test comparison of means for all continuous variables (i.e., age) to explore the independent effect of each variable on re-arrest. A logistic regression will also be performed for each comparison that will include case management assignment as a statistical

control. In total, eight (8) separate regression models will examine the effect on re-arrest of the following independent variables: 1) criminal justice disposition (0=convicted; 1=Diverted); 2) the propensity score (categorically divided into a minimum of five strata); 3) drug use (0=abstinent from drug use; 1=self-reported drug use); 4) record sealing (0=not sealed; 1=sealed); 5) employment (0=unemployed; 1=stable employment); 6) age (continuous); 7) gender (0=female; 1=male); and 8) race/ethnicity (0=Non-black; 1=Black). In addition, a single logistic regression will be conducted that includes all eight predictors to better determine the relative influence of each on re-arrest.

AIM 2. Bivariate comparisons will be conducted using Pearson's chi-square to examine the relationship between criminal justice disposition (diverted vs. convicted) and employment, drug use, and record sealing. A logistic regression will also be performed for each comparison that will include case management assignment as a statistical control. In total, three (3) separate regression models will examine the effect of criminal justice disposition on: 1) employment (0=unemployed; 1=stable employment); drug use (0=abstinent; 1=self-reported drug use); and record sealing (0=Not sealed; 1=sealed).

4.9. Survival Analysis (AIM 3)

Survival analysis encompasses a wide variety of methods for analyzing the timing of events. Such techniques were primarily developed in the medical and biological sciences but are now widely used in the social and economic sciences. When utilized in the medical and biological sciences, the prototypical

event to be analyzed is death, but survival analysis can also be utilized for many other kinds of events appropriate to the social sciences such as recidivism.

The survival analysis procedure provides two key pieces of information: 1) the survival function which is the proportion of the population at risk at each time point who have not reached the terminal event, and 2) the hazard function which is the proportion of the at risk surviving population at each time point who are likely to reach the event within the time interval (i.e., risk of the terminal event occurring). Essentially, there are two required elements to conduct a survival analysis, a time variable and a status variable. The time variable (represented by continuous level data) indicates the amount of time that has elapsed between two events; in this study the number of months elapsed between study entry and re-arrest. The status variable indicates whether the terminal event has occurred and is generally categorical and frequently dichotomous, but may be continuous when using Kaplan-Meier (KM) or Cox Regression (COXREG) analyses.

One of the key features of survival data is censoring. There are several types of censoring that can take place but only one that practically applies to the proposed study. Often, the survival times of some subjects will not be observed because the event of interest does not take place for these subjects before the termination of the study (referred to as *fixed-right censoring*). For example, in this study, these would be participants who are not re-arrested during the follow-up period. Those who are re-arrested are uncensored. Survival procedures assume that censored and uncensored cases do not differ in terms of the likelihood of their exposure to the terminal event, in the case of this study, re-arrest.

Another common form of censoring is referred to as *random-right censoring*, which involves the loss of observation at some midpoint during the study so that neither the outcome can be observed nor can a fixed length of time absent the outcome be determined beyond the observation period. This type of censoring can complicate the analysis by raising the possibility that survival time is not independent of the censoring mechanism. For example, in a medical study very sick subjects might tend to drop out of a study prior to death and as such their deaths would go unobserved, which would in effect bias estimated survival times upwards. In cases where random censoring is an inevitable feature of the study, explanatory variables could be included in the model that are likely related to both censoring and survival time (e.g., severity of illness). However, this will not totally eliminate the inherent bias brought about by the censor.

A distinct advantage of the survival analysis to be employed for this study will be the absence of any random censoring. This is due to the fact that the event of interest is re-arrest, which is gathered for all study participants at the conclusion of the study from an official record source (not directly from the individual). This method of data collection allowed for an outcome to be obtained for all study participants regardless of whether they ceased other study activities (e.g., completing follow-up interviews). This leaves only fixed-right censoring as a possibility for those cases that were not re-arrested. Because the distribution of survival times of subjects who are censored at time t is no different from that of subjects who are still under observation at that same time, which is the case with

fixed censoring, censoring is said to be non-informative about survival time thus allowing for unbiased estimates of survival times and probabilities.

Survival analysis employs two widely used tests; the Kaplan Meier (product limit) Estimator and the Cox Proportional Hazards Model. Kaplan-Meier survival analysis (KMSA) is a method of generating tables and plots of survival or hazard functions for event history data (time to event data). The Cox model is a semi-parameter method that relates the time of an event to a number of covariates. The Kaplan-Meier method with log-rank test is useful for comparing survival curves in two or more groups when time is considered to be the only salient variable, whereas Cox proportional-hazards regression allows analyzing the effect of several risk factors on survival. If covariates other than time are thought to be important in determining duration to outcome, results reported by KMSA will represent misleading averages obscuring important differences in groups formed by the covariates. Since this is often the case, methods which incorporate covariates, such as Cox regression, are preferable as this allows for the effect of each predictor on the shape of the survival curve to be assessed. However, even when the inclusion of covariates is considered to be integral to the overall model, KMSA is often still fruitful in exploratory stages of research to test which predictors might be included in the final model. Thus, both the KMSA and Cox Model survival techniques will be explored in a sequential fashion.

4.9.1. Kaplan Meier Exploratory Survival Analysis

Kaplan-Meier curves for each of the categorical predictors will be examined individually in order to provide a simple comparison of survival time in

the different groups represented by the models. For this purpose, each Kaplan-Meier survival analysis will consist of three (3) components: 1) **a time variable (months)** which must be a continuous variable representing a duration of elapsed time or what might be termed the survival time of each subject. For this study, the time variable would represent the number of months elapsed between baseline and first arrest for each study participant, or the time at which the observation is censored (i.e., the number of months elapsed between baseline and the conduct of record checks) for those that were not re-arrested (will take on a minimum value of 36 months and a maximum value of 60 months depending on when the participant first entered the study; 2) **a status variable** which is a categorical variable representing the event of interest—re-arrest (coded “1” if the offender was re-arrested during the follow-up period and coded “0” if no record of re-arrest); and 3) **a factor variable**—which must be a categorical variable that represents the proposed causal effect. In order to determine the unique individual effect of each factor on re-arrest, individual Kaplan-Meier curves will be examined for each of the following factors:

- *Criminal Justice Disposition*—coded “1” if the offender was granted diversion and “0” if the offender was not diverted and instead convicted.
- *Random assignment*—coded “1” for offenders assigned to the Enhanced TASC condition and “0” for offenders assigned to TASC-as-Usual
- *Record sealing*—coded as “1” for offenders that effectively sealed their record and “0” for offenders that did not get their record sealed.
- *Drug use*—coded “1” for those who self-reported use of any illegal drugs and “0” for those that did not report the use of any illegal drugs.
- *Employment*—coded as “1” for those that indicated full-time employment during the follow-up period and “0” for those that were unemployed.

- *Race*—coded “1” for Blacks and “0” for Non-Blacks.
- *Gender*—coded “1” for male and “0” for female.

This exploratory approach will provide insight into the shape of the survival function for each group compared and give an idea of whether or not the groups are proportional (i.e. the survival functions are approximately parallel). For the categorical variables, the log-rank test of equality, which is a non-parametric test, will be used to determine whether or not to include the predictor in the final model. When two or more survival curves are estimated, the log-rank test is used to determine whether the differences in survival between groups, treatments, etc., are more than would be expected by chance alone.

For the continuous variables (e.g., age) a univariate Cox proportional hazard regression, a semi-parametric model, will be used. The Cox Model would also consist of three components: 1) **a time variable (months)**—the number of months elapsed between baseline and first arrest for each study participant, or the time at which the observation is censored (i.e. the number of months elapsed between baseline and the conduct of record checks) for those that were not re-arrested (will take on a minimum value of 36 months and a maximum value of 60 months depending on when the participant first entered the study; 2) **a status variable**; which is a categorical variable representing the event of interest—re-arrest (coded “1” if the offender was re-arrested during the follow-up period and coded “0” if no record of re-arrest); and 3) **a covariate**—which will be represented by any continuous variables proposed as predictors.

The predictor will be considered for inclusion in the final model if the test has a p-value of 0.25 or less. This liberal cutoff is being employed in recognition of the fact that all the predictors in the data set are variables that could be relevant to the model. However, it is also recognized that if the proposed predictor has a p-value greater than 0.25 in a univariate analysis it is highly unlikely that it will contribute anything to a model that includes multiple covariates. Kaplan-Meier curves will be presented for each comparison.

4.9.2. Cox Proportional Hazards Survival Regression

In order to simultaneously assess the effect of multiple explanatory variables on survival time, a Cox regression model (Cox, 1972) will be employed. For this particular study, it will be necessary to isolate the effect of treatment (i.e. diverted and convicted) from the effect of other variables, which were shown to be predictors of re-arrest in the univariate Kaplan-Meier survival analysis. Thus, the Cox Proportional Hazards Survival Regression Model will consist of three (3) components: 1) *a time variable*; which is a continuous variable representing the survival time of each subject. Again, for this study, the time variable would represent the number of months elapsed between baseline and re-arrest, or the time at which the observation is censored for those that were not re-arrested; 2) *a status variable*; a categorical variable representing the event of interest; and 3) *covariates*—which can be represented by a categorical or continuous variable that is being put forth as a predictor. Covariates for the Cox model will include:

- *Criminal Justice Disposition*—coded “1” if the offender was granted diversion and “0” if the offender was not diverted and instead convicted.

- *Random assignment*—coded “1” for offenders assigned to the Enhanced TASC condition and “0” for offenders assigned to TASC-as-Usual.
- *Record sealing*—coded as “1” for offenders that effectively sealed their record and “0” for offenders that did not get their record sealed.
- *Drug use*—coded “1” for those who self-reported use of any illegal drugs and “0” for those that did not report the use of any illegal drugs.
- *Employment*—coded as “1” for those that indicated full-time employment during the follow-up period and “0” for those that were unemployed.
- *Age* – offender’s age (in years) at the time of entry into the study.
- *Race*—coded “1” for Blacks and “0” for Non-Blacks.
- *Gender*—coded “1” for male and “0” for female.

Simply put, the Cox model regresses the survival times (technically referred to as the hazard function) on the explanatory variables. The hazard function is the probability that an individual will experience an event within a given time interval. The final model from a Cox regression analysis will yield an equation for the hazard as a function of several covariates including treatment. A significant effect would be that the hazard of experiencing the event for those diverted is different from the hazard of experiencing the event for those convicted. Essentially, the mechanics of interpreting hazard ratios is the same as the mechanics of interpreting odds ratios. That is, using the convicted group as the reference category, a hazard ratio of 1.4 would indicate that the diverted group has a 40% higher hazard of re-arrest while a hazard ratio of 0.2 would indicate an 80% smaller hazard of re-arrest for the diverted group.

V. Sample Profile

5.1. Recruitment Trends

The original target population consisted of individuals entering probation who were (1) first-time nonviolent felons eligible to have their records sealed as specified by Ohio law (i.e., with no prior felony or misdemeanor convictions and whose current conviction was not for a violent offense, crime against a minor, drug offense involving large amounts of schedule I and II substances, DUI, DUS, or some burglary charges); and (2) diagnosed with substance abuse or dependence; a requirement for participation in TASC. Through probation, the Cuyahoga County Court of Common Pleas referred first-time nonviolent offenders meeting the criminal history criteria to TASC for a clinical assessment. TASC eligible clients (substance abuse or dependence diagnosis, including in remission) were then presented with the opportunity to participate in the study.

However, it soon became apparent that a number of legislative and administrative amendments severely limited the pool of eligible participants. In particular, several discussions with stakeholders revealed that the majority of first-time nonviolent felony offenders were instead being diverted to participate in the Intervention in Lieu of Conviction (ILC) and the Early Intervention (EIP) programs.³ If we hoped to increase enrollment it would be necessary to include these individuals, but more importantly their inclusion would allow for an examination of the criminal justice system that reflects current practice. As shown in Table 5.1, expanding recruitment to include diversion participants starting in

³ Both ILC and EIP target first-time offenders with a pending felony drug charge and provide them with appropriate drug treatment services.

Year 1 (February) tripled the overall number of referrals received with an average of 20 referrals per month over the first five months (September 2003 to January 2004) increasing to 60 per month over the remaining 19 months (February 2004 to August 2005). This also shows that it is much more common for the system to divert these first-time nonviolent felony offenders rather than convict them.

Table 5.1. Monthly Recruitment Trends (Referrals and Baselines)

Recruitment Year 1 (September 2003 – August 2004)													
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Total
Ref	17	18	22	21	23	49	62	45	52	53	53	74	490
BL	0	11	9	12	8	10	29	33	30	23	22	36	223
Recruitment Year 2 (September 2004 – August 2005)													
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Total
Ref	79	82	69	57	55	46	79	58	51	71	53	56	1246
BL	52	34	42	40	32	23	40	24	35	22	31	34	645

The rationale for expanding study recruitment was that through diversion offenders are given an opportunity to avoid the stigma of a felony conviction by pleading guilty to a felony that will ultimately be dismissed if all court mandates are fulfilled. This mechanism for stigma avoidance allows first-time felony offenders a comparable but expedited path to record-sealing. Thus, two groups participated in the Second Chance Program: (1) convicted felony offenders who were sealing eligible via the criteria in Ohio law (“convicted”); and (2) offenders entering guilty pleas to a first-time felony charge that was held pending successful completion of treatment, TASC, and probation (“diverted”).

Baseline data collection began on October 1, 2003, and finished on September 30, 2005. There were a total of 1246 referrals (see Table 5.1 above) received during this 24-month period (average of 52 per month). Eighty-nine of

these individuals (7%) failed to report to TASC for their initial assessment (CIAI). As Table 5.2 shows, of the 1157 who completed the TASC assessment, 429 (37%) did not have a substance use diagnosis and therefore were ineligible to participate in TASC and the study. An additional 55 (5%) refused to participate in the study while 28 (2%) agreed to participate but failed to complete the baseline interview. The remaining 645 individuals agreed to participate in the study and completed a baseline interview upon entry into TASC.

Table 5.2. Referral Sample Attrition

	N	%
CIAI conducted	1157	-
TASC ineligible	429	37%
Refusals	55	5%
No show baseline	28	2%
Baselines conducted	645	56%

The study intake process was set up so that the sample was first stratified by referral source (i.e., “convicted” or “diverted”) then randomly assigned to treatment conditions—either Enhanced TASC (experimental) or TASC-as-Usual (control). To ensure enough experimental group participants were receiving services to utilize designated grant funds, randomization was adjusted in January 2004 to a 2:1 experimental/control ratio. Once enrollment had sufficiently improved, the intention was to re-adjust randomization. However, trends over the ensuing months showed that enrolling 800 clients was unrealistic; therefore, a more realistic goal of 600 participants (400 experimental/200 control) was established. Ultimately, the recruitment period was extended through August 2005, with the final baseline interview conducted in September 2005. Once it

became evident that recruitment would surpass the adjusted goal of 600 clients, the randomization ratio was reversed to 2:1 control/experimental.

Table 5.3 indicates the final sample of 645 volunteers broken out by random assignment and referral source. Approximately 56% of the sample was diverted either to ILC or EIP diversion programs compared to 44% who were convicted. Of those “convicted,” 61% were randomly assigned to the Enhanced-TASC (E) group and 39% to the TASC-as-Usual (C) group. Of those “diverted,” 56% were randomly assigned to the Enhanced-TASC (E) group and 44% to the TASC-as-Usual (C) group. As was previously mentioned in the analytic plan, for the purpose of this secondary analysis, the random assignment of subjects to these two case management conditions was included as a statistical covariate in all analyses but not take on a more prominent role due to the fact that: 1) no significant baseline differences between E vs. C were evident; 2) an outcome analysis could not establish any systematic differences between experimental and control clients on any of the critical outcome measures such as re-arrest and self-reported drug use; and 3) random assignment to case management conditions was stratified within disposition groups so that a near equal proportion of participants in both groups were assigned to the experimental condition.

Table 5.3. Random Assignment Condition by Criminal Justice Disposition

	“Convicted”	“Diverted”	Totals
Experimental	175 (61%)	203 (56%)	378 (59%)
Control	110 (39%)	157 (44%)	267 (41%)
Totals	285 (100%)	360 (100%)	645 (100%)

5.2. Participant Profiles

5.2.1. Demographics. Table 5.4 presents highlighted comparisons between the two groups. The sample was primarily between the ages of 18-24 (54%) with the mean age being 28.2 years old (sd = 10.7), male (69%), and African American (62%) (35% of the sample was white). Most importantly, convicted and diverted participants were significantly different in terms of their demographic profiles. That is, 71% of convicted participants were between the age of 18-24 compared to 40% of diverted participants ($p < .001$); 74% of convicted participants were male compared to 66% of diverted participants ($p < .05$); and 69% of convicted participants were Black compared to 57% of those diverted ($p < .01$).

5.2.2. Education. Slightly more than half (53%) did not graduate from high school—4.7% completed the 8th grade or less; 11% completed the 9th grade; 17% completed the 10th grade; and 19% completed the 11 grade. A total of 54% graduated high school or received their GED at baseline. The average participant dropped out in the 11th grade (mean=11.25; sd=1.82) while the median grade completed was the 11th grade. Only 41% of those convicted had graduated high school or received their GED compared to 64% of those diverted ($p < .001$).

5.2.3. Living Conditions. Overall, clients' living conditions were relatively stable, with 97% living in a house/apartment for most of the 12-month period preceding the baseline interview whereas only 1% reported being homeless (i.e., living in a shelter or on the streets). Furthermore, a total of 63% lived in the same place for that entire year; an additional 27% lived in two different places; and only 10% reported living in three or more places during that year. There were no statistically significant differences between convicted and diverted groups.

Table 5.4. Sample Descriptives by Criminal Justice Disposition

Variables	Total (N=645)	Convicted (N=285)	Diverted (N=360)	X ²	sig
Demographics					
Age 18-24	54%	71%	40%	59.58	.000
Male	69%	74%	66%	5.38	.020
Black	62%	69%	57%	9.44	.002
Education					
Graduated High School/GED	54%	41%	64%	33.09	.000
Employment					
Currently employed	37%	35%	39%	1.34	n.s.
Worked during past 12 months	65%	63%	66%	.895	n.s.
Living arrangements – 12 months prior to baseline					
Lived in house or apartment	97%	97%	97%	7.99	n.s.
Homeless – shelter or on the streets	2%	1%	2%		
Other institution – group residence, halfway house, or jail	1%	1%	1%		
Primary Drug Used					
Alcohol	16%	13%	18%	28.31	.000
Marijuana	56%	67%	46%		
“Hard” Drugs (i.e., Crack, Cocaine, or Heroin)	24%	16%	30%		
Other drugs (e.g., methamphetamine, PCP, ecstasy)	4%	3%	5%		
Drug Use (Year Prior to Baseline)					
Alcohol (any use)	67%	67%	67%	.000	n.s.
Alcohol (use to intoxication)	23%	21%	24%	.558	n.s.
Marijuana	72%	80%	65%	16.74	.000
“Hard” drugs (i.e., cocaine, crack, heroin)	44%	28%	57%	53.78	.000
“Other” drugs (e.g., methamphetamine, PCP, ecstasy)	24%	18%	29%	10.77	.001
Criminal Profile (reported by Department of Probation)					
Commitment Offense – Distribution/Trafficking	19%	21%	17%	5.19	.023
Commitment Offense – Possession	61%	55%	66%		
Commitment Offense – Theft	15%	18%	14%		
One Year Probation Sentence	78%	59%	93%	106.20	.000
Evidence of Juvenile History	25%	29%	22%	4.14	.042
Criminal Activity (Year Prior to Baseline)					
Drug Possession	83%	79%	87%	7.38	.007
Drug Distribution	23%	32%	17%	20.67	.000
Theft-related offenses	19%	24%	15%	8.11	.004
Violent offenses	8%	8%	7%	.320	n.s.

5.2.4. Employment. Thirty-seven percent of all study participants were employed at baseline; 65% reported having a job during the year prior. Table 5.6 below provides more detailed information for the 418 respondents that reported having some kind of job during the year prior to their participation. Overall, for those who had a job, their employment situations appeared stable. That is, almost two-thirds (65%) reported full-time employment (at least 35 hours of work per week) when asked to describe the type of work they usually had during the past year. Similarly, more than half (56%) held just one job during that year and almost half (46%) reported working 270 days or more during that same time whereas only 15% had held three or more jobs. In terms of the kind of jobs held, almost two-thirds (63%) were employed in the service industry or as a manual laborer and only 20% reported a professional position (e.g., clerical work). The self-reported take-home pay among those employed is reflective of largely entry level positions. Approximately three-quarters (76%) took home \$400 or less per week while only 8% of respondents took home more than \$600 per week.

With respect to weekly earnings, convicted participants made significantly less money per week. On average, convicted participants took home \$307 per week compared to \$365 per week for diverted participants ($p < .01$). Moreover, 39% of convicted participants took home \$200 or less per week compared to 27% of diverted participants; 20% of diverted participants reported taking home between \$401 and \$600 compared to only 10% of convicted participants ($p < .01$).

Table 5.5. Employment Measures for Participants with a Job

	Total N=418	Convicted N=179	Diverted N=239	X ²	Sig.
Job Commitment				.783	n.s.
Odd jobs (occasional or irregular)	7%	7%	7%		
Part-time (less than 35 hours per week)	29%	31%	27%		
Full-time (35 hours or more per week)	65%	63%	66%		
Job Type				6.90	.075
Service worker	39%	46%	34%		
Manual laborer	27%	26%	28%		
Professional/office worker	20%	16%	23%		
Other	14%	12%	16%		
Number of Jobs				.200	n.s.
One	56%	55%	57%		
Two	29%	30%	29%		
Three or more	15%	16%	15%		
Take Home Pay (per week)				12.46	.006
\$200 or less	32%	39%	27%		
\$201 to \$400	44%	45%	44%		
\$401 to \$600	16%	10%	20%		
More than \$600 per week	8%	6%	10%		
Average (mean)	\$341	\$307	\$365	-2.63	.009
Median	\$300	\$250	\$300	-	-
Days Employed				1.06	n.s.
90 days or less	17%	17%	16%		
91 to 180 days	18%	20%	17%		
181 to 270 days	19%	19%	19%		
More than 270 days	46%	44%	48%		
Average (mean)	243	237	248	-.930	n.s.
Median	270	264	270	-	-

5.2.5. Drug of Choice. Study participants were asked to indicate the drug that they most commonly used during the year prior to study enrollment. As table 5.4 indicates, more than half (56%) reported marijuana as their primary drug of choice; 24% reported “harder” drugs such as cocaine, crack, or heroin; 16% reported alcohol; only 4% reported another drug such as PCP, ecstasy or amphetamines. Convicted and diverted participants were significantly different in terms of their drug of choice. Specifically, 67% of convicted participants reported marijuana as their drug of choice compared to 46% of diverted participants while only 16% of those convicted reported “harder” drugs such as crack, cocaine and heroin as their drug of choice compared to 30% of diverted participants ($p < .001$).

5.2.6. Any Drug Use. In terms of self-reported drug use during the year prior to baseline, 72% used marijuana, 67% used alcohol, 44% used crack, cocaine, and/or heroin; and 24% used other drugs. Convicted and diverted groups differed significantly on the types of drugs they used: 80% of convicted participants reported marijuana use compared to 65% of diverted participants ($p<.001$); 28% of convicted participants reported any use crack, cocaine or heroin compared to 57% of diverted participants ($p<.001$); and 18% of those convicted reported using other drugs compared to 29% of those diverted ($p<.001$).

Table 5.6. Drug Use Frequency during Year Prior to Study Entry

	Total N=645	Convicted N=285	Diverted N=360	X ²	Sig.
Alcohol Use				3.46	n.s.
No use	33%	33%	33%		
Infrequent use	32%	36%	30%		
Regular use (at least once per week)	35%	31%	37%		
Alcohol Use (to intoxication)				.262	n.s.
No use	77%	79%	76%		
Infrequent use	12%	11%	13%		
Regular use (at least once per week)	11%	10%	11%		
Marijuana Use				19.34	.000
No use	29%	20%	35%		
Infrequent use	16%	15%	16%		
Regular use (at least once per week)	56%	65%	49%		
“Hard” Drug (Crack, Cocaine, Heroin) Use				54.95	.000
No use	56%	72%	43%		
Infrequent use	16%	8%	21%		
Regular use (at least once per week)	29%	20%	36%		
“Other” Drug Use				2.79	.095
Infrequent use	91%	93%	89%		
Regular use (at least once per week)	9%	7%	11%		

5.2.7. Regular Drug Use. Table 5.6 above examines the frequency of use during this period. Regular use is defined as use at least one time per week including use “more than once per week,” “daily,” and “more than once daily.” Using this definition, 35% reported regular use of alcohol, 11% reported regular use of alcohol to intoxication, 56% reported regular use of marijuana; 29%

reported regular use of either crack or cocaine or heroin; and only 9% reported regular use of “other” drugs such as amphetamines, PCP, and ecstasy. Similar to their patterns of overall use, the groups were significantly different with regard to their regular use of marijuana and “hard” drugs. Specifically, 65% of convicted participants were regular users of marijuana compared to 49% of those diverted ($p < .001$) while only 20% of convicted participants are considered regular users of “hard” drugs compared to 36% of those that have been diverted ($p < .001$).

5.2.8. Motivation for Drug Treatment. Motivation for drug treatment has been found to predict treatment engagement and thus was assessed using previously validated scales (DeLeon, Melnick, Kressel, & Jainchill, 1994). Generally, motivation for treatment is expected to increase as the perceived severity of the drug use increases. Specifically, it is expected that those using drugs such as crack, cocaine, and heroin will perceive their addictions as more severe when compared to marijuana users, and thus should be more motivated to participate in treatment. The results presented below indicate that the type of drug primarily being used does indeed have this effect on treatment motivation.

Table 5.7 shows that those who use drugs other than marijuana are significantly more motivated for treatment. For example, compared to marijuana users, being a user of “other” drugs increased the odds of agreeing with the following statements; “Often I don’t like myself because of my drug use” by a factor of nearly 10 (OR = 9.86) ($p < .001$) and “Basically, I feel that drug use is a very serious problem in my life” by nearly 6 times (OR = 5.93) ($p < .001$).

Table 5.7. Motivation for Drug Treatment by Primary Drug of Choice

Category	Total ¹ N=631	Alcohol ¹ N=102	Marijuana ¹ N=350	Other Drugs ¹ N=179	R ² Exp(B) Marijuana as Reference Variable	
					Alcohol	Other Drugs
<u>Circumstances 1</u>						
I am sure I would have gone to jail if I didn't enter treatment.	49%	45%	44%	62%***	1.04	2.07***
I'd have come to treatment without pressure of legal involvement.	34%	30%	29%	48%***	1.05	2.30***
My family will not let me live at home if I didn't come to treatment.	17%	15%	9%	33%***	1.78	4.78***
<u>Motivation</u>						
Basically, I feel that drug use is a very serious problem in my life.	50%	47%	37%	78%***	1.48	5.93***
Often I don't like myself because of my drug use.	34%	30%	18%	68%***	1.97**	9.86***
Lately, I feel if I don't change, my life will keep getting worse.	64%	62%	55%	81%***	1.30	3.69***
I feel bad that my drug use and way I've lived has hurt people.	52%	48%	39%	81%***	1.45	6.63***
It is more important to me than anything else I stop using drugs.	78%	72%	73%	92%***	.96	4.03***
<u>Readiness</u>						
I don't really believe I have to be in treatment to stop using drugs.	42%	40%	55%	20%***	.559**	.209***
I came to this program because I feel that I'm ready for treatment.	62%	65%	55%	73%***	1.52	2.19***
Basically, I don't see any other choice for help except treatment.	54%	57%	44%	71%***	1.67*	3.07***
I don't think I can stop my drug w/out some kind of treatment.	41%	39%	29%	65%***	1.52	4.51***
I'm tired of using drugs and want to change, but can't do it alone.	50%	50%	36%	76%***	1.71	5.62***

¹ Percentage of respondents that agreed with each statement; significance of Chi-Square comparing percentages p ≤.05*, p ≤.01**, p ≤.001***;
R² significance p ≤.05*, p ≤.01**, p ≤.001***

Moreover, marijuana users were significantly less likely to perceive themselves as ready for treatment. For example, compared to marijuana users, users of “other” drugs had increased odds of agreeing with the following statements by a factor of nearly 5 (OR = 4.51), “I don’t think I can stop my drug use without some kind of treatment” ($p < .001$) and nearly 6 times (OR = 5.62), “I’m tired of using drugs and want to change but can’t do it alone” ($p < .001$).

Table 5.8 below presents subscale and global scores of the CMR by drug of choice. The “Circumstances 1” scale reflects intrinsic motivation while the “Circumstances 2” scale reflects the presence of outside circumstances (e.g., relationships, money, or children) that could pressure an individual to leave treatment. The “Motivation” scale captures the extent to which drug use is viewed as a problem and impediment. The “Readiness” scale addresses the perceived need for drug treatment. Overall, significant differences are evident on six of the seven scales. Scheffe Post Hoc tests show that “other” drug users possess the greatest motivation for treatment while marijuana users demonstrate the least.

Table 5.8 CMR Scores by Drug of Choice

	Alcohol ¹ (n=102)	Marijuana ² (N=350)	“Other” ³ (N=179)	F	Sig
Circumstances 1	7.7 (2.5)	7.5 (2.6)	9.2 (2.8)	26.41	.000 (1-3, 2-3)
Circumstances 2	12.7 (2.6)	12.5 (2.5)	12.1 (2.2)	2.83	.060
Circumstances 1 & 2	20.4 (3.2)	20.0 (3.1)	21.3 (3.5)	9.14	.000 (2-3)
Motivation	16.3 (5.4)	14.9 (4.4)	20.2 (4.3)	79.39	.000 (1-2, 1-3, 2-3)
Readiness	25.0 (5.8)	22.9 (5.0)	27.4 (5.4)	44.78	.000 (1-2, 1-3, 2-3)
Motivation & Readiness	41.3 (10.6)	37.8 (8.8)	47.6 (9.0)	69.92	.000 (1-2, 1-3, 2-3)
Global Score (18 items)	61.8 (12.0)	57.8 (10.1)	68.9 (11.1)	63.09	.000 (1-2, 1-3, 2-3)

1-2 “Alcohol” vs “Marijuana” users; 1-3 “Alcohol” vs “Hard drug” users; 2-3 “Marijuana” and “Other” users

As was previously illustrated, the diverted and convicted groups differed significantly on their self-reported drug of choice. These groups also differed significantly on their demographic composition. Thus, it is important to note that there was a significant relationship between drug of choice and age, gender, and race/ethnicity. As Table 5.9 demonstrates, those 18-24 years of age, male, or Black were significantly more likely to report marijuana as their drug of choice, while those 25 years of age or older, female, or non-black were significantly more likely to report “hard” drugs such as crack, cocaine or heroin as their drug of choice. When considering a combination of demographic factors, 85% of those who are young, male and black report marijuana as their drug of choice with only 2% reporting harder drugs such as cocaine, crack, or heroin as their drug of choice and 2% reporting “other” drugs such as amphetamine, PCP, or ecstasy.

Table 5.9 Demographics by Drug of Choice

	Alcohol (n=102)	Marijuana (n=350)	“Hard” (n=151)	“Other” (n=28)	X ²	Sig.
Age					154.38	.000
18-24	11%	78%	10%	2%		
25 and older	22%	30%	41%	8%		
Gender					42.02	.000
Male	17%	63%	18%	3%		
Female	15%	40%	38%	7%		
Race/Ethnicity					59.66	.000
Black	17%	65%	15%	3%		
Non-black	16%	39%	39%	6%		
All Demographics					111.16	.000
Young Black Male	11%	85%	2%	2%		
Other	19%	42%	34%	6%		

5.2.9. Crime. Overall, the combination of criminal record history and self-reports of involvement in illegal activities during the year prior to program participation depicted the typical participant as a low-level offender in variety, frequency, and severity of criminal behavior as would be expected for a first-time

offender population. Regarding the offense that resulted in arrest and referral to this study, as Table 5.4 indicates, 61% involved possession, 19% trafficking, 15% theft (e.g., motor vehicle, burglary, larceny, forgery, fraud), and 5% “other” charges. Convicted and diverted participants were significantly different in terms of their instant offense. Specifically, 66% of diverted participants were convicted for simple drug possession compared to 55% of convicted participants ($p < .05$). Conversely, convicted participants were more likely to be convicted for drug distribution and theft. As Table 5.10 illustrates, 93% of diversion participants received a one-year probation sentence compared to only 59% of convicted participants ($p < .001$), 41% of which received two or more years of probation.

Table 5.10. Length of Probation Sentence by Criminal Justice Disposition (N=634)

Probation Sentence Length	Convicted (N=282)	Diverted (N=352)
One year	59%	93%
Two years	29%	7%
Three or more years	12%	-

Respondents were also asked to indicate involvement in 18 different illegal activities during the 12 months prior to study entry. For each illegal activity in which they engaged, respondents were then asked the number of arrests and the frequency of engagement. As Table 5.11 illustrates, criminal activity was primarily with respect to offenses that are drug-related—drug possession (83%), drug distribution (23%), and DWI (15%). Involvement in other types of nonviolent offenses (e.g., theft, gambling, vagrancy, vandalism) was limited with no more than 7% of respondents indicating involvement in any one activity. Moreover, as would be expected for a first-time offender population, involvement in violent

offenses (e.g., rape, robbery, murder) was also limited with only 4% of respondents reporting an assault or weapons possession.

Table 5.11. Involvement in Illegal Activity by Criminal Justice Disposition

	Total (n=645)	Convicted (n=285)	Diverted (n=360)	X ²	Sig.
Drug Possession	83%	79%	87%	7.38	.007
Drug Distribution	23%	32%	17%	20.69	.000
Driving While Intoxicated (DWI)	15%	13%	17%	2.32	n.s.
Fencing stolen goods	7%	7%	7%	.043	n.s.
Gambling	6%	8%	4%	3.68	.055
Fraud	5%	8%	3%	9.18	.002
“Other” theft	5%	5%	5%	.212	n.s.
Sex trade	3%	1%	4%	6.40	.011
Burglary	3%	6%	1%	12.72	.000
Vagrancy / loitering	3%	1%	3%	2.45	n.s.
Prescription Fraud	1%	-	2%	4.80	.029
Vandalism	0.5%	0.7%	0.3%	.618	n.s.
Assault	4%	3%	5%	1.72	n.s.
Possession of a Weapon	4%	6%	2%	5.98	.014
Robbery	1%	1%	1%	.055	n.s.
Rape / sexual assault	0.2%	-	0.3%	.793	n.s.
Murder	-	-	-	-	-
Human trafficking	-	-	-	-	-
“Other” Illegal Activity	3%	3%	3%	.211	n.s.

Table 5.11 also illustrates significant differences between diverted and convicted participants on their involvement in illegal activities. Specifically, 79% of convicted participants reported possessing drugs compared to 87% of diverted participants ($p < .01$), while 32% of convicted participants were involved in drug distribution compared to only 17% of diverted participants ($p < .001$). In addition, convicted participants were significantly more likely to engage in fraud and burglary, and significantly less likely to engage in prescription fraud or trade sex

for money or drugs. Table 5.4. presents a composite measure on theft-related activities and shows that convicted participants (24%) were significantly more likely than diverted participants (15%) to be involved in these offenses ($p < .01$).

As Table 5.12 indicates, self-reported involvement with the criminal justice system was also limited during the year prior to study entry. Approximately three-quarters (76%) reported only one arrest while 42% did not spend any time in jail, and another 43% was in jail just once during this time period. For the entire sample, the average number of days spent in jail was less than one; of the 58% of the sample that did spend time in jail the large majority (48%) spent between one and 15 days behind bars. As the table shows, there were no significant differences between diverted and convicted participants on these measures.

Table 5.12. Prior Criminal History – Self Report

	Total N=645	Convicted N=285	Diverted N=360	χ^2 / t	Sig.
Number of Arrests (past year)					
One	76%	75%	77%	2.65	n.s.
Two	18%	20%	16%		
Three or more	6%	5%	7%		
<i>Mean (average)</i>	1.29 (.57)	1.29 (.55)	1.29 (.58)	-.071	n.s.
Times in Jail (past year)					
None	42%	41%	43%	5.65	n.s.
One	43%	45%	41%		
Two	10%	11%	10%		
Three or more	5%	3%	7%		
<i>Mean (average)</i>	.78 (.82)	.75 (.76)	.81 (.87)	-.830	n.s.
Days in Jail (past year)					
No jail time served	42%	42%	43%	.780	n.s.
1-15 days	48%	47%	48%		
16-30 days	6%	6%	6%		
More than 30 days	5%	5%	4%		
<i>Mean (average)</i>	.73 (.77)	.75 (.79)	.71 (.74)	.699	n.s.

Table 5.13 examines two separate measures to capture the frequency and severity of involvement in illegal activities during the year prior to study entry—mean number of times a respondent reported involvement in each illegal activity

and the percentage of respondents that self-reported “regular” involvement in each illegal activity, which was defined as three or more times. Table 5.13 excludes those illegal activities for which there was limited self-reported engagement as an exploration of frequency would yield insufficient variability.

Table 5.13. Frequency of Involvement in Illegal Activities

	Total (n=645)	Convicted (n=285)	Diverted (n=360)	χ^2 / t	Sig.
Driving While Intoxicated (DWI)					
Mean frequency (# of times)	7.4 (38.6)	5.8 (32.9)	8.9 (42.6)	-.948	n.s.
Regular Involvement (3+ times)	10%	9%	10%	.614	n.s.
Drug Possession					
Mean frequency (# of times)	109 (140)	111 (148)	107 (133)	.339	n.s.
Regular Involvement (3+ times)	63%	60%	65%	1.34	n.s.
Drug Distribution					
Mean frequency (# of times)	32.3 (89.4)	42.1 (99.1)	24.6 (80.3)	2.47	.014
Regular Involvement (3+ times)	18%	23%	13%	11.53	.001
Fraud					
Mean frequency (# of times)	.23 (2.66)	.11 (.52)	.33 (3.53)	-1.04	n.s.
Regular Involvement (3+ times)	1.1%	0.7%	1.4%	.700	n.s.
Fencing Stolen Goods					
Mean frequency (# of times)	.61 (6.00)	.41 (5.34)	.76 (6.47)	-.743	n.s.
Regular Involvement (3+ times)	2%	1%	3%	3.64	.056
Gambling					
Mean frequency (# of times)	4.37 (31.8)	3.04 (23.6)	5.43 (36.9)	-.949	n.s.
Regular Involvement (3+ times)	6%	8%	4%	3.12	.077
Burglary					
Mean frequency (# of times)	.03 (.17)	.06 (.23)	.01 (.09)	3.60	.000
Regular Involvement (3+ times)	-	-	-	-	-
Assault					
Mean frequency (# of times)	.42 (6.02)	.68 (8.94)	.22 (1.32)	.979	n.s.
Regular Involvement (3+ times)	3%	3%	3%	.058	n.s.
Possession of a Weapon					
Mean frequency (# of times)	1.2 (20.3)	2.62 (30.5)	.08 (.704)	1.58	n.s.
Regular Involvement (3+ times)	1%	1%	1%	.036	n.s.

Once again, the frequency of engagement in illegal activities other than those that are drug-related (e.g., DWI, possession, distribution) was quite minimal. For example, while 3% (n=19) of the total sample reported involvement in a burglary (see Table 5.11), not one of those individuals reported “regular” involvement in this activity; as a matter of fact each of the 19 individuals reported engaging in this behavior only once during the prior year. It is worth noting that

convicted and diverted participants were significantly different with respect to the mean number of times they engaged in drug distribution activities ($p < .05$) as well as the percentage of those meeting the criteria for “regular” engagement ($p < .001$), with convicted participants engaging in this activity more frequently.

Official records reveal a sample population with limited criminal justice involvement. As table 5.14 illustrates, more than half (52%) had at least one prior arrest; 46% had at least one misdemeanor arrest and 21% at least one felony arrest. The average number of prior arrests was 1.37 ($sd=2.01$); with an average number of 1.0 ($sd=1.58$) misdemeanor arrests and 0.36 ($sd=0.95$) felony arrests. In terms of convictions, almost all were first time *felony* offenders though 34% had a prior misdemeanor conviction on record (2% had a prior felony conviction). Moreover, only two subjects (0.3%) had a history of a prior commitment.

Table 5.14. Prior Criminal History (Lifetime) – Official Records

	Total (n=645)	Convicted (n=285)	Diverted (n=360)	χ^2 / t	Sig.
Total prior arrests					
Any prior arrests	52%	50%	54%	1.34	n.s.
Mean # of total prior arrests	1.37 (2.01)	1.18 (1.79)	1.52 (2.18)	-2.08	.038
Total prior Misdemeanor arrests					
Any misdemeanor arrests	46%	41%	49%	4.29	.038
Mean # of prior M arrests	1.01 (1.58)	.89 (1.48)	1.10 (1.65)	-1.65	n.s.
Total prior Felony arrests					
Any prior felony arrests	21%	18%	24%	4.10	.043
Mean # of prior felony arrests	.36 (.95)	.29 (.81)	.42 (1.05)	-1.72	.086
Total prior convictions					
Any prior convictions	34%	29%	39%	6.02	.014
Mean # of prior convictions	.70 (1.29)	.57 (1.19)	.81 (1.36)	-2.43	.015
Total prior Misdemeanor convict					
Any misdemeanor convictions	34%	29%	38%	6.24	.012
Mean # of prior M convictions	.69 (1.28)	.55 (1.18)	.80 (1.35)	-2.43	.016
Total prior Felony convictions					
Any prior felony convictions	2%	1%	2%	.096	n.s.
Mean # of prior felony convict	.02 (.12)	.01 (.12)	.02 (.13)	-.310	n.s.
Total prior commitments					
Any prior commitments ¹	0.3%	-	0.6%	1.64	n.s.
Mean # of prior commitments	.00 (.06)	.00 (.00)	.01 (.08)	-1.28	n.s.

¹ Two subjects in the diverted group had a previous history of institutional commitment

Despite this limited history of criminal justice involvement, there were many significant differences between diverted and convicted participants on these official record measures. Overall, diversion participants had a more extensive criminal history on file. That is, compared to convicted participants, diversion participants were significantly more likely to have a prior misdemeanor arrest (49% vs. 41%; $p < .05$), a prior felony arrest (24% vs. 18%; $p < .05$), a prior conviction (39% vs. 29%; $p < .05$), and a prior misdemeanor conviction (38% vs. 29%; $p < .05$). Diversion participants also had a significantly higher mean in terms of the average number of total arrests (1.52 vs. 1.18; $p < .05$), total convictions (.81 vs. .57; $p < .05$), and total misdemeanor convictions (.80 vs. .55; $p < .05$).

Taking into consideration that demographic characteristics (i.e., age, gender, & race/ethnicity), drug of choice, drug treatment motivation, self-reported involvement in illegal activities (particularly drug possession and drug distribution activities), and criminal record history are all significantly related to criminal justice disposition (i.e., convicted or diverted), and that some of these variables are highly correlated with one another (e.g., drug of choice and drug treatment motivation; demographics and drug of choice), distinct offender profiles begin to emerge that suggest these groups may be at differential risk for recidivism.

Specifically, diverted participants tend to be older (25+), non-black (i.e., mostly white), female, and more motivated for treatment; characteristics that are related to a lower probability of re-arrest in criminal justice research. This might partially explain why individuals with these characteristics were more likely to be sentenced to a diversion program. However, diverted participants also preferred

drugs such as crack, cocaine or heroin and had a more extensive criminal history; characteristics have been shown to increase recidivism in prior research.

Conversely, convicted participants tend to be: younger (18-24), Black, male, more likely to use and prefer marijuana (as opposed to “hard” drugs), less motivated for treatment, more likely to be arrested for drug distribution (as opposed to drug possession), and have a less extensive criminal history. This is a group that might largely be viewed as less amenable to rehabilitation efforts and thus more of a risk to re-offend, which might partially explain why these individuals were less likely to be offered the opportunity to participate in a diversion program and instead had the more punitive conviction imposed.

5.3. Statistical Matching Technique

These significant group differences presented above provide empirical support that contrasting groups in nonrandomized studies are often different largely because of the lack of randomization (and a reliance on natural administrative processes). The findings suggest that subjects with specific characteristics are more likely to be diverted (or convicted) than those who did not possess such characteristics. Had study subjects been randomized to these two conditions, the expectation would be that both groups would look very similar on all variables measured. The problem in a nonrandomized study such as this is, if these characteristics that distinguish groups also affect the outcome, a direct comparison of the groups is likely to produce biased conclusions that may merely reflect the lack of initial comparability. Thus, failure to account for these confounders would increase the likelihood that any proposed causal relationship

between a hypothesized predictor (criminal justice disposition) and outcome (re-arrest) is in fact attributable to one or more of these confounders.

Traditionally, a popular strategy for ruling out alternative causal explanations is to measure as many confounders as possible and then estimate what the difference in average response between treated and untreated persons would be if the average values of the confounders in both groups were equal (Schafer & Kang, 2008). While there are several ways to accomplish this (e.g., ANCOVA, Logistic Regression, statistical matching), this study will employ a propensity score as it offers several advantages. The propensity score is the conditional probability of a subject's receiving a particular exposure given the set of confounders. For calculation of a propensity score, the confounders are used in a logistic regression to predict the *exposure* of interest, without including the outcome (Rosenbaum & Rubin, 1983). As a result, the collection of confounders is collapsed into a "single" variable or summary measure (ranges from 0 to 1) that reflects the probability (propensity) of being exposed. Thus, controlling for the propensity score has the effect, in a very precise way, of controlling simultaneously for any group differences that are due to any of the variables or confounders included in the creation of the propensity score. This approach keeps the model as simple as possible while also providing a better understanding of the extent to which the groups might contain similar subjects.

5.3.1. Informing the Propensity Score. Despite a growing popularity of propensity scoring models, little has been accomplished in the way of identifying "rules of thumb" that practitioners can use to help them select variables for

inclusion in a propensity score model. Based on a review of the literature by Brookhart and colleagues (2006), some general guidelines have emerged to help guide this process: 1) variable selection should not be based on prediction of the exposure only as this fails to consider the critical relationship to the outcome; 2) variables that are unrelated to the exposure but related to the outcome should always be included; and 3) including variables that are related to the exposure and not the outcome will decrease the precision of the estimated treatment effect without decreasing bias. Using these general guidelines, multiple covariates will be examined in terms of their independent relationship to both the exposure (diverted or convicted) and the primary outcome of interest (re-arrest).

The list of variables considered in the creation of the propensity score were those with known theoretical significance to either the exposure or the outcome. Inclusion was limited to only those covariates for which there was a statistically significant relationship ($p < 0.05$) to at least the outcome (re-arrest), including those that were not significantly related to the exposure. Many of the variables that have been presented in this chapter were first examined because of their known theoretical significance or their empirical impact on recidivism as has been demonstrated through previous research. Some of the variables considered have already been outlined in this chapter in terms of their relationship to criminal justice disposition—age, gender, race/ethnicity, employment, drug of choice, motivation for drug treatment, commitment offense, length of probation sentence, and official records of criminal history (i.e., arrests and convictions on file). Table 5.15 below presents Pearson correlation

coefficients to examine the relationship of these variables to the outcome of re-arrest. The relationship to criminal justice disposition has also been included in the table so that correlation results for both can determine inclusion in the model.

Table 5.15. Potential Variables for Inclusion in the Propensity Score

	Disposition	Re-arrest
Age	.289***	-.365***
Gender	.091*	-.171***
Race/Ethnicity	-.121**	.130***
Graduated HS/GED	.228***	-.201***
Number of days employed (past year)	.053	-.202***
Primary Drug of Choice	.201***	-.156***
Frequent Marijuana Use (1x per week)	-.173***	.207***
Frequent “Hard” Drug Use (1x per week)	.254***	-.135***
Motivation for Drug Treatment (global)	.228***	-.039
Commitment Offense	-.084*	-.047
Length of Probation Sentence	-.321***	.043
Total prior arrests	.327***	.016
Total prior convictions	.342***	.008
Any felony arrests	.204***	-.069
“Regularly” possessed drugs	.046	.026
“Regularly” distributed drugs	-.134***	.129***

The results from the correlations indicate that age, gender, race/ethnicity, graduating from high school or obtaining a GED, primary drug of choice, frequent use of marijuana, frequent use of hard drugs, and regular involvement in drug distribution activities are all significantly related to both the disposition and the outcome (i.e., re-arrest). However, only the bolded rows will be included in the logistic regression to calculate the propensity score. The number of days employed during the year prior to study entry was not significantly related to the disposition, but will be included in the propensity scoring model as its relationship to the outcome was statistically significant. Frequent marijuana use and frequent

“hard” drug use will be included in the model instead of a single measure of primary drug. This provides more sensitivity to the analysis as it allows for the fact that some individuals may regularly use/abuse more than one type of drug.

Interestingly, none of the official record indicators of criminal history were significantly related to the outcome. Certainly, an abundance of prior research has shown that previous criminal activity is one of the best predictors of future criminal activity. However, being this is a sample of first-time nonviolent offenders with a very limited official record history of arrests and/or convictions, there is likely insufficient variability across the sample to produce any meaningful effect. Because relationships can be suppressed in a bivariate context, the strength of association between prior criminal history and re-arrest was also examined in a multivariate logistic regression model. However, results in the regression model are consistent with that of the correlation coefficients in that none of the prior criminal history variables presented in Table 5.15 significantly predict re-arrest. For this reason, these variables will be excluded from the propensity score.

5.3.2. Calculating the Propensity Score. SPSS code will be used to create the propensity score as this program allows users to perform multivariate logistic regression with the LOGISTIC procedure. LOGISTIC options allow users to calculate and save the predicted probability of the dependent variable, the propensity score, for each observation in the data set. This single score (between 0 and 1) is calculated for each individual in the study and represents the relationship between multiple characteristics and the dependent variable. The propensity score is the predicted probability of receiving the treatment.

A logistic regression analysis was conducted to predict group membership from a range of covariates—age, gender, race/ethnicity, graduated high school or obtained GED, days employed, frequent marijuana use, frequent hard drug use, and regular involvement in drug distribution activities. This logistic regression will compute the probability of being in the treatment group based on the covariates being specified. Using SPSS to perform logistic regression, one can simply select “probabilities” under the “save” function and this will produce as output a probability of being in the treatment group for all cases and save it to the existing database as a value between 0 and 1. This is the propensity score. A propensity score could not be calculated for 18 subjects (3%) due to missing values on one or more of the covariates selected; these individuals were removed from dataset leaving a total of 627 (351 diversion and 276 convicted) study participants.

5.3.3. Using the Propensity Score. There are two common approaches to using propensity scores to adjust for group differences; using the propensity score as a statistical covariate or to perform matching between groups. The simplest statistical approach would be the former, whereby the derived propensity score can be included into subsequent analyses as a statistical covariate along with criminal justice disposition in the prediction models. With this approach the propensity score can be expressed as a continuous measure, however because there is no reason to believe that the propensity score would predict the outcome linearly, it is considered more appropriate to use classification that divide the propensity score into groups to be included as a categorical variable in the prediction models. When stratified, the

recommendation for smaller samples is to divide the score into at least five strata based on the distribution of scores (Cepeda et al., 2003; Pasta, 2009).

Using the propensity score that was calculated for 627 subjects, a variable “progroup” was created that divided the propensity scores into five even categories across the distribution. Table 5.16 below illustrates the distribution of convicted and diverted cases across the five categories of “progroup.” Since the propensity score is predicting a conviction, as the values contained within each range of the propensity scores increase, the percent of convicted subjects in each cell increase while the percent of diverted subjects decrease. However, there remains sufficient overlap within each category (i.e., no one cell contains too few subjects) to allow for variation in the prediction model.

Table 5.16. Distribution of Group Membership by Propensity Score Category

Propensity Score	Convicted (n=276)	Diverted (n=351)	Total (n=627)
.08917 - .24939	8%	29%	20%
.24955 - .39052	14%	25%	20%
.39146 - .49666	21%	19%	20%
.49913 - .62695	24%	16%	20%
.62722 - .78774	33%	11%	20%

Including the propensity score as a covariate has the distinct advantage of allowing nearly the full original study sample to be included when conducting subsequent analyses. However, this approach requires that both the propensity score and the variable it informs (i.e., criminal justice disposition) be included in all prediction models. The effect of adjusting for the propensity score is to weaken the effect of the treatment variable. Specifically, if the propensity score is a strong predictor of criminal justice disposition, it will greatly weaken the

statistical significance of its estimated treatment effect. However, this presents a couple of disadvantages relative to the alternative matching technique. First, the propensity score is merely a composite measure of all the statistical confounders so including it as a covariate in a prediction model accomplishes much the same as including those individual confounders. The exception is of course in those instances where there are limitations as to how many independent variables a model can support. Second, while it is perfectly acceptable to provide estimated treatment effects controlling statistically for confounders, it is intuitively more appealing to use the propensity score to create matched groups for comparison. The question with regard to this sample is whether there are enough study participants to yield a sufficient number of effectively matched groups.

Propensity Score Matching. Propensity score matching is a refined approach to a matched-pairs design. The covariates are combined to yield a propensity score, and individuals in the treatment group are matched to individuals in the control group based on their propensity score. Using this method, variables are weighted according to their relative importance and then matched based on an optimal composite, rather than by equally weighted individual variables. Further, by matching on the composite propensity score, the subjects receiving the treatments should turn out quite alike meaning the group means and standard deviations on the covariates should be very similar.

With the newly calculated propensity scores, a new sample of matched pairs was formed using the Nearest Neighbor method. For each convicted participant the nearest diverted neighbor (i.e., with the closest possible

propensity score) will be retained in the dataset. This method allows for greater sample retention as it will find a match for every convicted participant (n=276) to yield a new matched pairs sample of 552 subjects. This will effectively remove approximately 80 diversion participants from the analysis that represent the poorest match to convicted participants. Table 5.17 below presents comparisons on the covariates that informed the propensity score to examine group similarity for the newly matched “Nearest Neighbor” pairs. Results show that while the gap was slightly reduced, significant differences persist on almost all of the variables that had previously distinguished the two groups. This indicates that the nearest neighbor matches were not precise enough as this method retained diversion participants that were far too distinct from their individual counterparts.

Table 5.17. Matched Group Comparisons – Nearest Neighbor

	Convicted N=276	Diverted N=276	X² / t	Sig.
Age	24.68 (9.04)	28.07 (9.05)	4.20	.000
Male	74%	67%	3.17	.075
Black	68%	59%	4.89	.027
Graduated HS/GED	41%	56%	11.60	.001
Days employed	146 (147)	158 (153)	.913	n.s.
Marijuana Frequency			6.31	.043
No use	21%	30%		
Infrequent use	14%	14%		
Regular use	65%	56%		
Hard Drug Frequency			23.39	.000
No use	72%	54%		
Infrequent use	9%	21%		
Regular use	20%	25%		
Regular Drug Distribution	24%	16%	4.97	.026

Alternatively, the caliper matching approach identifies only those matches in the database whose propensity scores are within a certain, very small range of one another to ensure more precise matches. This would result in a further reduction of the sample size as it would require that convicted participants be

dropped if a match cannot be made within the specified range. Taking the results from the nearest neighbor match, all matched pairs with a propensity score difference of .10 or higher was removed from the dataset, which yielded a total of 410 subjects comprising 205 matched pairs of those convicted and diverted.

Table 5.18. Matched Group Comparisons – Caliper

	Convicted N=205	Diverted N=205	X² / t	Sig.
Age	26.63 (9.74)	26.99 (9.66)	.367	.714
Male	68%	69%	.102	.750
Black	61%	64%	.666	.415
Graduated HS/GED	53%	55%	.245	.620
Days employed	169 (146)	156 (154)	-.920	.358
Marijuana Frequency			.164	.921
No use	24%	25%		
Infrequent use	14%	13%		
Regular use	62%	62%		
Hard Drug Frequency			6.04	.055
No use	63%	63%		
Infrequent use	10%	18%		
Regular use	26%	20%		
Regular Drug Distribution	15%	16%	.019	.891

Results shown in Table 5.18 above indicate that this refined match using a caliper to specify the maximum allowable distance between propensity scores per match produces substantially better results. The two groups are now quite similar on all but one of the covariates (i.e., hard drug use frequency) that informed the propensity score. While almost two-thirds (63%) in both groups report “no use” of any hard drugs, convicted subjects remain significantly less likely to report regular use of hard drugs but more likely to report infrequent use.

As a result of these findings, all subsequent “outcome” analyses presented in Chapter 6 will be based upon this reduced sample of matched pairs. This will allow for comparison of two groups (i.e., diverted vs. convicted) that are

statistically similar on all key study variables, which serves to eliminate much of the bias that resulted from this nonrandomized study design. Moreover, this will eliminate the need to include the propensity score as a statistical covariate in the subsequent analyses, which will help greatly with interpretation of the findings.

5.4. Follow-up Study Sample

Follow-up interviews were conducted with study participants at 6-, 12-, 24- and 36-months. As Table 5.19 indicates, follow-up interview rates were high, generally between 87-89%, with the exception of 81% at 12-months, which was lower due to difficulties with the data collection subcontractor. Furthermore, interview rates were similar at each follow-up interval for diverted and convicted participants, which allows for a balanced comparison on long-term outcomes.

Table 5.19. Follow-up Status for Matched Sample (N=410)

Month	Total		Diverted		Convicted	
	N	%	N	%	N	%
6	356	87%	178	87%	178	87%
12	365	89%	186	91%	179	87%
24	332	81%	168	82%	164	80%
36	364	89%	189	92%	175	85%

5.5. Conclusion

The outcome analysis will incorporate the newly matched sample (n=410) that was formed using the propensity score caliper matching technique described in this chapter. This offers the distinct advantage of keeping the model both simple and intuitive as the matched pairs (n=410) can be substituted for the original sample and compared without having to include an additional statistical covariate to control for group differences. It is expected that the N=410 should provide sufficient power to conduct the outcome analyses of interest.

Chapter 6. Study Outcomes

6.1. Record Sealing Outcomes

All participants in this study were eligible to have their record sealed as first time non-violent felony offenders. Diverted participants were eligible to have their record sealed immediately upon completion of treatment and probation, typically a wait period of only one year to apply (i.e., one year of probation). Convicted participants were eligible to have their record sealed three years after probation discharge, typically a minimum wait period of four years to apply (i.e., one year of probation + 3 year wait period). Because of this lengthy wait period, very few convicted participants were eligible to apply for record sealing prior to the completion of follow-up data collection. In comparison, all diverted participants would be eligible to apply within the study timeframe, although some would forfeit that eligibility due to a new arrest. Thus, it is expected that due to the time constraints for convicted participants significantly more diverted participants would successfully seal their record prior to the completion of the study. Table 6.1 below demonstrates outcomes for the entire sample (n=645).

Table 6.1. Record Sealing Status for All Study Participants

	Convicted N=285	Diverted N=360	Total N=645
Record Sealed	5%	30%	19%
Eligible to Apply – Not yet filed	23%	32%	27%
Application filed – no determination	2%	2%	2%
Application Denied	3%	2%	3%
Ineligible	42%	59%	50%

Results show that while only 19% of the study sample had their record sealed during the study period, diverted participants (30%) were significantly more likely than convicted participants (5%) to successfully seal their record (X^2

= 67.20; $p < .001$). A little more than one-quarter of the sample (27%) had maintained eligibility to apply but had not yet filed an application. For the diverted participants, it was generally the case that the eligibility date had matured, but an application had not yet been filed. This was much more common for participants assigned to the standard TASC case management group (C condition) as no direct assistance for record sealing was provided⁴. For the convicted participants, the overwhelming majority were not yet able to apply as their eligibility date had not arrived while very few were actually eligible to apply but did not. Only 2% had filed an application but had yet to receive an official determination from the court; an additional 3% had their application denied. The remaining 50% of the sample were ineligible due to noncompliance (i.e., re-arrest, probation violation, warrant). This outcome will be discussed in more detail later on in this chapter.

Record sealing outcomes were also examined for the matched sample of 410 participants (205 diverted, 205 convicted). Results are similar to that of the full sample with diverted participants (29%) significantly more likely than convicted participants (6%) to successfully seal their record ($X^2 = 36.82$; $p < .001$).

Record sealing outcomes were also examined for all covariates (measured at baseline) that were used to create the propensity score. Results

⁴ A separate analysis comparing sealing eligible offenders who were able to file the application in the strengths-based case management group (E condition) and TASC-as-Usual group (C condition) showed that experimental clients were significantly and substantially more likely to seal their records. More specifically, of the 81 experimental clients eligible to apply to seal their record, 77 (95%) were successful. In comparison, of the 50 control clients identified as eligible to apply to seal their record, only four (8%) were successful ($X^2 = 99.1$; $p < .001$). (All of these offenders participated in diversion programs because no SCRs were eligible when this analysis was conducted). Due to these disparate findings, project staff decided that outreach assistance would be offered to all control participants that were eligible to apply for record sealing. While this certainly increased the overall number of control participants with a sealed record, experimental clients (24%) remained significantly more likely than control clients (12%) to seal their record ($X^2 = 13.83$, $p < .001$). Thus, case management condition will be incorporated as a statistical control for all models that include record sealing as an independent or dependent variable.

presented in Table 6.2 below shows that being younger, Black, without a high school degree, a regular user of marijuana, or involved with regular distribution of drugs upon entry into the study made it less likely to successfully seal a record. Gender and number of days employed were marginally insignificant while being a regular user of hard drugs was not significantly related to record sealing success.

Table 6.2. Relationship of Key Predictors to Record Sealing (N=410)

	Sealed	X ² / t	Sig.
Age		5.46	.019
18 – 24 years of age	14%		
25 years of age and older	23%		
Gender		3.82	.051
Male	15%		
Female	23%		
Race/ethnicity		6.52	.011
Black	14%		
Non-Black	24%		
High School Degree		5.02	.025
Graduated from H.S. / GED	22%		
Completed less than the 12 th grade	13%		
Marijuana Use Frequency		10.34	.006
No use	25%		
Infrequent use	27%		
Regular use	13%		
Hard Drug Use Frequency		1.52	.468
No use	18%		
Infrequent use	23%		
Regular use	15%		
Involvement in Drug Distribution		4.95	.026
Little or no involvement	20%		
Regularly sold drugs	8%		
Number of Days Worked	271.29*	-1.804	.072

*Those who did not get their record sealed worked on average 239 days during the year prior.

A logistic regression was then performed to examine the independent effect of each of these predictors on record sealing. The results presented in Table 6.3 demonstrate most importantly that criminal justice disposition has the strongest and most significant independent effect on record sealing success.

Controlling for all other variables in the regression model, convicted participants are approximately 8 times less likely (OR=.124) than diversion participants to seal their criminal record. Also significant in the model was race/ethnicity and case management condition. Black participants were approximately 50% less likely (OR=.4888) than non-black participants to seal their record (or conversely non-black participants were approximately twice as likely to seal their record) while control participants were approximately 66% less likely (OR=.337) than experimental participants to seal their record (or conversely experimental participants were approximately three times as likely to seal their record).

Table 6.3. Predictors of Record Sealing Success (N=410)

	B	S.E.	Wald	Sig.	Exp(B)
Age	.000	.018	.000	.984	1.000
Gender	.521	.318	2.689	.101	1.684
Race / ethnicity	-.718	.306	5.499	.019	0.488
Graduated from high school	.521	.319	2.674	.102	1.684
Days employed	.002	.001	3.077	.079	1.002
Frequency of marijuana use	-.380	.209	3.320	.068	0.684
Frequency of hard drug use	-.353	.212	2.768	.096	0.703
Frequency of drug distribution	-.934	.526	3.161	.075	0.393
Case management condition	-1.088	.320	11.537	.001	0.337
Criminal justice disposition	2.086	.347	36.052	.000	0.124

Overall, results presented in this section indicate that criminal justice disposition is a significant predictor of record sealing success. Specifically, as hypothesized, those diverted were significantly more likely to seal their criminal record than those who were convicted when controlling for the range of other potential factors. While this difference is likely due to the fact that most convicted participants could not apply to seal their record within the study timeframe due to the additional three year wait period, it nonetheless suggests that a sealed record

could be an important factor for longer term success, especially if the sealing of a criminal record is found to have a significant influence on subsequent measures.

6.2. Employment Outcomes

6.2.1. Effect of Criminal Justice Disposition on Employment

Independent of whether or not an individual successfully seals their record, diverted participants have a potential advantage. That is, in the event of a background check by a prospective employer, and assuming they were not yet unsuccessfully terminated from the program, those that have been diverted would not have a criminal conviction on file. However, the extent of this advantage is unclear. Even absent the conviction, there is likely to be enough information available to indicate criminal justice involvement (e.g., arrest record), which, for many employers, would be sufficient cause for concern. This is especially true considering the advance of the internet where information is often made available to individuals that has not existed in the past.

An examination of the direct effect of criminal justice disposition (diverted vs. convicted) on employment indicates that participants in these groups do not differ on a variety of employment outcomes. As shown in Table 6.4, convicted and diverted participants did not differ significantly in terms of the: percentage currently employed at the time of the 6-, 12-, 24-, and 36-month follow-up interview; percentage reporting any employment during the time frame covered by the 6-, 12-, 24-, and 36-month follow-up interviews; longest period of employment (in weeks) over the three-year follow-up period; and the average

number of days worked per year over the three-year follow-up period. For each of these measures a separate regression analysis was performed to control for employment at baseline. In all instances, it was employment at baseline that was a significant predictor of employment at follow-up while criminal justice disposition was not significant. These results suggest that being convicted did not alone place participants at any significant disadvantage in terms of employment.

Table 6.4. Criminal Justice Disposition & Employment

	Total	Convicted	Diverted	Sig.
Composite Measures	N = 402	N = 199	N = 203	
Longest period of employment (in weeks) during three year follow-up	29 (20)	28 (20)	30 (20)	n.s.
Days worked per year	171 (131)	168 (132)	173 (130)	n.s.
6 Month Follow-up Interview:	N=356	N=178	N=178	
Currently employed	45%	48%	41%	n.s.
Employed past 6 months	64%	67%	61%	n.s.
12 Month Follow-up Interview	N=365	N=179	N=186	
Currently employed	39%	39%	40%	n.s.
Employed past 6 months	56%	57%	55%	n.s.
24 Month Follow-up Interview	N=332	N=164	N=168	
Currently employed	40%	40%	41%	n.s.
Employed past 12 months	62%	60%	65%	n.s.
36 Month Follow-up Interview	N=364	N=175	N=189	
Currently employed	42%	45%	40%	n.s.
Employed past 12 months	60%	62%	58%	n.s.

6.2.2. Effect of Record Sealing on Employment

A sealed conviction generally means that the proceedings in a case are considered not to have occurred. If the person whose record has been sealed applies for employment, a license, or another privilege, that person can be questioned only about arrests or convictions that have not been sealed. Therefore, an offender with a sealed record is generally permitted to answer “no”

on most employment applications when asked about a criminal record. For this reason, it is hypothesized that those that have been successful in getting their record sealed will demonstrate significantly better employment outcomes.

Table 6.5. Record Sealing & Employment

	Total	Sealed	Not Sealed	X² / Sig.
24 Month Interview	N=328	N=33	N=295	
Currently employed	38%	61%	35%	8.04 / .005
Employed past 12 months	60%	82%	58%	7.15 / .007
36 Month Interview	N=341	N=48	N=293	
Currently employed	41%	58%	39%	6.65 / .010
Employed past 12 months	60%	77%	57%	7.12 / .008

Of the 410 matched participants, only 73 (18%) successfully sealed their record; none did so prior to the six month interview; four sealed their record prior to the 12-month interview; 33 sealed their record prior to the 24-month interview; 48 prior to the 36-month interview; while 25 participants did not seal their record until after they had completed the 36 month interview. Thus, when examining the effect of record sealing on employment, the focus will be on the 24-month and 36-month measures and will count all cases that had their record sealed following the 36-month interview as unsealed for the purpose of this analysis.

Results presented in Table 6.5 show that those who had their record sealed are significantly more likely to be employed at the time of both the 24- and 36-month follow-up interviews and are also significantly more likely to be employed for some period during the 12 months prior to each interview. Results of four separate logistic regressions controlling for employment at baseline showed that those who have sealed their record are: 1) almost three times as likely (OR=2.84) to be employed at the time of the 24-month interview ($p < .01$); 2) more than three times as likely (OR=3.33) to be employed for some period during

the 12-months prior to the 24-month interview ($p < .05$); 3) more than twice as likely ($OR = 2.24$) to be employed at the time of the 36-month interview ($p < .05$); and 4) more than two and a half times as likely ($OR = 2.58$) to be employed for some period during the 12-months prior to the 36-month interview.

6.2.3. Predicting Employment: Criminal Justice Disposition & Employment

Results presented in Tables 6.6 through 6.9 illustrate that there is no direct effect of criminal justice disposition on employment, which suggests there is not an inherent advantage of being in a diversion program when trying to obtain employment. Instead, when looking at the effect of criminal justice disposition and a sealed record controlling for the other factors in the regression equation, having a record sealed increased the odds of: being employed for any length of time during the 12 months preceding the 24-month interview by a factor of more than 3 ($OR = 3.10$; $p = .001$); current employment at the time of the 24-month interview by a factor of nearly 3 ($OR = 2.67$; $p = .006$); being employed for any length of time during the 12-months preceding the 36-month interview by a factor of more than 2 ($OR = 2.38$; $p = .006$); and current employment at the time of the 36-month interview by a factor of more than 2 ($OR = 2.39$; $p = .006$).

Table 6.6. Employed during past 12 months (24-month interview)

	B	S.E.	Wald	Sig.	Exp(B)
Age	.177	.246	.516	.472	1.194
Gender	.706	.270	6.842	.009	2.026
Race/ethnicity	.095	.257	.136	.712	1.100
Criminal Justice Disposition	.266	.254	1.093	.296	1.305
Sealed record	1.13	.329	11.845	.001	3.100
Employed at baseline	.880	.240	12.626	.000	2.411
Case management condition	-.366	.248	2.183	.140	.693

Table 6.7. Currently Employed (24-month interview)

	B	S.E.	Wald	Sig.	Exp(B)
Age	.211	.248	.724	.395	1.235
Gender	.333	.264	1.596	.206	1.395
Race/ethnicity	-.446	.255	3.054	.081	.640
Criminal Justice Disposition	.309	.251	1.520	.218	1.362
Sealed record	.981	.354	7.666	.006	2.668
Employed at baseline	1.825	.265	47.429	.000	6.204
Case management condition	-.102	.244	.173	.678	.903

Table 6.8. Employed during past 12 months (36-month interview)

	B	S.E.	Wald	Sig.	Exp(B)
Age	-.565	.240	5.556	.018	.568
Gender	.326	.253	1.667	.197	1.386
Race/ethnicity	-.234	.249	.884	.347	.791
Criminal Justice Disposition	-.064	.239	.072	.789	.938
Sealed record	.868	.350	6.160	.013	2.382
Employed at baseline	1.27	.257	24.556	.000	3.572
Case management condition	-.049	.235	.043	.835	.952

Table 6.9. Currently Employed (36-month interview)

	B	S.E.	Wald	Sig.	Exp(B)
Age	-.197	.238	.685	.408	.822
Gender	.120	.256	.219	.640	1.127
Race/ethnicity	-.373	.242	2.386	.122	.688
Criminal Justice Disposition	.412	.241	2.918	.088	1.510
Sealed record	.870	.317	7.519	.006	2.386
Employed at baseline	1.11	.239	21.563	.000	3.027
Case management condition	-.197	.234	.705	.401	.821

6.3. Substance Use Outcomes

Study participants were asked to indicate at the time of each follow-up interview (6-, 12-, 24-, and 36-months) whether they had used any substances during the preceding period. Alcohol, marijuana, crack, cocaine, and heroin were the most commonly reported drugs used by respondents. For all other substances, generally less than 2% of the sample reported use of any one drug at each of the four follow-up periods. In order to examine drug use over the duration of the three-

year follow-up period, a number of composite measures were created to capture both “any” use (0=No; 1=Yes) as well as “frequent” use (0=No; 1=Yes).

If the respondent reported use of a particular substance during any one of the four follow-up periods, they were coded as having used (1); if they reported no use of a particular substance during each of the four follow-up periods they were coded as not having used (0). If the respondent reported frequent use of a particular substance (defined as use on average of at least once per week) during any one of the four follow-up periods; they were coded as a frequent user (1). If they reported no use, or infrequent use (defined as use on average of once every other week or less), they were not considered to be a frequent user (0).

In order to minimize the number of missing values for both composite measures, a code of “0” was imputed where there was “no use” or “infrequent use” for three follow-up periods but data was missing for the fourth follow-up period. Requiring at least three interviews be completed in order to code for a valid value of the composites reduced the number of missing cases from 32% (i.e. those that missed at least one follow-up interview) to 14% (those that missed more than one follow-up interview). Nonetheless, these results should be viewed with caution as this allowance relied more heavily on inference as opposed to direct observation.

6.3.1. Effect of Criminal Justice Disposition on Substance Use

It is not anticipated that participation in a diversion program would produce significantly better drug outcomes when compared to a group of convicted participants. That is, all study participants were referred directly from probation

after they were determined by TASC to have a substance abuse or dependency diagnosis that requires treatment. As a result, all study participants were referred for drug treatment by their TASC case manager with successful completion of probation and TASC predicated upon the successful completion of drug treatment. This was true regardless of whether an individual was diverted or convicted so that neither group would in theory be differentially motivated to reduce their drug use.

Results presented in Table 6.10 confirm this hypothesis showing that over the course of the three-year follow-up period convicted and diverted participants did not differ substantially or significantly on their use or frequent use of any drugs/alcohol, alcohol alone, marijuana alone, or crack, cocaine, or heroin.

Table 6.10. Substance Use Outcomes – Composite 3-Year Follow-up Measure

	Total (N=345-381)	Convicted (N=169-186)	Diverted (N=176-195)	Significance
Drugs or Alcohol				
Any use	89%	88%	90%	.414
Frequent use	68%	66%	70%	.401
Alcohol				
Any use	78%	75%	81%	.146
Frequent use	47%	46%	47%	.943
Marijuana				
Any use	57%	53%	60%	.161
Frequent use	42%	42%	42%	.949
Coc/Crk/Her				
Any use	28%	26%	30%	.432
Frequent use	17%	16%	18%	.587

A closer examination of substance use outcomes at each of the four follow-up periods reveals much the same. At 6-months, diverted participants (73%) were significantly more likely than convicted participants (60%) to report the use of any substances ($p=.01$), however this difference soon disappeared. By the 36-month interview patterns of use were quite similar for both groups.

Table 6.11. Substance Use Outcomes at Follow-up by CJ Disposition

Six Month	Total	Convicted	Diverted	Significance
	N=337-342	N=170-173	N=166-169	
Any use	66%	60%	73%	.010
Frequent use	34%	30%	38%	.134
Alcohol				
Any use	47%	44%	51%	.218
Frequent use	20%	17%	23%	.143
Marijuana				
Any use	33%	28%	37%	.091
Frequent use	17%	14%	20%	.129
Coc/Crk/Her				
Any use	17%	17%	18%	.789
Frequent use	8%	8%	9%	.662
Twelve-Month				
	N=341-348	N=170-172	N=171-176	
Any use	55%	52%	57%	.400
Frequent use	31%	29%	33%	.506
Alcohol				
Any use	40%	38%	41%	.581
Frequent use	16%	15%	17%	.569
Marijuana				
Any use	23%	23%	23%	.599
Frequent use	15%	17%	14%	.434
Coc/Crk/Her				
Any use	10%	9%	11%	.423
Frequent use	5%	4%	7%	.168
Twenty Four-Month				
	N=326-329	N=158-161	N=168	
Any use	58%	54%	63%	.092
Frequent use	37%	39%	35%	.468
Alcohol				
Any use	42%	47%	38%	.075
Frequent use	23%	26%	20%	.259
Marijuana				
Any use	31%	33%	29%	.393
Frequent use	20%	22%	19%	.406
Coc/Crk/Her				
Any use	9%	6%	12%	.073
Frequent use	5%	3%	7%	.150
Thirty Six-Month				
	N=349-364	N=169-175	N=180-189	
Any use	54%	52%	56%	.497
Frequent use	35%	32%	37%	.344
Alcohol				
Any use	43%	41%	46%	.343
Frequent use	22%	20%	25%	.248
Marijuana				
Any use	28%	26%	30%	.405
Frequent use	17%	17%	17%	.988
Coc/Crk/Her				
Any use	6%	6%	5%	.684
Frequent use	4%	3%	4%	.888

6.3.2. Effect of Record Sealing on Substance Use

The data were also examined to determine the direct effect of a sealed record on substance use. Results presented in Table 6.12 above show that getting a criminal record sealed had some positive effects on drug use at follow-up. Specifically, those who had their record sealed prior to the 24-month follow-up interview were significantly less likely to: use any drugs (30% vs. 61%; $p=.001$); frequently use drugs (21% vs. 39%; $p=.048$); use any alcohol (24% vs. 44%; $p=.027$); frequently use alcohol (6% vs. 25%; $p=.016$). Those with a sealed record were also reported less use of marijuana and cocaine, crack, or heroin, although these differences only approached significance due to limited power. At the time of the 36-month interview some of the significant differences in drug use disappeared. Those with a sealed record were significantly less likely to report frequent use of marijuana (6% vs. 19%; $p=.035$). Otherwise, though those with a sealed record reported less drug use, less frequent drug use, less alcohol use, and less marijuana use. Again, these differences were not significant due to some limited statistical power as only 48 individuals had their record sealed.

Table 6.12. Record Sealing & Substance Use Outcomes

Twenty Four Month	Total	Sealed	Not Sealed	Significance
	N=326-329	N=33	N=293-296	
Any use	58%	30%	61%	.001
Frequent use	37%	21%	39%	.048
Alcohol				
Any use	42%	24%	44%	.027
Frequent use	23%	6%	25%	.016
Marijuana				
Any use	31%	18%	32%	.100
Frequent use	20%	15%	21%	.442
Coc/Crk/Her				
Any use	9%	0%	10%	.055
Frequent use	5%	0%	5%	.170

Thirty Six-Month				
	N=349-364	N=48	N=302-316	
Any use	54%	46%	55%	.232
Frequent use	35%	25%	36%	.124
Alcohol				
Any use	43%	35%	44%	.247
Frequent use	22%	21%	22%	.812
Marijuana				
Any use	28%	19%	29%	.135
Frequent use	17%	6%	19%	.035
Coc/Crk/Her				
Any use	6%	2%	6%	.240
Frequent use	4%	2%	4%	.547

6.3.3. Effect of Employment on Substance Use

An examination of the effect of employment status on substance use at each of the follow-up intervals generally revealed no relationship between the variables with two exceptions. First, the six-month outcome data show that those who did not hold a job during the 6-months prior were significantly more likely to report frequent use of alcohol and/or drugs (42% vs. 29%; $p=.015$), however this difference was not evident in the subsequent follow-up interviews. Second, at each interval, those who held a job at some point during the 6 or 12 months prior were significantly more likely to report using any alcohol during that time period.

Table 6.13. Substance Use Outcomes at Follow-up by Job Status

Six-Month	Total	Held a Job	No Job	
	N=337-341	N=219-221	N=118-121	Significance
Any use	66%	67%	65%	.819
Frequent use	34%	29%	42%	.015
Alcohol				
Any use	47%	52%	38%	.015
Frequent use	20%	19%	22%	.532
Marijuana				
Any use	33%	32%	33%	.820
Frequent use	17%	15%	22%	.099
Coc/Crk/Her				
Any use	17%	13%	26%	.002
Frequent use	8%	4%	17%	.000

Twelve Month				
	N=341-348	N=193-196	N=146-152	Significance
Any use	55%	56%	53%	.666
Frequent use	31%	29%	35%	.238
Alcohol				
Any use	40%	44%	34%	.049
Frequent use	16%	16%	16%	.908
Marijuana				
Any use	23%	20%	28%	.169
Frequent use	15%	11%	21%	.012
Coc/Crk/Her				
Any use	10%	10%	11%	.810
Frequent use	5%	5%	6%	.576
Twenty-Four Month				
	N=326-329	N=202-205	N=123-124	Significance
Any use	58%	62%	51%	.038
Frequent use	37%	37%	37%	.978
Alcohol				
Any use	42%	48%	33%	.009
Frequent use	23%	22%	24%	.638
Marijuana				
Any use	31%	32%	29%	.610
Frequent use	20%	20%	21%	.799
Coc/Crk/Her				
Any use	9%	7%	12%	.144
Frequent use	5%	3%	7%	.112
Thirty-Six Month				
	N=349-364	N=207-219	N=142-145	Significance
Any use	54%	57%	49%	.124
Frequent use	35%	36%	34%	.736
Alcohol				
Any use	43%	50%	33%	.002
Frequent use	22%	25%	18%	.126
Marijuana				
Any use	28%	27%	28%	.855
Frequent use	17%	16%	20%	.300
Coc/Crk/Her				
Any use	6%	4%	8%	.095
Frequent use	4%	2%	6%	.103

Table 6.14 examines the relationship between days worked and substance use at each interval. Results demonstrate some statistically significant relationships though no consistent pattern emerges within or across the interview frames. For example, at the 6-month follow-up interview, those reporting frequent alcohol or drug use, frequent marijuana use, any cocaine, crack, or heroin use,

as well as frequent cocaine, crack or heroin use worked significantly fewer days during the 6-months prior to the interview. However, looking at subsequent interviews, while the use or frequent use of substances was typically associated with fewer days worked, these relationships for the most part were not statistically significant (with the exception being the frequent use of marijuana during the 6-month time frame covered by the 12-month follow-up interview). Interestingly, those reporting the use of alcohol actually worked significantly more days during each interview frame, however there was no significant relationship between the number of days worked and the frequent use of alcohol.

Table 6.14. Substance Use Outcomes by Number or Days Worked

	Days Worked			
	6-month N=336-341	12-month N=341-348	24-month N=326-329	36-month N=348-363
Alcohol/Drug Use	p=.670	p=.842	p=.219	p=.283
Yes	89.6 (77.7)	84.6 (84.2)	172.3 (154.6)	172.6 (155.6)
No	93.4 (82.5)	82.8 (83.8)	151.2 (157.3)	154.8 (159.1)
Freq Alc/Drug	p=.007	p=.040	p=.248	p=.583
Yes	75.2 (77.4)	70.2 (78.5)	150.3 (150.5)	156.8 (152.2)
No	99.9 (79.2)	90.3 (85.6)	171.0 (158.6)	166.5 (160.1)
Alcohol Use Only	p=.046	p=.049	p=.004	p=.008
Yes	100.2 (77.1)	93.9 (85.4)	192.4 (154.9)	189.6 (154.0)
No	83.1 (80.4)	77.2 (82.6)	142.4 (153.6)	145.4 (157.4)
Freq Alcohol Use	p=.395	p=.959	p=.592	p=.403
Yes	84.0 (78.6)	84.4 (83.2)	155.0 (154.3)	177.4 (152.2)
No	93.2 (79.4)	83.7 (84.2)	166.0 (156.6)	160.7 (159.1)
Marijuana Use	p=.084	p=.060	p=.161	p=.805
Yes	80.4 (74.3)	68.4 (84.5)	145.9 (146.4)	161.1 (157.9)
No	96.3 (81.1)	88.5 (83.4)	171.3 (159.6)	165.6 (157.3)
Freq Marijuana	p=.007	p=.000	p=.095	p=.119
Yes	66.5 (72.8)	47.9 (69.1)	136.4 (145.7)	134.1 (151.6)
No	96.0 (80.0)	91.2 (84.7)	170.7 (157.7)	169.3 (158.9)
Coc/Crk/Her Use	p=.002	p=.410	p=.101	p=.117
Yes	61.7 (75.4)	72.7 (81.2)	118.9 (149.8)	112.1 (147.3)
No	97.3 (78.7)	85.1 (84.3)	168.0 (156.0)	167.6 (157.5)
Freq Coc/Crk/Her	p=.000	p=.324	p=.084	p=.070
Yes	39.6 (70.7)	65.0 (77.2)	98.4 (138.0)	90.4 (136.9)
No	95.8 (78.4)	85.1 (84.3)	167.4 (156.2)	167.0 (157.3)

Finally, a composite measure of days worked over the duration of the three-year follow-up period was created to examine its relationship to 36-month

substance use outcomes. The measure captures the average number of days worked per year across the three-year follow-up period. It was constructed as such to account for missing data in instances where one or more follow-up interviews were not completed. Thus, the total number of days worked was divided by a factor ranging from 0.5 to 3.0 depending on how many follow-up interviews were completed. A factor of 0.5 was given for completing the 6- and 12-month as each of these interview frames covered a half a year and a factor of 1.0 for the 24- and 36-month as each of these interview frames covered a year.

Table 6.15. Three-Year Substance Use Outcomes by Aggregate Days Worked

	Days Worked Per Year over 3-Years N=349-364
Alcohol/Drug Use	p=.419
Yes	168.8 (124.6)
No	157.9 (132.3)
Frequent Alc/Drug Use	p=.157
Yes	151.2 (124.2)
No	171.6 (130.5)
Alcohol Use Only	p=.015
Yes	182.5 (122.9)
No	149.5 (130.6)
Frequent Alcohol Use	p=.707
Yes	168.5 (124.2)
No	162.4 (129.6)
Marijuana Use	p=.606
Yes	158.2 (124.5)
No	165.9 (129.7)
Frequent Marijuana Use	p=.265
Yes	148.0 (120.3)
No	168.4 (130.8)
Coc/Crk/Her Use	p=.222
Yes	130.6 (118.1)
No	165.8 (128.7)
Frequent Coc/Crk/Her Use	p=.079
Yes	102.6 (117.0)
No	166.2 (128.1)

Results presented in Table 6.15 indicate that over the three year duration of the study the use or frequent use of drugs is not significantly related to the

number of days worked. As was previously observed, while the use or frequent use of substances was typically associated with fewer days worked these relationships only approached statistical significance. The exception once again is the use of alcohol. Those who reported any use of alcohol worked on average approximately 183 days compared to 150 days for those that did not use alcohol ($p=.015$). However, because there were no significant differences between groups on the frequent use of alcohol, this finding suggests very little.

6.3.4. Predicting Substance Use: CJ Disposition, Sealing, & Employment

The effect of criminal justice disposition, sealed record, and employment status (days worked per year) on substance use outcomes at 36-months was examined in a series of logistic regressions. Results presented in tables 6.16A through 6.16H on the following pages indicate that age and race are the most consistent predictors of substance use outcomes at 36-months. Specifically, being 25 and older (compared to 18-24 years of age) reduced the odds of: any alcohol or drug use by more than half ($OR=.463$; $p=.001$); frequent alcohol or drug use by almost half ($OR=.570$; $p=.022$); any marijuana use by more than two-thirds ($OR=.305$; $p=.000$); and frequent marijuana use by more than half ($OR=.431$; $p=.011$). Also, being black increased the odds of: any alcohol or drug use by a factor of almost two ($OR=1.883$; $p=.007$); frequent alcohol or drug use by a factor of more than two ($OR=2.126$; $p=.003$); frequent alcohol use by a factor of almost two ($OR=1.940$; $p=.025$); frequent marijuana use by a factor of almost two ($OR=1.968$; $p=.050$). However, being black decreased the odds by

more than 80% of using any crack, cocaine or heroin (OR=.163; p=.001) as well as any frequent use of cocaine, crack, or heroin (OR=.195; p=.011).

Table 6.16a. Predictors of “Any” Substance Use at 36-months

	B	S.E.	Wald	Sig.	Exp(B)
Age	-.770	.228	11.435	.001	.463
Gender	-.427	.242	3.105	.078	.653
Race/ethnicity	.633	.234	7.288	.007	1.883
Criminal Justice Disposition	-.191	.232	.679	.410	.826
Sealed record	-.143	.308	.214	.644	.867
Held a job	.293	.232	1.602	.206	1.341
Case management condition	-.485	.227	4.552	.033	.616

Table 6.16b. Predictors of “Frequent” Substance Use at 36-months

	B	S.E.	Wald	Sig.	Exp(B)
Age	-.562	.245	5.280	.022	.570
Gender	-.438	.268	2.667	.102	.645
Race/ethnicity	.754	.257	8.589	.003	2.126
Criminal Justice Disposition	-.280	.241	1.345	.246	.756
Sealed record	-.304	.335	.822	.365	.738
Held a job	.088	.243	.131	.718	1.092
Case management condition	-.238	.238	1.002	.317	.788

Table 6.16c. Predictors of “Any” Alcohol Use at 36-months

	B	S.E.	Wald	Sig.	Exp(B)
Age	-.375	.229	2.682	.101	.687
Gender	-.368	.246	2.227	.136	.692
Race/ethnicity	.448	.237	3.579	.059	1.565
Criminal Justice Disposition	-.221	.230	.923	.337	.802
Sealed record	-.141	.308	.210	.647	.868
Held a job	.695	.233	8.909	.003	2.004
Case management condition	-.412	.226	3.322	.068	.662

Table 6.16d. Predictors of “Frequent” Alcohol Use at 36-months

	B	S.E.	Wald	Sig.	Exp(B)
Age	-.093	.274	.116	.733	.911
Gender	-.571	.311	3.369	.066	.565
Race/ethnicity	.663	.296	5.022	.025	1.940
Criminal Justice Disposition	-.240	.271	.787	.375	.787
Sealed record	.091	.362	.063	.802	1.095
Held a job	.411	.278	2.184	.139	1.508
Case management condition	-.009	.265	.001	.971	.991

Table 6.16e. Predictors of “Any” Marijuana Use at 36-months

	B	S.E.	Wald	Sig.	Exp(B)
Age	-1.19	.278	18.211	.000	.305
Gender	-.093	.279	.111	.739	.911
Race/ethnicity	.244	.268	.832	.362	1.277
Criminal Justice Disposition	-.331	.254	1.692	.193	.718
Sealed record	-.482	.369	1.710	.191	.617
Held a job	-.104	.254	.167	.683	.901
Case management condition	-.211	.250	.710	.399	.810

Table 6.16f. Predictors of “Frequent” Marijuana Use at 36-months

	B	S.E.	Wald	Sig.	Exp(B)
Age	-.842	.333	6.392	.011	.431
Gender	-.318	.355	.800	.371	.728
Race/ethnicity	.677	.348	3.777	.050	1.968
Criminal Justice Disposition	-.190	.303	.395	.530	.827
Sealed record	-1.136	.333	4.002	.045	.321
Held a job	-.221	.301	.540	.463	.802
Case management condition	-.294	.302	.952	.329	.745

Table 6.16g. Predictors of “Any” Hard Drug Use at 36-months

	B	S.E.	Wald	Sig.	Exp(B)
Age	-.316	.509	.386	.535	.729
Gender	.614	.492	1.558	.212	1.848
Race/ethnicity	-1.812	.525	11.092	.001	.163
Criminal Justice Disposition	-.311	.499	.390	.532	.732
Sealed record	-1.318	.815	2.612	.106	.268
Held a job	-.859	.506	2.878	.090	.424
Case management condition	-1.077	.549	3.843	.050	.341

Table 6.16h. Predictors of “Frequent” Hard Drug Use at 36-months

	B	S.E.	Wald	Sig.	Exp(B)
Age	-.248	.633	.154	.695	.780
Gender	.850	.609	1.949	.163	2.341
Race/ethnicity	-1.637	.641	6.511	.011	.195
Criminal Justice Disposition	-.571	.617	.856	.355	.565
Sealed record	-1.563	1.111	1.980	.159	.209
Held a job	-.925	.634	2.128	.145	.397
Case management condition	-.705	.637	1.226	.268	.494

Criminal justice disposition was not a significant predictor of substance use at 36-months. With one exception for each, sealing of records and employment status was also not a significant predictor of substance use at follow-up. Overall, results in this section suggest that when controlling for the range of other potential factors, neither criminal justice disposition, record sealing, nor employment emerges as a statistically significant predictor of substance use outcomes. The next section will examine the effect of all of these variables on crime outcomes and recidivism, specifically, re-arrest at 36-months.

6.4. Self-Reported Crime Outcomes

Study participants were asked to indicate at the time of each follow-up interview (6-, 12-, 24-, and 36-months) whether they had engaged in any illegal activities during the prior period. Alcohol-related offenses (e.g., DUI), drug possession, and drug distribution were the most commonly reported offenses. Fraud, prescription fraud, fencing of stolen property, burglary and other types of theft were collapsed into a single category labeled “theft-related offenses.” Robbery, rape, murder, assault against others, and weapons offenses were collapsed into a single category labeled “violent offenses.” In order to examine participant involvement in illegal activities over the duration of the three-year follow-up period, composite summary measures were created to capture “any involvement” (0=No; 1=Yes), “regular involvement” (0=No; 1=Yes) defined as involvement three or more times, and “any arrests” (0=No; 1=Yes).

Again, in order to minimize the number of missing values for each composite measure, respondents were coded “0” if they indicated no involvement for at least three follow-up periods but data was missing for the fourth follow-up period. Requiring at least three interviews be completed in order to “impute” the value for the fourth interview and code for a valid value of the composite reduced the number of missing cases by more than half (from 32% to 14%).

6.4.1. Effect of Criminal Justice Disposition on Self-Reported Crime

Results presented in Table 6.17 below indicate that over the three-year period, diversion clients were significantly more likely to: possess drugs (52% vs. 37%; $p=.005$), regularly possess drugs (37% vs. 27%; $p=.046$), distribute drugs (24% vs. 13%; $p=.005$), and regularly commit theft offenses (5% vs. 1%; $p=.037$).

Table 6.17. Crime Outcomes – Composite 3-Year Follow-up Measure

	Total (N=352-366)	Convicted (N=172-177)	Diverted (N=179-189)	Sig
Alcohol-related (DWI)				
Any involvement	37%	34%	40%	.213
Regular involvement	31%	30%	32%	.712
Any arrests	3%	1%	4%	.105
Drug Possession				
Any involvement	45%	37%	52%	.005
Regular involvement	33%	27%	37%	.046
Any arrests	22%	19%	25%	.205
Drug Distribution				
Any involvement	19%	13%	24%	.005
Regular involvement	11%	9%	12%	.268
Any arrests	11%	8%	14%	.060
Theft-offenses				
Any involvement	11%	9%	13%	.212
Regular involvement	3%	1%	5%	.037
Any arrests	7%	6%	7%	.896
Violent offenses				
Any involvement	13%	12%	14%	.525
Regular involvement	12%	12%	13%	.742
Any arrests	8%	7%	9%	.507

A closer examination of crime outcomes at each follow-up period (Table 6.18) shows that with two exceptions (i.e., any involvement in drug distribution and theft offenses at 12-months), groups self-reported similar criminal behavior.

Table 6.18. Crime Outcomes at Follow-up by Criminal Justice Disposition

Six Month	Total	Convicted	Diverted	Sig
	N=355-356	N=177-178	N=177-178	
Any DWI	2.5%	1%	4%	.091
Frequent DWI	2%	1%	3%	.256
Any Possession	15%	14%	17%	.463
Frequent Possession	8%	7%	10%	.341
Any Distribution	7%	5%	8%	.205
Frequent Distribution	4%	3%	5%	.391
Any Theft	4%	3%	5%	.275
Frequent Theft	1%	-	2%	.082
Any Violent Offense	5%	5%	4%	.609
Frequent Violence	5%	5%	4%	.545
Twelve-Month	N=364-365	N=179	N=185-186	Sig
Any DWI	6%	3%	8%	.080
Frequent DWI	4%	2%	5%	.180
Any Possession	16%	13%	18%	.153
Frequent Possession	10%	9%	10%	.679
Any Distribution	6%	3%	9%	.017
Frequent Distribution	3%	2%	4%	.143
Any Theft	4%	2%	6%	.035
Frequent Theft	1%	1%	2%	.333
Any Violent Offense	3%	2%	4%	.143
Frequent Violence	3%	2%	4%	.219
Twenty Four-Month	N=332-333	N=164	N=168-169	Sig
Any DWI	18%	17%	19%	.555
Frequent DWI	15%	16%	14%	.578
Any Possession	20%	18%	23%	.343
Frequent Possession	13%	12%	14%	.464
Any Distribution	7%	6%	8%	.441
Frequent Distribution	3%	4%	1%	.083
Any Theft	3%	4%	3%	.721
Frequent Theft	<1%	-	<1%	.324
Any Violent Offense	4%	4%	4%	.735
Frequent Violence	4%	4%	4%	.698
Thirty Six-Month	N=363-364	N=175	N=188-189	Sig
Any DWI	18%	19%	18%	.628
Frequent DWI	16%	17%	15%	.642
Any Possession	17%	14%	19%	.171
Frequent Possession	12%	10%	15%	.140
Any Distribution	6%	4%	7%	.229
Frequent Distribution	3%	2%	4%	.430
Any Theft	3%	3%	3%	.892
Frequent Theft	1%	1%	2%	.353
Any Violent Offense	4%	3%	5%	.243
Frequent Violence	4%	3%	5%	.340

6.4.2. Effect of Record Sealing on Self-Reported Crime

The data were also examined to determine the direct effect of a sealed record on self reported criminal behavior. Again, this analysis is somewhat limited by the fact that very few study participants were able to get their record sealed. Results presented in Table 6.19 show that getting a criminal record sealed had a very limited effect on self-reported criminal behavior. Specifically, those who had their record sealed prior to the 36-month follow-up interview were significantly less likely to possess drugs (6% vs. 18%; $p=.040$) during the 12-month period preceding the 36-month interview. Otherwise, those with a sealed record also reported less involvement in the remaining crime categories during the 12-month period preceding the 36-month follow-up interview, although these differences only approached significance due to limited statistical power.

Table 6.19. Record Sealing & Self-Reported Crime Outcomes

Twenty Four Month	Total	Sealed	Not Sealed	Significance
	N=332-333	N=33	N=299-300	
Any DWI	18%	21%	17%	.580
Frequent DWI	15%	15%	15%	.947
Any Possession	20%	15%	21%	.459
Frequent possession	13%	15%	13%	.692
Any Distribution	7%	6%	7%	.788
Frequent distribution	3%	3%	3%	.903
Any Theft	3%	-	4%	.263
Frequent Theft	<1%	-	<1%	.740
Any Violence	4%	3%	4%	.785
Frequent Violence	4%	3%	4%	.693
Thirty Six-Month				
	N=349-364	N=48	N=302-316	
Any DWI	18%	15%	19%	.463
Frequent DWI	16%	10%	17%	.243
Any Possession	17%	6%	18%	.040
Frequent possession	12%	6%	13%	.167
Any Distribution	6%	-	6%	.073
Frequent distribution	3%	-	4%	.189
Any Theft	3%	-	4%	.170
Frequent Theft	1%	-	1%	.433
Any Violence	4%	-	5%	.123
Frequent Violence	4%	-	4%	.136

6.4.3. Effect of Employment on Self-Reported Crime

An examination of the effect of employment status on involvement in crime at each of the follow-up intervals revealed mixed results. For the 6- and 12-month interviews, those who did not have a job generally engaged in more crime compared to those that held a job at some point during the 6 month interview frame, although some of these differences only approached significance. For example, as shown in Table 6.20 for 6-month outcomes, 32% of those that did not have a job self-reported engagement in “any crime” compared to only 19% of those that held a job ($p=.005$). Similarly, 12-month outcomes show that 28% of those that did not hold a job reported involvement in “any crime” compared to only 19% of those that did have a job ($p=.035$). Also, at both the 6- and 12-month follow-up interviews, those who held a job were significantly less likely to report possessing drugs as well as involvement in drug distribution activities.

However, at the time of the 24- and 36-month interviews those who held a job at some time during the year preceding the interview actually reported more frequent involvement in crime compared to those that did not hold a job during this same time period; 27% vs. 17% ($p=.028$) at 24-months and 27% vs. 14% ($p=.004$) at 36-months. Consistent with previous findings, these differences are likely attributable to substantial and significant group differences in alcohol-related offenses such as DWI. For 24-month interview, 25% of those that held a job reported a DWI compared to 6% of those that did not hold a job ($p=.000$); 20% of those that held a job reported frequent DWI compared to 6% of those that did not hold a job ($p=.001$). A similar gap is evident for the 36-month interview.

Table 6.20. Crime Outcomes at Follow-up by Job Status

Six-Month	Total N=355-356	Held a Job N=227-228	No Job N=127-128	Significance
Any crime	24%	19%	32%	.005
Frequent crime	14%	12%	19%	.058
Any DWI	3%	4%	1%	.116
Frequent DWI	2%	3%	-	.045
Any Possession	15%	12%	21%	.027
Frequent possession	8%	6%	12%	.067
Any Distribution	7%	5%	10%	.049
Frequent distribution	4%	4%	4%	.837
Any Theft	4%	3%	6%	.092
Frequent Theft	1%	1%	1%	.924
Any Violence	5%	3%	7%	.083
Frequent Violence	5%	3%	7%	.083
Twelve Month	N=364-365	N=204	N=160-161	Significance
Any crime	23%	19%	28%	.035
Frequent crime	15%	13%	18%	.205
Any DWI	6%	6%	4%	.399
Frequent DWI	4%	5%	2%	.120
Any Possession	15%	12%	21%	.022
Frequent possession	10%	8%	12%	.202
Any Distribution	6%	3%	9%	.009
Frequent distribution	3%	2%	5%	.052
Any Theft	4%	3%	4%	.651
Frequent Theft	1%	1%	1%	.811
Any Violence	3%	2%	4%	.185
Frequent Violence	3%	2%	4%	.300
Twenty-Four Month	N=332-333	N=206-207	N=126	Significance
Any crime	35%	36%	32%	.404
Frequent crime	23%	27%	17%	.028
Any DWI	18%	25%	6%	.000
Frequent DWI	15%	20%	6%	.001
Any Possession	20%	21%	19%	.628
Frequent possession	13%	17%	6%	.005
Any Distribution	7%	6%	9%	.402
Frequent distribution	3%	3%	2%	.778
Any Theft	3%	3%	4%	.596
Frequent Theft	<1%	<1%	-	.435
Any Violence	4%	2%	6%	.072
Frequent Violence	4%	2%	6%	.072
Thirty-Six Month	N=363-364	N=218-219	N=145	Significance
Any crime	30%	32%	26%	.158
Frequent crime	21%	27%	14%	.004
Any DWI	18%	25%	9%	.000
Frequent DWI	16%	22%	8%	.001
Any Possession	17%	18%	15%	.403
Frequent possession	12%	15%	9%	.109
Any Distribution	6%	4%	8%	.058
Frequent distribution	3%	3%	3%	.699
Any Theft	3%	4%	3%	.640
Frequent Theft	1%	1%	1%	.542
Any Violence	4%	6%	2%	.109
Frequent Violence	4%	5%	2%	.149

Table 6.21. Crime Outcomes by Number or Days Worked

Offense type	Days Worked			
	6-month N=354-355	12-month N=364-365	24-month N=332-333	36-month N=362-363
Any Crime	p=.000	p=.008	p=.630	p=.512
Yes	61.87	62.17	158.08	172.77
No	99.22	89.93	166.67	160.87
Freq Crime	p=.008	p=.042	p=.405	p=.045
Yes	63.78	63.33	176.21	195.91
No	94.49	87.42	159.27	155.74
Any Alc-Related	p=.170	p=.801	p=.000	p=.000
Yes	123.33	79.00	230.98	225.52
No	89.64	83.89	149.22	150.53
Freq Alc-Related	p=.071	p=.730	p=.008	p=.003
Yes	132.86	91.54	215.02	219.15
No	89.64	81.33	154.23	153.74
Any Possession	p=.001	p=.023	p=.291	p=.894
Yes	59.91	60.44	145.85	161.88
No	96.10	87.91	168.28	164.86
Freq Possession	p=.017	p=.074	p=.327	p=.555
Yes	59.14	60.71	183.47	177.36
No	93.01	86.05	160.19	162.54
Any Distribution	p=.013	p=.001	p=.113	p=.027
Yes	53.75	33.57	115.00	94.50
No	93.15	86.57	167.49	168.45
Freq distribution	p=.764	p=.030	p=.741	p=.405
Yes	84.23	34.09	146.67	125.45
No	90.99	85.16	164.18	165.59
Any Theft-Related	p=.036	p=.225	p=.080	p=.751
Yes	47.86	60.00	95.00	149.55
No	92.24	84.56	166.05	169.84
Freq Theft-Related	p=.654	p=.979	p=.917	p=.880
Yes	70.00	82.50	180.00	176.25
No	90.66	83.63	163.65	164.24
Any Violence	p=.292	p=.292	p=.000	p=.923
Yes	57.27	57.27	47.69	167.67
No	84.44	84.44	168.42	164.23
Freq Violence	p=.048	p=.427	p=.000	p=.758
Yes	51.33	63.00	47.69	153.57
No	92.22	84.44	168.42	164.23

Table 6.21 examines the relationship between days worked and self-reported involvement in crime at each interval. Although there is no consistent pattern evident for any particular offense type across the four waves of data, there are numerous instances indicating that those who report involvement or frequent involvement in certain offense types work significantly fewer days than

those reporting no such involvement in these illegal activities. For example, at 6-, 12- and 36-months, those reporting involvement in drug distribution activities worked significantly fewer days. For many of the offense types differences are evident at 6- and 12-months, but disappear at 24- and 36-months. Once again, those who report any involvement as well as frequent involvement in alcohol-related offenses (e.g., DWI) actually work significantly more days.

Table 6.22. Three-Year Crime Outcomes by Aggregate Days Worked
Days Worked Per Year over 3-Years
N=352-370

Any Crime	p=.186
Yes	159.09
No	177.93
Frequent Crime	p=.745
Yes	164.87
No	169.26
Any Alcohol-Related	p=.002
Yes	196.04
No	152.77
Freq Alcohol-Related	p=.003
Yes	198.69
No	155.85
Any Possession	p=.003
Yes	144.56
No	184.02
Frequent Possession	p=.199
Yes	154.70
No	173.26
Any Distribution	p=.001
Yes	122.91
No	177.74
Frequent distribution	p=.083
Yes	134.35
No	173.02
Any Theft-Related	p=.089
Yes	136.22
No	172.91
Freq Theft-Related	p=.960
Yes	167.15
No	169.12
Any Violence	p=.000
Yes	107.90
No	178.61
Frequent Violence	p=.000
Yes	109.16
No	177.98

Finally, the relationship between the composite measure of days worked over the duration of the three-year follow-up period and 36-month self-reported criminal behavior was examined. Results presented in Table 6.22 indicate that there is a significant relationship between involvement in certain offense types and the average number of days employed per year over the three-year follow-up period. That is, those who self-reported possessing drugs, distributing drugs, or engaging in violence at any time during the three year follow-up period worked significantly fewer days than those who did not report engaging in such behaviors. Once again, the opposite was true for involvement in alcohol-related offenses. Respondents who reported any involvement in alcohol related offenses (e.g. DWI) as well as frequent involvement in such offenses during the three-year study period actually worked significantly more days during this time.

6.4.4. Effect of Substance Use on Self-Reported Crime

Table 6.23 examines the relationship between drug use and self-reported involvement in crime during the three-year follow-up period. All variables presented (both drug use and crime involvement) are composite measures that incorporate data from each of the follow-up points collected over the three-year follow-up period. A chi-square was conducted to explore the relationship between the two variables rather than a regression model that would explore the effect of substance use on crime. This simple descriptive approach was taken to demonstrate that involvement with drugs is significantly related to involvement in crime. Indeed, results presented in Table 6.23 show that any drug use is related

to involvement in all but theft and violent crimes while frequent users are significantly more likely to be involved in all types of crime (with the exception of theft-offenses) and frequently involved in all types of crime.

Table 6.23. Three-Year Crime Outcomes by Substance Use

	Any Drug Use			Frequent Drug Use		
	Yes	No	Sig	Yes	No	Sig
Any Crime Involvement	74%	21%	.000	80%	41%	.000
Freq Crime Involvement	60%	7%	.000	67%	25%	.000
Any Alc-Related Crime	42%	5%	.000	46%	20%	.000
Freq Alc-Related Crime	36%	2%	.000	39%	16%	.000
Any Drug Possession	51%	5%	.000	58%	18%	.000
Freq Drug Possession	38%	0%	.000	45%	8%	.000
Any Drug Distribution	21%	2%	.004	25%	6%	.000
Freq Drug Distribution	12%	0%	.017	15%	3%	.001
Any Theft-Related Crime	13%	5%	n.s.	13%	7%	.074
Freq Theft-Related Crime	4%	0%	n.s.	5%	0%	.015
Any Violent Crime	14%	7%	n.s.	17%	5%	.002
Freq Violent Crime	14%	5%	n.s.	17%	4%	.001

6.4.5. Predicting Self-Reported Involvement in Crime: Criminal Justice Disposition, Sealing, Employment & Substance Use

Tables 6.24a and 6.24b examine respectively predictors of involvement in any type of crime and predictors of frequent involvement in any type of crime. Dependent variables in both regression models are dichotomous composite measures that account for responses across the multiple follow-up points. Table 6.24a shows that the odds of involvement in any crime were: increased by a factor of nearly 6 for frequent drug users (OR=5.688; $p=.000$); decreased by 70% for those diverted (OR=.302; $p=.000$); decreased by 61% for those that had their record sealed (OR=.389; $p=.023$); and decreased by 56% for those 25 years and older (OR=.428; $p=.002$). Table 6.24b shows that the odds of frequent

involvement in any type of crime were: increased by a factor of nearly 6 for frequent drug users (OR=5.863; $p=.000$); decreased by 52% for those diverted (OR=.475; $p=.004$); decreased by 49% for those 25 years and older (OR=.505; $p=.006$). Sealing decreased the odds of frequent involvement in any type of crime by 41% (OR=.585) though this reduction only approaches significance ($p=.080$).

Many of the individual regressions examining crime outcomes at 36-months by type of illegal activity (e.g. possession, distribution, theft, violence) were limited in that there was minimal response variability for most of these dependent variables. For example, during the 36-month interview period only 20 respondents reported any involvement in drug distribution activities while merely 11 reported frequent involvement; 12 respondents report any involvement in theft activities while merely 4 reported frequent involvement; and 15 reported any involvement in violence and 14 reported frequent involvement in violence.

Table 6.24a. Predictors of “Any” Involvement in Crime at 36-months

	B	S.E.	Wald	Sig.	Exp(B)
Age	-.826	.269	9.466	.002	0.438
Gender	.186	.285	0.425	.514	1.204
Race/ethnicity	-.104	.273	0.144	.704	0.901
Criminal Justice Disposition	-1.197	.296	16.399	.000	.302
Sealed record	-.944	.415	5.183	.023	0.389
Held a job	-.082	.362	0.052	.820	0.921
Frequent drug user	1.738	.269	41.745	.000	5.688
Case management condition	.114	.267	0.181	.670	1.120

Table 6.24b. Predictors of “Frequent” Involvement in Crime at 36-months

	B	S.E.	Wald	Sig.	Exp(B)
Age	-.683	.250	7.469	.006	0.505
Gender	-.013	.267	0.002	.962	0.987
Race/ethnicity	-.243	.261	0.864	.353	0.785
Criminal Justice Disposition	-.744	.261	8.140	.004	0.475
Sealed record	-.684	.391	3.058	.080	0.585
Held a job	.157	.335	0.221	.639	1.170
Frequent drug user	1.769	.269	43.246	.000	5.863
Case management condition	.015	.246	0.004	.950	1.106

6.5. Official Record Crime Outcomes

The Cuyahoga County Probation Department conducted a final record review to provide recidivism outcomes for the project. The focus is on re-arrest data since re-conviction data was more difficult to acquire. Information examined includes 1-year re-arrest, 3-year re-arrest, total number of re-arrests, proportion of arrests for felonies and misdemeanors, and the specific offenses for which participants were re-arrested. The consideration of re-arrest was cut off at a maximum of three years to maintain consistency with the self-report time line and to balance the fact that re-arrest data was obtained as long as five years post baseline for those individuals that entered the study during the first two years.

6.5.1. Effect of Criminal Justice Disposition on Re-arrest

Results presented in Table 6.25 show that there are no significant differences between convicted and diverted participants on re-arrest outcomes.

Table 6.25. Official Crime Outcomes: Convicted versus Diverted

	Total (N=408)	Convicted (N=203)	Diverted (N=205)	Sig.
Any Re-arrest				
One Year	24%	22%	25%	.448
Three years	53%	49%	57%	.114
# Arrests (3 years)				
Total	1.29	1.17	1.41	.135
Felony	.81	.71	.90	.137
Misdemeanor	.49	.46	.51	.523
	N=96	N=45	N=51	
Arrest Type (1 Year)				.196
Felony	71%	64%	77%	
Misdemeanor	29%	36%	24%	
	N=213	N=99	N=114	
Arrest Type (3 Year)				.117

Felony	71%	66%	75%
Misdemeanor	29%	34%	25%

6.5.2. Effect of Record Sealing on Re-arrest

Table 6.26 presented below shows that re-arrest outcomes are significantly better for those individuals that had their record sealed. The analysis presented in Table 6.26 below is limited to re-arrest at three-years as very few individuals were able to seal their records within the first year of the study. Results show that those who had their record sealed were significantly less likely (31%) to be arrested compared to 55% of those that did not get their record sealed ($p=.002$). Of those that were re-arrested, those with their record sealed were significantly more likely to be re-arrested for a misdemeanor offense, while those that did not get their record sealed were significantly more likely to be re-arrested for a felony ($p=.032$). Also, of those that were re-arrested, individuals that had sealed their record were on average re-arrested significantly later, approximately 4.5 months later (18.47) compared to those that were not able to seal their record (14.09) ($p=.05$).

Table 6.26. Official Crime Outcomes: Sealed versus Not Sealed

	Total (N=408)	Sealed (N=48)	Not Sealed (N=360)	Sig.
Re-arrested (3 years)	53%	31%	56%	.002
# Arrests (3 years)				
Total	1.29	.44	1.48	.000
Felony	.81	.22	.93	.017
Misdemeanor	.49	.22	.54	.007
	N=213	N=15	N=198	
Arrest Type (3 years)				.032
Felony	71%	47%	73%	
Misdemeanor	29%	53%	27%	

6.5.3. Effect of Employment on Re-arrest

Table 6.27 below shows that, with one exception, re-arrest data comparing those who were employed at some point during the 3-year follow-up period to those who were unemployed during the entire time period was similar. Those who were unemployed had on average significantly fewer misdemeanor arrests compared to those employed for some length during this period (0.31 vs. 0.52; $p=.020$). However, this is a fairly simple dichotomous characterization of employment that yields limited variability and statistical power in that only 74 respondents were unemployed compared to 336 that reported employment.

Table 6.27. Official Crime Outcomes: Employed vs. Unemployed

	Total (N=408) % / means	Employed (N=335) % / means	Unemployed (N=73) % / means	Sig. X² / t
Re-arrested (3 years)	53%	52%	55%	.692
# Arrests (3 years)				
Total	1.29	1.28	1.36	.710
Felony	.81	.75	1.04	.073
Misdemeanor	.49	.52	.31	.020
	N=213	N=173	N=40	
Arrest Type (3 Years)				.159
Felony	71%	69%	80%	
Misdemeanor	29%	31%	20%	

Table 6.28 shows that the number of days worked are significantly related to the likelihood of a participant being re-arrested. The analysis for this table uses the same summary variable that was introduced in section C2, which captures the average number of days worked per year. Results show that those who were re-arrested during the 3 year follow-up period worked significantly fewer days (150.58) than those that were not re-arrested (194.54) ($p=.000$) during the same time frame. In addition, of those who were arrested, those arrested for a felony

worked significantly fewer days per year (126.82) compared to those who were arrested for a misdemeanor (212.07) ($p=.000$). Also, a correlation coefficient shows a significant positive relationship between days worked and number of months to re-arrest; the more days worked, the more months until re-arrest.

Table 6.28. Official Crime Outcomes: Aggregate Days Worked

Days Worked Per Year over 3-Years	
N=410	
Re-arrested (3 years)	$p=.001$
Yes	150.58
No	194.54
# Arrests (3 years)	
Total	-.193***
Felony	-.245***
Misdemeanor	-.014
	N=210
Arrest Type (3 Years)	$p=.000$
Felony	126.82
Misdemeanor	212.07

*** $p<.001$; ** $p<.01$; * $p<.05$

The examination of the relationship between days worked and re-arrest is complicated by the fact that the temporal order of the data is questionable. That is, it is somewhat unclear whether subjects were working fewer days due to time spent incarcerated following an arrest or whether subjects were arrested because they were in fact working fewer days. In order to address this potential confound, a variable that captures the number of days spent in prison over the three-year follow-up period will be included in the regressions to follow.

6.5.4. Effect of Drug Use on Re-arrest

The relationship between drug use and re-arrest was examined both in terms of any drug use as well as frequent drug use. Results presented in Table 6.29 demonstrate that any drug use over the three-year follow-up period has a

limited effect on re-arrest within that same time frame. Those who reported any drug use had on average significantly more felony arrests compared to those that did not use any drugs during this time period (0.89 vs. 0.48; $p=.045$).

Table 6.29. Official Crime Outcomes: Substance Use vs. No Use

	Total (N=379)	Any Drug Use		Sig.
		Yes (337)	No (42)	
Re-arrested (3 years)	53%	54%	43%	.172
# Arrests (3 years)				
Total	1.33	1.39	.86	.055
Felony	.85	.89	.48	.045
Misdemeanor	.49	.50	.39	.496
	N=198	N=180	N=18	
Arrest Type (3 years)				.223
Felony	73%	74%	61%	
Misdemeanor	27%	26%	39%	

However, results presented in Table 6.30 demonstrate that frequent drug use has a significant effect on re-arrest. Specifically, frequent users are significantly more likely to be arrested (60%) compared to those who use drugs less frequently or not at all (39%) ($p=.000$). Frequent drug users also had a greater number of felony and misdemeanor arrests over the three-year period.

Table 6.30. Official Crime Outcomes: Frequent Use vs. No/Infrequent Use

	Total (N=365)	Frequent Drug Use		Sig.
		Yes (249)	No (116)	
Re-arrested (3 years)	53%	60%	39%	.000
# Arrests (3 years)				
Total	1.33	1.57	.82	.000
Felony	.85	.99	.53	.001
Misdemeanor	.48	.57	.30	.010
	N=192	N=147	N=45	
Arrest Type (3 years)				.376

Felony	74%	76%	69%
Misdemeanor	26%	25%	31%

6.5.5. Predicting Re-Arrest: Effect of Criminal Justice Disposition, Record Sealing, Employment & Substance Use

Results presented in Table 6.31 below show that age, criminal justice disposition, getting the criminal record sealed, and frequent drug use are significant predictors of re-arrest within three-years post baseline. More specifically, being 18-24 years of age (compared to 25 and older) increased the odds of re-arrest by three and a half times (OR= 3.500; p=.000); having a sealed record decreased the odds of re-arrest by almost 80% (OR=.215; p=.000), being diverted more than doubled the odds of re-arrest (OR=2.208; p=.002), and being a frequent drug user nearly doubled the odds of re-arrest (OR=1.910; p=.011).

Table 6.31. Official Crime Outcomes: Re-Arrest (3-Years)

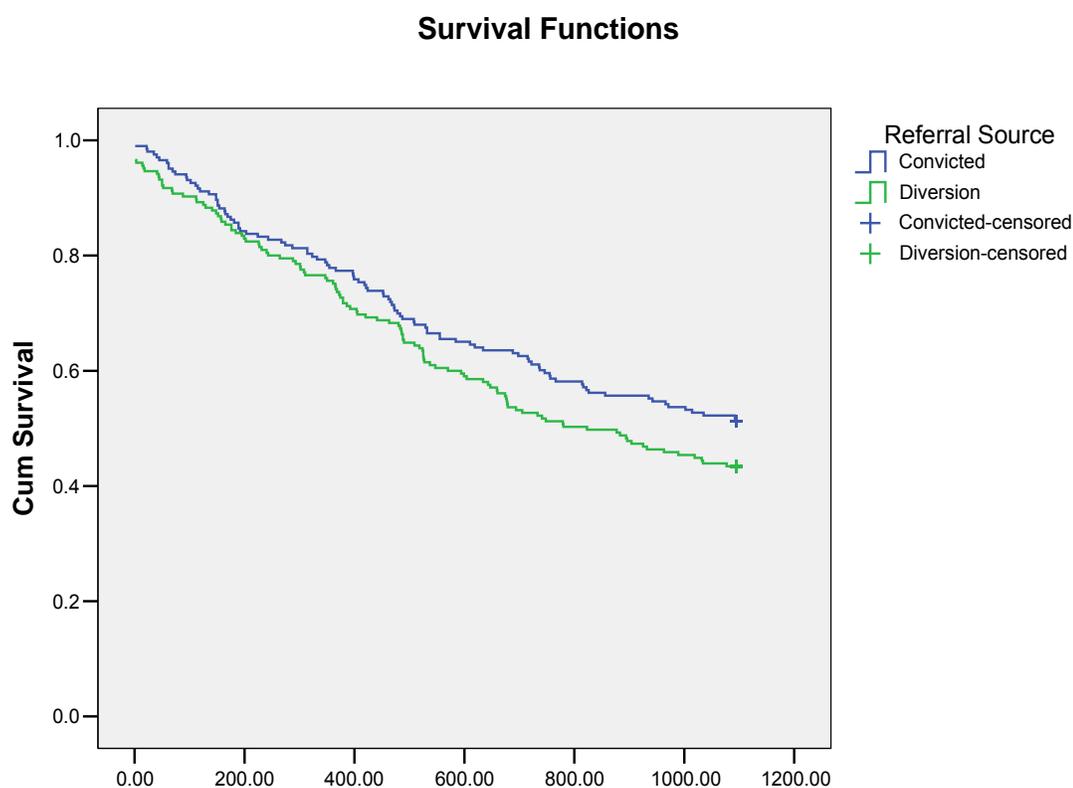
	B	S.E.	Wald	Sig.	Exp(B)
Age	1.253	.246	25.948	.000	3.500
Gender	-.172	.258	0.444	.505	0.842
Race/ethnicity	-.029	.252	0.013	.908	0.971
Criminal Justice Disposition	.792	.251	9.982	.002	2.208
Sealed record	1.536	3.48	19.488	.000	0.215
Held a job	-.291	.325	0.800	.371	0.748
Frequent drug user	.647	.256	6.388	.011	1.910
Case management condition	.045	.238	.035	.851	1.046

6.6. Survival Analysis (Time to Re-arrest)

6.6.1. Criminal Justice Disposition: Diversion versus Conviction

The Kaplan Meier survival analysis with log rank (Mantel Cox) significance test demonstrates that there are no statistically significant differences in the survival distributions of diverted and convicted participants ($X^2 = 2.571$; $p=.109$). An independent sample T-test shows that the mean number of days until re-arrest for those that were eventually arrested was 417.78 for diverted participants and 430.13 for convicted participants, a difference which was also not significant.

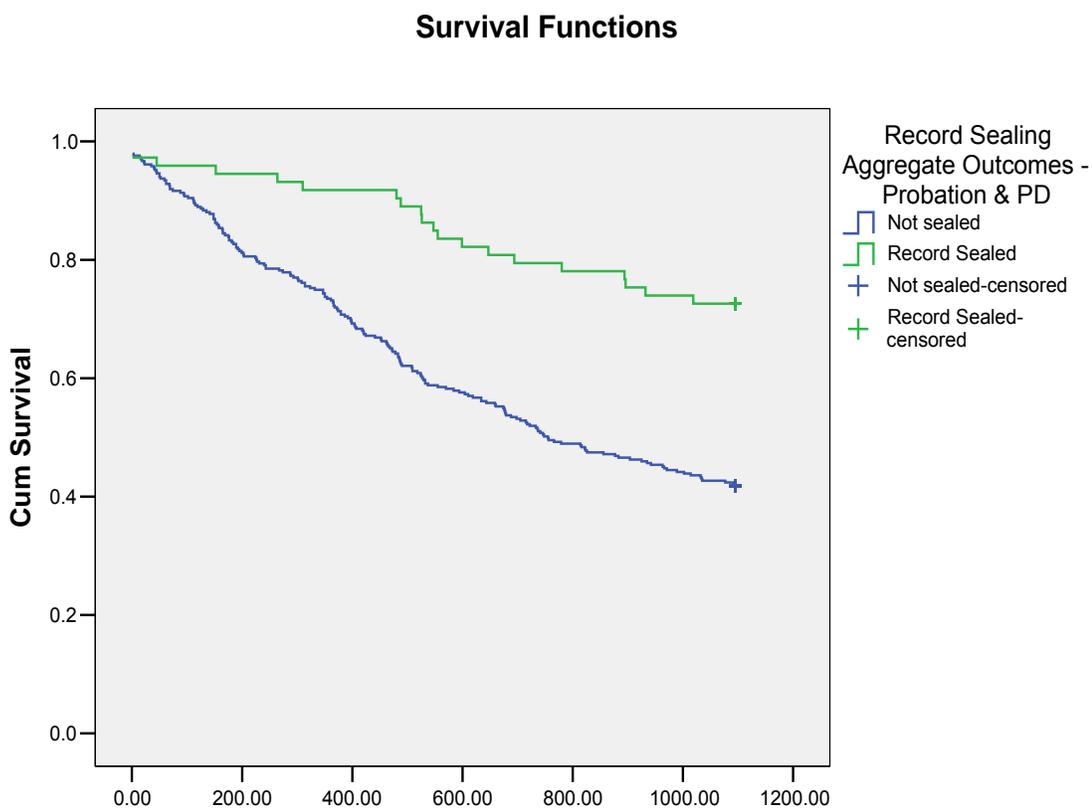
Figure 2. Survival Functions for Criminal Justice Disposition



6.6.2. Record Sealing: Sealed versus Not Sealed

The Kaplan Meier survival analysis with log rank (Mantel Cox) significance test demonstrates that those who have their record sealed remain in the community significantly longer than those who do not ($X^2 = 20.708$; $p=.000$). An independent sample T-test shows that among those who were eventually arrested, the mean number of days until re-arrest for those that had their sealed record was 517.75 compared to 413.79 for those that did not seal their record. However, this difference only approached significance due to limited statistical power as so few individuals were re-arrested after having sealed their record.

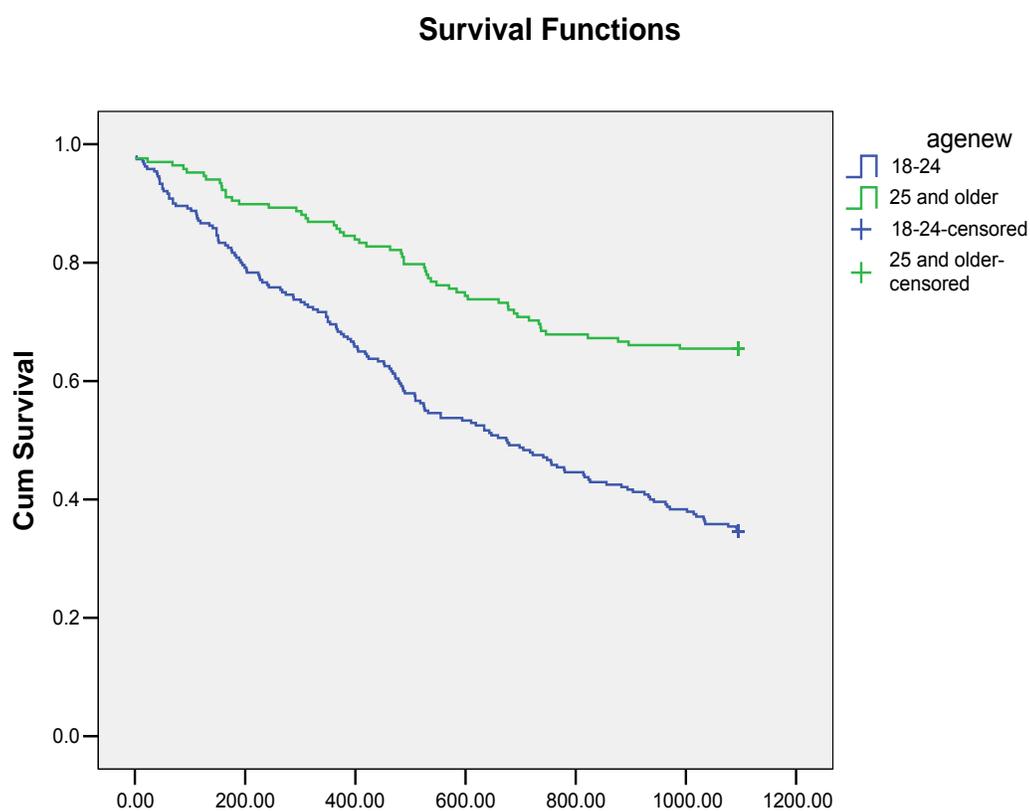
Figure 3. Survival Functions for Record Sealing



6.6.3. Age: 18-24 vs. 25 and Older

The Kaplan Meier survival analysis with log rank (Mantel Cox) significance test demonstrates that those 25 years of age and older remain in the community significantly longer than those 18-24 years of age ($X^2 = 35.650$; $p=.000$). An independent sample T-test shows that among those who were eventually arrested, the event happened at about the same time for both age groups; specifically the mean number of days until re-arrest for those 25 years of age and older was 421.90 compared to 424.04 for those 18-24 years of age.

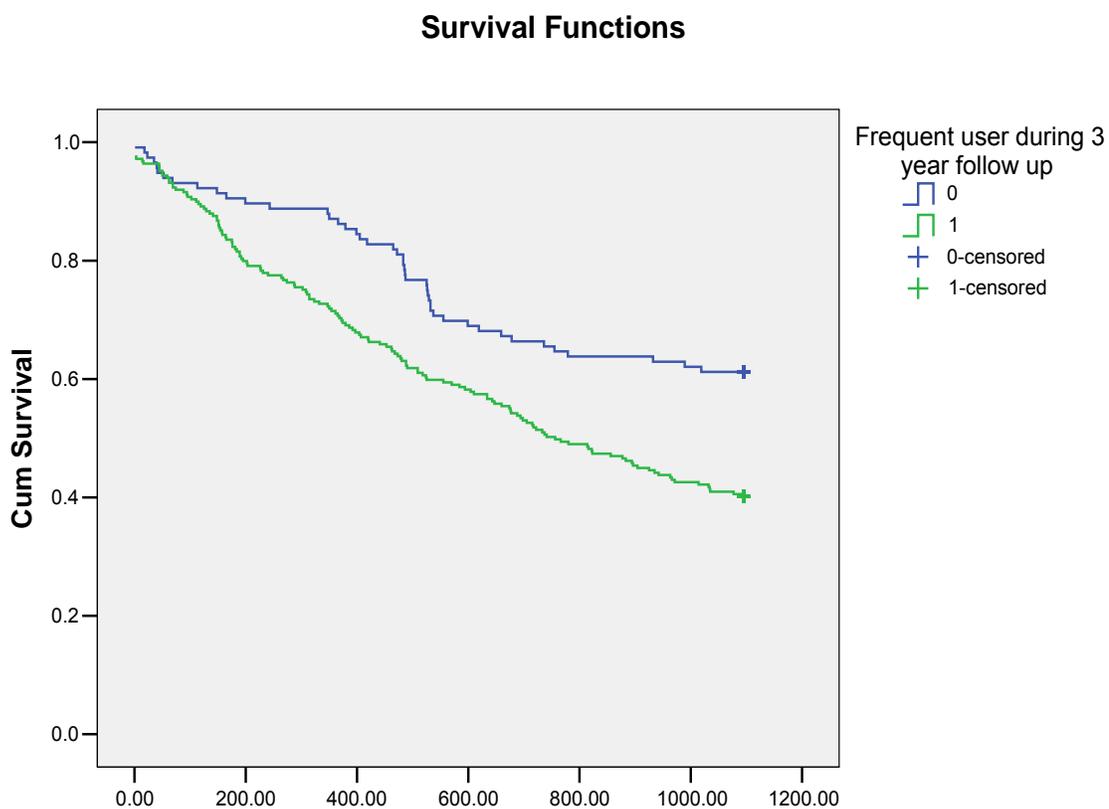
Figure 4. Survival Functions for Age



6.6.4. Drug Use: Frequent Use vs. No use/Infrequent Use

The Kaplan Meier survival analysis with log rank (Mantel Cox) significance test demonstrates that frequent drug users remain in the community significantly shorter than those who report no use or infrequent use ($X^2 = 13.043$; $p=.000$). An independent sample T-test shows that among those who were eventually arrested, the event happened at about the same time for both groups; specifically the mean number of days until re-arrest for frequent drugs users was 420.74 compared to 426.64 for those reporting no drug use or infrequent drug use.

Figure 5. Survival Functions for Frequent Substance Use



6.6.5. Cox Regression Analysis: Time-to-Re-Arrest

The Cox regression analysis showed that a conviction disposition reduced the hazard of re-arrest relative to a diversion disposition (HR=.633; $p=.002$) indicating that those in the convicted group remained in the community without being arrested significantly longer than those in the diversion group.

The Cox regression analysis also showed that a sealed record reduced the hazard of re-arrest relative to an unsealed record (HR=.313; $p=.000$) indicating that those who sealed their record remained in the community without being arrested significantly longer than those that did not seal their record.

The Cox regression analysis also showed that being 25 year of age and older reduced the hazard of re-arrest relative to those 18-24 years of age (HR=.443; $p=.000$) indicating that those 25 years of age and older remained in the community without being arrested significantly longer than those aged 18-24.

Finally, the Cox regression analysis showed that being a frequent drug user increased the hazard of re-arrest relative to no use or infrequent use (HR=1.474) indicating that those who did not use drugs or used drugs infrequently remained in the community significantly longer than frequent users.

Table 6.32. Cox Regression Analysis Predicting Re-arrest

	B	SE	Wald	Sig	Exp(B)	Hazard Ratio (95% CI)
CJ Disposition	-.458	.149	9.483	.002	.633	0.473 – 0.847
Age	-.815	.162	25.176	.000	.443	0.322 – 0.609
Sealing	-1.161	.255	20.710	.000	.313	0.190 – 0.516
Frequent user	.388	.173	5.058	.025	1.474	1.051 – 2.068

6.7. Path Analysis

A primary interest of this study is to explore the value of criminal justice disposition and record sealing in predicting re-arrests to help identify the most effective policy response for reducing recidivism. Previous analyses (see Table 6.25) have shown that the bivariate relationship between criminal justice disposition and re-arrest is not significant. For example, results from a logistic regression in Table 6.33 below (Model I) show that criminal justice disposition does not alone significantly predict re-arrest. However, Table results presented in Table 6.32 (Model II) shows that when adding record sealing to the regression model (along with age, gender, race, employment, and frequent drug use as covariates) not only is record sealing a significant predictor of re-arrest but criminal justice disposition also emerges as a significant predictor of re-arrest.

Table 6.33. CJ Disposition & Record Sealing as Predictors of Re-arrest

	B	S.E.	Wald	Sig.	Exp(B)
MODEL I					
Criminal Justice Disposition	-.304	.199	2.344	.126	.738
MODEL II					
Criminal Justice Disposition	-0.779	.249	9.785	.002	2.180
Record Sealing	-1.539	.345	19.925	.000	.215

Most interesting for the purpose of this study is that despite the fact that those diverted are significantly more likely to have their record sealed compared to those convicted (30% vs. 5%; $p < .001$; see Table 6.1), and having a record sealed reduces the odds of re-arrest by nearly 80% (OR = 0.215; $p = .000$), results presented in Table 6.33 show that being diverted actually increases the odds of re-arrest by a factor of two (OR = 2.180; $p = .002$). Thus, it would appear that

there is a critical interaction that occurs between CJ disposition and record sealing that must be further explored in order to conclude the precise effect of these factors on the dependent variable of interest, re-arrest. Specifically, it is hypothesized that record sealing is mediating the effect of diversion on re-arrest.

Path analysis allows the simultaneous modeling of several related regression relationships. In path analysis, a variable can be a dependent variable in one relationship and an independent variable in another. These variables are referred to as mediating variables. For both types of analyses, observed dependent variables can be continuous, censored, binary, ordered categorical (ordinal), counts, or combinations of these variable types. For binary dependent variables, logistic regression models are used. Logistic regression for ordered categorical dependent variables uses the proportional odds specification.

A path analysis was performed in MPlus to examine the direct and indirect effect of criminal justice disposition on re-arrest with record sealing included as a mediating variable. The model explores the: 1) direct effect of criminal justice disposition on record sealing; 2) direct effect of criminal justice disposition on re-arrest; 3) direct effect of record sealing on re-arrest; and 4) indirect effect of criminal justice disposition on re-arrest examined through record sealing. Each path includes covariates age, gender, race, employment, and frequent drug use.

Since the path analysis fits what is called a saturated or just identified model, statistics typically used to assess the fit of an over-identified model (e.g. Chi-Square, RMSEA, WRMR, etc) are not appropriate. A model is said to be just-identified when there are exactly as many linearly independent equations as

unknowns. In simpler terms, a saturated model is one that hypothesizes that everything is related to everything (i.e. each variable has an arrow connecting it to every other variable). A just-identified model has the advantage of allowing the estimation of just one unique set of parameters for a given sample. However, it has the disadvantage of not allowing any tests for the goodness of fit simply because just identified models always provide a perfect fit to the data. An advantage of using the path analysis over multivariate regression analysis is that the path analysis uses a true multivariate approach that considers all of the associations (of both dependent and independent variables) simultaneously. This provides a distinct advantage over multiple regression analyses where only associations over the multiple independent variables are considered. Although the model cannot be rejected, a unique solution can be obtained for all of the parameters in the model along with estimates for the path coefficients to help partial out total and indirect effects of the independent variables of interest.

Table 6.34. Path Analysis: CJ Disposition & Record Sealing on Re-arrest

	Estimate	S.E.	Est./S.E.	Sig.
Path I (Direct)				
Recseal on CJ Disposition	-0.982	0.187	-5.245	.000
Path II (Direct)				
Arrest on CJ Disposition	-0.796	0.170	-4.670	.000
Arrest on Record Sealing	-0.522	0.087	-6.002	.000
Path III (Indirect)				
Arrest ind CJ Disposition*	0.512	0.128	3.994	.000

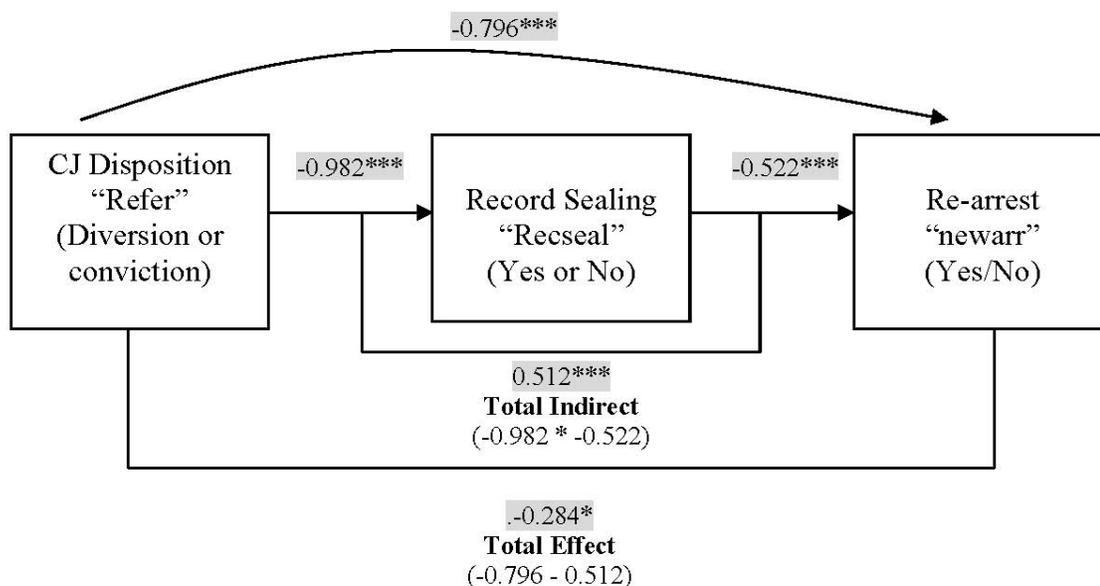
*Examines the effect of CJ Disposition on Re-arrest through Record Sealing.

Results from the path analysis presented in Table 6.34 (all relevant output) as well as Figure 1 (path coefficients) show significant direct paths between criminal justice disposition and record sealing ($r=-0.982$; $p=.000$); criminal justice disposition and re-arrest ($r=-0.796$; $p=.000$); record sealing and re-arrest ($r=-0.522$; $p=.000$); and a significant indirect path between criminal justice disposition and arrest (mediated by record sealing) ($r=0.512$; $p=.000$).

Although the logit model is available in MPlus, because the path model includes a categorical mediator (i.e., record sealing) indirect effects must be estimated using a probit model. The result is that the regression path coefficients specified in the output are not presented as odds ratios, which is preferable for interpretation. Thus, subsequent discussion will incorporate odds ratios where possible from separately performed logistic regressions to aid interpretability.

Overall, results presented in Figure 1 can be summarized in the following manner. Being diverted increases the odds of record sealing by a factor of more than 6 ($OR=6.11$; $p=.000$). The unique direct effect of conviction (controlling for record sealing) is to decrease the odds of re-arrest. That is, as previously presented in Table 6.33, being diverted increases the odds of re-arrest by a factor of more than two ($OR=2.180$; $p=.002$). The unique direct effect of record sealing (controlling for conviction) is to decrease the odds of re-arrest. That is, as previously presented in Table 6.33, having a record sealed decreases the odds of re-arrest by almost 80% ($OR=0.215$; $p=.000$). Thus far, these relationships have been demonstrated through previous analysis presented in this paper.

Figure 6. Path Analysis Diagram



The path analysis presented in Figure 1 contributes further to the understanding of the relationships between these key variables through its exploration of indirect effects. Results show that the total effect of criminal justice disposition on re-arrest suggests that conviction decreases the odds of re-arrest ($r = -0.284$; $p=.040$). However, results show that the indirect effect of conviction is actually to increase the odds of re-arrest by reducing the odds of record sealing ($r = 0.512$; $p=.000$). That is, being convicted actually increases the odds of re-arrest because conviction decreases the odds of record sealing and record sealing decreases the odds of re-arrest. Ultimately, it could be concluded that the effect of **criminal justice disposition** on **re-arrest** is mediated by **record sealing**. Simply put, diversion is effective when it facilitates record sealing but when it does not study results suggest diversion is potentially a less effective

alternative to conviction. Conversely, conviction could be ineffective because it doesn't afford offenders the same opportunity for record sealing.

To further illustrate this outcome, predicted probabilities of re-arrest were calculated from the probit regression model employed for the path analysis. Results from this analysis show that the predicted probability of record sealing for the diverted population is .29, which is to say that those diverted have a 29% chance of getting their record sealed. For the convicted population, the predicted probability of record sealing is .06, which is to say that those convicted have a 6% chance of getting their record sealed. Using the same technique, the interaction between criminal justice disposition and record sealing can be explored to determine predicted probabilities of re-arrest by group membership.

Table 6.35. Predicted Probability of Re-arrest by Group

	Not Sealed	Sealed
Diverted	.68	.30
Convicted	.51	.17

Results presented in Table 6.35 show that the highest probability of re-arrest exists for those diverted and not sealed (.68) while the lowest probability of re-arrest is for individuals that are convicted and sealed (.17). Overall, results point to the importance of record sealing in suggesting that the success of these competing dispositions (i.e. conviction vs. diversion) depends largely upon the extent to which they can facilitate record sealing. Chapter 7 will include a detailed discussion regarding all the key findings presented in this paper and will also address the policy implications relevant to each of these key findings.

Chapter 7. Discussion of Findings & Policy Implications

The analyses presented in Chapter 6 have suggested the following results. First, those in the diversion group are significantly more likely to get their record sealed compared to those who have been convicted. Second, those who have sealed their record demonstrated more positive employment outcomes. Third, respondents who report being employed are significantly less likely to engage in a variety of criminal behaviors and be re-arrested, though these relationships are more inconsistent. Fourth, drug use (any and frequent use) is significantly related to involvement in crime and re-arrest.

When putting it all together in a regression model to examine the independent effects of each of these predictors on re-arrest, an interesting contrast arises. Despite the fact that those in diversion are significantly more likely to get their record sealed, being diverted increased the odds of being re-arrested by a factor of more than two. Subsequent results from the path analysis examining the indirect effect of criminal justice disposition on re-arrest with record sealing as a mediator shows that being convicted actually increases the odds of re-arrest because conviction decreases the odds of record sealing and record sealing decreases the odds of re-arrest. This suggests that diversion is effective to the extent that it leads to a sealed record and that both interventions are particularly effective in reducing recidivism when criminal records are sealed.

Overall, despite the significant influence of several variables (e.g., age, frequent drug use, employment), record sealing is the most pivotal factor contributing to reduced rates of recidivism among first time felony drug offenders.

This section includes a discussion of the results presented, policy implications relevant to those results and suggested directions for future research.

7.1. Does Diversion Reduce Recidivism?

It was originally hypothesized that, independent of record sealing, diversion participants would be significantly less likely to be re-arrested. The expectation here was that the stigma of a conviction would pose a significant disadvantage compared to diversion participants that were criminal justice involved but were not officially convicted. Specifically, the distinction here was that one group would be comprised of “convicted felons” while the comparison group would be comprised of individuals that were criminal justice involved but did not have to carry that official label. It is a label of “convicted felon” that was expected to negatively impact legitimate opportunities in the area of employment, education, and housing, among others, and thus make it more difficult for offenders to reintegrate following their conviction. In turn, the frustration experienced as a result would lead to an increased likelihood of re-offending.

Results from this study indicate that this hypothesis was incorrect. First, diversion and convicted participants were compared on a number of employment outcomes over the three-year study period, and results show that those convicted were quite similar to those diverted in terms of current employment rates, number of days worked, and longest period of employment. Second, there were no significant differences in the arrest rates of convicted and diverted participants during the three-year follow-up period. A lack of statistical

significance with regard to this relationship made sense once it became clear that the groups were equally successful in obtaining employment. Nonetheless, these outcomes show that being labeled a “convict” in and of itself did not create a disadvantage distinct from that of otherwise similar offenders that were diverted.

In hindsight, this lack of a finding seems appropriate. That is, employers today have access to a wealth of information regarding job applicants. Certainly there are many public databases employers can reference to determine whether a criminal history exists. In most instances, it would be reasonable to argue that merely an arrest or some other indication of criminal justice involvement would be sufficient cause for denial of employment regardless of whether that individual was guilty. What makes it particularly challenging for offenders is that the laws in many states effectively give employers the license to discriminate. For example, 37 states have laws permitting all employers and licensing agencies to ask about, consider, and deny jobs to people who were arrested but never convicted of a crime, whereas only ten states prohibit employers from considering arrests. In those states where employers are prohibited from considering arrests, they can easily discriminate without providing justification. So, while an official label of “convict” should present a relative disadvantage, the distinction for many between an arrest and conviction is likely viewed as slight and immaterial.

Although stigma reduction should be an important consideration, avoiding the imposition of a conviction has limited potential to reduce the stigma associated with criminal justice involvement. As long as arrest information is made available to the public, this is likely to remain true regardless of whether or

not the law enables employers to legally discriminate against ex-offenders. In actuality, the distinction between an arrest and a conviction should be an important and fundamental one, as every individual should be considered innocent until proven guilty. Criminal justice policy makers should consider potential solutions that will afford offenders more privacy with regard to their criminal record, and, should that occur, diversion programs such as this could significantly contribute to the success of first-time nonviolent felony offenders.

Furthermore, while participation in a diversion program did not reduce the likelihood of re-arrest, results from this study do not present any compelling evidence to suggest that conviction is a more effective alternative to diversion. Results demonstrate that conviction increases the odds of re-arrest only because it decreases the odds of record sealing. Similarly, diversion was effective because it increased the odds of record sealing. Thus, both interventions have the potential to reduce recidivism if they effectively promote record sealing.

7.2. Diversion Promotes Record Sealing

The contrast in opportunity for a diverted and convicted offender is quite evident within this particular study. That is, diverted individuals are eligible to apply for record sealing within a year if they successfully complete treatment and probation. Comparatively, convicted participants must wait a minimum of 4 years (1 year probation + 3 year post probation wait period) before they are eligible to apply. Taking into consideration these time constraints, it is not surprising that offenders participating in diversion were more successful in actually getting their

records sealed during the study time period. However, this limitation introduces a tremendous amount of noise into the discussion. Although study results show that diversion is most effective when it leads to record sealing, this does not necessarily imply that diversion is the most effective path to record sealing. It merely suggests that record sealing is an important mediator and leaves open the question as to the best way to go about facilitating sealed records. A number of challenges exist when attempting to tease out the contributions of the two competing criminal justice dispositions and the mediating role of record sealing.

First, of those convicted participants that had maintained eligibility to have their record sealed, only 12% actually sealed their record at the time of study conclusion, yet an additional 35% were merely waiting for their application eligibility date to mature so they could apply. It is likely that many of these individuals have since had their record sealed. Thus, had the study had a longer follow-up period, the number of convicted participants with a sealed record would have been substantially more. This suggests that despite a conviction record and the long wait period sealing remains a viable option for many of these individuals.

Second, of those Diversion clients that had maintained eligibility to have their record sealed, 42% were actually dismissed from the diversion program for noncompliance. These individuals had their convictions imposed and were then transferred to standard probation supervision at which time they had the opportunity to get their felony conviction sealed three years after the completion of probation; effectively now on the same track as convicted participants. Although noncompliance for these individuals was not due to a re-arrest, they

had nonetheless failed to satisfy the terms of diversion. It could be argued that diversion was not an effective path to record sealing for these individuals.

Third, there is also evidence from this study to suggest that the long wait period for convicted offenders actually discourages record sealing among those that are eligible. Specifically, of the 35 convicted offenders that were eligible to apply to seal their record at the conclusion of the study, only 44% actually filed an application. Among eligible diversion clients nearly 80% filed their application. Thus, it certainly seems plausible to suggest that the longer wait period has a negative impact by either reducing offender motivation to get their record sealed or by reducing an offender's awareness of the opportunity for record sealing.

The combination of these considerations makes it somewhat difficult to determine which sentencing disposition best facilitates record sealing in Ohio. Evidence from this study suggests that diversion would be a logical first step in a graduated sanction approach for several reasons. First, diverting an offender in the context of this study presents no added risk to public safety. Whether diverted or convicted, first time nonviolent felony offenders were sentenced to probation and remained in the community supervised. Pretrial diversion is at times a sanction that is an alternative to incarceration and in such instances issues of public safety must be considered. This was not the case for this sample of first time nonviolent felony offenders. Second, noncompliance and program dismissal will often amount to probation violations and when new offenses were committed for this sample, 95% constituted nonviolent crimes, the majority of which were drug-related offenses. Third, in the event of noncompliance, the

conviction is imposed and will go on the record permanently unless the opportunity exists to seal a conviction as is the case in Ohio. Thus, it would be hard to argue that diversion is merely a “slap on the wrist.” Fourth, and perhaps most importantly, it is clear that diversion is the quickest path to record sealing. Because record sealing reduces the likelihood of re-arrest, the key consideration would be to make record sealing accessible to offenders as soon as possible.

As the laws are constituted in Ohio, diversion programs offer an expedited path to record sealing. However, because many states do not allow for the sealing of felony convictions, diversion will be the only path. Although the distinction between diversion and conviction seems to be less critical in Ohio, this is not at all true in the majority of states across the country where felony convictions are not eligible for sealing or where eligible offenders are required to wait excessive periods of 15 years or longer. The fact of the matter is, most states (33) do not permit the sealing of any conviction records while those that do typically limit eligibility to first-time, nonviolent and misdemeanor, but not felony convictions (Legal Action Center, 2004). Therefore, in most states there is no opportunity for record sealing once a conviction has been imposed, so a diversion program would be the only way by which a record could be sealed.

Finally, though it is clear that record sealing is the critical mediating factor, there is some evidence from the study to suggest that the best results could be obtained when combining a conviction with a sealed record. Specifically, the main finding from this study shows that being convicted actually increases the odds of re-arrest *because conviction decreases the odds of record sealing and*

record sealing decreases the odds of re-arrest. However, study results also demonstrate that the small sample of convicted individuals who had their record sealed in fact had the lowest probability of re-arrest. Thus, if more convicted participants had the means to seal their record in a reasonable time frame, there is a trend in the data to suggest that this option would yield the best results.

A major limitation in trying to ascertain the comparative impact of diversion and conviction on re-arrest in the context of this study is that the participants were not randomly assigned to these dispositions. This was primarily due to the fact that the integral role of diversion was not realized until after the study had begun. Nonetheless, due to ethical considerations, it is unlikely that any future studies would be able to facilitate an experimental design where random assignment could be employed in a way that would necessitate the manipulation of a sentencing disposition. However, more rigorous matching techniques could be employed at the outset of a study to ensure that groups are evenly matched on a number of key study characteristics. This study attempted to address this limitation by employing a matching algorithm that was informed by significant differences between groups at baseline and key predictors. While an improvement, this technique cannot substitute for random assignment.

7.2.1. Automation of Record Sealing

A critical issue for policy makers to consider within the context of any policy that is designed to promote record sealing is the mechanism by which the criminal justice system will facilitate the process. Results from this study show

that even when offered the opportunity to have their record sealed, offenders typically do not take full advantage. In this study, the experimental case management condition (included as a control variable in all analyses) was in part designed to help facilitate record sealing. As such, experimental clients were educated about the prospect of having their record sealed as a potential motivating technique, were tracked for eligibility, benefited from additional outreach by the Public Defender's office and a faith-based community group, and had all associated court fees paid for and necessary forms filed by the project come time for record sealing. Using the diversion group as a frame of reference (due to the limited one year time period for filing), 95% of eligible diversion clients in the experimental group sealed their record compared to only 8% of eligible diversion clients in the control group (who had no assistance with the process).

Similar results were found in a study conducted by Festinger and colleagues (2007). Of 1,302 eligible offenders who successfully completed a drug court program in Delaware and Philadelphia, only 6% filed petitions for sealing of their arrest record. Possible explanations for such low sealing rates among those eligible include confusion about the meaning or utility of sealing, lack of resources or understanding of the legal system and petitioning process, failure to recognize benefits, or lack of interest in the opportunity (Festinger et al., 2007).

The pivotal role of record sealing suggests that additional efforts to help early offenders reduce the stigma associated with criminal justice involvement through record sealing are warranted and needs to be addressed at the policy level. Since very few eligible offenders apply for record sealing simply making it

available is not an effective recidivism reduction policy. Rather, criminal justice policy makers should develop strategies to actively implement record sealing. The optimal solution would be to make record sealing automatic as is done in the Philadelphia drug court (Festinger et. al. 2007). In the context of this study, this would mean that an application for record sealing would be automatically filed by the court for all offenders who successfully satisfy the terms of probation. If the laws proscribe an opportunity for sealing in such instances of success, it should be considered a right not a privilege, and as such the appropriate steps should be facilitated by the courts not left to the responsibility of the offender.

For example, the expungement process is simplified and expedited in Cincinnati's Hamilton County Adult Treatment Drug Court (ATDC), which hears diversion cases and operates under the same State statutes. On the day after graduation from a required treatment program the Judge files an *"Entry Granting Motion to Dismiss, For an Order to Expunge the Record Under 2951.04.1 (H) of the Ohio Revised Code (Drug Court) and Termination of Probation"*. After signature from an Assistant Prosecuting Attorney and Defense Counsel, the case is dismissed, probation is ended, and all records of the case, including arrest, are sealed from public access. As a condition of execution all fines, probation fees, and court costs must be satisfied. This approach is appropriate for all diversion programs in Ohio as well as other states with similar diversion statutes.

7.2.2. Ensuring Privacy of Information

Along with increasing legal barriers to employment, housing, and education, it has become much easier to check criminal records of applicants

making it that much harder for an individual with an arrest or conviction record to find legitimate opportunities. It used to be that this sort of information was privileged and available only to select agencies in instances where the nature of the offense was particularly relevant (e.g., sex offender applying for a position in a daycare center or arsonist applying for section 8 housing). However, with the advent and expansion of the internet, this information has become public. Most criminal justice and corrections agencies operate public websites where entering a name will often produce a picture and description of an individual's criminal involvement. In total, 28 states allow internet access to criminal records or post records on the internet, 14 of which make all conviction records available. Six states make available the records of those incarcerated or on probation or parole while eight post only the records of people currently incarcerated (Legal Action Center, 2004). In addition, many privately operated websites supply criminal history data for a nominal fee. These private sites are especially problematic because of the fact that they typically do not update or remove information in instances where an arrest doesn't lead to a conviction or a record is sealed.

Ultimately, for record sealing to be especially effective, the type of information made available to the public needs to be monitored and regulated. The types of restrictions placed on employment, housing, and education have been codified so that potential employers, for example, could submit for a criminal background check and have an oversight agency determine whether there is a criminal history that would prohibit employment in a given instance.

Without these sorts of protections in place, it is simply too easy to obtain information that in many instances is irrelevant yet often leads to discrimination.

It is also very important to note that States that allow sealing provide limited and authorized access to criminal records without destroying them. Thus, sealing of records would not impede criminal justice proceedings as all relevant information would be available to judges and attorneys in the event the offender recidivates. Thus, there would be no disincentive to record sealing where it could be argued that the necessary information might be permanently lost.

7.3. Record Sealing Reduces Recidivism

A major thrust behind this study was the notion that a sealed record is critical to offender success as they attempt to reintegrate into the community following their arrest and, for some, a subsequent conviction. Employment is arguably one of the most pivotal factors for offender success. Not only are limited skills and experience major obstacles to obtaining employment, but unemployment and job instability has been frequently linked to criminal recidivism. This is the first known study that has been conducted to examine the impact of record sealing on recidivism. Results provide some initial support for the importance of record sealing in demonstrating that those who sealed their record were significantly less likely to be re-arrested three years post baseline.

Although these results help to establish record sealing as an important factor to be considered for its potential to reduce recidivism, the current study has several limitations that impact the reliability of this finding. First, design

limitations reduced the number of individuals that actually sealed their record during the three-year study period ($n=73$), which has implications for statistical power. This was due primarily to the extensive time requirements for record sealing for convicted participants, and it was known at the beginning of the study that the large majority of the original “convicted” sample would not be eligible to apply to have their record sealed prior to the conclusion of data collection. While some convicted participants lost their eligibility due to a new arrest, a significant number of convicted participants among the matched sample remained eligible for sealing at the conclusion of the study, but were just not yet eligible to apply. Furthermore, a number of participants, diverted and convicted, were eligible to apply to have their record sealed, but did not. This was true mostly of those in the control case management condition where record sealing was not emphasized.

Second, this was an experimental study designed to compare two case management conditions in their capacity to motivate offenders to seal records. Thus, record sealing in the original study was viewed more as an outcome, with the experimental design intended to facilitate that outcome. Any study that is seeking to determine the effect of record sealing on re-arrest should include a comparison group that was in fact not eligible to get their record sealed. This would require some type of matched design as it would be unethical to use an experimental design that dictates sealing eligibility for some, but not for others. Even a matched design would be problematic in that those not eligible for sealing are likely to be more serious offenders who are in many ways incomparable.

Third, because of the extensive time required for record sealing application (i.e., approximately one year for those diverted and four years for those convicted), successful study participants remained in the community without being re-arrested for a substantial period of time before actually getting their record sealed. This would suggest that there are other contributing factors that must be in place in order to maintain success. Certainly, one of these factors could be a strong motivation among offenders to seal their record, especially among a sample of first time nonviolent offenders. Other important factors might be, for example, employment and substance use, both of which were considered in this study. More research would be needed to determine whether the relationship between record sealing and recidivism is in fact spurious. Prior research has certainly demonstrated that the highest rates of recidivism occur in close proximity to release, so it would be difficult to argue that record sealing (after a minimum of one year in the community) is the sole contributing factor.

Finally, in some regard record sealing and re-arrest are interdependent. That is, once an individual has been re-arrested for a new offense they are no longer eligible to get their record sealed as they can no longer be considered a first-time offender. This means that some individuals have not sealed their record because the negative outcome has already occurred, possibly before they were ever eligible to apply for sealing. Conversely, it does not mean that they were re-arrested, because they did not get their record sealed. Results from this study show that, on one hand, there were a number of offenders who did not get re-

arrested despite not having their record sealed. On the other hand, of those that were able to seal their criminal record, very few were subsequently re-arrested.

Ultimately, an examination of the effect of record sealing on recidivism that relies upon a comparison of those sealed vs. not sealed (when all participants were in fact eligible to get sealed at the outset of the study) as was done in the context of this study is confounded by the many factors listed above. Some of the methodological issues raised would be somewhat difficult to address in future research studies due to the complexities of criminal justice systems as well as the associated ethical implications. This dissertation attempted to explore the effect of record sealing on recidivism within the context of a study that wasn't designed to do so. Yet, sufficient evidence surfaced to suggest that record sealing represents an important step in the process that has potential to (further) reduce recidivism. This is a critical issue for criminal justice systems that has received little attention from researchers and thus minimal emphasis in policy.

7.4. Offender Motivation for Record Sealing

In order to maximize the effect of record sealing on recidivism, offenders would have to be aware of the opportunity to seal their record, understand clearly the benefits it offers, and believe that it is a goal worth pursuing. There were a number of participants in this study that were eligible to apply to have their record sealed, but did not do so. Results from the experimental design show that of those assigned to the control TASC-as-usual case management condition, only 8% of those eligible to apply to seal their record actually put in the application

and got their record sealed. This is compared to 95% of those in the experimental case management group where the opportunity for sealing was emphasized, offenders were educated about the benefits and given support with the filing procedure including waiver of payment. This clearly demonstrates that without the added support, participants had limited motivation to seal their record.

This study explored the perceived utility of record sealing from the participant's perspective to determine the extent to which it could be considered a motivating factor for offenders to stay drug and crime free. Overall, respondents reported being most concerned with the influence of a criminal record on employment, housing, and education opportunities. They were significantly less concerned about the social stigma associated with a criminal record; for example, how their family or friends might view them differently. While many felt getting their record sealed could alleviate some of these barriers, there was considerable uncertainty about the precise advantage of a sealed record.

First, it became apparent in focus group discussions that most participants were confused about the precise meaning of expungement. Specifically what advantages it offers and what rights it restores. For example, many individuals were confused about whether they could legally deny a conviction on a job application. Even if they believed they could legally do so, they lacked confidence that the information wouldn't eventually become available to a potential employer. Second, many participants suggested that having a record sealed does not equate with having it destroyed; thus, privileged access could be granted under certain circumstances (e.g., during criminal proceedings for a

subsequent offense or when applying for jobs where criminal history is very relevant). Because such limitations are largely unclear to first-time offenders, uncertainty about whether getting a record sealed offered a sufficient advantage is understandable. Third, no matter what steps the criminal justice system takes to seal a criminal record effectively, in the age of the Internet, private databases retain criminal record data and are under no obligation to remove it. This could effectively negate any and all confidentiality gains offenders may realize, thereby making the pursuit of a sealed record a questionable use of time and resources.

Results from this study suggest that if the appropriate steps are taken to legitimize record sealing as a process that is truly capable of restoring an individual to their pre-offending status, more offenders might be motivated by the possibility of having their record sealed. However, with the amount of uncertainty that exists, the potential utility of record sealing will be overshadowed by much justified skepticism. A sealed record could provide significant motivation, especially for first time nonviolent felony offenders, as it would represent their one and only chance to start over. Almost half of study participants were 25 years of age or older, many with jobs and families to support and most convicted of a drug offense. Record sealing could be pivotal, and if done right, could be effectively incorporated into the disposition process to promote conformity.

7.5. Criminal Justice Sanctions: A Labeling or Deterrent Effect

The comparative effect of a conviction versus being diverted was underpinned by the theoretical perspectives of deterrence and labeling.

Specifically, a greater rate of success among those diverted would suggest that for those convicted, having that criminal label of “convict” to contend with posed too many barriers to reintegration. Conversely, a greater rate of success among those convicted would suggest that being diverted amounted more to a “slap on the wrist” and as such was not harsh enough to deter future criminal behavior.

Results from this study do not provide sufficient evidence to conclude that either perspective dominates. Instead, results are somewhat mixed. First, when examining the direct effect of criminal justice disposition on re-arrest, results show no significant differences between diverted and convicted participants on their rates of re-arrest. This would suggest neither a labeling nor a deterrent effect. Second, when including criminal justice disposition along with record sealing in a logistic regression to predict re-arrest, results show that being diverted more than doubles the odds of re-arrest. Furthermore, the predicted probability of re-arrest was lowest for those individuals that were convicted and had their record sealed. This would suggest a deterrent effect of a conviction, particularly if record sealing was possible in a shorter time period. Third, a path analysis examining the indirect effect of criminal justice disposition on re-arrest (mediated by record sealing) shows that a conviction increases the odds of re-arrest because a conviction decreases the odds of record sealing and record sealing decreases the odds of re-arrest. This finding suggests a labeling effect whereby the facilitation of record sealing is the critical influential factor.

Overall, the preponderance of evidence in this study seems to suggest a labeling effect although it operates somewhat differently than proposed.

Specifically, while results suggest no inherent disadvantage to being “convicted” (i.e., no direct effect), a conviction does limit the potential for record sealing, which in turn increases the probability of re-arrest. Thus, the principal labeling effect in this study is experienced through the application of the arrest and/or conviction record, with no differential impact for those labeled as “convicts.” As such, it is the subsequent sealing of criminal records that erases any indication of criminal justice involvement that appears to be necessary to facilitate success. However, results also suggest that if record sealing were more accessible for “convicted” participants the best outcomes might be realized through conviction.

7.6. Role of Employment

As was discussed above, one of the greatest potential advantages of a sealed record is that it would allow ex-offenders to deny the existence of a criminal record on a job application and therefore increase the chance of obtaining (quality) employment. This is another critical mediating variable as the lack of employment has often been associated with recidivism among samples of ex-offenders. Results from this study demonstrate that those who had their record sealed, despite being limited in number (33 had their record sealed prior to the 24-month interview; 15 more, for a total of 48, had their record sealed prior to the 36-month interview), were significantly more likely to be employed at the time of their 24- and 36-month follow-up interview as well as during the 12-month period preceding each of those interviews. This would suggest that those who had not sealed their record might have encountered some barriers to

employment. In order to capture these experiences, questions were added to the 24-month interview designed to obtain employment barriers experienced by respondents since their arrest two years prior. Respondents reported that:

- ⇒ 48% were denied a job following a criminal background check;
- ⇒ 19% lost a job, were demoted, or treated differently at work when their employer found out that they had a criminal record;
- ⇒ 15% were denied a driver's license, which directly impacted their ability to perform their current job or a job for which they are most qualified; and
- ⇒ 13% had a professional license denied, revoked, or suspended.

These employment barriers are of course the perception of study participants and could not be confirmed. It is quite difficult to determine whether a criminal record is the result for the denial of employment. In many cases the employer can't or won't cite it as such, while in other cases the applicant might perceive it as such when in fact they were denied employment for another reason. Focus groups with participants revealed a few additional considerations. First, while some of the younger participants did report trouble obtaining even "menial" jobs because of their criminal record (e.g., McDonald's, Target, Walmart, etc.), most were either living at home with their parents or going to school, so that employment wasn't imperative. Second, a number of other participants reported that the type of low level jobs they were seeking weren't at all concerned with whether they had a criminal record. They felt that it might become an issue if they were to seek more "advanced" employment. Third, those that already had employment were mostly concerned about their current employers finding out about their criminal record, but felt that if they did their positive track record on the job would win out over an isolated negative incident.

While the current study touched upon the potential effect of record sealing on employment opportunities in terms of the barriers experienced, a more directed study of this nature would be very beneficial to capture the extent of the problem. It would also be advantageous to further explore other barriers to reintegration such as those associated with obtaining housing and student loans. Each of these represents part of the foundation that is critical to successful reintegration. Without housing, it is unreasonable to expect that an ex-offender could hold down a meaningful job and successfully address a drug addiction.

This study also explored the effect of employment on re-arrest with the expectation being that a lack of employment would increase the likelihood of re-arrest. However, results from this study are inconclusive. First, there were no significant differences in the rate of re-arrest when comparing those that did and did not hold a job at any point during the three-year follow-up period. This is not a particularly sensitive measure since 82% of the matched sample was employed at some time during this period. Nonetheless, those who were not employed (n=73) were not significantly more likely to be re-arrested. The relationship between days worked and re-arrest was examined to explore the effect of an employment measure that would yield more variability. Results show that those who were re-arrested during the 3 year follow-up period worked significantly fewer days than those that were not re-arrested. Similarly, a correlation shows a significant positive relationship between days worked and number of months to re-arrest; specifically the more days worked, the more months until re-arrest.

The examination of the relationship between days worked and re-arrest is complicated by the fact that the causal order of the data is difficult to determine. That is, it is somewhat unclear whether subjects were working fewer days due to time spent incarcerated following an arrest or whether subjects were arrested because they were in fact working fewer days. In the context of this study, it would be considerably more plausible to suggest that participants worked fewer days due to an incarceration. Conversely, it would be quite difficult to demonstrate that individuals were incarcerated, because they lacked meaningful employment. In an attempt to address this potential confound, a variable that captures the number of days spent in prison over the three-year follow-up period was included in the regression that explored the relevant contribution of employment on re-arrest. Results from this regression suggest that neither employment nor the number of days employed predicted re-arrest.

Although the relationship between employment and re-arrest was not conclusively demonstrated in this study, employment considerations were particularly unique for this sample. Specifically, participants were very young (54% 18-24 years of age) and mostly unemployed to begin with (only 37% had a job at the time of their baseline interview), while the economy in Cleveland was economically depressed with record unemployment rates at the time the study was conducted. Regardless, there is ample evidence from prior research establishing the importance of employment for reducing recidivism. In fact, increasing employment opportunities was a focus throughout the criminal justice, case management and treatment systems, and the lack of viable job

opportunities was cited as a major deficit by both staff and offenders participating in this project. Criminal justice policy makers must continue to work to ensure that offenders have access to legitimate employment; ensuring record sealing would be one step that could help to promote better employment opportunities.

7.7. Role of Substance Use

Among this sample of first-time nonviolent substance using offenders, relapse to drug use is a critical consideration in the cycle of offending. It was a criterion for participation in the study that individuals have either a substance abuse or dependency diagnosis, as this was a requirement for participation in TASC case management. Not only was drug use relevant to the existing population, ample evidence from prior research has demonstrated the relationship between drug use and involvement in criminal activity. Results from this study provide further evidence of this effect. Specifically, the use of 'any drug' during the three-year follow-up period did not predict re-arrest, though this is not a particularly sensitive measure in that approximately 90% of respondents reported use of any type of drug at least once during the three-year follow-up period. However, a more sensitive measure of drug use such as "frequent use" (defined as use at least once a week) did predict re-arrest; frequent drugs users were significantly more likely to be re-arrested. In the final logistic regression examining predictors of re-arrest, frequent drug use was one of four significant predictors along with criminal justice disposition, record sealing, and age.

The effect of drug use was not examined extensively in this study for a couple of reasons. First, as pointed out above, the relationship between drug use and involvement in crime has been well established and indeed holds true for this study population. Second, and more importantly, the focus of this dissertation was to explore the impact of criminal justice disposition and record sealing on recidivism among a sample of substance abusing offenders. In many ways, as was previously argued, stability in the lives of offenders must be achieved with regard to housing and employment before substantial and significant gains can be expected in recovery. Furthermore, recovery is a long-term and complicated process of which relapse is a part. Because of this, it is somewhat difficult to isolate the effect of drug use. A significant amount of attention has been given to the importance of drug treatment, while considerably less attention has been paid to the role of sentencing dispositions, stigma and the potential for diversion and record sealing to reduce rates of recidivism among substance abusing offenders.

For this study, drug treatment was prescribed for all as a condition of their probation and participation in TASC case management. This study has focused on exploring other factors that might contribute to reduced rates of recidivism, some of which might also contribute to recovery and abstinence. Incidentally, a major advantage of diversion programs in particular is that they have the potential to increase engagement in drug treatment by effectively coercing participation. A significant body of research has shown that even coerced treatment can be beneficial in that extrinsic motivation in the form of coercion is important for getting otherwise reluctant individuals through the door and

involved, and intrinsic motivation for treatment can subsequently be increased once exposed. Moreover, if getting a record sealed was a motivating factor for some offenders, it would not only be important that they stay crime free, but also drug free as drug use would only increase the risk of a probation violation and/or a new arrest that would ultimately render them ineligible for record sealing.

For many offenders cycling through the criminal justice system, whether first time offenders or not, drug use is a very common problem. With the goal being to lower rates of recidivism, a greater potential to do so exists when drug use can be addressed and treatment incorporated as part of the reintegration process. Diversion programs ensure that these critical connections are made by relying on established partnerships between criminal justice (e.g., probation or parole), case management and drug treatment entities. However, when rehabilitation is not emphasized, ensuring effective drug treatment intervention is often beyond the scope of any criminal justice entity to provide or monitor.

A critical first step is to implement standardized screening practices that can identify those offenders most in need of treatment. In the context of this study, a determination as to whether an offender had a substance abuse or dependency diagnosis came after their sentencing disposition. Indeed, offenders were diverted or convicted without regard for or knowledge of their drug treatment needs. A JMI (2004) evaluation of the Cuyahoga county criminal justice system that ran concurrently with this study concluded that the present justice system in the county is fragmented. Felony cases are processed by many distinct municipal, county and state agencies receiving money from various

taxing and funding sources, each of which has its own budget, constituency, managers, mission, and goals. As such, there exists no consistent vehicle through which the organizations can communicate or collaborate making it difficult to process cases in a consistent, just, and efficient manner.

Drug screening is certainly a critical component of an equitable and effectively functioning system. Results from this study suggest that drug screening is necessary to guide proper disposition decisions in order to provide treatment. A major disadvantage in Cuyahoga County where this study was conducted is that it has no single point of entry (e.g., central booking). Such a centralized process would help to ensure that the processing of all offenders routinely includes screening for housing decisions, health needs, and drug and mental health problems, among other things (e.g., criminal history check).

7.8. Influence of Demographics (Age, Gender, Race/Ethnicity)

Age, gender, and race/ethnicity played a critical role in this study with regard to the sentencing disposition and re-arrest, with age playing the most significant role. With regard to the relationship between participant demographics and sentencing disposition, a comparison of those diverted and convicted at baseline demonstrates significant age, gender, and racial/ethnic differences between groups. Specifically, those 25 years of age and older, non-black (i.e. mostly white) and female were significantly more likely to be diverted while those 18-24 years of age, black, and male were significantly more likely to be convicted. Although a matching algorithm was employed for the purpose of the

outcome analysis, it doesn't change the fact that sentencing disparities clearly exist among this population of first time nonviolent felony offenders. The fact of the matter is that on paper, all participants are presenting with similar criminal justice profiles and histories. Ultimately, disposition decisions should be based on such common factors. Furthermore, the previous section suggests that little is determined up front with regard to drug treatment needs or other unique considerations that might inform such disparate dispositions.

While this study was not at all intended to answer questions pertaining to sentencing disparities, potential explanations were explored and potential recommendations are put forth. On the one hand, there could be bias operating among judges and prosecutors that preside over these cases. Specifically, it may be that certain types of offenders present as being more amenable to treatment and therefore are more likely to get the benefit of the doubt. On the other hand, it may have more to do with the quality of the defense counsel, which is likely to relate directly to whether clients are adequately informed and advised of their options. For example, study data show that only 13% of African-American clients had a private attorney, compared to 36% of whites. Private attorneys were more successful in getting their clients into a diversion program, and defendants with a private attorney were more likely to achieve positive record-sealing outcomes. Being black significantly reduced the odds of record sealing by more than half.

Certainly, standards can be created and effectively promoted that ensure defense lawyers can properly inform and advise their clients. If not, implementing uniform screening procedures would allow judges and prosecutors to more

accurately and objectively identify offenders that are eligible for particular programs. Ultimately, each jurisdiction should at the very least implement procedures for monitoring the demographic composition of offenders within sentencing dispositions to ensure that the most disadvantaged groups are appropriately represented. Doing so would increase the likelihood that sentencing disparities could be quickly identified and rectified.

With regard to the relationship between participant demographics and re-arrest, only age was a significant predictor of re-arrest three years later. Specifically, being 18-24 years of age increased the odds of re-arrest three and a half times. This result is quite consistent with previous research that suggests that offenders often “age out” of crime with rates of offending decelerating as they get older. This would suggest that criminal justice policy makers should consider ways to maximize outcomes for younger offenders that present a higher risk for recidivism. Of interest in this particular study was the fact that younger offenders (i.e., 18-24 years of age) were most distinguished from older offenders by the type of primary drug abused. Specifically, those 18-24 years of age were significantly more likely to report marijuana as their primary drug of choice while participants 25 and older were significantly more likely to report crack, cocaine or heroin as their primary drug of choice. Moreover, data show that marijuana users were significantly less motivated for drug treatment, significantly less likely to get their record sealed and significantly more likely to be re-arrested.

Because for many offenders their success in drug treatment is linked to their success on probation, it is important to address the unique treatment

considerations for marijuana users and tailor treatment appropriately. Failure to do so is likely to generate a revolving door through the criminal justice system for marijuana users who are repeatedly cited for noncompliance and minor infractions related to their continued use. Focus groups with marijuana users revealed that they had considerable doubts about the addictive nature of marijuana as well as a strong opposition to more traditional outpatient treatment, because they perceived it as inappropriate and ineffective for their purpose. This perspective would suggest that these young offenders that primarily abuse marijuana would benefit most from a unique rehabilitation approach. For example, the MET/CBT 5 approach (Dennis et al., 2004) has been used in previous studies and demonstrated promise for this population. Additionally, psycho-education about the harmful effects of marijuana also has the potential to increase treatment engagement, which in turn could further reduce recidivism.

7.9. Conclusion

This study focused attention on key issues that should inform future criminal justice policy concerning sanctions for first-time nonviolent felony drug offenders. Reducing stigma, though not always a primary concern, is important to consider when sentencing first-time felons. Record sealing represents the ideal compromise whereby once offenders have adequately paid their debt to society, they are given the chance to put their criminal justice involvement behind them.

Results from this study demonstrate that record sealing plays a significant role in helping to break the cycle of offending. Overall, criminal justice policy

makers should give more consideration to the potential benefits that may be realized via implementing strategies designed to promote record sealing for offenders. If criminal justice policy makers consider the imposition of a conviction to be an important deterrent, states could move to reduce the number of restrictions on felony record sealing and allow for application in a reasonable amount of time (e.g., less than 3 years) to encourage this goal. This would drastically increase the number of convicted felons with a sealed record.

At this point in time, diversion would appear to be the most effective path toward record sealing, as many jurisdictions simply do not allow the sealing of conviction records. As an alternative, states could easily promote record sealing through diversion. Certainly, plenty of research has shown that leveraging the threat of punishment through diversion programs can be a very effective method for reducing recidivism. Through diversion, offenders can be held accountable for their actions as convictions can be imposed in the event of noncompliance.

Unfortunately, a way of dealing with criminals has emerged, promoted and backed by congressional legislation that effectively burdens ex-offenders. A sealed record has the potential to alleviate some of the most significant barriers to reintegration (e.g., housing, employment and education). Otherwise, offenders get frustrated and marginalized, which can promote more offending. Thus, it is critical to the long-term success of ex-offenders in particular and crime reduction efforts in general that alternate strategies are devised and implemented when appropriate that will limit involvement with the criminal justice system and in turn the associated stigma. This dissertation has touched upon one very promising

approach within the criminal justice system that provides an opportunity toward stigma reduction—diversion programs that lead to the sealing of criminal records.

Ultimately, in order for record sealing to realize its full potential, criminal justice policy makers need to do a lot more than pass laws that make record sealing possible. Instead, record sealing must be regulated so that the process will restore all rights and privileges applicants enjoyed prior to their arrest and/or conviction.. Currently, the benefits of record sealing are more theoretical, as the laws do not accomplish what they should. If criminal justice policy makers can establish uniform guidelines for record sealing eligibility, effectively regulate access to and utilization of this information, ensure equal access to this opportunity for all eligible offenders, and sufficiently educate offenders on the associated benefits, record sealing has great potential to reduce recidivism.

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State University of New York at Cortland, Cortland, NY B.A., Sociology / Concentration in Criminology	1997

PROFESSIONAL EXPERIENCE

Project Director/Co-Investigator, NDRI, Inc.	2000-Present
• Computerized Treatment for Offenders with Substance Use Disorder	2009-2011
• The Center for Excellence in Integrated Care (CEIC)	2008-2012
• International Therapeutic Communities: Three Country Comparison	2006-2010
• Program Rehabilitation & Restitution: Criminal Record Sealing	2003-2009
• HIV Service Needs & Access among High Risk CJ Populations	2000-2003
Field Research Coordinator, University of Baltimore/NDRI	1999-2000
• Learning about Violence & Drugs among Adolescents	1999-2000

PUBLICATIONS

- Sacks, S., Chaple, M., Sacks, J.Y., McKendrick, K., Cleland, C.M. (submitted). Randomized trial of a Re-Entry Modified Therapeutic Community for offenders with co-occurring disorders: Crime outcomes. *Submitted to the Journal of Substance Abuse Treatment*
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