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LOYOLA UNIVERSITY CHICAGO

PREDICTORS OF PRISON-BASED DRUG TREATMENT
IN ILLINOIS

A THESIS SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
MASTER OF ARTS
PROGRAM IN CRIMINAL JUSTICE AND CRIMINOLOGY

BY
ERIN E. SNEED
CHICAGO, IL
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ABSTRACT

This study identifies the inmate characteristics that were predictive of accessing prison-based substance abuse treatment services using a large sample (N=26,500) of adult inmates released from Illinois State prisons in 2007. The data that were used were originally obtained by Drs. Olson, Stalans, and Escobar for a study examining factors associated with post-release recidivism, but were also used to answer the current research question. As the presented overview of the literature articulates, substance abuse treatment has shown to effectively reduce recidivism; however, only a small proportion of those in need of treatment have access to it. More research is needed in correctional practices due to the limited degree in which prison-based substance abuse treatment needs are met and the potential positive effects treatment can have on recidivism. This study examined how inmate characteristics were associated with participation in substance abuse treatment programs, and ultimately, the degree to which the provision of treatment services targets those who were in greatest need and posed the greatest risk of recidivism. Results revealed that of the approximate 50% of inmates who were recommended for treatment, only 16.6% received treatment while in prison. One interesting finding was that of the inmates who were not recommended treatment, over 7% received treatment services regardless of the recommendation. Bivariate and

multivariate analyses confirmed that females, non-gang members, inmates with higher education levels, inmates with fewer prior arrests, and inmates who served between 6-30 months in custody were the most likely to receive treatment. Length of stay carried the greatest weight in predicting receipt of treatment in prison. Specifically, those who served between 6-30 months in prison were the most likely to receive treatment, while those who served less than 6 months were the least likely to access treatment while in prison. The current research suggests that not only does sentencing impact the receipt of treatment, but the operational considerations within prisons play a major role in determining who receives treatment while in prison - regardless of the risk, needs, responsivity principle. Although these findings have implications for potential correctional policies and interventions targeted toward treatment services, more research is needed to overcome the challenges of providing prison-based treatment.

THESIS
PREDICTORS OF PRISON-BASED DRUG TREATMENT IN ILLINOIS

Literature Review

Drug crimes have influenced incarceration growth in the United States over the last several decades. In fact, there has been nearly a 300% increase in the number of people incarcerated in the United States between 1980 and 2008 (Sabol, West & Cooper, 2009). Recent reports depict that of the 2.3 million adults in federal, state, and local correctional facilities, 1.5 million suffer from substance abuse and another 458,000 inmates either have histories of substance abuse or “were under the influence of alcohol or other drugs at the time of their offense, stole money to buy drugs, are substance abusers, violated the alcohol or drug laws, or shared some combination of these characteristics” (The National Center on Addiction and Substance Abuse, 2010 p. 1). National survey results show that approximately 50% of state and federal inmates in the United States are in need of drug treatment (Mumola & Karberg, 2006; Welsh & Zajac, 2013). According to Belenko and Peugh’s study (2005) of a sample of 14,285 inmates in 275 state prisons across the country, about 82% of those inmates were involved with substance use and 33% of the sample was identified as needing residential treatment. However, according to Belenko and Peugh (2005), only about 20% of those inmates who were identified as needing treatment received it during their incarceration period.

The issue of limited access to drug treatment in prison has been a persistent problem over the last several decades. According to the National Center on Addiction and

Substance Use (1998), it was estimated that over 840,000 state and federal inmates were in need of some form of drug treatment; however, of the 840,000 in need of treatment services, only 17.5% received any form of treatment. Budgetary limitations, limited amount of space, lack of trained staff and counselors, movement of inmates, and general correctional problems are all reasons that help explain the limited access to drug treatment in prison (The National Center on Addiction and Substance Abuse, 1998 p. 114, 118). In addition to the limited access to treatment services, the procedures for determining an inmate's substance use treatment needs vary throughout jurisdictions and facilities (The National Center on Addiction and Substance Abuse, 1998). Some jurisdictions rely on the inmate's self-report information, while others use objective screening tools such as the DSM IV Diagnostic, other jurisdictions rely on urinalysis, pre-sentence investigation reports, or staff evaluations (The National Center on Addiction and Substance Abuse, 1998).

Over the course of the last two centuries, outlooks on incarceration, offender treatment, and general rehabilitative methods have changed dramatically. Starting in the early 1900's - a time period referred to as the "Progressive Era" - offender treatment and rehabilitation had been widely accepted as the "dominant philosophy in corrections" (Cullen & Jonson, 2012, p. 24). It was not until the late 1960's and early 1970's that states began to show reservation for judicial discretion and indeterminate sentencing structures, and began to push for determinate sentencing policies that took away the amount of discretion judges were able to exercise - resulting in a more punitive sentencing approach (Cullen & Jonson, 2012). Robert Martinsen's 1974 essay entitled "What Works?"

Questions and Answers About Prison Reform” has also been used to explain policy shifts away from rehabilitative corrections (Martinsen, 1974; Cullen & Jonson, 2012). In his essay, Martinsen (1974) evaluated the effectiveness of prison-based treatment programs and concluded that they “had no appreciative effect on recidivism” - i.e. nothing works (Martinsen, 1974, p. 25; Cullen & Jonson, 2012). Even though Martinsen's (1974) research was later shown to be unreliable, the assumption that treatment did not work had already been accepted by the public (Cullen & Jonson, 2012).

Years later, meta-analyses and a review of Martinsen's (1974) work revealed that offender treatment *is* an effective way to address recidivism and the development of the *principles of effective intervention* have helped rebuild the support of rehabilitation practices (Cullen & Jonson, 2012). The principles of effective intervention work best when the risk, needs, and responsivity principles are utilized (Andrews, Bonta, & Hoge, 1990; Gendreau, 1996; Andrews, 1995; Andrews & Bonta, 2010; Gendreau, Smith, & French, 2006; Ogloff & Davis, 2004). The risk principle refers to providing treatment to those who are at the highest risk to recidivate and who could benefit from treatment the most (Andrews, Bonta, & Hoge, 1990; Cullen & Jonson, 2012; Andrews, 1995; Gendreau, 1996). The needs principle refers to treatment that targets the offender's criminogenic needs/predictors of recidivism (lack of employment/education, antisocial behaviors, substance use, deviant peers, etc.) (Andrews, Bonta, & Hoge, 1990; Cullen & Jonson, 2012; Andrews, 1995; Gendreau, 1996). Lastly, the responsivity principle suggests that treatment should be cognitive-behavioral in nature (Andrews, Bonta, & Hoge, 1990; Cullen & Jonson, 2012; Andrews, 1995; Gendreau, 1996).

Thus, while there is now an extensive body of literature that indicates drug treatment is effective at reducing recidivism, particularly when the risk, needs and responsivity principles are followed, there are also a number of other factors that influence recidivism. For example, there is little debate in criminological research that demographic characteristics are predictors of risk and recidivism. Prior research has established that demographic characteristics are risk factors that have been identified as influencing risk of recidivism (Hirschi & Gottfredson, 1983; Gendreau, Little, & Goggin, 1996; Uggen, 2000; Olson, Alderden, & Lurigio, 2003; Wright, Voorhis, Salisbury, & Bauman, 2012; Lagan & Levin, 2002; Evans, Huang, & Hser, 2011). Specifically, age has been found to be one of the most consistent predictors of criminal recidivism (Gendreau, Little, & Goggin, 1996; Uggen, 2000) and even dates back to Hirschi and Gottfredson's (1983) research on the influences of age on crime.

Gender has also been found to be an important factor when examining the differences recidivism rates among particular subgroups. In both probation (Olson, Lurigio, & Alderden, 2003) and prison release (Wright, Voorhis, Salisbury, & Bauman, 2012) data, women have been shown to have lower recidivism rates than their male counterparts. Race has also been found to play a role in recidivism (Kubrin, Squires, & Stewart, 2007; Schwalbe, Fraser, Day, & Cooley, 2006; Bonta, Law, & Hanson, 1998). Research also suggests that those who have lower education levels are at a higher risk to recidivate (Fabelo, 2002; Steurer, & Smith, 2003).

Aside from demographic characteristics, those who have more extensive criminal history records are more likely to criminally recidivate (Gendreau, Little, & Goggin,

1996; Langan & Levin, 2002). In the federal correctional systems, offense history (number of prior arrests) is also one of the key factors that influences security classification placement (and therefore access to treatment programs) (U.S. Department of Justice Federal Bureau of Prisons, 2006). There is also indication that access to programs and services becomes more limited as security classification increases (Brennan & Austin, 1997; Farr, 2000; Hamm 2007; Federal Bureau of Prisons, n.d.).

Other variables that have been shown to influence recidivism are the offense type, gang affiliation, substance abuse, treatment exposure, and sentencing variables such as length of stay and security classification. Severity of the current offense impacts sentencing decisions, especially in jurisdictions where sentencing guidelines are administered (Engen & Gainey, 2000). According to Durose, Cooper, and Synder (2014), in a special report from the Bureau of Justice Statistics, those released from prison following a sentence resulting from a conviction for a drug offense had the second highest recidivism rates (arrested within 3 years after prison release) at roughly 68% next to those who were convicted of property crimes (recidivism rate of 74.5%). However, some bodies of literature suggest that the severity of the current offense is not “significantly related” to risk of recidivism, and that measures such as age and criminal history provide more accurate risk assessment (Towberman, 1992 p. 62; Baird, 1984). According to Andrews and Bonta (2010), one of the greatest faults in risk assessment is “to score the seriousness of the current offense as a risk factor,” since the seriousness of the current offense is not a consistent predictor of risk of recidivism (p. 60).

Gang research shows also that those who are gang-involved are at increased risk of numerous forms of delinquency, such as association with deviant or antisocial peers, drug use and drug sales, weapon possession, violence, etc. (Battin et al., 1998; Melde, Esbensen, Taylor, 2009; Bjerregaard, 2010; Watkins, Huebner, & Decker, 2008; Melde & Esbensen, 2012; Decker, Melde, & Pyrooz, 2013). Other research suggests that gang membership increases the likelihood of recidivism once released from prison (Olson, Dooley, & Kane, 2004).

Exposure to multiple prior drug treatment episodes has also been found to reduce criminal recidivism (Merrill, Alterman, Cacciola, & Rutherford, 1999; Prochaska, & DiClemente, 1986; Martin et al. 1992; National Institute on Drug Abuse, 2014). The National Institute on Drug Abuse (2014) suggests that substance addiction is a “chronic disease” and that “drug relapse and return to treatment are common features of recovery” (p. 21). One specific study found that of the total offenders identified as having a history of heroin addiction, those who had six or more prior treatment experiences averaged 0.2 arrests following treatment compared to those with no treatment averaging roughly .9 arrests (Merrill, Alterman, Cacciola, & Rutherford, 1999).

Several studies on the impact length of stay has on recidivism have propose that the longer the incarceration, the greater chance of recidivism (Gendreau, Cullen, & Goggin, 1999; Langan & Levin, 2002; Spohn & Holleran, 2002) and that low-risk offenders are negatively impacted as incarceration periods increase (Andrews & Bonta, 1998; Lescheid & Gendreau, 1994; Gendreau, Cullen, & Goggin, 1999). However, other

research suggests that the influence prison sentences have on recidivism are unclear (Sung & Lieb, 1993).

Those who have a history of substance abuse are also more likely to recidivate than those who do not abuse substances (Gendreau, Little, & Goggin, 1996; Dowden & Brown, 2002). Studies examining the effects of substance use have suggested that use of certain drugs (heroin and cocaine in particular) are correlated with higher recidivism rates than other drugs, such as alcohol or marijuana and therefore, increasing the offender's risk level (Roman, Townsend, & Bhati, 2003; Wagner & Anthony, 2007; Hiller, Knight, & Sampson, 1999). Research also suggests that those who are identified as having the most severe drug problems should be given priority for drug treatment services to ensure the greatest economic benefit (Knight, Simpson, & Hiller, 1999; 2002; Griffith, Hiller, Knight, & Simpson, 1999).

Treatment initiatives must consider the risk factors an offender may have, for it is specific features of treatment programs that target the individual offender's risk, needs, and responsivity factors that determine whether or not the program will succeed or fail, not by a random process as Martinsen had originally suggested in his essay (Cullen & Jonson, 2012; Andrews & Bonta, 2010; Gendreau, Little, & Goggin, 1996; Martinsen, 1974). Meta-analyses show that overall, offender treatment lowers recidivism by more than 10%, and some treatment programs that implement a cognitive-behavioral approach have shown to reduce recidivism by roughly 25% (Cullen & Jonson, 2012; Lipsey, 1995; 1999a; 1999b; 2009; Lipsey & Cullen, 2007; MacKenzie, 2006; Wilson, Bouffard, & MacKenzie, 2005). Despite the fact many drug abusers are untreated, decades of research

has at least identified what methods are most effective. Now it is a matter of implementing the right treatment programs, and targeting the people who pose the greatest risk, to reach maximum effectiveness.

Some of the most successful treatment programs are those that include a therapeutic community (TC) component. The therapeutic community is a drug treatment method that uses a “highly structured, well-defined, and continuous process of self-reliant program operations” and utilizes the community itself to be a support throughout the drug treatment process (Center for Substance Abuse Treatment, 1999 p. 1). One of the main objectives of a TC is to impact the individuals' personal lives and behavior by encouraging contact with pro-social peers and activities, encouraging the seeking and maintaining of employment, and by encouraging them to desist from all forms of substance use (Lurigio, 2000). Another major goal of TCs is to have participants begin to phase into independent living situations with the help of the community (Center for Substance Abuse Treatment, 1999).

Prison-based therapeutic community treatment programs have been well-researched and have generally been found to be effective in reducing drug use and recidivism (Pearson & Lipton, 1999; Inciardi, Martin, Butzin, Hooper, & Harrison, 1997; Lipton, 1995; Mitchell, Wilson, & MacKenzie, 2006; Olson, Rozhon, & Powers, 2009), and in particular, reducing reincarceration (Welsh & Zajaz, 2013; Olson, Rozhon, & Powers, 2009). More specifically, probationers, parolees, and prisoners who were involved in therapeutic community drug treatment programs and drug courts generally exhibited lower rates of substance use as well as lower recidivism rates than those who

did not participant in either form of drug treatment (Bahr, Masters, & Taylor, 2012). Bahr, Masters, and Taylor (2012) found that the most effective drug treatment programs tended to have the following TC components: “(a) focused on high-risk offenders, (b) provided strong inducements to receive treatment, (c) included several different types of interventions simultaneously, (d) provided intensive treatment, and (e) included an aftercare component” (p. 165). According to De Leon’s 1984 and 1999 follow-up studies on the effectiveness of long-term residential TCs, these programs have been found to successfully reduce drug use and antisocial behaviors (De Leon, 1984; De Leon, 1999; De Leon & Wexler, 2009). Therapeutic communities are unique in that the program model promotes change through education with the help and support of the community (Miller & Miller, 2011). According to Miller and Miller (2011), each actor in the TC method “sympiotically shares responsibility for all TC members and, ideally, strives to be a role model for change” (p. 73).

Due to early success of TC-based treatment programs, this prompted the implementation of treatment programs nationwide and eventually led to the development of the federally-funded Residential Substance Abuse Treatment Program, or “RSAT” (Miller & Miller, 2011). The Residential Substance Abuse Treatment Program (RSAT) is one of the most prominent drug treatment programs that has been effectively implemented in correctional facilities nationwide, with approximately 300 programs in operation reaching about 4,000 inmates (United States Bureau of Justice Assistance, 2005; Miller & Miller, 2011). According to Miller and Miller (2011), RSAT is “heavily vested in cognitive-behavioral change oriented modalities delivered in therapeutic

community contexts” (p. 72). RSAT primarily uses the therapeutic community model, cognitive-behavioral approaches, and/or various 12-step programs (Alcoholics Anonymous, Narcotics Anonymous, Cocaine Anonymous, etc.) (United States Bureau of Justice Assistance, 2005, p. 11). In general, evaluations of the RSAT program found that those who completed the treatment program were less likely to recidivate or be placed in a higher custody classification than those who did not complete the program (United States Bureau of Justice Assistance, 2005). Furthermore, providing the offenders with an aftercare component also resulted in lower recidivism and relapse rates (United States Bureau of Justice Assistance, 2005; Miller & Miller, 2011).

Even though prison-based substance abuse treatment has been shown to be effective, research indicates that “few inmates receive treatment” for drug-dependency issues while in prison (Belenko & Peugh, 2005, p. 269; Anglin & Maugh, 1992; Lurigio, 2000). Further, those inmates who do not receive drug treatment in prison are often times the ones who could benefit from it most (Bosma et al., 2014; Nunes & Cortoni, 2008; Wormith & Olver, 2002). Illustrative of this gap between need and receipt of drug treatment, the 2010 National Center on Addiction and Substance Abuse report depicts that approximately 65% of inmates in the United States “met clinical diagnostic criteria for a substance use disorder,” but only about 11% of those people obtain access to treatment (residential facility or unit and treatment by professional counseling) for drug issues (The National Center on Addiction and Substance Abuse, 2010, p. 39).

Although there is limited knowledge of the factors that predict who receives treatment, there is some indication of who is most likely to participate in or complete

treatment while in prison. For example, research shows that offenders who have more lengthy criminal history records are less likely to participate in or complete the following correctional treatment programs: psychological (Bosma et al. 2014; Olver, Stockdale, & Wormith, 2011), sex offender (Olver, Stockdale, & Wormith, 2011; Geer, Becker, Gray, & Krauss, 2001; Moore, Bergman, & Knox, 1999; Nunes & Cortoni, 2008; Seager, Jellicoe, & Dhaliwal, 2004), intensive treatment in a maximum security facility (Wormith & Olver, 2002), or a variety of prison-based treatment programs such as living skills, anger management, substance abuse, sex and violent offender treatment, and family violence programs, (Nunes & Cortoni, 2006). On the other hand, some researchers have found that there was little difference in risk factors between those who completed and did not complete cognitive-behavioral (Polaschek, 2010) and drug treatment (Nielsen & Scarpitti, 2002). Education level has also been recognized as having an effect on treatment completion. For example, several researchers have found that those who have higher education levels are more likely to complete treatment programs (Wormith & Olver, 2002; Nielson & Scarpitti, 2002; Butzin, Saum, & Scarpitti, 2002). According to the 2010 National Center on Addiction and Substance Abuse report, women were more likely than men to receive residential treatment (9.6% vs. 6.8%) and professional counseling (6.1% vs. 5.1%) (The National Center on Addiction and Substance Abuse, 2010 p. 41). Although some research has found gender (The National Center on Addiction and Substance Abuse, 2010 p. 41; Evans, Huang, & Hser, 2011) and racial (The National Center on Addiction and Substance Abuse, 2010 p. 42) differences when it comes to access to prison-based drug treatment, it is not clear if other characteristics

more directly influence these patterns. Racial groups that were most likely to receive any form of professional drug treatment (residential, unit, professional counseling, and maintenance drug treatment) were Whites and Native Americans at about 13%, compared to 10% of Blacks and 8.5% of Hispanics (The National Center on Addiction and Substance Abuse, 2010 p. 42).

Furthermore, those who are most likely to complete treatment are also the ones who have the greatest level of motivation and treatment readiness (De Leon, Melnick, & Kressel, 1997; Melnick, De Leon, Hawke, Jainchill, & Kressel, 1997). Recognition of a drug-dependency issue is positively associated with motivation to succeed in treatment and building positive relationships with clinicians (Broome et al., 1997). Although recognition of a drug-problem can influence the motivation and relationships in treatment, it has not been shown to have a significant relationship with recidivism (Broome et al. 1997). However, the risk, needs, and responsivity principles indicate that it is those who are least motivated that are the ones who are the highest risk and could benefit from treatment services the most (McMurran, 2002; Stewart & Millson, 1995).

Some of the major barriers to providing prison inmates with drug treatment include the inmate's length of stay in prison and the lack of trained staff at the correctional facility (The National Center on Addiction and Substance Abuse, 2008, 2010; Mears et al., 2003; Center for Substance Abuse Treatment, 2005). Length of stay is an important issue to consider because in order for drug treatment to be effective, it must last long enough to begin to produce behavioral change (90 days or more for community treatment, 9-12 months for prison-based treatment, and at least 12 months for methadone

maintenance) and longer treatment terms may be recommended for inmates with severe or co-occurring disorders (National Institute on Drug Abuse, 1999, 2014; Center for Substance Abuse Treatment, 2005; Mears et al., 2003). Furthermore, programs such as RSAT require that the inmate must participate in the treatment program for 6-12 months (Miller & Miller, 2011). These types of policies and requirements eliminate all inmates who *may* have drug-dependency issues, but are unable to attend the treatment program for the required amount of time due to a variety of factors that may reduce the actual amount of time inmates spend in prison, such as credit for time served in jail, day for day good conduct credit, and meritorious good time credit, coupled with the relatively short prison sentences many may receive. Another issue with administering drug treatment in correctional facilities is the high staff to inmate ratio, at least for state-run prisons, where most inmates are incarcerated. The National Center on Addiction and Substance Abuse (2010) report indicated that the ratio of staff to those receiving drug treatment was 1:7 at the federal level, but 1:25 in state facilities (p. 43).

Clearly, there are challenges to providing treatment in correctional settings and there is also a clear gap between those in prison who need substance abuse treatment and those who receive it. In order to gauge the degree to which those in prison actually need treatment, a screening tool is often used. The Texas Christian University (TCU) Drug Screen II is an assessment tool used in many correctional settings (including Illinois, the location for the current study) and is a reliable and valid drug screening tool that is used to “assess the severity of drug use problems” (Knight, Simpson & Hiller, 2002 p. 2). One of the main goals when establishing this drug screen tool was to be able to better

influence drug treatment decisions and to make the tool accessible for a variety of correctional administrators to use (Knight, Simpson & Hiller, 2002).

A great deal of research has shown that prison-based drug treatment seems to be a promising method that offers several positive returns, yet research has also indicated that the vast majority of those who need treatment are not receiving it. What is less known is whether there are certain characteristics or factors that determines whether or not someone receives prison-based drug treatment. The present research attempts to accurately identify predictors in Illinois that determine whether or not an inmate receives drug treatment while in prison using a large sample (N=26,500) of adult inmates released from Illinois' state prisons in 2007. As the literature articulates, treatment for offenders has shown to effectively reduce recidivism; however, a small proportion of those in need of treatment have access to it. Identifying these predictors of access to treatment will allow practitioners and policy makers to determine if treatment is being provided to those in greatest need and those who pose the greatest risk of recidivism if they are not rehabilitated. Although some basic information is known about the characteristics of who receives treatment based on a national sample (The National Center on Addiction and Substance Abuse, 2010), it is not clarified at the state level and this study will examine predictors of treatment using a broad array of variables.

Based on the literature, if the delivery of treatment is consistency with the risk, needs, and responsivity principles, there will be a relationship between treatment access and the following independent variables: demographic characteristics (age, race, gender, and education level), criminal history, gang affiliation, substance use, prior treatment

exposure, current offense, and length of stay. However, there appears to be some disagreement between the literature on risk, needs, and responsivity and the limited research that has examined treatment access. The research on risk, needs, and responsivity suggests that certain characteristics should increase access to treatment, as where other literature suggests that that is not the case. Therefore, it was hypothesized that there will be relationships between treatment access and many of the independent variables (demographics, criminal history, gang affiliation, substance use, treatment exposure, current offense, and length of stay); however, the hypothesized direction of the relationships is uncertain. If treatment is delivered in consistency with the principles of effective intervention, it is hypothesized that high risk offenders (males, younger inmates, those with more extensive criminal histories, drug abusers, higher security classified inmates, and those with more than 6 months to serve in prison) would have increased access to treatment.

Methodology

Data

The data that were used in the current study were originally collected for a study by Olson, Stalans, and Escobar (2015) which examined the differences in male and female risk factors and how this influenced general and violent recidivism. The primary research question the current study seeks to answer is: what inmate characteristics predict whether or not an offender receives drug treatment while in prison? The variables that were hypothesized to predict the likelihood of receiving prison-based drug treatment were grouped into the following four categories: 1) Demographic variables (gender, race,

age, education level) 2) Criminal conduct variables (current offense, criminal history, and gang affiliation) 3) Drug treatment variables (primary substance of abuse, desire for treatment, number of prior treatment episodes, and recommendation for treatment) 4) Sentencing variables (security classification, eligibility for earned time credit, total jail time, and length of stay in prison). The information regarding the inmate's current offense was gathered via the Offender Tracking System (Olson, Escobar, & Stalans, 2015). Information on interviews conducted by the Illinois Department of Corrections (IDOC) counselors and psychologists was obtained via the Automated Reception and Classification System (Olson, Escobar, & Stalans, 2015). Lastly, the information on the individual's criminal history was obtained from the Illinois State Police (ISP).

Sample

To answer the research question, data were obtained from the Illinois Department of Corrections and the Illinois State Police to include a sample of all inmates released from Illinois state prisons during state fiscal year (SFY) 2007 (July 1, 2006 to June 30, 2007) (Olson, Stalans, & Escobar, 2015). The original sample included all individuals released from prison in SFY 2007, even those who were in prison due to a technical violation of their term of supervised release. After eliminating the technical violators, the sample used for the present analyses consisted of 26,534 men and women released in SFY 2007 following the completion of a court-imposed prison sentence. The majority of the demographic information of the individuals was gathered from the electronic database from the Illinois Department of Corrections.

Measures

Dependent variable: receipt of prison-based drug treatment. Receipt of drug treatment in prison was measured as a dichotomous variable (1=Yes, received drug treatment; 0=No, did not receive drug treatment). The information regarding treatment receipt was provided by the Illinois Department of Corrections and identified which inmates in the sample were provided clinical substance abuse treatment services by a contractual service provider while in prison. Not included were inmates who may have received some substance abuse services, such as drug education, self-help groups, or who participated in non-clinical programs, such as Alcoholics Anonymous (AA), Narcotics Anonymous (NA), or Cocaine Anonymous (CA). Thus, this measure gauges admission into clinical treatment services, but not necessarily completion of treatment or the quality of the treatment received.

Independent variable measures.

Demographic variables.

Gender, race, and age. Demographic characteristics, including gender, age, and race, were examined as possible predictors of access to drug treatment. Age was measured by the inmate's age upon release from prison and was also recoded into a categorical variable to assist in the confirmation of a linear relationship between age and receipt of treatment. Age was recoded into the following four categories: 17-25 (0), 26-35 (1), 36-45 (2), 46+ (3). Gender was measured as a dichotomous variable (1=male; 0=female). Due to the small representation of Native Americans and Asians in the data used for this study, race was recoded as follows: White (0), Black (1), Hispanic (3), and

Other (4). As described previously, prior research has established that demographic characteristics are risk factors that have been identified as influencing risk of recidivism (Hirschi & Gottfredson, 1983; Gendreau, Little, & Goggin, 1996; Uggen, 2000; Olson, Alderden, & Lurigio, 2003; Wright, Voorhis, Salibury, & Bauman, 2012; Lagan & Levin, 2002; Evans, Huang, & Hser, 2011). Therefore, if drug treatment services are targeted towards those who are at the highest risk to recidivate (as suggested by the research of Cullen & Jonson, 2012; Gendreau, 1996; Gendreau, Smith, & French, 2006; Andrews, Bonta, & Hoge, 1990), it was hypothesized that men would be more likely than women to have access to treatment once all other variables are statistically controlled. Likewise, if risk levels drive the access to drug treatment, age would be inversely related to treatment access – the older the offender (and therefore the lower risk), the lower likelihood of accessing drug treatment. Due to the uncertainty of the direct effect race has on treatment completion, treatment access, and recidivism the hypothesized relationship between race and receipt of treatment was non-directional.

Education level. Education level was measured as a dichotomous variable that identified which inmates had their GED or High School diploma (0) and those who did not (1). As a review of the literature suggests, those who have a higher education level are more likely to complete treatment programs (Wormith & Olver, 2002; Nielson & Scarpitti, 2002; Butzin, Saum, & Scarpitti, 2002). However, research also suggests that those who have lower education levels are at a higher risk to recidivate (Fabelo, 2002; Steurer, & Smith, 2003). Thus, while the principles of effective intervention might suggest that those with lower education levels be a priority for treatment due to risk level,

they are also the least likely to complete treatment. Therefore, the hypothesized relationship between education level and treatment receipt was predicted to be non-directional.

Criminal conduct variables.

Criminal history. Criminal history was recoded and measured several ways. Three continuous variables measured an inmate's prior criminal history: total number of prior arrests, total number of prior arrests for a drug-law violation, and total number of prior violent arrests. All three measurements of criminal history (total prior arrests, total prior violent arrests, and total prior drug arrests) were also recoded into ordinal measures to assist in the confirmation of a linear relationship (no prior arrests (0), 1-3 prior arrests (1), 4-6 prior arrests (2), 7-9 prior arrests (3), and 10+ prior arrests (4)). Arrest data were obtained via the Illinois State Police's Criminal History Record Information (CHRI). It is worth noting that this system contains all reported arrests in Illinois, but excludes arrest information from other states. In the current study, the hypothesized relationship between treatment access and criminal history was non-directional, however, it was predicted that the nature of someone's criminal history would have an effect on drug treatment access. According to the risk, needs, and responsivity principles, those who are at higher risk (i.e., those with more extensive criminal histories) should theoretically have greater access to treatment in order to obtain the most effective outcomes on recidivism (Andrews & Bonta, 2010). Furthermore, it was predicted that those with an extensive past history of arrests for drug-law violations may also be viewed as having a more severe drug problem, increasing the likelihood of receiving treatment services.

If treatment is driven by the principles of effective intervention (risk, needs, and responsivity), a higher number of prior arrests would increase the likelihood of receiving prison-based drug treatment. On the other hand, criminal history measures could also reduce treatment access. For example, those with extensive histories of violence may be unable to access treatment due to either security barriers/concerns or being seen as *less deserving* of services. In general, those with lengthy criminal histories could be less likely (or ineligible) to access drug treatment due to security concerns, gang involvement, or particular histories of violence. Thus, while principles of effective intervention might suggest that those with more extensive and serious criminal histories be a higher priority for treatment, operational security concerns within the prisons may preclude or restrict their access to treatment.

Offense type. The current offense type was measured as a dichotomous variable in two ways to categorize the crime that resulted in the individual's most recent prison sentence. The first measure indicated if the current offense was a crime of violence (which could limit access to treatment) and was recoded into the following two categories: person crimes and all other crimes (property, drug, and all other crimes) (1=person crime; 0=all other crimes). The second measurement revealed if the current offense was a drug offense (potentially increasing drug treatment access) and was recoded dichotomously as follows: drug crime and other (person, property, and all other crimes) (1=drug-law violation; 0=all other crimes).

Despite the research that indicates that the seriousness of the current offense does not have much predictive power on determining risk level (Andrews & Bonta, 2010;

Towberman, 1992; Baird, 1984), it was hypothesized that the offense type would impact treatment access. It was hypothesized that those charged with a current drug offense would have an increased likelihood to receive treatment services due to security classification and the view that drug offenders are in need of such services (although this may not be due to risk of future recidivism). The relationship between offenders charged with a violent crime and treatment receipt was predicted to be directional, with inmates serving time for a violent crime being less likely to access treatment services due to security issues and the public view that these types of offenders may be undeserving of treatment services (Cullen, Skovron, Scott, & Burton, 1990).

Gang affiliation. Gang affiliation was measured as a dichotomous variable (1=gang affiliated; 0=non-gang affiliated), and was based on Illinois Department of Corrections intelligence information. Assuming treatment is driven by the principles of effective intervention, it was hypothesized that gang affiliation would increase the likelihood of access to drug treatment in prison due to gang membership being associated with increased risk of recidivism. However, gang affiliation could also lead to security classification issues and histories of violence, limiting treatment access or eligibility. Therefore, the hypothesized relationship between gang affiliation and drug treatment access was predicted to be non-directional.

Drug treatment variables.

Treatment recommendation. In order to determine who is in need of treatment, it is first important to accurately measure the need for drug treatment. The Illinois Department of Corrections (IDOC) uses the Texas Christian University (TCU) Drug

Screen II instrument to measure the need for drug treatment. The TCU Drug Screen II measurement is representative of the 12 months before the incarceration period. Measures are recorded regarding substance(s) of abuse, need for treatment, and prior treatment exposure and experiences. The TCU Drug Screen II tool is scored on a scale of 0 to 9. Any score of 3 or greater indicates that the individual has a notable drug dependency problem (Knight, Simpson, & Hiller, 2002). The TCU Drug Screen II score was computed for the current study using the inmate responses to the questions included on the TCU Drug Screen II, part of the data received from the IDOC. The data received also included a treatment recommendation by the correctional counselor, which was determined by the counselor based on the combination of the total score of the TCU Drug Screen II tool, the inmate's desire for treatment, eligibility requirements and the counselor's assessment of the inmate. Those not recommended for substance abuse treatment were coded 0, while those who were recommended were coded as 1. Assuming risk and need drive the access to prison-based drug treatment, the hypothesized relationship between treatment recommendation and treatment receipt was predicted to be directional, with offenders who ranked higher on the TCU Drug Screen II (indicating a more severe drug problem) being more likely to receive drug treatment in prison.

Primary substance of abuse. The primary substance of abuse was operationalized as the drug that the individual identifies as causing them the most problems. This measurement was drawn from responses from the TCU Drug Screen II. The primary substance of abuse was coded to represent the list provided on the TCU Drug Screen II. This list includes: alcohol, marijuana, crack, cocaine, heroin, inhalants, hallucinogens

(PCP/LSD), tranquilizers, methamphetamine, street methadone (non-prescription), amphetamines, and other opiates. These data were recoded by combining the substances the inmates abused and placing them into the following six categories: none (0), alcohol (1), marijuana (2), crack/cocaine (3), heroin (4), and all other drugs (5). Due to the increased risk for recidivism associated with drugs such as heroin and cocaine, it was hypothesized that offenders who identify heroin and/or cocaine as their primary substance of abuse would be more likely to receive drug treatment compared to those dependent on drugs such as marijuana or alcohol.

Prior treatment history. Prior treatment history was measured as the number of times the inmate received drug treatment based on the response to the question “how many times before now have you ever been in a drug treatment program (excluding AA/NA/CA meetings)” on the TCU Drug Screen II instrument. Prior treatment history was recoded into the following four categories: never (0), one time (1), two times (2), and three or more times (3). Although multiple prior drug treatment episodes can reduce criminal recidivism (Merrill, Alterman, Cacciola, & Rutherford, 1999; Prochaska & DiClemente, 1986; Martin et al. 1992; National Institute on Drug Abuse, 2014), offenders who have been through multiple treatment episodes may be viewed by practitioners as already having had their chance at rehabilitation. Therefore, the hypothesized relationship between prior treatment and receipt was predicted to be non-directional.

Desire for treatment. This measurement was based on the TCU Drug Screen II instrument question that gauges the individual’s desire for drug treatment, specifically “how important is it for you to get treatment now.” Inmates answered on a scale ranging

from "not at all (0)," "slightly (1)," "moderately (2)," "considerably (3)," to "extremely (4)". Despite the information that suggests that those most motivated for treatment are the most likely to complete it, this is inconsistent with the principles of effective intervention. Therefore, the hypothesized relationship between desire for treatment and receipt of treatment was predicted to be non-directional.

Sentencing variables.

Eligibility for earned time credit. In Illinois, eligible inmates can receive earned time credit off (up to one-half day) of their sentence for every day they participate in programs if they complete the program successfully (IDOC: Revised Administrative Rules on Sentence Credit, 2012b). Eligibility for earned time credit was measured as a dichotomous variable (1=yes, eligible for earned time credit; 0=not eligible for earned time credit). At the time the data were collected, Illinois law stated that inmates may not be eligible to receive earned time credit if they had previously earned good conduct credit, had “previously served more than one prior sentence of imprisonment for a felony in an adult correctional facility,” or had a history of violent or sex offenses such as murder, criminal sexual assault, aggravated battery with a firearm, etc. (730 ILCS 5/3-6-3, p.40; IDOC, 2012b). Current Illinois law allows program sentence credit to inmates who successfully complete a full-time (minimum of 60 days) program such as substance abuse, educational programs, behavior programs, life skills programs, etc. (730 ILCS 5/3-6-3). If the offenders meet the eligibility requirements of earned time they may be more motivated to participate and complete prison-based drug treatment programs due to a reduction in time they will have to serve in prison. Moreover, correctional institutions

may also be more likely to provide treatment if the offender is motivated to partake in institutional services in an effort to increase treatment completion rates and reduce the length of stay and therefore incarceration numbers down. Therefore, it was hypothesized that if the offender is eligible for earned time credit, they would also be more likely to receive prison-based drug treatment services.

Security classification. Security classification was measured as the inmate's security level (minimum (0), medium (1), maximum (2), and pending (3)) at the time they were released from prison. The Illinois Department of Corrections determines security classification based on a variety of factors, including age, arrest history, current offense, and length of sentence, with longer incarceration periods yielding a higher security classification (IDOC: Reception and Classification, 2012a). The hypothesized relationship between security classification and receipt of treatment was predicted as directional, with inmates with a higher security classification having the least likelihood of access to treatment services.

Length of stay. Length of stay was a continuous variable measuring how long, in months, the individual was actually in prison. Length of stay was also recoded into an ordinal variable as follows: Less than 6 months (0), 6 months up to less than 12 months (1), 12 up to less than 18 months (2), 18 up to less than 24 months (3), 24 up to less than 30 months (4), 30 up to less than 36 months (5), 36 up to less than 42 months (6), 42 up to less than 48 months (7), 48+ months (8). Due to potential eligibility requirements, it was predicted that the longer an inmate's sentence, the more likely they are to receive treatment in prison.

Analyses

Both bivariate and multivariate analyses were performed to determine the predictors of receiving prison-based drug treatment in Illinois. The data were first analyzed based on a sample of just those who were recommended as needing drug treatment. In order to see the distribution of receipt of treatment from a different perspective, and to ensure the results were consistent and that there were no biases by including people who were not recommended treatment, separate analyses of the relationship between treatment receipt and treatment recommendation were then performed including just those who were recommended for drug treatment.

The bivariate analyses examined the degree to which the independent variables were correlated with receiving treatment in prison (the dependent variable). These bivariate analyses also provided direction regarding the need to recode or aggregate certain independent variables. Statistical tests were used to examine the existence and strength of relationships between the dependent variable (treatment access) and the predictor variables in the bivariate analyses. For all nominal and ordinal variables (gender, race, education level, offense type, gang affiliation, recommendation for drug treatment, receipt of drug treatment, primary substance of abuse, number of prior treatment episodes, desire for treatment, earned time credit eligibility, and security level classification), Chi Square was used to examine the existence of the relationships between the receipt of drug treatment (1=yes, received drug treatment; 0=no, did not receive drug treatment) and the aforementioned nominal and ordinal variables. Phi and Cramer's V were used to measure the strength of the relationships between receiving

drug treatment and the nominal and ordinal variables. For all interval/ratio-level variables (age, prior arrests, length of stay, and total jail time) independent samples t-tests were used to examine the existence of a relationship between receiving drug treatment and the interval/ratio-level variables. To examine the strength of these relationships, Pearson's r and Spearman's Rho were used. Pearson's r was used to examine the strength of the relationships of the variables that were normally distributed, while Spearman's Rho was used to examine the strength of the relationships when the distribution of the data was skewed (see Table 1).

In order to determine which variables had the greatest independent predictive power in determining who received drug treatment in prison, multivariate analyses using logistic regression were performed. Multivariate analyses allowed for each independent variable to be statistically "controlled" in order to determine which variables have independent predictive power in explaining the receipt of drug treatment in prison. This allowed for an assessment of the existence and strength of a relationship with each independent variable, while statistically controlling for the influence of the other independent variables. Bivariate and multivariate analyses allowed for the independent variables that were predicted to influence treatment access while in prison (demographic, criminal conduct, treatment, and sentencing variables) to be empirically examined.

Results

Summarized in Tables 1, 2, 4, 6, and 8 are the characteristics of the sample. For efficiency, Tables 2, 4, 6, and 8 include both the results of the bivariate analyses as well as the frequencies of the categorical/ordinal variables. Overall, 10.7% of the inmates in

the sample received drug treatment while in prison when about half (48%) were recommended for treatment. Males made up the majority of the cases in the sample (89%), while about 11% of the sample was represented by female inmates. Blacks made up the largest proportion of the sample (57.5%), followed by Whites (31%), then Hispanics (11.1%). Due to the small number of Asians and Native Americans, they were placed into an “other” category which made up roughly 0.4% of the total sample. The vast majority of inmates (70%) had at least 10 prior arrests, while inmates who had fewer than 10 prior arrests made up about 30% of the sample. Furthermore, most inmates had nearly 20 total arrests prior to being incarcerated, with an average of roughly 3 prior violent arrests and 1.35 prior arrests for a drug-law violation, and roughly 30% of inmates in the sample were identified as gang-members, compared to 70% who were not gang-affiliated. Those convicted of a drug-law violation made up the largest proportion of the current offenses (40%), while property crimes made up about 30% of the total sample, and person crimes represented about 25% of the total sample. Most inmates either did not identify with a primary substance of abuse (21%), identified alcohol as their primary substance of abuse (29%), or were labeled as “other” for primary substance of abuse (28%). Inmates who declared crack/cocaine made up about 7% of the sample compared to marijuana (9%) or heroin (5%) abusers. Additionally, most inmates (66%) had never received treatment, while about 23% had received treatment once before and only 8% had gone through treatment two times and only 2% had gone through treatment three or more times. Nearly 60% of inmates did not see the receipt of treatment important as all, while roughly 11% considered the receipt of treatment *moderately* important and about 10%

considered the receipt of treatment *extremely* important. For example, of those that responded to that question with “not at all,” only 6% received substance abuse treatment. On the other hand, of those who said receiving treatment was “extremely important,” 24% received it. Roughly 60% of inmates were labeled as minimum security, compared to 37% labeled as medium security, and 1.6% labeled as maximum security. Most inmates served relatively short prison sentences. Specifically, about 60% of inmates served less than 12 months (average 15 months) in prison and 140 days in jail. The average age of the inmates in the sample was 33.53.

Table 1. Descriptive Statistics

	Mean	Standard Deviation	Minimum	Maximum	Skew	Kurtosis
Age	33.53	10.29	17.00	83.00	.518	-.40
Prior Total Arrests	19.09	17.46	0.00	336.00	3.24	22.72
Prior Violent Arrests	2.93	3.62	0.00	63.00	3.04	19.10
Prior Drug Arrests	1.35	1.99	0.00	29.00	3.21	18.96
TCU Score	3.08	16.44	0.00	9.00	.46	-1.42
Length of Stay (Months)	15.40	27.54	-0.23	545.88	5.38	42.66
Total Jail Time (Days)	140.88	186.72	0.00	4176.00	5.28	56.57

Bivariate Results

Bivariate analyses were performed to determine predictors of receiving treatment in prison. The bivariate analyses were performed in two stages: first, all cases from the

total sample (N=26,534) were examined, and second, only those cases where there was a recommendation for treatment (N=10,471) were examined. Table 2 below represents the results of the analyses for the total sample while Table 3 represents the results only for those cases that were recommended to receive treatment. Of the 10,471 inmates recommended as needing treatment, 16.6% received drug treatment while in prison. Due to the large sample sizes, the following thresholds were set to determine the strength of the relationships: Weak = 0.0-0.2; Modest = 0.2-0.4; Moderate = 0.4-0.6; Strong = 0.6-0.8; Very Strong = 0.8-1.0 (Frankfort-Nachmias & Leon-Guerrero, 2000).

There was a relationship between the inmate's gender and whether or not they received substance abuse treatment. Female inmates were nearly twice as likely to receive treatment in prison compared to male inmates. For example, over 18% of female inmates received treatment, compared to the 9.7% of males. The relationship between the inmate's gender and receipt of treatment was statistically significant, but weak ($\Phi = -.09$, $p < .001$).

There was also a relationship between the inmate's race and whether or not they received substance abuse treatment. Whites were more likely to receive treatment than Blacks and Hispanics. For example, roughly 13.5% of white inmates received treatment, compared to 9.7% of blacks and 8.1% of Hispanics. The relationship between the inmate's race and receipt of treatment was statistically significant, but weak (Cramer's $V = .06$, $p < .001$). Another relationship demographic that was statistically significant was between age and receipt of treatment. Younger inmates were slightly more likely to receive treatment than older inmates. Specifically, the average age of those who received

treatment was about 30 years old, while the average age for those who did not receive treatment was approximately 34 years old. When age was recoded into a categorical variable, a similar trend was confirmed. Roughly 16% of inmates between the ages of 17-25 received treatment compared to the 10% of 26-35 year old inmates and the 6.5% of inmates 46 and older. The relationship between the inmate's age and receipt of treatment was statistically significant, but weak (Cramer's $V=.12$, $p<.001$).

The relationship between the inmate's education level and receipt of treatment was not statistically significant ($p=.889$). When analyses were performed using only the sub-sample of inmates who had been recommended to receive treatment (Table 3), the general patterns found in the total sample analyses were confirmed, although the overall prevalence of treatment receipt increased across all the categories. Thus, both of the bivariate analyses for the demographic variables revealed that inmates who were female, white, between the ages of 17-25, and those who had a higher education level were more likely to receive treatment services than their counterparts.

Table 2. Bivariate Relationship Between Dependent Variable and Demographic Variables: Total Sample

	Did Not Receive Treatment	Received Treatment	Total	Percent of Sample
Gender	$X^2 = 206.4$, $df = 1$, $p<.001$, $\Phi = -.09$, $p<.001$			
Female	81.7%	18.3%	100.0%	11.4%
Male	90.3%	9.7%	100.0%	88.6%
Total	89.3%	10.7%	100.0%	100.0%
Race	$X^2 = 102.6$, $df = 3$, $p<.001$, Cramer's $V = .06$, $p<.001$			
White	86.6%	13.4%	100.0%	31.0%
Black	90.3%	9.7%	100.0%	57.5%
Hispanic	91.9%	8.1%	100.0%	11.1%
Other	87.6%	12.4%	100.0%	0.4%
Total	89.3%	10.7%	100.0%	100.0%
Age	$X^2 = 310.0$, $df = 3$, $p<.001$, Cramer's $V = .12$, $p<.001$			

17-25	84.3%	15.7%	100%	27.8%
26-35	89.8%	10.2%	100.0%	31.5%
36-45	91.7%	8.3%	100.0%	26.4%
46+	93.5%	6.5%	100.0%	14.3%
Total	89.3%	10.7%	100.0%	100.0%
Average Age ($t=17.4$, $p<.001$, $r=-.11$, $p<.01$)	33.91	30.36	33.53	
Education Level	$X^2 = 0.2$, $df = 1$, $p=.889$, $\Phi = .01$, $p=.889$			
HS Grad/GED	89.1%	10.9%	100.0%	45.6%
No HS Grad/GED	89.0%	11.0%	100.0%	54.4%
Total	89.1%	10.9%	100.0%	100.0%

Table 3. Bivariate Relationship Between Dependent Variable and Demographic Variables: Of Those Recommended for Drug Treatment

	Did Not Receive Treatment	Received Treatment	Total	Percent of Sample
Gender	$X^2 = 33.5$, $df = 1$, $p<.001$, $\Phi = -.06$, $p<.001$			
Female	79.1%	20.9%	100.0%	19.2%
Male	84.5%	15.5%	100.0%	80.8%
Total	83.4%	16.6%	100.0%	100.0%
Race	$X^2 = 41.7$, $df = 3$, $p<.001$, Cramer's $V = .06$, $p<.001$			
White	80.3%	19.7%	100.0%	32.8%
Black	84.6%	15.4%	100.0%	56.2%
Hispanic	87.0%	13.0%	100.0%	10.6%
Other	77.5%	22.5%	100.0%	0.4%
Total	83.4%	16.6%	100.0%	100.0%
Age	$X^2 = 69.2$, $df = 3$, $p<.001$, Cramer's $V = .08$, $p<.001$			
17-25	79.0%	21.0%	100.0%	25.7%
26-35	83.1%	16.9%	100.0%	31.4%
36-45	85.5%	14.5%	100.0%	28.8%
46+	88.0%	12.0%	100.0%	14.0%
Total	83.4%	16.6%	100.0%	100.0%
Average Age ($t=8.7$, $p<.031$, $r=-.08$, $p<.01$)	34.3	32.0	33.88	
Education Level	$X^2 = 1.4$, $df = 1$, $p=.230$, $\Phi = -.01$, $p=.230$			
HS Grad/GED	82.9%	17.1%	100.0%	45.9%
No HS Grad/GED	83.8%	16.2%	100.0%	54.1%
Total	83.4%	16.6%	100.0%	100.0%

Tables 4 and 5 below represent the bivariate findings of the relationship between the criminal conduct variables and the dependent variable. Table 4 represents the bivariate findings of the relationship between the criminal conduct variables and the dependent variable based on only those who were recommended treatment.

The bivariate analyses revealed that there was a relationship between the inmate's current offense type and whether or not they received substance abuse treatment. However, current offense type showed to have little impact on the likelihood the inmate would receive treatment in prison. Those who were in prison for a drug-law violation were almost equally as likely to receive drug treatment as those who committed all other crimes. Similarly, inmates in prison for a violent offense were nearly as likely to receive treatment services as those who committed a different type of offense. For example, roughly 11.5% of those who were in prison for a drug-law violation received treatment compared to the 10% of those who were in for all other offenses. Furthermore, roughly 9% of those who were in prison for a violent offense received treatment compared to the 11% of those who were in prison for all other offenses. The relationship drug-law violators and receipt of treatment was statistically significant, but weak ($\Phi = .03$, $p < .001$). The relationship between violent offenders and receipt of treatment was also statistically significant, but weak as well ($\Phi = -.03$, $p < .001$).

There was also a relationship between the inmate's criminal history and whether or not they received treatment while in prison. Those who did not receive treatment averaged about 20 total prior arrests, while those who did receive treatment averaged approximately 15 total prior arrests. The relationship between criminal history and receipt

of treatment was statistically significant ($t > 1.96$), but weak (Spearman's $Rho = -.09$, $p < .001$).

There was a relationship between the inmate's number of prior drug arrests and whether or not they received substance abuse treatment. Although the vast majority of the total sample had a history of at least one prior drug arrest (76.4%), there was a difference in receipt of treatment between the groups of individuals. As the number of prior arrests for a drug-law violation increased, the likelihood of receiving treatment services decreased. For example, those with 1-3 prior drug arrests were twice as likely to receive treatment as those with 10 or more prior drug arrests (12% vs. 6%). The relationship between the number of prior drug arrests and receipt of treatment was statistically significant, but weak (Cramer's $V = .05$, $p < .001$).

There was also a relationship between the inmate's gang involvement and whether or not they received substance abuse treatment. The inmates who identified as a gang member were less likely to receive treatment than those who did not identify as being a gang member. For example, roughly 12% of those who were not gang involved received treatment services, while about 7% of inmates who were gang involved received treatment. The relationship between gang involvement and receipt of treatment was statistically significant, but weak ($\Phi = -.08$, $p < .001$).

When analyses were performed using only the sub-sample of inmates who had been recommended to receive treatment, the general patterns found in the total sample analyses were confirmed, although the overall prevalence of treatment receipt increased across all the categories. Thus, both presentations of the bivariate analysis for the

criminal conduct variables revealed that inmates who were not gang involved, had fewer number of total arrests (as well as a fewer number of drug-law violations) were more likely to receive treatment services compared to their counterparts.

Table 4. Bivariate Relationship Between Dependent Variable and Criminal Conduct: Total Sample

	Did Not Receive Treatment	Received Treatment	Total	Percent of Sample
Current Drug Law Violation	$X^2 = 16.4$, $df = 1$, $p < .001$, $\Phi = .03$, $p < .001$			
Drug-Law Violation	88.4%	11.6%	100.0%	41.2%
All Other Offenses	90.0%	10.0%	100.0%	58.8%
Total	89.3%	10.7%	100.0%	100.0%
Current Violent Offense	$X^2 = 25.8$, $df = 1$, $p < .001$, $\Phi = -.03$, $p < .001$			
Violent	91.0%	9.0%	100.0%	24.1%
All Others	88.8%	11.2%	100.0%	75.9%
Total	89.3%	10.7%	100.0%	100.0%
Offense Type	$X^2 = 45.1$, $df = 3$, $p < .001$, Cramer's $V = .04$, $p < .001$			
Person Crime	91.0%	9.0%	100.0%	24.1%
Property Crime	88.8%	11.2%	100.0%	31.8%
Drug Crime	88.4%	11.6%	100.0%	41.2%
Other	93.4%	6.6%	100.0%	2.9%
Total	89.3%	10.7%	100.0%	100.0%
Prior Total Arrests-Average ($t=12.7$, $p < .001$, Spearman's $Rho = -.09$, $p < .001$)	19.6	15.2	19.1	
Prior Total Drug Arrests - ($t=2.6$, $p < .001$, Spearman's $Rho = -.01$, $p < .01$)	1.4	1.3	1.3	

Prior Total Violent Arrests-Average ($t=11.3$, $p<.001$, Spearman's Rho = $-.08$, $p<.001$)	3.0	2.2	2.9	
Prior Drug Arrests	$X^2 = 68.2$, $df = 4$, $p<.001$, Cramer's V = $.05$, $p<.001$			
None	88.5%	11.5%	100.0%	23.6%
1-3 Drug Arrests	88.4%	11.6%	100.0%	40.1%
4-6 Drug Arrests	89.3%	10.7%	100.0%	19.4%
7-9 Drug Arrests	91.7%	8.3%	100.0%	9.7%
10+ Drug Arrests	93.8%	6.2%	100.0%	7.2%
Total	89.3%	10.7%	100.0%	100.0%
Prior Total Arrests	$X^2 = 125.3$, $df = 4$, $p<.001$, Cramer's V = $.07$, $p<.001$			
None	88.6%	11.4%	100.0%	0.1%
1-3 Arrests	85.9%	14.1%	100.0%	8.0%
4-6 Arrests	85.3%	14.7%	100.0%	10.9%
7-9 Arrests	87.2%	12.8%	100.0%	12.0%
10+ Arrests	90.7%	9.3%	100.0%	69.0%
Total	89.3%	10.7%	100.0%	100.0%
Prior Violent Arrests	$X^2 = 139.4$, $df = 4$, $p<.001$, Cramer's V = $.07$, $p<.001$			
None	86.4%	13.6%	100.0%	23.7%
1-3 Arrests	88.9%	11.1%	100.0%	47.0%
4-6 Arrests	91.8%	8.2%	100.0%	17.4%
7-9 Arrests	92.2%	7.8%	100.0%	6.5%
10+ Arrests	94.2%	5.8%	100.0%	5.4%
Total	89.3%	10.7%	100.0%	100.0%
Gang Affiliation	$X^2 = 160.9$, $df = 1$, $p<.001$, Phi = $-.08$, $p<.001$			
No	87.7%	12.3%	100.0%	69.3%
Yes	92.9%	7.1%	100.0%	30.7%
Total	89.3%	10.7%	100.0%	100.0%

Table 5. Bivariate Relationship Between Dependent Variable and Criminal Conduct: Of Those Recommended for Drug Treatment

	Did Not Receive Treatment	Received Treatment	Total	Percent of Sample
Current Drug-Law Violation	$X^2 = 5.0$, $df = 1$, $p < .025$, $\Phi = -.02$, $p < .025$			
Drug-Law Violation	84.3%	15.7%	100.0%	49.1%
All Other Offenses	82.6%	17.4%	100.0%	50.9%
Total	83.4%	16.6%	100.0%	100.0%
Current Violent Offense	$X^2 = 9.5$, $df = 1$, $p < .002$, $\Phi = .03$, $p < .002$			
Violent	80.9%	19.1%	100.0%	15.9%
All Others	83.9%	16.1%	100.0%	84.1%
Total	83.4%	16.6%	100.0%	100.0%
Offense Type	$X^2 = 24.1$, $df = 3$, $p < .001$, Cramer's $V = .05$, $p < .001$			
Person Crime	80.9%	19.1%	100.0%	15.9%
Property Crime	82.7%	17.3%	100.0%	31.4%
Drug Crime	84.3%	15.7%	100.0%	49.1%
Other	90.2%	9.8%	100.0%	3.5%
Total	83.4%	16.6%	100.0%	100.0%
Prior Total Arrests-Average ($t=9.4$, $p < .001$, Spearman's $Rho = -.12$, $p < .01$)	21.0	16.5	20.3	
Prior Total Drug Arrests - ($t=3.5$, $p < .001$, Spearman's $Rho = -.03$, $p < .01$)	1.5	1.3	1.5	

Prior Total Violent Arrests-Average (t=6.9, p<.001, Spearman's Rho= -.07, p<.001)	3.0	2.4	2.9	
Prior Drug Arrests	$X^2 = 57.6$, df = 4, p<.001, Cramer's V = .07, p<.001			
None	80.8%	19.2%	100.0%	23.6%
1-3 Drug Arrests	82.4%	17.6%	100.0%	40.1%
4-6 Drug Arrests	82.8%	17.2%	100.0%	19.4%
7-9 Drug Arrests	87.7%	12.3%	100.0%	9.7%
10+ Drug Arrests	90.2%	9.8%	100.0%	7.2%
Total	89.3%	10.7%	100.0%	100.0%
Prior Total Arrests	$X^2 = 83.1$, df = 4, p<.001, Cramer's V = .09, p<.001			
None	57.1%	42.9%	100.0%	0.1%
1-3 Arrests	75.4%	24.6%	100.0%	5.8%
4-6 Arrests	76.5%	23.5%	100.0%	9.5%
7-9 Arrests	82.3%	17.7%	100.0%	11.7%
10+ Arrests	85.2%	14.8%	100.0%	72.9%
Total	83.4%	16.6%	100.0%	100.0%
Prior Violent Arrests	$X^2 = 45.9$, df = 4, p<.001, Cramer's V = .067, p<.001			
None	81.1%	18.9%	100.0%	25.5%
1-3 Arrests	82.4%	17.6%	100.0%	45.4%
4-6 Arrests	86.1%	13.9%	100.0%	16.9%
7-9 Arrests	87.6%	12.4%	100.0%	6.6%
10+ Arrests	89.3%	10.7%	100.0%	5.6%
Total	83.4%	16.6%	100.0%	100.0%
Gang Affiliation	$X^2 = 8.8$, df = 1, p<.003, Phi = -.03, p<.003			
No	82.8%	17.2%	100.0%	72.7%
Yes	85.2%	14.8%	100.0%	27.3%
Total	83.4%	16.6%	100.0%	100.0%

Tables 6 and 7 below represent the bivariate findings of the relationship between the criminal conduct variables and the dependent variable. Table 7 represents the bivariate findings of the relationship between the criminal conduct variables and the dependent variable based on only those who were recommended treatment.

There was a relationship between the inmate's primary substance of abuse and whether or not they received treatment while in prison. Those who identified marijuana as the primary substance of abuse were also most likely to receive treatment services than other groups. Specifically, of those who identified marijuana as their primary substance of abuse, roughly 16% received treatment. Of those who identified crack/cocaine or alcohol as their primary substance of abuse, roughly 12% received treatment only 5% of heroin abusers received treatment. Of those who answered "none" to the primary substance of abuse, roughly 9% received treatment. The relationship between the inmate's primary substance of abuse and receipt of treatment was statistically significant, but weak (Cramer's $V=.09$, $p<.001$).

There was also a relationship between the inmate's perceived importance of receiving treatment and whether or not they received substance abuse treatment. The more important the inmate felt they needed treatment, asked as "How important is it for you to get treatment now?" during the intake process, the more likely they were to receive treatment. The relationship between the inmate's desire for treatment and receipt of treatment was statistically significant, but modest (Cramer's $V=.20$, $p<.001$).

There was also a relationship between the inmate's prior treatment history and whether or not they received substance abuse treatment. Inmates who had received

treatment one time previously were most likely to receive substance abuse treatment while in prison. On the other hand, those who had a minimum of three treatment episodes were less likely to receive treatment while in prison. Specifically, 14% of those who had received treatment once received treatment compared to the 11% who had at least three prior treatment episodes. Roughly 10.5% of those who had never received treatment received their first substance abuse treatment while in prison. The relationship between the inmate's prior treatment history and receipt of treatment was statistically significant, but weak (Cramer's $V=.04$, $p<.001$).

When analyses were performed using only the sub-sample of inmates who had been recommended to receive treatment, the general patterns found in the total sample analyses were confirmed, although the overall prevalence of treatment receipt increased across all the categories.

There was a relationship between the treatment recommendation and whether or not they received substance abuse treatment. In general, those who were recommended treatment were more likely to receive it. For example, nearly 17% of those who were recommended treatment received it while 7% of those who were *not* recommended treatment received it anyway. More specifically, of those who scored a minimum of three on the TCU Drug Screen II tool, about 16% received treatment compared to the 7% of those who scored below a three on the assessment tool. Although the relationship was statistically significant, it was weak (Cramer's $V = .15$, $p<.001$). This was one of the most perplexing findings due to the group of inmates who were not recommended treatment, but received services anyway.

The treatment of those who are not recommended could be for several reasons. Inmates may not accurately report information on their needs at the reception classification centers due to general uncertainty of correctional processes. Inmates may not disclose information about their substance use history or deny they have a substance dependency problem, then once they are assimilated in their environment they decide they really do want treatment (for their own well-being or for time off of their sentence). They also might realize that those who are eligible for earned time credit receive time off of their sentence for participating in treatment which may influence the inmate to seek out treatment possibilities. Treatment information ultimately relies on offenders being honest and disclosing their needs.

Table 6. Bivariate Relationship Between Dependent Variable and Treatment Variables: Total Sample

	Did Not Receive Treatment	Received Treatment	Total	Percent of Sample
Primary Substance of Abuse	$X^2 = 103.1$, $df = 5$, $p < .001$, Cramer's $V = .07$, $p < .001$			
None	90.6%	9.4%	100.0%	21.4%
Alcohol	88.1%	11.9%	100.0%	28.9%
Marijuana	84.2%	15.8%	100.0%	8.8%
Cocaine/Crack	87.7%	12.3%	100.0%	7.2%
Heroin	95.2%	4.8%	100.0%	5.8%
Other	87.4%	12.6%	100.0%	27.9%
Total	88.5%	11.5%	100.0%	100.0%
Desire for Treatment: "How important is it for you to get treatment now?"	$X^2 = 737.8$, $df = 4$, $p < .001$, Cramer's $V = .20$, $p < .001$			
Not At All	93.4%	6.6%	100.0%	57.5%
Slightly	87.9%	12.1%	100.0%	5.3%
Moderately	85.5%	14.5%	100.0%	10.8%
Considerably	81.9%	18.1%	100.0%	14.8%
Extremely	76.2%	23.8%	100.0%	11.7%
Total	88.5%	11.5%	100.0%	100.0%

Prior Treatment History	$X^2 = 29.7$, $df = 3$, $p < .001$, Cramer's $V = .04$, $p < .001$			
Never	89.4%	10.6%	100.0%	66.4%
1 Time	86.4%	13.6%	100.0%	23.0%
2 Times	87.8%	12.2%	100.0%	8.5%
3 or More Times	88.9%	11.1%	100.0%	2.1%
Total	88.5%	11.5%	100.0%	100.0%
TCU Recommended 3+	$X^2 = 321.4$, $df = 1$, $p < .001$, Cramer's $V = .13$, $p < .001$			
No	92.4%	7.6%	100.0%	53.4%
Yes	84.1%	15.9%	100.0%	46.6%
Total	89.3%	10.7%	100.0%	100.0%
Treatment Recommended	$X^2 = 480.8$, $df = 1$, $p < .001$, Cramer's $V = .15$, $p < .001$			
No	92.9%	7.1%	100.0%	52.2%
Yes	83.4%	16.6%	100.0%	47.8%
Total	88.4%	11.6%	100.0%	100.0%
TCUDS Total Score ($t=4.9$, $p < .001$, Spearman's Rho=.14, $p < .01$)	2.9	4.7	3.1	

Table 7. Bivariate Relationship Between Dependent Variable and Treatment Variables:
Of Those Recommended for Drug Treatment

	Did Not Receive Treatment	Received Treatment	Total	Percent of Sample
Primary Substance of Abuse	$X^2 = 164.2$, $df = 5$, $p < .001$, Cramer's $V = .13$, $p < .001$			
None	79.9%	20.1%	100.0%	7.2%
Alcohol	84.3%	15.7%	100.0%	34.2%
Marijuana	83.3%	16.7%	100.0%	13.8%
Cocaine/Crack	86.9%	13.1%	100.0%	12.8%
Heroin	95.0%	5.0%	100.0%	10.7%
Other	77.8%	22.2%	100.0%	21.2%
Total	83.9%	16.1%	100.0%	100.0%
Desire for Treatment "How important is it for you to get treatment now?"	$X^2 = 281.4$, $df = 4$, $p < .001$, Cramer's $V = .17$, $p < .001$			
Not At All	94.2%	5.8%	100.0%	19.4%
Slightly	86.6%	13.4%	100.0%	7.2%
Moderately	84.7%	15.3%	100.0%	17.9%

Considerably	81.5%	18.5%	100.0%	25.8%
Extremely	75.8%	24.2%	100.0%	20.6%
Total	83.9%	16.1%	100.0%	100.0%
Prior Treatment History	$X^2 = 2.9$, $df = 3$, $p < .413$, Cramer's $V = .02$, $p < .413$			
Never	84.0%	16.0%	100.0%	51.1%
1 Time	83.3%	16.7%	100.0%	33.5%
2 Times	81.8%	15.2%	100.0%	12.2%
3 or More Times	86.5%	13.5%	100.0%	3.3%
Total	83.9%	16.1%	100.0%	100%
TCU Recommended 3+	$X^2 = 61.1$, $df = 1$, $p < .001$, Cramer's $V = .08$, $p < .001$			
No	89.9%	10.1%	100.0%	19.5%
Yes	82.5%	17.5%	100.0%	80.5%
Total	83.9%	16.1%	100.0%	100.0%
TCUDS Total Score ($t=3.5$, $p<.048$, Spearman's Rho ($skew=.86.1$) $=-.11$, $p<.01$)	5.4	6.4	5.5	

Tables 8 and 9 below represent the bivariate findings of the relationship between the criminal conduct variables and the dependent variable. Table 9 represents the bivariate findings of the relationship between the criminal conduct variables and the dependent variable based on only those who were recommended treatment.

There was a relationship between whether or not the inmate was eligible for earned time credit and the receipt of treatment in prison. About half (51.3%) of inmates were eligible for earned time credit, while the other half were not (48.7%). Of those who were eligible for earned time, about 15% received treatment compared to the 6% who were not eligible for earned time credit. The relationship between whether or not the inmate was eligible for earned time credit and receipt of treatment was statistically significant, but weak ($\Phi=.14$, $p<.001$).

There was also a relationship between the inmate's security classification and whether or not they received substance abuse treatment. The higher the security classification, the less likely the inmate would receive treatment in prison. For example, of those who were classified as maximum security inmates, only 4% received treatment. On the other hand, of those who were classified as minimum security inmates, roughly 12.5% received treatment. The relationship between the inmate's security classification and receipt of treatment was statistically significant, but weak (Cramer's $V=.08$, $p<.001$).

There was a nonlinear relationship between the inmate's length of stay and whether or not they received substance abuse treatment. The inmates who were at the greatest likelihood to receive treatment were those incarcerated between 6-30 months. If the inmate's length of stay was less than 6 months or more than 30 months, their likelihood for treatment services was less than that of inmates serving 6-30 months. Specifically, only 2.7% of inmates serving less than 6 months received treatment and only 2.1% of inmates serving 48 months or more received treatment. On the other hand, roughly 19% of inmates serving between 12-18 months received treatment while in prison. The relationship between the inmate's length of stay and receipt of treatment was statistically significant, but modest (Cramer's $V=.21$, $p<.001$) ($r=.12$, $p<.01$).

There was also a relationship between the inmate's total time spent in jail and whether or not they received treatment while in prison. Those who did not receive treatment services averaged more days in jail than those who were given treatment in prison. For example, those who did not receive treatment averaged roughly 144 days in jail, while those who received treatment averaged 113 days in jail. The relationship

between total jail time and receipt of treatment was statistically significant ($t > 1.96$), but weak ($r = -.05$, $p < .001$).

When analyses were performed using only the sub-sample of inmates who had been recommended to receive treatment, the general patterns found in the total sample analyses were confirmed, although the overall prevalence of treatment receipt increased across all the categories. Thus, both of the bivariate analyses of the sentencing variables revealed that those inmates who were minimum security, spent less time in jail, and between 6-30 months in prison, were most likely to receive substance abuse treatment than their counterparts.

Table 8. Bivariate Relationship Between Dependent Variable and Sentencing Variables: Total Sample

	Did Not Receive Treatment	Received Treatment	Total	Percent of Sample
Earned Time Eligibility	$X^2 = 506.8$, $df = 1$, $p < .001$, $\Phi = .14$, $p < .001$			
No	93.7%	6.3%	100.0%	48.7%
Yes	85.2%	14.8%	100.0%	51.3%
Total	89.3%	10.7%	100.0%	100.0%
Security Classification	$X^2 = 178.0$, $df = 3$, $p < .001$, Cramer's $V = .08$, $p < .001$			
Minimum	87.5%	12.5%	100.0%	59.1%
Medium	91.4%	8.6%	100.0%	37.4%
Maximum	95.9%	4.1%	100.0%	1.6%
Pending	100%	0%	100.0%	1.8%
Total	89.3%	10.7%	100.0%	100.0%
Length of Stay	$X^2 = 1131.5$, $df = 8$, $p < .001$, Cramer's $V = .21$, $p < .001$			
6 Months or Less	97.3%	2.7%	100.0%	27.0%
6-12 Months	85.5%	14.5%	100.0%	31.6%
12-18 Months	80.9%	19.1%	100.0%	12.5%
18-24 Months	83.7%	16.3%	100.0%	8.0%
24-30 Months	84.9%	15.1%	100.0%	5.4%
30-36 Months	88.5%	11.5%	100.0%	3.8%
36-42 Months	92.9%	7.1%	100.0%	2.6%

42-48 Months	94.5%	5.5%	100.0%	1.4%
48+ Months	97.9%	2.1%	100.0%	7.8%
Total	89.3%	10.7%	100.0%	100.0%
Jail Time in Days ($t=8.3$, $p<.001$, $r=-.05$, $p<.01$)	144.1	113.7	140.9	
Length of Stay in Months ($t=6.9$, $p<.001$, Spearman's Rho=.12, $p<.01$)	15.8	12.0	15.4	

Table 9. Bivariate Relationship Between Dependent Variable and Sentencing Variables:
Of Those Recommended for Drug Treatment

	Did Not Receive Treatment	Received Treatment	Total	Percent of Sample
Earned Time Eligibility	$X^2 = 72.8$, $df = 1$, $p<.001$, $\Phi = .08$, $p<.001$			
No	87.0%	13.0%	100.0%	43.6%
Yes	80.7%	19.3%	100.0%	56.4%
Total	83.4%	16.6%	100.0%	100.0%
Security Classification	$X^2 = 33.3$, $df = 3$, $p<.001$, Cramer's $V = .06$, $p<.001$			
Minimum	82.3%	17.7%	100.0%	56.7%
Medium	84.3%	15.7%	100.0%	41.0%
Maximum	89.0%	11.0%	100.0%	1.2%
Pending	100%	0.0%	100.0%	1.1%
Total	83.4%	16.6%	100.0%	100.0%
Length of Stay	$X^2 = 959.4$, $df = 8$, $p<.001$, Cramer's $V = .30$, $p<.001$			
6 Months or Less	97.5%	2.5%	100.0%	32.5%
6-12 Months	81.3%	18.7%	100.0%	34.4%
12-18 Months	66.9%	33.1%	100.0%	12.9%
18-24 Months	67.7%	32.3%	100.0%	7.9%
24-30 Months	74.0%	26.0%	100.0%	5.5%
30-36 Months	81.1%	18.9%	100.0%	4.2%
36-42 Months	88.3%	11.7%	100.0%	1.9%
42-48 Months	84.8%	15.2%	100.0%	0.4%
48+ Months	93.5%	6.5%	100.0%	0.3%
Total	83.4%	16.6%	100.0%	100.0%
Jail Time in Days	112.0	120.2	113.3	

p=.99				
Length of Stay in Months (t=-19.9, p<.001, Spearman's Rho (skew=1.45) =.306, p<.01	7.9	12.0	8.6	

Multivariate Results

Summarized in Table 10 are the results of the multivariate analyses based on the total sample. According to the multivariate analyses, the only independent variable included that was not a statistically significant predictor of treatment participation after statistically controlling for the other variables was number of prior treatment episodes. Variables in the multivariate analyses that were statistically significant in predicting access to treatment were gender, race (only if the inmate was Hispanic), age, education level, criminal history (number of total prior arrests), gang affiliation, current offense (drug-law violations vs. all other offenses), treatment recommendation, desire to receive treatment, primary substance of abuse, security level classification, length of stay, earned time credit eligibility, and total jail time. Based on the Wald statistic, the variables that had the strongest effect on predicting the receipt of treatment in prison were: age, desire for treatment, security level classification, and length of stay. Length of stay was the strongest predictor of treatment receipt in prison with a Wald statistic of 564.186.

The analyses indicated that gender played a role in explaining which inmates accessed treatment, with males being less likely than females to access treatment after all of the other variables were statistically controlled. Specifically, male inmates were 53% less likely to receive treatment in prison than females (odds ratio of .47). While all other

races did not have a statistically significant relationship with treatment receipt, Hispanics were less likely than white inmates to receive treatment. Specifically, Hispanics were 17% less likely than white inmates to receive treatment in prison (odds ratio of .83). Age also played a significant role in explaining the receipt of treatment in prison, with older inmates being less likely than younger inmates to access treatment while in prison. Specifically, for every year older the inmate was, they were roughly 4% less likely to receive treatment (odds ratio of .96).¹ The education level of the inmate also played a role in predicting the receipt of treatment in prison. Those without a high school diploma or GED were 14% less likely to receive treatment than inmates who had their high school diploma or GED (odds ratio of .86).

The multivariate analyses indicated that the criminal conduct variables influenced the receipt of treatment while in prison. For example, inmates serving their sentence for a drug-law violation were more likely to receive treatment in prison than those serving time for any other offense. Specifically, those whose current offense was a drug-law violation were 12% more likely than those serving time for all other offenses to receive treatment (odds ratio of 1.1). Gang affiliation also had a statistically significant role in determining the receipt of treatment in prison, with gang members less likely than non-gang members to receive treatment. For example, those affiliated with a gang were 22% less likely to receive treatment than those who were not gang affiliated (odds ratio of .78).

¹ In a separate logistic regression model where age was recoded into ordinal categories (17-25, 26-35, 36-45, 46+), the pattern was the same, with older inmates being less likely to access treatment. For example, the ordinal level measure of age revealed that inmates who were 26-36 years old were over 40% less likely than the reference group, inmates 17-25 years old, to receive treatment (odds ratio of .590) and inmates who were 46 or older were about 64% less likely to receive drug treatment in prison compared to inmates between the ages of 17 and 25 (odds ratio of .363).

The number of total prior arrests also played a role in determining the receipt of treatment services in prison, with those who had extensive criminal histories being less likely to receive treatment. Specifically, for every additional total prior arrest the inmate had, they became 1% less likely to receive treatment (odds ratio of .99). In an effort to reveal more about the relationship between prior arrests and treatment access, including possible non-linear relationships, criminal history was recoded several ways in the separate multivariate analyses. First, the number of total prior arrests was recoded into an ordinal variable based on the following ranges of prior arrests: 1-3 prior arrests, 4-6 prior arrests, 7-9 prior arrests, 10+ prior arrests. The ordinal level measurement confirmed that those who had more prior arrests were less likely to receive treatment. For example, inmates who had 7-9 prior arrests were 28% less likely to receive treatment than those who had 1-3 prior arrests (odds ratio of .72). Moreover, those who had 10 or more prior arrests were over 30% less likely to receive treatment compared to those who had 1-3 prior arrests (odds ratio of .69). The number of prior violent arrests and number of prior drug arrests were not included as separate independent variables in the analyses due to a high degree of multicollinearity with the total arrests measure (Spearman's $Rho > .6$).

The variables that directly related to the need for drug treatment, including being recommended for services during the Reception and Classification process, the inmate's desire for treatment, and the primary substance of abuse, were all statistically significant in determining the receipt of treatment access in prison. For example, those who were recommended to receive drug treatment were 40% more likely to receive services while in prison compared to those who were not recommended drug treatment (odds ratio of

1.39). The inmate's desire to receive treatment also played a significant role in the receipt of treatment, with those who desired treatment being more likely than those who did not to receive drug treatment services in prison. For example, those who answered "moderately" or "considerably" to the question "how important is it for you to get drug treatment now?" were about two times more likely to receive treatment than those who answered "not at all" to that same question (odds ratio of 1.90 and 2.40). Those who answered "extremely" were over 3 times more likely to receive treatment (odds ratio of 3.33).

Primary substance of abuse also played a role in determining whether or not the inmate received treatment in prison. For example, those who claimed heroin as their primary substance of abuse were over 50% less likely to receive treatment than those who denied having a substance abuse problem (odds ratio of .48). On the other hand, inmates who identified "other drugs" as their primary substance of abuse were approximately 40% more likely to receive treatment than those who reported "none" as their primary substance of abuse (odds ratio of 1.42). Alcohol, Marijuana, Cocaine/Crack were not statistically significant in the analyses ($p > .05$).

Security level classification, length of stay, eligibility for earned time credit, and total jail time all played a significant role in explaining the receipt of treatment in prison. Inmates classified at a higher security level were less likely than inmates classified with a lower security level to access treatment while in prison. Specifically, medium security level inmates were roughly 50% less likely to access treatment than minimum security level inmates (odds ratio of .52), and maximum security level inmates were about 85%

less likely to receive treatment in prison compared to minimum security inmates (odds ratio .16).

Length of stay had the largest impact in determining whether or not treatment was received in prison. Relative to those who served less than 6 months, those who served longer were more likely to access treatment. For the multivariate analyses, length of stay was recoded into several categories (less than 6 months, 6-12 months, 12-18 months, 18-24 months, 24-30 months, 30-36 months, 36+ months). Those who served between 18-24 months were over 4 times more likely to receive treatment than those who served less than 6 months (odds ratio of 4.25). Furthermore, those who served between 12-18 months were over 5 times more likely to receive treatment than those who served less than 6 months (odds ratio of 5.10).

To further refine the influence that length of stay had on access to treatment, the variable was grouped into three categories (less than 6 months, between 6-30 months, and 30+), which revealed a similar trend. The effect showed that the 6-30 month group was considerably more likely to receive treatment than the other two groups. Those who were in prison for less than 6 months or more than 30 months were less likely than those whose length of stay was between 6-30 months to receive treatment. Specifically, those who were in prison for 6-30 months were about 4 times more likely to receive treatment than those who served less than 6 months (odds ratio of 3.73).

Earned time eligibility also played a significant role in explaining the receipt of treatment in prison, with inmates who were eligible for earned time being more likely than ineligible inmates to access treatment while in prison. For example, inmates eligible

for earned time were about 75% more likely to receive treatment than inmates who were not eligible for earned time (odds ratio 1.76).

As previously mentioned, separate multivariate analyses were performed including just those who were recommended for drug treatment. The results of the analyses were similar with the exception that gang membership, race, and total jail time were not statistically significant variables when only those who were recommended for treatment were included in the analysis. The strength of the length of stay strengthened dramatically; increasing in magnitude by about 15% when just those who were recommended treatment were included. For example, in the logistic regression of just those recommended for drug treatment, those serving between 12-18 months were roughly 11 times more likely to receive treatment than those who served less than 6 months (odds ratio of 10.97). Furthermore, those who served between 18-24 months were 8 times more likely to receive treatment than those who served less than 6 months (odds ratio of 8.00).

Overall, the predictive accuracy for treatment entry was moderate, explaining about 22% of the overall variation when all cases were included (Nagelkerke R^2 of .22). When just those who were recommended for drug treatment were included in the analyses, the predictive accuracy increased to roughly 25% (Nagelkerke R^2 of .25). The variable that was statistically significant and had the greatest impact on predicting treatment access, based on the Wald statistic, was length of stay. Other variables that were statistically significant and also showed to carry relatively greater weight in

predicting whether or not treatment was received in prison were gender, age, desire to receive treatment, eligibility for earned time credit, and security level classification.

Table 10. Multivariate Analyses Results: Total Sample

	B	S.E.	Wald	Exp(B) (Odds Ratio)
Gender (0=Female 1=Male)	-0.75	0.10	63.46	0.47***
Race (White is the reference category)			5.75	
Black	0.02	0.06	0.06	1.02
Hispanic	-0.19	0.09	4.20	0.83*
Other	-0.14	0.427	0.111	0.867
Age	-0.04	0.01	177.38	0.96***
Education Level (0=GED/HS Diploma 1=No GED/HS Diploma)	-0.15	0.05	8.54	0.86**
Total Prior Arrests	-0.01	0.00	12.08	0.99***
Current Drug Offense (0=All Others 1=Current Drug Offense)	0.11	0.05	4.53	1.12*
Gang Affiliation (0=No 1=Yes)	-0.24	0.07	13.43	0.78***
Treatment Recommendation (0=No 1=Yes)	0.33	0.09	14.32	1.39***
Desire for Treatment ("Not At All is the reference category")			145.05	
Slightly	0.29	0.13	4.91	1.34*
Moderately	0.64	0.10	39.35	1.90***
Considerably	0.88	0.10	79.78	2.40***
Extremely	1.20	0.10	132.66	3.33***
Number of Prior Treatment Episodes (Never is the reference category)			4.00	
1 Time	0.08	0.06	1.71	1.08
2 Times	-0.06	0.09	0.428	0.94
3 or More Times	-0.179	0.18	1.00	0.84
None			69.40	
Primary Substance of Abuse (Alcohol is the reference category)	0.02	0.08	0.05	1.02

Marijuana	0.08	0.10	0.53	1.08
Crack/Cocaine	-0.11	0.12	0.82	0.90
Heroin	-0.73	0.17	18.33	0.48***
Other	0.35	0.08	20.00	1.42***
Security Level Classification (Minimum is the reference category)			153.00	
Medium	-0.65	0.06	135.58	0.52***
Maximum	-1.86	0.38	23.97	0.16***
Pending	-18.68	2690.93	0.00	0.00
Length of Stay (Less Than 6 Months is the reference category)			564.19	
6-12 Months	1.25	0.06	394.91	3.48***
12-18 Months	1.62	0.08	368.27	5.06***
18-24 Months	1.45	0.11	177.68	4.25***
24-30 Months	0.76	0.12	30.73	2.15***
30-36 Months	0.18	0.26	0.47	1.20
36+ Months	-0.97	1.03	0.89	0.38
Eligibility for Earned Time Credit (0=No 1=Yes)	0.57	0.06	77.28	1.76***
Jail Time	-0.01	0.00	8.67	0.99*
Constant	-5.55	672.73	0.00	0.01

*p<0.05, **p<0.01, ***p<0.001. Nagelkerke R² = .22

B refers to the regression coefficient and (B) refers to the estimated odds ratio

Table 11. Multivariate Analyses Results: Of Those Recommended for Drug Treatment

	B	S.E.	Wald	Exp(B) (Odds Ratio)
Gender (0=Female 1=Male)	-0.80	0.11	56.56	0.45***
White			3.56	
Black	-0.01	0.07	0.02	0.99
Hispanic	-0.20	0.12	2.92	0.82
Other	0.22	0.47	0.22	1.24
Age	-0.02	0.004	28.534	0.98***
Education Level (0=GED/HS Diploma 1=No GED/HS Diploma)	-0.18	0.07	7.71	0.84**
Total Prior Arrests	-0.01	0.00	6.17	0.99*
Current Drug Offense (0=All Others 1=Current Drug)	0.15	0.07	5.62	1.17*

Offense)				
Gang Affiliation (0=No 1=Yes)	-0.05	0.08	0.47	0.95
Not At All			40.71	
Slightly	0.13	0.17	0.55	1.13
Moderately	0.42	0.13	11.12	1.53***
Considerably	0.52	0.12	17.77	1.67***
Extremely	0.73	0.13	32.69	2.07***
Never			3.86	
1 Time	0.10	0.07	1.94	1.10
2 Times	-0.05	0.10	0.23	0.95
3 or More Times	-0.16	0.19	0.74	0.85
None			27.83	
Alcohol	0.20	0.12	2.88	1.22
Marijuana	0.342	0.135	6.41	1.41*
Crack/Cocaine	0.159	0.141	1.26	1.17
Heroin	-0.343	0.191	3.23	0.71
Other	0.387	0.121	10.21	1.47***
Minimum			35.93	
Medium	-0.297	0.065	21.04	0.74***
Maximum	-1.833	0.439	17.45	0.16***
Pending	-18.832	3675.365	0.00	0.00
Less Than 6 Months			644.63	
6-12 Months	1.914	0.087	484.343	6.777***
12-18 Months	2.395	0.11	473.511	10.971***
18-24 Months	2.079	0.128	263.54	8***
24-30 Months	1.303	0.154	71.718	3.681***
30-36 Months	0.779	0.277	7.931	2.179**
36+ Months	-0.302	1.03	0.086	0.74
Eligibility for Earned Time Credit (0=No 1=Yes)	0.469	0.077	37.49	1.598***
Jail Time	0	0	0.93	1
Constant	-5.731	918.841	0	0.003

*p<0.05, **p<0.01, ***p<0.001. Nagelkerke R² = .249

B refers to the regression coefficient and (B) refers to the estimated odds ratio

Bivariate and multivariate analyses revealed that overall, roughly 50% of inmates released from Illinois Department of Corrections in 2007 were recommended as needing

drug treatment services; however, only 11% of all inmates received treatment and less than 17% of those who were recommended as needing drug treatment received it while incarcerated. The variables that were most predictive of treatment access were gender, age, number of prior arrests, treatment recommendation, desire for treatment, eligibility for earned time credit, and length of stay. Women were more likely than men to receive treatment, younger inmates were more likely to receive treatment than older inmates, and inmates with fewer prior arrests were more likely than those with length criminal history records to access treatment services while in prison. Furthermore, those who were recommended for services and desired treatment were more likely to receive it and those who were eligible for earned time credit were also more likely to access drug treatment in prison compared to those who were not eligible. Lastly, length of stay carried the greatest predictive power in determining whether or not an inmate received drug treatment. Those who served less than 6 months and more than 30 months were least likely to receive treatment, while those whose length of stay was between 6-30 months were most likely to receive treatment services.

These patterns affirmed a steady observation in the field that offenders with substance abuse problems are over-represented in the criminal justice system, yet under-treated in correctional settings. These findings also illustrate various issues related to the principles of effective intervention and exemplify the challenges of providing substance abuse treatment to the highest risk offenders and how sentencing developments impact access to treatment.

Discussions, Limitations, and Conclusions

The present study revealed several important findings that can be utilized to better understand, create, and implement correctional programs and policies in regards to treatment services. First, the present study found similar patterns as that found in the literature regarding need for substance abuse treatment among prison inmates and their limited access to this treatment while incarcerated. A review of the literature suggests that approximately 50% of state and federal inmates in the United States are in need of drug treatment (Mumola & Karberg, 2006; Welsh & Zajac, 2013), and the current study reached a similar conclusion: roughly 48% of the Illinois prison release sample were identified as needing treatment. Belenko and Peugh (2005) found that only about 20% of those inmates who were identified as needing treatment received it during their incarceration period. In the current study, results from both the bivariate and multivariate analyses confirmed that, of the total sample of the inmates released from Illinois' prisons in 2007 after completing a court-imposed sentence, approximately 11% received drug treatment during their period of incarceration. In order to see the distribution of receipt of treatment from a different perspective, the data were analyzed based on a sample of just those who were recommended as needing drug treatment. Of those who were recommended as needing treatment, 16.6% received it. Analyses of the relationship between treatment receipt and treatment recommendation were also performed and found that of those who were *not* recommended treatment, over 7% received treatment in prison despite the original recommendation at the reception and classification center.

This study sought to discover what factors predict whether or not an inmate receives treatment services while in prison, and if the patterns of treatment receipt adhere to the principles of effective intervention. The results of the presented study suggest that the greatest predictor in determining receipt of treatment is the inmate's length of stay. Specifically, inmates whose length of stay was between 6-30 months had the greatest likelihood of receiving treatment while in prison. This research found that those who are in prison for the shortest amount of time are the least likely to access treatment, all other things being equal, which presents larger policy issues regarding sentencing practices and treatment access. It is recommended that future research examine the intersection between sentencing practices and whether or not sentences to prison for these inmates provides any rehabilitation due to their short length of stay. The short sentences provide the punishment and the incapacitation for a brief period of time, but it does not allow for the opportunity to provide inmates with rehabilitative services. Aside from length of stay, other variables that were shown to impact whether or not the inmate received drug treatment in prison were gender, age, desire to receive treatment, eligibility for earned time credit, and security level classification.

A review of the literature suggests that it is essential to treat the individuals who are going to benefit from treatment the most. Adherence to the risk, needs, and responsivity principles in a treatment setting is one of the greatest challenges in providing prison-based drug treatment. One of the challenges in providing treatment to those who are the highest risk is that these individuals may be seen as less deserving of treatment, especially if they have an extensive criminal history or have a history of violence.

Another challenge with adhering to the principles of effective intervention is that high risk inmates may be labeled as too dangerous to be eligible for treatment services due to security classification guidelines in prisons. This could explain why inmates at a higher security classification were far less likely to receive treatment in prison compared to minimum security inmates.

Clearly, there is an interesting tension between the short-term security concerns of facilities and the long-term benefits of recidivism reduction, making those who could benefit for treatment ineligible for services. Although there were some interesting findings in the present study, there were also limitations. The main limitation of this study was that the sample examined was based on an exit cohort of inmates released in SFY 2007. Exit cohorts may over-represent inmates who have been sentenced to short incarceration periods and may under-represent those who have served long sentences and are potentially biased toward offenders who have committed less serious offenses that yield shorter sentences. However, the sample used for the present study is representative of those exiting prison (not the population of those who are incarcerated) and measures access to treatment while in prison *of those released from prison*. Other limitations included the inability to determine if the inmate needed treatment and was possibly referred to services following their release from prison as well as the inability to determine whether or not the treatment program was completed. It is also questionable as to whether or not the perceived need for treatment at admission is accurate, and may explain why those not recommended for treatment at intake eventually did receive treatment regardless of the recommendation.

Despite the limitations, the current research suggests that not only does sentencing impact the receipt of treatment, but the operational considerations within prisons play a major role in determining who receives treatment while in prison - regardless of the risk, needs, and responsivity principles. The relationship between some risk factors and treatment access did show adherence to the risk, needs, and responsivity principles (i.e., age); however, many of them did not (i.e., criminal history, security classification, etc.). This could be because of policy implications, sentencing practices, or the operations of the prison system. Age suggests that the principles of effective intervention are being followed. The younger the person was, the higher risk and the more likely they were to receive treatment. There is a possibility that the higher risk are being targeting for treatment; however, it is more likely because those who are younger are seemingly more amenable to treatment.

The presented research revealed many interesting findings. One interesting finding revealed in the study was found within the group of inmates who were not recommended treatment. In general, those who were recommended drug treatment were more likely to receive services (17% vs. 7%). However, what was most perplexing was the 7% of the total sample (N=26,534) who were not recommended treatment, but received services regardless of the recommendation. Treatment assessment and information ultimately relies on offenders being honest and disclosing their needs. Inmates who were not recommended treatment may have received services regardless of recommendation due to not accurately report information on their needs at the reception classification centers because of general apprehension or uncertainty of correctional

processes. Inmates may not disclose information about their substance use history or may even deny they have a substance dependency problem, then once they are assimilated in their environment they decide they really do want treatment (for their own well-being or for time off of their sentence). Inmates might also realize that those who are eligible for earned time credit receive time off of their sentence for participating in treatment which may influence the inmate to seek out treatment possibilities.

Another interesting finding revealed in this study was the effect race had on predicting the receipt of treatment. Relative to Whites, Blacks, Asians, and Native Americans were not statistically more or less likely to receive treatment in prison; however, being Hispanic, relative to Whites, was statistically related to the receipt of treatment. In general, Hispanics were less likely to receive treatment while in prison. While the strength of this relationship was weak, if this pattern is consistent, research on language barriers to prison-based treatment should be examined.

Although this research was specifically designed toward correctional practices, treatment programs, and policies in the State of Illinois, these findings can spur more research nationwide or in other states on treatment access. The limited availability of treatment in prison and the uncertainty of following the risk, needs, and responsiveness principles provides a great opportunity to examine these issues on a larger scale. More research is needed to overcome the challenges that come along with providing treatment in prison because it is clear that treatment procedures are inconsistent with other policy or sentencing goals.

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VITA

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