BLESSINGS AND CURSES: THE IMPACT OF THE NORTH DAKOTA OIL BOOM ON OFFENDER REENTRY AND REINTEGRATION INTO THE COMMUNITY

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The Supervisory Committee certifies that this ***disquisition*** complies with North Dakota State University's regulations and meets the accepted standards for the degree of

DOCTOR OF PHILOSOPHY

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ABSTRACT

Education, employment, housing, and substance abuse pose significant problems to the successful reentry of individuals released from prison. The current research project utilized a natural experiment, an oil boom in a Midwestern state, to examine changes in offender reentry and recidivism outcomes overtime. The first part of the study compared a sample of offenders released from prison prior to the oil boom to a sample of offenders released from prison during the highest peak of the oil boom. Comparisons were made on variables known in the literature to be predictive of recidivism during the reentry process; these include risk, education, employment, housing, substance abuse, and treatment. Recidivism was measured as a new conviction, technical violation, and re-incarceration. The follow-up period for both samples was two years.

The second part of the study incorporated the perspectives of probation and parole officers. All officers in the Midwestern state were surveyed on their perception of offender reentry and how it may have changed as a result of oil boom influences. Officer attitudes, philosophies, and supervision strategies were analyzed in relation to their perceptions on offender reentry and the oil boom.

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DEDICATION

To my loving parents, brother, and grandparents: at times you wanted me to have my Ph.D. more than I did. Thank you for always believing, pushing, and wanting more for me.

To my wonderful fiancée and soon-to-be husband: now that this work is complete, our life together can finally start! Thank you for being so patient, supportive, and comforting through all the years, miles apart, and seemingly unending schoolwork. I would not have succeeded without you.

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-Dr. B.

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INTRODUCTION

Nearly 730,000 adults leave state and federal prisons and return to society each year (U.S. Department of Justice, 2011). Released offenders are likely to have characteristics of low levels of education (see Harlow, 2003; Jensen & Reed, 2006; Nally et al., 2014; Steurer, Smith, & Tracy, 2001), limited vocational skills (see James 2007; Petersilia, 2003; Travis, 2005; Wilson et al., 2000), substance abuse issues (see Belenko, Foltz, Lang, & Sung, 2004; Hiller, Knight, & Simpson, 2000; Solomon et al., 2004), and few social supports (see Kling, 2006; Petersilia, 2003; Wakefield & Uggen, 2010; Wolff et al., 2012). Research suggests that few offenders are prepared for life on the outside; with little offered less assistance in their reintegration many face an increasing likelihood of being returned to prison for parole violations of new crimes (Baillargeon, Hoge, & Penn, 2010; Marlowe, 2002; Petersilia, 2003; Petersilia, 2004; Peterson, Skeem, Hart, Vidal, & Keith, 2010). Offender reentry is an important area to study as large proportions of offenders are leaving prison unprepared for the community. The statistics for offenders who are unsuccessful in their reentry process are striking.

Within three years of release, two-thirds (67.8%) of offenders are rearrested (Langan & Levin, 2002; Petersilia, 2003; Travis, 2005). More than half (56.7%) are rearrested by the end of the first year. One-quarter (25.4%) are back in prison for a new offense and half (51.8%) are re-incarcerated for a technical violation or a new offense (Langan & Levin, 2002; Petersilia, 2003; Travis, 2005). These findings suggest that over half of those released had contact with the criminal justice system again within three years. The number of offenders failing during the reentry process exemplifies that offender reentry is a complex issue extending beyond simply releasing offenders from custody. The importance for research and understanding of the barriers offenders face upon release is crucial to offender success in the community. Researching this

topic will provide more information on how to address offender reentry and what changes overtime are influencing the challenges offenders face in society.

The current project seeks to fill a gap in the reentry literature. Much literature exists on offender reentry but this study is unique in the sense that it uses a natural experiment to study the outcomes of offender reentry. The project examines how an oil boom impacts offenders released from institutional custody (prison) in a Midwestern state and the important variables related to offender reentry such as housing, substance abuse, education, and employment. A time period before the oil boom (2006) will be compared to a time period during the highest peak of the oil boom (2013). The two time periods will document the role of the oil boom on offender reentry overtime. A review of the literature suggests that few if any reentry studies have examined reentry at two different time points. As a result of many newly released offenders being on supervision during their reentry process, it is important to study the role parole officers have in offender reentry. Parole officers' perceptions of offender reentry are examined in this study in terms of officer supervision strategies and the impact they have on newly released offenders. Officers are also surveyed to explore their perception of the effects the oil boom has on offender reentry. The outcomes of this study will help inform how offender reentry looks overtime as a result of changes within a specific state. It will also help document the impact of such changes on parole officers, supervision strategies, and departmental modifications as a result of the oil boom.

Defining Reentry

Offender reentry has many definitions and components that touch on a wide range of social and governmental programs (James, 2007; Wodahl, 2006). Some observers note that offender reentry is the natural byproduct of incarceration, because all prisoners who are not sentenced to life in prison and who do not die in prison will eventually return to the community

(James, 2007). By this school of thought, reentry is not a program or some kind of legal status but rather a process that almost all incarcerated offenders will undergo (James, 2007).

Some argue that reentry is a philosophy, a process, or an array of activities (Petersilia, 2004). Most simply, offender reentry is the return of an offender to the community after release from correctional custody. Many authors define offender reentry in terms of the correctional procedure to help prepare offenders to return to the community (Petersilia, 2003; Seiter & Kadela, 2003; Travis, 2005; Travis & Visher, 2005). For example, Petersilia (2004) defines prisoner reentry as all activities and programming that is conducted to prepare ex-convicts to return safely and live as law-abiding citizens in the community. Many definitions are conceptual (i.e., Travis, 2005; Petersilia, 2003; Wilkinson, 2001) and have limitations on capturing the range and diversity of prisoner reentry (Petersilia, 2004). One such definition is by Wilkinson (2001) who defines reentry as a philosophy, not a program; stating that prisoner reentry begins at the point of admittance to a prison (or even sentencing) and extends beyond release. This definition creates a large burden in measuring individual responses during the reentry process.

Other scholars have more explicit definitions of reentry such as every activity and process that a prisoner undergoes while in the judicial and correction systems to prepare for reentry into the community (James, 2007; Petersilia, 2004; Seiter & Kadela, 2003). A more narrow definition can be broken into two parts: correctional programs that focus on the transition to the community (such as prerelease, work release, halfway houses, or other programs specifically aiming at reentry) and programs that have initiated some form of treatment (such as substance abuse, life skills, education, or mental health) in prison that is linked to community programs that will continue the treatment once the prisoner has been released (James, 2007). As

the definition of offender reentry continues to develop and encompass new meaning, it is important to understand the varying realities offenders face during their reentry process.

The reentry process is often a struggle for many offenders as they are unprepared and ill-equipped for the process after years of confinement. Individuals leaving prison have a multitude of needs requiring attention and consideration during their reentry process. These needs include: education, financial assistance, job training, employment assistance, and community living skills such as management of anger, attitudes and money (James, 2007; Petersilia, 2003; Travis, 2005; Wodahl, 2006). The needs of offenders are often complicated by their risks of violent convictions, employment instability, housing instability, and drug-related problems and activities (James, 2007; Petersilia, 2003; Travis, 2005).

Defining reentry is difficult since the process looks different for each offender. Other factors of reentry to discuss are community supervision, collateral sanctions associated with a criminal record, and the length of time an individual has been removed from the community. These factors are discussed in the following section as underlying influences of offender reentry.

Facets of Reentry

Although the number of individuals coming home from state or federal prisons is staggering, there are three facets of reentry to consider. The first facet of reentry is the number and extent of collateral sanctions that have increased alongside the increasing prison and parole population. Collateral sanctions refers to the barriers experienced by offenders upon release when they are barred from jobs, benefits, civic participation, and housing as a result of their criminal histories (Petersilia, 2001; Travis, Robinson, & Solomon, 2002; Wheelock, 2005). Chapter 2 will explore these barriers in depth.

A second facet of offender reentry is that post-release supervision is expanding. Approximately 80 percent of those released from prison are placed on supervision, up from 60 percent in the early 1970s (Petersilia, 2001; Travis, Crayton, & Mukamal, 2009). Studies need to consider factors of supervision when researching offender reentry as a large proportion of released offenders are supervised in the community. Supervision factors and parole officers will be covered in more detail in chapter 3.

A final facet to offender reentry is the amount of time offenders are removed from the community. Collateral sanctions are exacerbated when the average length of time offenders are serving in institutional settings have increased. Sentence lengths are a result of many states passing sentencing policies such as truth-in-sentencing laws. The average time served before release in 1990 was 22 months and 27 months in 1998 (Petersilia, 2001). In 2011, the average time served increased to 38 months (Bureau of Justice Statistics, 2011). Longer sentences results in removing offenders from society, their communities, and resources for an extended period of time that ultimately makes the free society a serious obstacle to navigate after years of confinement.

A recent study found that released offenders' likelihood to reoffend increased as the amount of time incarcerated increased (Wolff, Shi, & Schumann, 2012). Those who had served longer times in prison had weaker social ties and job prospects, lacked personal identification, had limited financial resources, and were less positive about their ability to succeed in the community. Individuals who have been away from the community for long stretches of time experience a depreciation of their human, social, and financial capital while in prison (Kling, 2006; Wakefield & Uggen, 2010; Wolff et al., 2012). Scholars have argued that prison deteriorates offenders' chances of establishing themselves in a conventional, relatively

productive and satisfying life after prison (Austin, Hardyman, & Irwin, 2002; Burke, 2001; Petersilia, 2003; Travis, 2005). Coping skills and habits that allowed survival in the institutional context must be replaced by the routines of life in the larger community (Burke, 2001).

Offender Barriers to Reentry

Many offenders return to their communities only to find new and unexpected barriers in their path to reintegration. The community offenders reenter may have undergone significant economic, technological, and social changes. In addition, collateral consequences, as discussed earlier, severely inhibit a newly released prisoner's ability to reconnect to the social and economic structures that lead to full participation in society (Thompson, 2004). Structural disabilities often include restrictions to obtaining government benefits, voting disenfranchisement, disqualification from educational grants, exclusion from certain business and professional licenses, and exclusion from public housing (Petersilia, 2003). A criminal record may also preclude offenders from retaining parental rights, be grounds for divorce, and bar them from social service resources (Petersilia, 2001). Without support or intervention, many individuals face a wide range of obstacles that make it nearly impossible to be successful in pursuing legitimate means of survival. The literature surrounding offender reentry has suggested that obtaining employment and housing are the biggest issues offenders face (Baer et al., 2006; Petersilia, 2003; Solomon et al., 2004; Travis, 2005).

The current study examines several offender barriers to reentry including: housing, education, employment, and substance abuse, which have been shown in the literature to influence offender reentry and the outcomes of recidivism. For instance, released prisoners who do not have stable housing arrangements are more likely to return to prison (Baer et al., 2006; La Vigne & Parthasarathy, 2005; Meredith, Speir, & Johnson, 2007; Roman & Travis, 2004; Roman

& Travis, 2006; Steiner et al., 2015; Visher & Courtney, 2007). Those who receive education and work-related skills recidivate at lower rates and are employed at higher rates than those without the training (Harlow, 2003; Jensen & Reed, 2006; Nally et al., 2014; Steurer, Smith, & Tracy, 2001; Wilson et al., 2000). When released offenders are able to acquire employment, recidivism tends to be positively influenced (Baer et al., 2006; Berg & Huebner, 2011; Horney et al., 1995; Solomon et al., 2004; Travis & Petersilia, 2001; Uggen et al., 2005). Offenders who receive substance abuse treatment have been found to have lower rates of reoffending compared to non-treated offenders (Belenko, Foltz, Lang, & Sung, 2004; Dynia & Sung, 2000; Hiller, Knight, & Simpson, 2000; Pratt, 1998; Solomon et al., 2004). The next chapter details each barrier more in depth in regard to offender reentry.

Role of Parole Officers

Newly released offenders have had to learn how to manage their own reintegration (Thompson, 2004) as resources are scarce and parole officers are overstretched with large caseloads (Petersilia, 2003; Travis & Petersilia, 2001). However without access to education, job training, housing, or substance abuse treatment, offenders attempting reentry must rely upon parole agents and other community providers. Studying the perspective of parole officers on offender reentry is important in order to understand officers' perceptions of offender barriers and how officers adjust their supervision philosophy according to those perceptions. This study gauges officers' perceptions of offender reentry and shifts in supervision strategies as a result of an oil boom. In order to understand offender reentry, studies must also consider the role of parole officers and their supervision strategies in relation to offender success. This study seeks to connect these two areas in order to strengthen the examination of offender reentry. Chapter 3 details the influence of supervision and officer perceptions in relation to offender reentry.

Rural Communities

The daunting challenges to successful reintegration may look different for every offender depending on the length of time they were incarcerated, the types of treatment they receive, supervision factors, and even the kind of community they return to. Offenders who are released to rural communities may experience more barriers in terms of limited employment and housing options (Wodahl, 2006; Ziebarth, 2014). A discussion on rural communities and resources is important as this study examines offender reentry within a state that has a large majority of its residents living in rural areas.

Commonly defined by a small number of residents and isolation, rural areas have unique features that may effect the people living in those communities (Wodahl, 2006). Research has shown that rural residents are less likely to have access to the same level of both private and public services as their urban counterparts such as health care services, government programs, and other assistance programs (Booth, Kirchner, Fortney, Ross, & Rost, 2000; Comber, Brunsdon, & Radburn, 2011; Elliot-Schmidt & Strong, 1997; Wodahl, 2006; Ziebarth, 2014). Rural communities are also economically limited and residents do not have access to a wide range of housing options or employment opportunities. Due in large part to the unavailability of support services and the unique features of rural life, the barriers rural offenders face are often more challenging compared to barriers in urban settings.

Homelessness in rural areas is an economic problem (Ziebarth, 2014). Poverty rates observed in rural areas are higher than those found in urban communities, due to rural residents earning less than their urban counterparts (Wodahl, 2006). Both the economic conditions and the lack of affordable housing in rural communities contribute to the housing problems faced by rural residents. Due to the rural job market, a larger percentage of ex-inmates are unable to find

jobs that provide a decent wage as well as provide abilities to afford housing, which may increase their propensity to return to illegal activity to supplement their income (Wodahl, 2006).

In addition to limited housing and employment options, rural parolees will be less likely to access services in the community (Robertson & Donnermeyer, 1997; Warner & Leukefeld, 2001). Rural substance abusers are less likely to utilize treatment resources (Booth et al., 2000; Elliot-Schmidt & Strong, 1997; Warner & Leukefeld, 2001) and are less likely to have previously accessed substance abuse services while in the community (Booth et al., 2000; Elliot-Schmidt & Strong, 1997; Robertson & Donnermeyer, 1997; Warner & Leukefeld, 2001). The most obvious barrier to treatment is the lack of services available in rural areas (Booth et al., 2000; Comber et al., 2011; Elliot-Schmidt & Strong, 1997). Little attention has been given in the research to the lack of affordable housing options, few quality employment opportunities, lack of community resources, among other challenges facing offenders returning to rural areas after release (Wodahl, 2006).

Current Study

The current study looks at the state of North Dakota, which has a large majority of residents living in rural areas. North Dakota recently underwent economic and population changes due to oil extraction. The oil industry has attracted many individuals to the state for employment and as a result the state has experienced large economic benefits, increases in population growth, unemployment rates, and housing developments. Oil booms can be considered blessings and curses at the same time (Holeywell, 2011), affecting areas both positively and negatively. The positive changes within the state can be considered to include: a strong economy for the state, new job opportunities, higher paying positions, and more housing options. As a result, positive changes may mean that newly released offenders are able to adapt

to the community more easily and quicker. Offenders may be more likely to obtain employment and acquire housing in a post-oil boom era. Negative changes can be considered to include: a high proportion of new residents with criminal histories, more crime and substance abuse issues, and overburdened social services and resources. As a result, negative changes may mean newly released offenders become re-involved with crime and are unsuccessful in their reentry process. Offenders may engage in criminal behavior more in a post-oil boom era as drugs are more readily available and more criminal associates live in the area. This study will determine the effect of an oil boom on offender reentry.

The purpose of this study is to compare the offender reentry process in a state that has undergone major changes due to natural oil extraction. Previous research suggests that offenders released in the last several decades have more needs and are returning to communities that have experienced changes in terms of technology, economy, and social aspects. Offenders who were released from prison prior to the boom in an oil industry were compared to offenders released during the peak of the oil industry on the reentry-related variables of housing, substance abuse, education, and employment. It is estimated that differences in the reentry process will be discovered as these two samples ultimately have different experiences upon release in terms of the changes occurring in the state. This study went a step further and included information on offender reentry from community supervision officers. Officers were asked their perspective on offender reentry and the influences of the oil industry. Researchers have suggested that community supervision officers can impact successful offender reentry and that the oil industry has an impact on criminal justice agents in performing their duties.

As previously mentioned, this project is twofold. Chapter 2 and the first part of the project examines offender reentry and the barriers associated with the reentry process. The

history of reentry and the barriers associated with offender reentry will be detailed for a better understanding of the topic. The chapter will conclude by focusing on specific barriers including housing, substance abuse, employment, education, and supervision in relation to offender reentry. The study includes these variables as important indicators of offender reentry success.

Chapter 3 and the second part of the project examines community supervision officers' perceptions of offender reentry and changes in officer supervision. A discussion of officer philosophies and their supervision strategies will be included. Supervision philosophies and strategies have been suggested to impact offender reentry and success. The role of community supervision officers and their views of potential impacts the oil industry has on offender reentry will be reviewed.

Chapter 4 will describe the methods used for this study. The study advances the current literature on offender reentry by studying a natural experiment, focusing on two time periods, and gauging officer perceptions and supervision changes. The operationalization of variables and the survey for community supervision officers will be detailed. Hypotheses will be developed and explored in relation to offender reentry and supervision officers. Preliminary demographic findings will be discussed.

Chapter 5 will detail the findings of the project. Outcomes on offender reentry variables will be compared for the two time periods. The impact of the oil boom on offender reentry will be discovered in terms of offender recidivism. Officer surveys will be analyzed and reviewed to determine the impact of the oil boom on officer perceptions and strategies.

The final chapter, Chapter 6, will give a brief overview of the current study, methods, and findings. It will conclude by reviewing the overall impact of the oil boom on offender reentry

and community supervision officers' roles. Policy implications will be offered in relation to the findings.

OFFENDER REENTRY

This chapter will first review the history of parole and reentry to provide a background on the topic. This will help in understanding of the current setting of offender reentry and parole. Then a discussion on the renewed interest in offender reentry will follow. Recent responses to offender reentry will also be explored. Barriers to offender reentry including housing, substance abuse, employment, education, and supervision will conclude the chapter. These variables are important to offender reentry and are included in the current study.

History of Parole and Reentry

The American correctional system can be traced to reforms instituted in colonial Pennsylvania by the leader of the Quakers, William Penn (Travis, 2005). During the Enlightenment period in the 18th century, Penn and Quakers sought to replace corporal punishments such as torture, brandings, and public executions with more humane punishments (Rothman, 1971). Corporal punishments were seen as barbaric and overtime became a source of public riots (Rothman, 1971). The first development of a more humane punishment was the High Street Jail in Philadelphia in 1682. By 1790, the Quakers expanded Philadelphia's Walnut Street Jail by adding single cells to hold convicted felons (Travis, 2005). It was hoped that a form of isolation that required physical removal of an individual from others and forbidden verbal conversation would direct offenders to reflect on their sins, repent, and return to society less likely to violate communal norms. These institutions were given the name penitentiaries or a place where penitents could reflect and repent their wrongdoing. The notion of penitence laid the foundation of a belief that these institutions could be places where criminals were reformed.

In the mid-1800s, sentences that offenders served in penitentiaries were called determinate sentences where offenders were given set periods of time to be incarcerated (Travis,

2005). Prison terms were set at the time of sentencing by judges and could not be altered. The philosophy of rehabilitation was at odds with determinate sentencing since the release of an offender was not influenced by the offender's progress or rehabilitation efforts. As a result, offenders were not becoming rehabilitated by way of their prison sentence because they did not have an incentive to change their behavior. To address this issue as well as other problems with the penitentiaries, the American system incorporated ideas from two prison reformers.

In 1840, Captain Alexander Maconochie, a prison warden from Australia, was responsible for Norfolk Island notoriously known as the worst of England's penal colonies (Travis, 2005). Maconochie considered determinate sentencing to be counterproductive and instead he developed the mark system to use on Norfolk Island. The mark system allowed an inmate to earn his freedom before the end of his prison sentence term by hard work and good behavior. When an offender was newly admitted to the prison, he was given a number of marks, representing his debt owed to society as a result of the crime he committed and the financial burden he placed on the prison while he was housed there. An offender would have to work off his marks through good behavior, working and contributing to the prison industry before he was able to be released. If an offender behaved poorly while at the prison, additional marks could be added to the number he needed to work off. This type of system put the burden of release on the offender (Travis, 2005). Although the system was effective, administrators overseeing Maconochie's work did not agree with his marks system as it was politically impalpable and it was soon abandoned.

Maconochie's ideas of using indeterminate sentencing to prepare offenders for eventual release, although discontinued on Norfolk Island, contributed to a system developed by Sir Walter Crofton from Ireland in the early 1850s (Travis, 2005). Crofton developed a system

called the indeterminate system that consisted of a series of stages that the offender would have to process through in order to be released. The first stage was solitary confinement and work, the second stage was assignment to public works, and the final stage was assignment to an intermediate prison where the prisoner worked without supervision in the free community. If the prisoner's behavior was good and they were able to find employment in the community, the offender was released on a conditional pardon or ticket-of-leave. Within the timeframe of the original sentencing period, the ticket could be revoked at any time if the prisoner's conduct was not up to standards set by those who supervised the conditional pardon. The ticket-of-leave resulted in an effort to establish the first system of conditional liberty in the community, a system today known as parole.

Prison administrators in the United States met at the American Prison Congress of 1870 in Cincinnati, Ohio, to discuss the direction that corrections practices should take. Concerns of prison overcrowding and violence influenced the decision to adopt Maconochie's and Crofton's ideas. Zebulon Brockway, superintendent of New York State's Elmira Reformatory in 1876, can be credited with first introducing parole in the United States (Scott-Hayward, 2011). Brockway implemented an indeterminate sentencing model along with parole release at his reformatory. Prisoners were classified based on their conduct, and after a certain period of good conduct, were released to the community while remaining under the authority of the correctional institution. For six months released offenders were required to make monthly reports to a guardian and those reports were sent back to the institution. As a result of the new focus on early release, a reformatory era occurred from the 1870s to early 1900s that focused on work, increased education, and trade training within prison systems.

Move to Indeterminate Sentencing. The creation of a correctional system based on indeterminate sentences was developing. It was organized to ensure inmates were prepared for reentry, similar to Maconochie's and Crofton's ideas, and used the approval of parole boards for offender release. Indeterminate sentencing provided judges with broad ranges of possible sentences, authorized parole boards to be in charge of prisoner release, supervised prisoners after release, and embraced rehabilitation of offenders as the goal of corrections (Travis & Petersilia, 2001). Many prison administrators thought prisoners would respond positively to incentives for good behavior and participate in prison programs if they had a chance to be released early from prison through indeterminate sentencing (Travis, 2005). It was believed that offenders who were well-behaved in the penitentiaries were good candidates for rehabilitation efforts. Education, vocational, and prison work industry programs and substance abuse and other counseling programs were important parts of prison operations. Many of the programs were mandatory; when the programs were voluntary, inmates still participated at high rates to impress the parole board to improve their chances of early release (Seiter & Kadela, 2003).

The functions of indeterminate sentencing relied on parole boards to make decisions on when and if an offender could qualify for early release. Parole boards, committees of selected individuals who decide when an offender should be released from custody, often judged release decisions on how rehabilitated they believed the offender to be, as evidenced by the participation and completion of prison programs, institutional discipline, and attitude. Parole boards closely reviewed inmates' release plans in consideration of parole (Seiter, 2002). If an offender was granted parole, parole boards identified the conditions of supervision and the required treatment programs. After release, an offender was guided and supervised by a parole officer in line with the conditions mandated by the parole board.

Parole boards were given large discretion in determining whether or not an offender was rehabilitated for reentry to the community. The structure of indeterminate sentencing allowed for many grievances as one offender's sentence and length of time served in confinement often varied drastically from another offender who committed the same crime (Seiter, 2002; Seiter & Kadela, 2003; Travis, 2005). This concern was the beginning of many criticisms of indeterminate sentencing, rehabilitation, and parole boards (Travis, 2005). The concern of bias and discrimination led to the questioning of indeterminate sentencing and a return to a focus on determinate sentencing.

The Shift to Determinate Sentencing

The 1960s experienced social disruption, a lack of trust in the government, an increase in fear of violent crime, and the aftermath of the reformatory era failure. Brutality, corruption, and failure of reform brought the reformatory era to an end. The failure of rehabilitation was also fueled by a report prepared by Robert Martinson (1974). Reviewing 231 evaluations of rehabilitation programs, Martinson tallied which ones had positive recidivism outcomes and concluded that "... with few and isolated exceptions, the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism" (1974: 25). Rehabilitation efforts were not taken seriously to address the growing problem of prison populations, crime rates, and offender reform.

The rehabilitation philosophy and indeterminate sentencing came under attack from both liberals and conservatives alike. Liberals saw indeterminate sentencing as presenting opportunities for distortions of justice by judges and discretionary release decisions by parole boards (Travis & Petersilia, 2001). Disparate sentences for similar offenses and similar offenders were criticized as allowing bias and unfairness into the criminal justice system. Decisions were

seen as presenting opportunities for unequal racial outcomes. The culmination of a prison term, dependent on the decision of a parole board, was critiqued as adding unnecessary strain and stress to imprisoned offenders (Travis & Petersilia, 2001).

Conservatives were equally harsh on indeterminate sentencing. They saw the implementation of low minimum and high maximum prison terms as a fraud on the public (Travis & Petersilia, 2001). The criminal justice system was seen as too lenient while a new belief on just deserts arouse where criminal behavior warrants proportionate punishment to the offense. The use of early release as a mechanism to manage prison populations called into question the public's confidence in the government's integrity for the process of managing the severity of punishment (Travis & Petersilia, 2001).

Abolishing Parole. Following the decline in support for rehabilitation and criticisms of bias in professional discretion of parole boards, many states opted to abolish parole. Sixteen states have abolished discretionary parole for all offenders and four states use discretionary parole for only certain violent offenders (Bureau of Justice Statics, 2016). The federal government and these states have ended the use of indeterminate sentencing. Twenty other states have severely limited the population eligible for parole. As of 2016, 21 states have created sentencing commissions, quasi-independent administrative bodies to develop sentencing grids in order to constrain judicial sentencing disparities and discretion (National Association of Sentencing Commissions, 2016). Only 15 states still have full discretionary parole for inmates. Forty states have enacted truth-in-sentencing statutes requiring violent offenders to serve at least 50 percent of their sentences in prison; of those 40 states, 27 require violent offenders to serve at least 85 percent of their determinate sentence before release. Mandatory minimum sentences have been enacted in all 50 states and 24 states have lengthened prison terms by passing three-

strike laws for persistent offenders. About 112,000 state prisoners were released unconditionally through an expiration of their sentence in 2000, up about 46 percent from 51,288 in 1990 (Bureau of Justice Statistics, 2016). In 1977 more than 70 percent of prisoners were released on discretionary parole. However, by 1997, this had reduced to 28 percent (Bureau of Justice Statistics, 2016). The change in release policies have modified much of the historical preparation for release with a correctional process that de-emphasizes release preparation in favor of emphasizing monitoring the ex-inmate after release (Seiter, 2002).

The early 1980s saw many societal and attitudinal changes in corrections. The first of which was the demise of the medical model (treating criminality in the same manner as physical disease) as society and elected officials started to support tough-on-crime agendas. There was also a strong belief growing that that rehabilitation did not work which resulted in reduced funding for prison programs and a philosophical change in parole supervision from a casework to a surveillance model (Seiter & Kadela, 2003). As a result, the model of prison operations and prisoner reentry did not focus on inmate rehabilitation and preparation for release. Instead prison operations and offender reentry focused on punishment, deterrence, and incapacitation.

From Rehabilitation to Surveillance. The transition from casework to surveillance style of supervision for parole officers also influenced the reentry of offenders (Seiter, 2002). Some change was due in part to the increase in number of offenders being released and caseload sizes. Parole officers who were typically assigned 30-45 parolees in the 1970s may receive a caseload upwards of 70-120 offenders in recent years (American Probation and Parole Association, 2009). With minimal time and resources to focus on the individual offender, many officers are limited in their abilities to provide counseling or referrals to community agencies. Limitations in time and resources redirects the main focus of supervision from rehabilitation to surveillance. When

surveillance is the guide for supervision strategies and styles, the result is high failure rates of parolees (Caplan, 2006; Fulton, Stichman, Travis, & Latessa, 1997; Paparozzi & Kozlowski, 2004; Petersilia & Turner, 1993; Seiter & West, 2003). It is suggested that nearly two-thirds of offenders released from incarceration recidivate within three years (Petersilia, 2003). More recent changes in sentencing, release policies, and supervision have been reflective of the efforts by corrections to address the high failure rates of offenders who are reentering society.

In the mid-1990s and into the early 2000s, the state of corrections saw an unprecedented growth in prison populations around the nation. The United States has the highest incarcerated population in the world (Schmitt, Warner, & Gupta, 2010). Laws such as truth-in-sentencing laws, mandatory minimum sentences, and three strikes laws, developed to get tough on crime, have fostered the growth of correctional populations (Bales & Dees, 1992; Chen, 2008; Darley, 2005; Mauer, 2003; Petersilia & Greenwood, 1978; Shepherd, 2002; Spelman, 2009; Vincent & Hofer, 1994). Corrections as a field is underfunded, understaffed, and taxed in terms of its efforts to reduce crime, the use of effective punishment, and the desistance of offender recidivism on growing correctional populations (Benoit, 1998; Hauser, & Kissinger, 1991; Kifer, Hemmens, & Stohr, 2003; Soler, 1997; Welch, 1995).

More recently, corrections as a field is shifting closer to rehabilitation as more evidence-based practices are highlighting positive results of rehabilitation practices (Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990; Cullen & Gendreau, 2001; Cullen & Jonson, 2011; Harper & Chitty, 2005; Latessa, Cullen, & Gendreau, 2002; Lipsey & Cullen, 2007; MacKenzie, 2000; McGuire, 1995; Petersilia, 2004). Many correctional scholars and agencies are searching for community-based alternatives to incarceration that are more effective, cost efficient, and rehabilitative focused for offenders (Cullen & Gendreau, 2000; Gendreau, 1996; Gendreau,

Little, & Goggin, 1996; Izzo & Ross, 1990; Sherman, Gottfredson, MacKenzie, Eck, Reuter, & Bushway, 1998). Effective strategies and processes of offender reentry are needed to address the issue of recidivism as nearly one third of offenders reentering society are returned to confinement shortly after release (Petersilia, 2003; Travis, 2005; Visher & Travis, 2011). In the search for effective community-based alternatives to incarceration, offender reentry has been given more attention as it has become the main focus of this discussion.

Renewed Interest in Offender Reentry

Over the past two decades, there has been a renewed interest in understanding prisoner reentry (Seiter, 2002). This renewed interest is due to several reasons. First, the overwhelming growth in the prison population in the United States has resulted in a tremendous growth in the number of releases. Data from the Bureau of Justice Statistics (2014) (see Table 1) indicates the correctional population from 1997 to 2014 has experienced increases in all correctional systems.

Table 1

Correctional Population Characteristics

Correctional Population	1997	2014	% Increase
Probationers	3,296,513	3,863,100	.172
Parolees	694,787	856,900	.233
Jail Inmates	557,974	731,570	.311
Prison Inmates	1,176,922	1,561,500	.330
Total Correctional Population	5,726,196	7,013,070	.225

The correctional system that experienced the greatest increase from 1997 to 2014 is prison with a 33 percent increase. Overall, there has been a 22.5 percent increase in individuals under some form of correctional surveillance from 1997 to 2014. An estimated 7,013,070 adults were under community supervision at the end of 2014, approximately 1 in 36 adults in the United States (Bureau of Justice Statistics, 2015c). Re-incarceration rates among parolees at risk

of violating their conditions of supervision was at about nine percent in 2014. The numbers presented in Table 1 overwhelmingly support the need for research on offender reentry as large increases of offenders in prison and on parole have occurred for nearly two decades.

A second reason to the renewed interest in prisoner reentry is the strain offender reintegration places on community resources with the large number of inmates returning from prison. With the high number of offenders now returning to their old communities, the impact of these offenders on their families and their communities has intensified (Baer et al., 2006; Clear, Rose, & Ryder, 2001; Petersilia, 1999; Travis & Petersilia, 2001). Many offenders rely on their families for housing and financial stability when they are first released (Baer et al., 2006; Roman & Travis, 2004; Roman & Travis, 2006; Visher, 2007; Visher & Travis, 2011). Although this type of housing situation may only be temporary, few ex-convicts are able to support themselves during their first year in the community after they are released. Offenders' inability to support themselves is intertwined with their ability to obtain and maintain employment. An Ohio study suggests that less than 20 percent of parolees maintain stable employment during their first year in the community (Makarios, Steiner, & Travis, 2010). Finding employment and obtaining housing are the main needs offenders have upon release.

Correctional services and communities, similar to parole departments, are overburdened with assisting offenders' needs. The increase in number of releases has stretched parole services and assistance beyond their limits (Petersilia, 2004). As resources have diminished, returning prisoners have more needs and require more help than those in the past (Petersilia, 2004). Prisoners today are serving longer prison sentences (Bureau of Justice Statistics, 2016; Mauer, King, & Young, 2004; Nellis, 2010; Wilson & Petersilia, 2010), are more disconnected from family and friends (Clear et al., 2001; Petersilia, 1999; Thompson, 2004), have a higher

prevalence of untreated substance abuse and mental illness issues (Baillargeon, Hoge, & Penn, 2010; Marlowe, 2002; Peterson, Skeem, Hart, Vidal, & Keith, 2010), and are less educated and unemployable than their predecessors (Harlow, 2003; Nally, Lockwood, Ho, & Knutson, 2014; Petersilia, 2004; Solomon et al., 2004;). Other changes have been made that influence newly released offenders more now than these considerations have in the past. Legal and practical barriers such as criminal background checks influence housing, employment, and eligibility for welfare. Even if ex-offenders have the appropriate education, employment background, and reputable references, many will still face restrictions in housing and discrimination in employment as a result of their previous incarceration.

With an overwhelming number of offenders in the criminal justice system, funding is a significant issue that impacts the services and resources available to reentering offenders. Prisoner reentry gained renewed interest when the federal government allocated over $100 million to support the development of new reentry programs in all 50 states between 2001 and 2004 (Petersilia, 2004). To help incite state correctional agencies and communities to focus on the prisoner reentry phenomenon, the Serious and Violent Offender Reentry Initiative (SVORI) and the Prisoner Reentry Initiative (PRI) were developed. Additionally, the Second Chance Act was an effort to send additional federal resources to states to help improve the reintegration of ex-convicts into civilian life.

Serious and Violent Offender Reentry Initiative (SVORI). SVORI, launched in 2003, was a federal initiative to provide states with funds to develop, enhance, or expand programs to facilitate the reentry of adults and juveniles to communities from prisons or juvenile detention facilities (Visher & Travis, 2011). As part of the evaluation, men and women enrolled in SVORI and a comparison group were interviewed prior to release and three times after release

(Lattimore & Visher, 2009). Follow-up interviews were conducted at three, nine, and fifteen months post-release. Interviews gathered detailed information on self-reported needs and experiences of individuals as they reentered society. Administrative data from state agencies and the National Crime Information Center were also used to provide information on supervision, re-incarceration, and re-arrest. The evaluation collected data on subject characteristics and needs, service receipt, and outcomes with a sample of 2,391 adult and juvenile males and adult females from 12 programs in 14 sites. The multisite SVORI evaluation was the largest examination of prisoner reentry programs ever conducted in the United States (Visher & Travis, 2011).

Findings showed that states could increase services for individuals nearing release such as programs to prepare for release, meeting with a case manager, developing a reentry plan, receiving a needs assessment, and participating in treatment and educational programs. Service increases were linked to modest improvements in post-release outcomes such as housing, employment, self-reported criminal behavior, and drug use (Lattimore & Visher, 2009). Official measures of recidivism outcomes showed no significant improvements for adult male SVORI participants. At 12 months after release, half of both groups had been rearrested (49 percent of SVORI, 51 percent of comparisons) and one quarter of both groups had been re-incarcerated (Lattimore & Visher, 2009). The results may be due to programs not being fully implemented. Discrepancies existed in service delivery between what was intended and what was actually provided by the programs, and what was needed and what was actually received by individuals. The SVORI evaluation suggests that a properly and fully implemented program may generate improvements in intermediate outcomes, but the impacts on recidivism may be minimal (Visher & Travis, 2011).

A recent evaluation of SVORI analyzed data on male participants and examined the impact of pre-release services on time to re-arrest and the number of re-arrests up to 56 months post-release (Visher, Lattimore, Barrick, & Tueller, 2016). The study used a two-stage matching quasi-experimental design to define a comparison group of male offenders who did not participate in SVORI programs. Participation in reentry programs (life skills assistance, employment services, and reentry classes) was associated with longer time to arrest and fewer arrests after release. Those who participated in SVORI programs had an average of 3.22 arrests after release in the 56-month follow-up period and those who did not participate in the programs had 3.76 arrests during the same time period. Services that focused on individual change were more beneficial than services that focused on practical skills and needs. The authors state that widespread implementation of effective reentry services, programs, and strategies requires a greater understanding of the types of services being delivered in correctional institutions and community settings.

Returning Home Project. Another multi-site study on offender reentry was conducted by the Urban Institute in 2001 called Returning Home: Understanding the Challenges of Prisoner Reentry (Visher, 2007). The project explores experiences of prisoner reentry in four states, including a pilot study in Maryland and full research studies in Illinois, Ohio, and Texas. The multistate longitudinal study involved interviews of men and women prior to their release and again several times in the year after their release and also involved interviews of family members. Returning Home is not an outcome evaluation of a particular programmatic effort or an evaluation of a specific policy. It is a longitudinal study of the multiple challenges prisoners face upon release and as they reintegrate into society, with a focus on informing reentry policies at national, state, and local levels (Visher, 2007).

In each state, the first phase of the study involved analysis of preexisting corrections data to describe incarceration and reentry characteristics in that state. It also involved detailing state laws and policies regarding reentry. The second phase of the study used three different tactics: interviews with prisoners before and after release from prison to gauge individual reentry experiences; interviews with family members of returning prisoners to get family perspectives on reentry; and interviews with key community stakeholders and focus groups with residents to document a community context of reentry. Across Illinois, Ohio, and Texas, over 1,200 men and more than 250 women (in Texas) were enrolled in the study at baseline (in prison). After release, over 2,600 interviews were completed, including interviews with more than 800 individuals approximately one year post-incarceration. Official data were also collected for all respondents.

Two-thirds of Returning Home respondents reported frequent (more than weekly) drug use (58 percent) or alcohol intoxication (27 percent) prior to prison (Visher, 2007). Despite high levels of substance abuse, half or fewer offenders received drug treatment while incarcerated. The majority of retuning prisoners lived with family members and/or intimate partners upon release. Two to three months after release, a large proportion of respondents were living with a family member, typically their mother or sister (50 to 60 percent) or intimate partner (20 to 23 percent). Only half of the respondents held a permanent job and 31 percent were unemployed in the six months prior to incarceration. Over 75 percent of the soon-to-be released prisoners said that finding a job was the most important factor in keeping them from returning to prison, yet less than one in five had a job lined up in the month before release (Visher, 2007). The Returning Home project exemplifies a dark reality of what reentry looks like for the majority of offenders being released from incarceration.

Changes in Corrections. The get tough era has not been conducive to offender reentry. Not only have laws and policies changed to affect offender reentry (Clear & Austin, 2009; Harris & Keller, 2005; Petersilia, 2003; Thompson, 2004; Travis, 2005), community supervision officers and barriers to offender success have changed (Caplan, 2006; Petersilia, 2004; Seiter & West, 2003; Wilson & Petersilia, 2010). The changes in community corrections has resulted in a shift from a rehabilitation focus for supervision to one based on surveillance, as discussed in more detail in the next chapter. Changes that have affected offender barriers includes economic, technological, and social changes that have occurred while an offender was incarcerated. The specific barriers faced by newly released offenders is examined below.

Reentry Barriers for Newly Released Offenders

With a high number of offenders now returning to their communities, some without parole or no supervision at all, reentry effects need to be identified for newly released offenders (Petersilia, 2003). Prisoners who are being released are less well prepared for their return to their community and are returning to communities that are not well prepared to accept them (Travis & Petersilia, 2001). Prisoners face a multitude of issues including finding housing, creating ties with family and friends, finding a job, addressing alcohol and drug abuse, continued involvement in crime, and the impact of parole supervision. The highest continued needs for both men and women are more education and financial assistance in terms of housing (Brown, 2004; Graffam et al., 2004; Seiter, 2002; Visher & Travis, 2011). The factors of employment, education, housing, and substance abuse are among the most studied areas of offender reentry (Baer et al., 2006; Belenko, Foltz, Lang, & Sung, 2004; Berg & Huebner, 2011; Dynia & Sung, 2000; Hiller, Knight, & Simpson, 2000; Horney et al., 1995; Petersilia, 2003; Pratt, 1998; Roman & Travis,

2006; Solomon et al., 2004; Travis & Petersilia, 2001; Uggen et al., 2005; Visher & Travis, 2011).

Housing. The majority of released prisoners return to the communities from which they were sentenced, generally to live with family members, a close friend, or significant other immediately after release (Baer et al., 2006; Roman & Travis, 2004; Roman & Travis, 2006; Visher & Travis, 2011). Few released prisoners have the resources to find their own housing, so many resort to living with family, in homeless shelters, or other temporary housing (Scott-Hayward, 2011). Released prisoners who do not have stable housing arrangements are more likely to return to prison (Baer et al., 2006; La Vigne & Parthasarathy, 2005; Meredith, Speir, & Johnson, 2007; Roman & Travis, 2004; Roman & Travis, 2006; Steiner et al., 2015; Visher & Courtney, 2007) and may be more likely to abscond (Scott-Hayward, 2011). Unfortunately, living arrangements after release are largely temporary. Seven months after release, 35 percent of former prisoners had lived at more than one address and 52 percent believed their current housing situation was temporary or that they would not be staying at that address long (Visher & Travis, 2011).

Housing Stability. A study from the Returning Home Project found residences were stable over time by using interviews with Chicago respondents (La Vigne & Parthasarathy, 2005). However, housing stability decreased marginally over the course of the study period. At two to three months after release, the average number of moves reported across reentering offenders was 1.12, with 88 percent residing in only one place. Between one and two years after release, the majority of respondents (72.4 percent) still resided in the same place with very few respondents (10.4 percent) moving more than once after release. Over the course of the study period, an increase was observed in respondents reporting that they lived with an intimate partner

and paid to live where they did. By one to two years after release, offenders were likely to have their own place or reside with a partner or friend; suggesting greater independence over time on the part of reentering offenders.

The realistic housing scenario for offenders being released in rural locations is somewhat similar to urban areas (Ziebarth, 2014). However, with the lower population density in rural areas, the cost of providing assistance is higher as finding local experts to develop new affordable housing is limited (Ziebarth, 2014). Characteristics of rural housing can include homelessness, precarious housing conditions, substandard situations, and overcrowded and/or cost-burdened housing (Ziebarth, 2014). People experiencing rural homelessness are more likely to live in a car or camper, or with relatives in overcrowded or substantial housing than they are to live on the street or in a shelter. Domestic violence and homeless shelters are rare in rural locations. Due to limited options of housing, rural residents often face relocation when national economic development plans include resource extraction such as oil (Ziebarth, 2014).

Although a large majority of released offenders live with family members upon reentering the community, some reunions are only temporary while others are not possible. These situations are a result of the dictates of criminal justice, housing policies, or due to family dynamics (Roman & Travis, 2004; Roman & Travis, 2006). In some cases, there are legal restrictions involved such as conditions of parole that prohibit returning prisoners from residing with any individual who has a criminal history.

Homelessness. About one tenth of the population going into prison have recently been homeless and at least the same proportion of those who leave prison end up homeless, at least for a while during their reentry period (Roman & Travis, 2006). Prisoners who are homeless at some time in their life are more likely to be homeless after a period of incarceration than those who

had never experienced homelessness (Roman & Travis, 2006). Homeless offenders are in situations that lack supervision, assistance, and/or prosocial associations (Steiner, Makarios, & Travis, 2015). Offenders living in these situational contexts typically have fewer ties to conventional others and/or less to lose by deviating from supervision or absconding. Offenders' residential mobility may also impact the level of control over behavior as the inability to maintain stable housing can inhibit prosocial networks and involvement in conventional activities. Research has shown that offenders who move more often are more likely to recidivate (Meredith, Speir, & Johnson, 2007; Steiner et al., 2015; Visher & Courtney, 2007). One study found that residential mobility of a parolee sample was an average of two residences during the first two years of release (Makarios et al., 2010).

Residential mobility as well as living arrangements can effect offender recidivism. Offenders who live with their spouse, parent, or other relative or in a residential program are less likely to recidivate (Horney, Osgood, & Marshall, 1995; Steiner et al., 2015). When offenders live with a significant other, are homeless, or abscond they have higher odds of recidivism. Examining residential mobility along with living arrangements is important to capture the full effect of housing and recidivism outcomes.

Returning prisoners with nowhere to go often end up in shelters, which are short-term facilities that typically do not have the resources to help clients obtain permanent housing (Roman & Travis, 2006). Released prisoners with a history of shelter use were almost five times as likely to have had a shelter stay after they left prison. Those living in temporary shelters upon release have more difficulty resisting drugs and findings jobs (Roman & Travis, 2004). A 1999 Urban Institute study of 400 returning prisoners to three study sites with histories of drug abuse found that 32 percent had been homeless for a month or more at least in their lifetimes. Of the

400 reentering offenders, 18 percent reported that they were homeless for at least a month in the year after they were released (Roman & Travis, 2006). Parole violation and re-arrest may be more likely among those prisoners who have no place to go when they are released or who have difficulty finding a permanent residence.

Criminal Records and Housing Options. The process of securing housing may be further challenged by the newly released offender's ineligibility for food stamps, veteran's benefits, and benefits through the Temporary Assistance for Needy Families (TANF) program (Roman & Travis, 2004). Options for housing for returning offenders who do not live with loved ones or friends include: community-based correctional housing facilities such as halfway houses or community reentry centers, transitional housing, federally subsidized and administered housing, homeless assistance supportive housing, and the private market (Roman & Travis, 2004). However, not all communities have these types of housing options available and some regulations and restrictions may not allow individuals with criminal histories (Graffam, Shinkfield, Lavelle, & Mcpherson, 2004; Ziebarth, 2014). Locations of affordable housing may be problematic because they are often in high crime and drug use prevalent neighborhoods (Graffam et al., 2004). Public housing managers are required by law to deny admission to convicted sex offenders, those who have ever been convicted of the production of methamphetamine on public housing premises, and anyone who has been evicted from public housing within the previous three years because of illegal drug activity or alcohol abuse (Roman & Travis, 2006). The larger issue for these housing options is availability (Baer et al., 2006) as many federally subsided and administered housing have waitlists of several years. The demand for such housing greatly exceeds the supply with many applicants being turned away because of their criminal record or substance abuse history.

Housing Summary. Housing is one of the most imminent barriers offenders face. The concern where they will sleep the night they are released is a daunting question. Obtaining housing is further complicated by a criminal record and insufficient funds upon release from prison. Many offenders are fortunate to rely on family members for temporary housing while others are left to navigate shelters and other housing options. As the research states above, increases in residential mobility can lead to increases in recidivism.

The current study examines housing in terms of offender reentry at two different time points. Changes within the state due to an oil boom may result in more offenders being able to obtain housing as the number of housing units in the state has increased. The outcomes of this variable will inform how changes in offender reentry, such as housing, can influence recidivism.

Substance Abuse. Many offenders identify substance abuse as the primary cause of many of their past and current problems regarding family, employment, legal, and financial problems (Visher, 2007). A large majority of state prison populations (over 75 percent) report a history of drug and/or alcohol use (Baer et al., 2006; Bureau of Justice Statistics, 2015; Harrison, 2001; Travis & Petersilia, 2001), including 70 percent of the soon-to-be-released prisoners (Bureau of Justice Statistics, 2015; Travis & Petersilia, 2001). Over half (53 percent) of state prison inmates and a third (34 percent) of federal prison inmates indicate they were under the influence of alcohol and drugs while committing the offense leading to their imprisonment (Harrison, 2001). More people are being arrested and found guilty with drug offenses and a greater proportion of those found guilty are being sentenced to incarceration for lengthier periods (Harrison, 2001).

Substance Abuse Treatment. Despite the high proportion of substance abusing prisoners, in-prison treatment is not readily available (Mallik-Kane & Visher, 2008). Treatment needs

surpass treatment availability with more inmates requiring treatment than those who receive it. Much of the treatment available is short-term or not intensive enough to address inmates' needs (Harrison, 2001). The largest barriers to treatment options for offenders is the belief that treatment does not work, the cost effectiveness of drug abuse treatment, and waitlists for limited programs (Harrison, 2001). Only 40 percent of state inmates reported participating in drug abuse treatment or programs since admission to prison (Bureau of Justice Statistics, 2015). At the same time, prison-based drug treatment has been shown to reduce drug use and criminal activity, especially when combined with aftercare treatment in the community (Baer et al., 2006). Offenders who receive substance abuse treatment have been found to have lower rates of reoffending compared to non-treated offenders (Belenko, Foltz, Lang, & Sung, 2004; Dynia & Sung, 2000; Hiller, Knight, & Simpson, 2000; Pratt, 1998; Solomon et al., 2004).

Many prisoners identify drug use as a primary cause of their past and current problems. Those with substance abuse histories and those who engage in substance use after release are at high risk to recidivate (Baer et al., 2006; Harrison, 2001; Mallik-Kane & Visher, 2008). The Urban Institute's study, *Returning Home: Understanding the Challenges of Prisoner Reentry*, reviewed how substance abuse conditions shaped the process of offender reintegration. The majority of returning prisoners, about two-thirds of all men and women, can be characterized as substance abusers (Mallik-Kane & Visher, 2008). The study found less than half of prisoners actually participate in treatment. Some of the treatments offered in prison are self-help programs such as Alcoholics Anonymous (AA) or Narcotics Anonymous (NA) that are often facilitated by the inmates themselves. Studies on AA and NA have not shown consistent results to conclude the effectiveness of these treatment programs with criminal offender populations (Kaskutas, 2009; Tonigan, Toscova, & Miller, 1996). One year after release, one-fifth of men and one-

quarter of women with substance abuse problems were back in state prisons compared to 12 percent and 9 percent, respectively, of those without substance abuse problems (Mallik-Kane & Visher, 2008). About 4 in 10 men with substance abuse problems reported higher criminal activity in the first eight to ten months post release, more arrests, and were more likely to have spent at least one month in jail and to violate parole conditions. These findings suggest that if the needs of substance abusers are not being addressed while incarcerated, this will likely result in individuals who are prone to abuse substances upon release.

Substance Abuse and Housing. Substance abuse poses a problem at every stage of reentry and also interferes with securing housing, maintaining employment, and reestablishing family relationships. After release, many return to families and communities that also have problems with substance use, placing newly released offenders at increased risks for relapse and re-incarceration (Mallik-Kane & Visher, 2008). A study using data from the Returning Home Project found respondents with substance abuse problems also reported higher levels of familial criminality (Mallik-Kane & Visher, 2008). One-third of men and one-half of women with substance abuse problems were living with other former prisoners and substance abusers. Substance abusing men reported changing residences more often than men without substance abuse problems during the first two to three months after release. The instability of substance abuse offenders not only affects their housing stability but also their ability to maintain employment.

Substance Abuse and Employment. Substance abuse before prison was related to poorer employment outcomes after release (Mallik-Kane & Visher, 2008). Men with substance abuse problems were similar to men without substance abuse in terms of having found employment in the first eight to ten months after release, but they differed in terms of maintaining employment.

Men with substance abuse problems experienced greater unemployment before prison and reported fewer months of post-release employment compared to men without substance abuse problems (Mallik-Kane & Visher, 2008). Eight to ten months after release, substance abusing male offenders were more likely to report income from illegal activities, and were less likely to have earned money from legal employment or to have received benefits like food stamps from public assistance programs. Overall, the Returning Home study found that drug use or alcohol intoxication more than once a week was associated with an increased number of social and interpersonal problems such as housing, employment, criminal associates, criminal activity, and violation of parole conditions.

Substance Abuse Summary. Substance abuse is a continuous barrier for offenders as the majority enter prison with a problem and a similar number return to the community with an unaddressed problem. Although large proportions of offenders have substance abuse problems, few receive treatment. Substance abuse adds additional barriers to maintaining employment and obtaining housing. Offenders with substance abuse issues may face more difficulties during their reentry process.

The current study examines substance abuse in terms of risk for offender reentry. Offenders' risk score for substance abuse will be documented in addition to any chemical dependency treatment received. Treatment will be measured as institutional substance abuse treatment or community-based treatment. This variable will be measured at two time points which will help document changes in substance abuse issues and treatment. The outcomes of this variable will also inform recidivism outcomes.

Employment. The experience of prison has been intertwined with work (Solomon et al., 2004) in the sense that early prisons were work-houses. With the expansion of prisons in the

early 19th century, inmate labor was seen as cheap labor that could be sold in order to make the institution self-sustaining (Travis, 2005). By the end of the 19th century, this system was brought to an end as many private and public firms could not compete with the prices of prison goods as a result of the cheap labor available by prison workers. As a result, the system limited inmate labor to producing goods used by the states. Today, nearly half of the state inmate population and almost all of the federal inmate population have some sort of work assignment while incarcerated (Solomon et al., 2004). However, these jobs do not always provide work experience or a range of marketable skills that appeals to employers in the community.

Few experimental and nonexperimental studies have tested the effects of prison-based work services (Bloom, 2006). Results of such studies have shown inconsistent outcomes of prison work programs. A meta-analysis of 33 corrections-based programs showed inmates who participated in such programs had lower rates of recidivism than those who did not (Wilson, Gallagher, & MacKenzie, 2000). Reviewing some of studies included in the meta-analysis, Seiter and Kadela (2003) concluded that work programs do work to reduce recidivism. A third meta-analysis including many of the same studies concluded that in-prison correctional industries programs lead to reductions in recidivism (Aos, Miller, & Drake, 2006). Although the effectiveness on prison work programs is inconsistent, employment issues are present even before an offender enters the prison system.

Between 21 and 38 percent of prisoners were unemployed just prior to being incarcerated (Solomon et al., 2004) while approximately two thirds of prisoners had a job prior to their incarceration (Travis & Petersilia, 2001). Despite the need for employment assistance, few prisoners receive employment-related training in prison (Baer et al., 2006). Former prisoners face challenges in finding and maintaining legitimate job opportunities due to low levels of

education, limited work experience in the community, and limited vocational skills. These factors are further complicated by the incarceration period that eliminates the opportunity for marketable work experience in the community and severs professional connections and social contacts that could lead to legal employment upon release (Baer et al., 2006).

It is estimated that employment rates for those who had previously been incarcerated to be approximately 20 to 25 percentage points lower than those of their non-criminal justice involved counterparts (Freeman, 1992; Holzer, Raphael, & Stoll, 2003; Nally et al., 2014). When offenders are able to find job opportunities, they typically experience disadvantages in wage equity in that former prisoners often earn less than other workers with comparable demographics (Bloom, 2006; Freeman, 1992; Holzer et al., 2003).

Incarceration and Employability. Employment after prison is quite stark. Released offenders have very low employment rates, suggesting that incarceration and an ex-offender status may reduce employability and future earnings. Spending time in prison may erode existing job skills and embed offenders into criminal networks as behaviors that are adaptive to prison life and street offending may be detrimental to employment (Uggen, Wakefield, & Western, 2005). The stigma of incarceration makes ex-inmates unattractive to employers since they often lack skills and education, social networks to refer them, and prosocial characteristics (Holzer, 1996; Holzer et al., 2003; Petersilia, 2003). Offenders are also limited to finding jobs within their neighborhoods or ones easily accessible by public transit as many lack transportation, further limiting their employability. Most return to low-income communities that have relatively few unskilled jobs and to peer groups who provide relatively few contacts to the world of legitimate work (Holzer et al., 2003). Job opportunities are further limited when parole restrictions require parolees to live in the same communities from which they came.

A mismatch exists between employer expectations and former prisoners' qualifications, and employer preferences for workers without criminal histories. Former prisoners' qualifications are inconsistent with employers' expectations, as 40 percent do not have a high school diploma or GED, were unemployed prior to incarceration, and have persistent health and mental health concerns that contribute to their failure to report to work (Solomon et al., 2004). Even for jobs that require little formal skill, basic job readiness is sought by employers. Those who have criminal histories, incarceration experience, and/or substance use problems are the least likely to be job-ready and will likely receive few job offers (Holzer et al., 2003)

Another reason for not hiring ex-offenders is that employers can be held liable for damage incurred as a result of exposing other employees and the public to the potentially dangerous situation created by hiring an individual with a criminal record (Solomon et al., 2004). As offenders are limited on the types of employment they qualify for, jobs with few tangible rewards do not engender a sense of commitment and are likely to be viewed as temporary by parolees. Moving from job to job does little to remediate the spotty work history of many former prisoners, and feeds into employers' reluctance to hire individuals who may move on to another position. Higher levels of job instability have also shown to lead to higher arrest rates (Sampson & Laub, 1993).

Employers are least likely to hire former prisoners compared with other disadvantaged groups such as welfare recipients (Holzer et al., 2003). Often the offense committed by the offender and whether any meaningful work experience has been obtained since release guides an employer's willingness to hire an ex-convict (Holzer 1996; Holzer et al., 2003). Former prisoners are more likely to be hired for construction and manufacturing jobs than those in retail or service sectors which require significant contact with clientele. Employers are most reluctant to hire

individuals convicted of violent crimes and are most willing to hire low-level drug offenders. However, some employers will overlook a criminal record if the ex-offender has strong ties to a reputable source that is referring the ex-offender for the job (Berg & Huebner, 2011).

Employment Considerations. Employment opportunities are not only limited in terms of an ex-offender's skills and education but also by motivation, work ethic, and parole conditions. Conditions of parole such as curfews and parole officer meetings may interrupt a parolee's work schedule, present challenges for job attendance, punctuality, and performance (Solomon et al., 2004). Meeting the conditions of parole may jeopardize an offender's ability for long-term employment but failure in maintaining or sustaining employment can also potentially result in revocation of parole and re-incarceration. One particular study assessed the likelihood that paroled offenders in California were returned to prison depending on the local labor market conditions in the county where the offender was released at the time of reentry (Raphael & Weiman, 2007). Moderate effects of county unemployment rates at the time of release on the likelihood that a paroled offender was returned to custody were found. More specifically, when research on local unemployment rates was combined with employment probabilities of low-skilled workers, results found that the impact of being employed on the probability of being returned to custody was small for the average parolee (2%). For the lowest-risk parolees, having a job reduces the likelihood of being returned to custody on a parole violation by up to 14 percent (Raphael & Weiman, 2007).

Motivation and work ethic is also instrumental to maintaining employment. Employment indicates a fundamental change of new roles and self-concepts, such as that of an employee. New skills and attitudes such as a willingness to follow a schedule, working well with colleagues or team members, and setting long-term goals are needed in order to get and maintain employment.

Some offenders need help in developing these areas as a history of criminal behavior and illegal earnings has allowed them to be independent in their work, maintain authority over decisions, and earn wages as they see fit. The current economy and local labor market can have a large influence in a returning prisoner's employment outcomes.

Acquiring Employment. When released offenders are able to acquire employment, recidivism tends to be positively influenced (Baer et al., 2006; Berg & Huebner, 2011; Horney et al., 1995; Solomon et al., 2004; Travis & Petersilia, 2001; Uggen et al., 2005). Prisoners who are fortunate enough to find work do not necessarily have full-time or consistent employment. Many of the jobs they are able to get are short-term, temporary positions (Baer et al., 2006). The typical job for which a prisoner is prepared for is a low-skill, blue collar, or manufacturing job (Solomon et al., 2004). The market has shifted toward jobs in the service sector for which individuals with criminal histories are less likely to be hired or may be legally barred from (Solomon et al., 2004). A number of occupations are barred by state and federal law for a person with a felony conviction including caring for children, certain health services, private security firms, real estate, and criminal justice positions (Solomon et al., 2004).

Release to Time of Employment. Examining the effects of prisoner reentry in a small metropolitan community, Garland, Wodahl, and Mayfield (2010) interviewed 43 former male prison inmates at their 3-month mark of release about employment after incarceration. Three out of five offenders had found a job within two weeks in the community, and all but four had employment at some point within the 3-month mark. About one out of three of those who found employment after release had worked two or more jobs. The main reason for leaving a job was that it was temporary work terminated by the employer. The biggest employment concern reported by offenders was simply finding legitimate, profitable work. A large number of jobs

available to individuals with criminal records are often menial, low-entry, temporary positions. Many of the released offenders relied heavily on relatives and significant others during the first few days, but at the 3-month mark employment became the main source of income for the majority of offenders. Overall, the first days and weeks of the reentry process are particularly intense but over the time frame of three months the majority of offenders are able to adjust. Employment is a two-sided factor for offenders, they not only need employment for the money respect but they also need to maintain employment to avoid parole revocation.

Employment Summary. Employment might exhibit control over offenders, as they might have more to lose by engaging in deviance (Glaser, 1969; Sampson & Laub, 1993; Steiner et al., 2015). Offenders' involvement in employment may also indicate greater commitment to convention (Sampson & Laub, 1993; Solomon et al., 2004). Opportunities for deviance and exposure to situations conducive to criminal behavior are restricted by employment as it helps assist offenders in altering existing social networks (Glaser, 1969; Uggen et al., 2005). Employment also helps offenders navigate other barriers of reentry by being able to pay their bills, secure housing, and develop a wider network of ties to conventional society (Petersilia, 2003). Research has shown that offenders who are employed have lower odds of recidivism (Andrews & Bonta, 2000; Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990; Gendreau, Little, & Goggin, 1996; Griffin & Armstrong, 2003; Uggen et al., 2005; Visher & Courtney, 2007).

The current study documents changes in employment for offender reentry at two different time points. The oil boom within the state may change the outcomes of offender employment after release. The studied state has experienced changes in increased job opportunities and a

lowered unemployment rate. The outcomes of this variable will inform how changes in offender reentry, including employment, can impact success.

Education. Education is one factor that impedes offender reentry through employment opportunities (Baer et al., 2006; Freeman, 1992; Holzer, Raphael, & Stoll, 2003). Low education and skill levels combined with a previous incarceration stay or criminal history are a combination that makes the majority of employers look elsewhere for employees. Criminal offenders have lower education levels than the general population (Harlow, 2003; Petersilia, 2003; Solomon et al., 2004). The median education of parolees is 11th grade (Federal Bureau of Prisons, 2016). Though the majority of prisons offer educational services, only about half of the prison population actually take advantage of such services to improve their reentry chances of obtaining employment (Harlow, 2003; Petersilia, 2003; Solomon et al., 2004).

Reviewing Bureau of Justice Statistic surveys, Harlow (2003) examines education and correctional populations. Less than half of inmates (41 percent) in the nation's state and federal prisons and local jails and 31 percent of probationers have not completed high school or its equivalent compared to 18 percent of the general population. Over half of state prison inmates (68 percent) have not received a high school diploma. Only 26 percent of state prison inmates have completed the GED while serving time in a correctional facility. About 35 percent of state inmates have successfully passed the GED. Of those with a GED, at least 7 in 10 state and federal inmates obtained their GED while incarcerated (Harlow, 2003). About 9 in 10 state prisons provide educational programs for prison inmates. Vocational training is present in 56 percent of state prisons (Harlow, 2003) and most often these programs have longer waiting lists than the number of inmates enrolled (Greenberg, Dunleavy, & Kutner, 2007). About half of state prison inmates (52 percent) have taken education classes since admission to a correctional

facility. Younger inmates (less than 25 years) in state prisons are more likely than older inmates to have failed to complete high school or its equivalent. However, younger inmates were more likely than older inmates to have participated in an educational program since their admission to prison. Education varied for offenders with different offense types. Almost half of state prison inmates (47 percent) serving their sentence for selling or using illegal drugs had not graduated from high school or passed the GED. About 4 in 10 violent offenders had not finished high school.

Education and Recidivism. Having an education not only helps offenders gain and maintain employment, it has also been shown to help reduce recidivism (Harlow, 2003). State prison inmates without a high school diploma and those with a GED were more likely to have a prior sentence than those with a diploma or some college. Over three quarters of those (77 percent) who did not complete high school or a GED were recidivists. One study found offenders without a high school credential had a recidivism rate of 55.9 percent, those with a high school diploma or GED had a recidivism rate of 46.2 percent, and those with a college education had a 31 percent recidivism rate (Nally et al., 2014). Less educated inmates were more likely than those with more education to have been sentenced as a juvenile (Harlow, 2003). Achieving an education gives inmates a sense of accomplishment and opens more job possibilities to them, in turn having an impact on recidivism.

Educational Programs. Much research has been completed on adult educational programs in prisons. Some of the results are positive in terms of completion and recidivism outcomes, whereas others are inconclusive as more research needs to be conducted (Cecil et al., 2000). Such educational programs are the main source for offender education and training resources. Studies that have found promising or positive outcomes are reviewed below.

A meta-analysis of 33 education, vocation, and work programs for adult offenders found program participants to recidivate at lower rates and are employed at higher rates than non-participants (Wilson et al., 2000). Studies included in the meta-analysis were those that evaluated educational, vocational, or work programs for convicted individuals in prison, jail, or another corrections-based program, such as probation. Participants in educational programs were 1.44 times less likely to recidivate and were 1.70 times more likely to be employed than non-participants. Those who complete their education in prison may not be that different from offenders who obtain their education before prison admittance.

A study of New York State inmates three years after their release showed that prisoners admitted to prison with a GED or high school diploma were re-incarcerated at approximately the same rate as those who earned their GED while in custody (Nuttall, Hollmen, & Staley, 2003). For those with no degree, 37 percent returned to custody within three years compared to 32 percent of inmates who had earned a GED while in prison. An additional study found recidivism, measured as re-arrest, reconviction, and re-incarceration, was lower for participants in correctional education programs on all three measures (Steurer, Smith, & Tracy, 2001). These studies show that overall education programs in prisons can be considered as programs that work to help offender reentry (Jensen & Reed, 2006).

Vocational Programs. Like educational programs, vocational programs in prisons are developmental services for offenders to be better qualified for employment upon release. Analyzing 13 vocational educational programs, Bouffard, MacKenzie, and Hickman (2000) found mixed results. Ten program evaluations showed reductions in recidivism while three other studies of equal rigor showed no significant reductions and some increases in recidivism. Wilson, Gallagher, and MacKenzie (2000) found similar mixed results analyzing 17 vocational

training programs. Program participants were 1.55 times less likely to recidivate than non-participants but when the authors adjusted for methodical problems the effects of vocational training were no longer statistically significant. A positive and significant effect was found with employment showing that vocational training participants were 2.02 times more likely than non-participants to be employed after release.

Postsecondary Education. It could be argued that offenders with higher education will have lower recidivism if secondary education (high school diploma or GED) shows such effects. Batiuk (1997) compared prisoners who tested at reading levels adequate for college programming but did not participate with those who did. Inmates who graduated from college programs while incarcerated reduced their rates of recidivism by about 72 percent compared with inmates who did not participate. A follow-up study of 10 years on offenders who received associate degrees while in prison showed that participating in a college education program for two years reduced the odds of recidivating by about 58 percent (Batiuk, Moke, & Rountree, 1997).

Stevens and Ward (1997), studying re-incarceration rates of inmates three years after release, found inmates who received postsecondary degrees while incarcerated had low re-incarceration rates. None of the inmates who earned a bachelor's degree and 5 percent of those who earned an associate's degree were re-incarcerated after three years while less than half (40 percent) of the general prison population were returned during the same time period. Another study of 13 postsecondary education programs found program participants were 1.74 times less likely to recidivate than non-participants (Wilson et al., 2000). Receiving any type of educational degree is instrumental in decreasing recidivism but as the above studies show, postsecondary education may have the largest effects on offender recidivism post-release.

Education in the Community. While some offenders take advantage of educational programs while incarcerated, few seek educational opportunities in the community (Brazzell, Crayton, Mukamal, Solomon, & Lindahl, 2009). One major barrier to education in the community is funding. In a survey of incarcerated men, funding was identified as the biggest obstacle preventing them from pursuing education after release (Hanneken & Dannerbeck, 2007). Many offenders return to the community with more immediate expenses such as housing, necessities, child support, and criminal justice debt. Although education can be a valuable investment, many offenders are unaware of public and private funding sources that may be available for continuing their education (Brazzell et al., 2009; Contardo & Tolbert, 2008). However, some colleges conduct background checks and make admission decisions based on applicants' criminal histories.

Education Summary. Obtaining an education may help offenders gain employment, reduce recidivism, and help them adjust to society and supervision more easily. If offenders take advantage of educational, vocational, or work-related programs in prison, they are less likely to recidivate during their reentry process. Receiving education and work-related skills allows offenders to be qualified for employment, which also impacts recidivism.

The current study examines education at two different time points: at the time of admittance to prison and when the offender is released to the community. The current study will record educational changes during incarceration. This variable is important to study as it potentially impacts other barriers of offender reentry such as employment and recidivism.

Supervision. Offenders newly released to the community have barriers not only in regards to obtaining necessities like housing, but also in adjusting to supervision conditions. Parole can be considered a positive reintegration tool or a hindrance to offender success through

a watch-and-catch surveillance approach. The current study uses a sample of offenders released from incarceration to community supervision. This section will briefly discuss the barriers supervision can have on offender reintegration.

It is often argued that parole is a hindrance to offender success because offenders are being monitored, closely watched, and more susceptible to being caught for rule violations (Bauer et al., 2006; Bannon, Nagrecha, & Diller, 2010; Caplan, 2006; Fulton et al.,1997; Paparozzi & Kozlowski, 2004; Petersilia & Turner, 1993; Seiter & West, 2003; Solomon, Kachnowski, & Bhati, 2005; Steiner et al., 2012;). One study examining parole supervision, using prisoner release statistics from 15 states, found that supervision has little effect on re-arrest rates (Bauer et al., 2006; Solomon et al., 2005). Those on mandatory parole fare no better than similar prisoners released without supervision. Post-prison supervision did not appear to improve re-arrest rates for higher rate, more serious offenders. Despite their sentencing, offenders may have similar outcomes in the community.

A study using the perspective of parolees found that parole did not help participants with reentry and in some cases it hindered the reentry process (Scott-Hayward, 2011). Thirty-six parolees were interviewed and few of them described parole as helpful. Even the parolees who reported a good relationship with their officers did not feel like they could talk to their officers about their problems. Rather than relying on their officers, most parolees turned to community organizations and other contacts to find employment and housing. Participants cited a variety of concerns about conditions that acted as barriers to reentry such as residency restrictions of parole. Residency restrictions made it hard for parolees to find a place to live and to reconnect with family. Many complained about a curfew and not being able to leave the state without permission from his or her parole officer. For many, the most positive thing they could say

regarding parole was that their officer did not make their life difficult but on the other hand many did not see helping as a function of the parole officer.

Supervision Costs. Additional barriers that are often forgotten about are court fees, supervision fees, and restitution. Criminal justice debt significantly affects a person's chances of reentering society successfully after a conviction (Bannon et al., 2010). Many offenders have no money upon release from prison let alone any money to spare towards paying these fees (Bannon et al., 2010; Brazzell et al., 2009). Many state legislatures have determined that all offenders on community supervision must pay a monthly portion of the cost of their supervision. The fee may be based on the monthly gross income of the offender. In most cases, offenders must pay supervision fees in order to successfully complete community supervision. Some jurisdictions incarcerate those who have failed to pay, extend probation and other supervision in order to collect the fees, or suspend the person's driver license for failure to pay (Bannon et al., 2010). These practices in turn can cause new crime as a person is unable to obtain a job without identification or means of transportation, still making them unable to pay the fees.

Supervision Summary. Parole supervision can be considered a barrier to offender reentry. Offenders must learn to navigate the restrictions of parole along with other factors of offender reentry. This topic is discussed more in depth in the next chapter by focusing on parole officers and the role they have in offender reentry.

Chapter Overview

Focusing on the historical perspective of offender reentry and the changes that occurred overtime, this chapter discussed procedural barriers that offenders are subjected to as a result of the reentry process. It also summarized the subjective factors of reentry that newly released offenders may experience in the community, including barriers of housing, substance abuse,

employment, education, and supervision. Each of these factors are important to study in order to understand offender reentry. The current study includes all of these factors as variables and documents them at two time periods. Reentry over time looks different for different offenders depending on housing markets, availability of programs and services, and employment rates at the time of their release. The difference in time periods used in this study will be able to inform changes in offender reentry in relation to recidivism outcomes. Using a natural experiment to determine the two time periods, this study will be able to examine the role an oil boom has had on offender reentry in the studied state. The study will fill gaps in the literature as few if any previous studies have been able to examine a natural experiment in relation to offender reentry while focusing on rural areas.

The chapter that follows will discuss another factor in offender reentry— parole officers. The attitudes and perceptions of parole officers is important when studying offender reentry because officers impact the reentry process. Officers' supervision style and perception of offender needs effect an offender's reentry process while on supervision.

PAROLE AND COMMUNITY SUPERVISION OFFICERS

The second part of the study and the focus of this chapter will center on parole officers. First, a discussion on the shift in goals of parole will be noted as this will help in understanding the following sections. Next, changes in parole conditions will be examined. Then, past research on the main focus of the current study will follow. Officer philosophies and their impact on offender reentry will be reviewed. Finally, officer perceptions on offender reentry will conclude the chapter.

Shifting Goals of Parole

The goals of parole today are threefold: to supervise offenders, to rehabilitate treatable offenders, and to protect society from at-risk individuals (Caplan, 2006). Supervising the societal integration of offenders serves two public safety functions: short term risk management of offenders supervised in the community and long-term behavioral reform for targeting offender recidivism reduction (Paparozzi & Kozlowski, 2004; Seiter & West, 2003). The original intention of parole supervision was not to revoke parole, but to constantly assess the parolees' progress and to make necessary changes (Seiter & Kadela, 2003). Significant changes in corrections over the last three decades have modified much of the historically prevalent preparations for release as prison and parole board administrators have instead emphasized managing risk and intensive monitoring of inmates upon release (Seiter, 2002).

Technical Violations. Intensive monitoring of released offenders has contributed to raising prison populations as offenders who violate parole conditions are returned to custody. Incarcerating technical violators along with nonviolent offenders and drug offenders has resulted in the United States having the highest incarceration rate (Clear & Austin, 2009; Schmitt et al., 2010; Spohn, & Holleran, 2002; Travis & Petersilia, 2001). An increase in technical violations

resulting in re-incarceration could be reflective of parole becoming more surveillance-oriented (Camp & Camp, 1998; Caplan, 2006; Paparozzi & Kozlowski, 2004). It is questioned whether tougher parole and release supervision with minimal tolerance for mistakes or the failure of the system to prepare inmates for release is at fault for the high proportion of inmates being released are re-incarcerated.

Parolee Success. Most states report successful discharge of parolees on parole supervision in the 55 percent to 65 percent range, with most of the violations being for technical reasons (Austin, 2001). Parole supervision has not been effective at reducing new arrests and has been shown to increase technical violations (Beck & Mumola, 1999; Bonta, Rugge, Scott, Bourgon, & Yessine, 2008; Camp & Camp, 1998; Seiter & Kadela, 2003; Petersilia & Turner, 1993). A surveillance emphasis of community supervision results in a tendency to violate offenders for minor technical violations (Camp & Camp, 1998; Petersilia & Turner, 1993). Many administrators and parole boards do not want to risk minor violators later committing serious crimes. Yet, research on violating offenders on technical conditions has shown no support for the desistance of new criminal arrests (Petersilia & Turner, 1993). These actions have an impact on prison population, cost, and prisoner adjustment to reentry (Clear & Austin, 2009; Clear, Duster, Greenberg, Irwin, McCoy, Mobley, & Page, 2007; Kerbs, Jones, & Jolley, 2009; MacKenzie & Shaw, 1993; Petersilia, 2003). Parole services are decreasing as parole supervision conditions are increasing, resulting in less time for officers to focus on services (Petersilia, 2003; Robinson, 2005; Sluder, Sapp, & Langston, 1994).

Another contributor of decreasing parole services is the economy and the reduced number of treatment and job training programs being funded. Spending has not kept pace with the growth in offender populations in supervision caseloads (Travis & Petersilia, 2001). Per capita

spending per parolee has decreased from more than $11,000 per year in 1985 to about $9,500 in 1998 (Travis & Petersilia, 2001). Cost of parole (estimated per individual on parole per year) in 2009 was estimated to be $4,000 (Justice Policy Institute, 2009).

As shown above, the ratio of parole officers to offenders and the funding for parole has not kept up with the number of individuals being supervised yearly. The effectiveness of parole is limited by funding, large caseload sizes, and the focus on surveillance and technical violations. As the focus of parole has shifted to surveillance and technical violations, the conditions of parole have also intensified.

Conditions of Parole

Another change to supervision aside from officers are the conditions of parole. Parole supervision represents conditional release from incarceration (Travis & Stacey, 2010). Conditions that are placed on all persons under supervision are considered standard conditions such as the condition to report to the parole office for meetings with their parole officer. In addition, release or supervising authorities can impose specific conditions tailored to the needs or circumstances of the individual offender, known as special conditions, such as the condition that a parolee will attend and complete a treatment program. Examining additional parole conditions for supervision may impact an offender's success to navigating supervision and reentry differently than an offender without additional parole conditions.

With all the social, economic, and health deficits of offenders who are released from prison, it is easy to understand why many parolees are sent back to prison for rule violations (Clear & Austin, 2009; Schmitt et al., 2010; Travis & Petersilia, 2001). Combining these problems with conditions of supervision that are routinely set for parolees such as no drug use, having a permanent address, having or actively pursuing employment, and keeping all reporting

and treatment appointments, multiplies the difficultly offenders have in abiding by all parole conditions and avoiding failure. Violation of a condition of parole can result in revocation, which means that a person can be returned to prison. It is rare that a first violation results in revocation, instead most states use graduated sanctions which can range from verbal or written warnings to requirements to attend day or evening reporting centers or to short jail stays (Scott-Hayward, 2011). Ultimately, a person may have his or her supervision revoked and be returned to prison, in most cases for a fixed term. Proponents of reentry view parole conditions and the relatively high rates of revocation based on technical violations as obstacles to offender reintegration (Travis & Stacey, 2010). The number and types of parole conditions offenders are required to adhere to have increased over the last fifty years (Travis & Stacey, 2010; Scott-Hayward, 2011).

Early Parole Conditions. The earliest assessment on the conditions of parole supervision was by Arluke in 1956. A survey of standard conditions of parole was completed on fifty-two adult criminal jurisdictions in the United States. Arluke (1956) noted that parole conditions were vague, unrealistic, ununiformed, and numerous to be of any real value. Using the same survey 13 years later, Arluke (1969) reported that most jurisdictions had increased the number of parole conditions. Most conditions were redundant, impractical, and lacked uniformity. He concluded that the conditions placed on parolees under supervision had not improved over time.

Repeating Arluke (1956) survey in 1982, Latessa and Travis (1984) used many of Arluke's original and follow-up conclusions. They identified 139 separate parole conditions, with a mean of 14.8 conditions imposed per parole jurisdiction. Thirteen years after their 1984 study, Hartman, Latessa, and Travis (1996) surveyed standard parole conditions again. The trend was towards a reduction in the number of standard conditions of parole. They reported 76

distinct conditions with a mean of 11.5 conditions imposed per jurisdiction. To update these findings, Travis and Stacey (2010) conducted a web search of parole authority or corrections department websites for information containing listings of standard conditions of parole or post-prison release supervision imposed in the fifty states. Standard parole conditions were defined as any restriction on conduct or liberty or behavioral requirements routinely applied on all parolees in a jurisdiction. A total of 127 separate conditions of parole were identified, with a mean of 18.6 conditions and a median of 19.5 for each jurisdiction ranging from a low of 10 to a high of 24 conditions (Travis & Stacey, 2010). A number of new conditions of parole have been added in a few states including North Dakota regarding the restriction of possession and use of caller identification, a police radio scanner, or surveillance equipment (Travis & Stacey, 2010).

Most Common Parole Conditions and Trends. The most common conditions in 2008 were: comply with the law, restrictions on changing residences, prohibition on weapons possession, requirement of regular reporting, restrictions on out of state travel, allowing home and work visits by the parole officer, and restrictions on possession/use of controlled substances (Travis & Stacey, 2010). Other conditions imposed require parolees to maintain employment or educational program participation, report any arrest, comply with medical/drug testing, make a first arrival report (contacting the supervising officer soon after release from prison), and pay fees and restitution, and prohibitions against contact with undesirable (criminal) associates (Travis & Stacey, 2010).

The growth in parole conditions reflects four trends and the purposes served by parole conditions (Travis & Stacey, 2010). First, the renewed interest in prisoner reentry and the barriers faced in reintegration may have supported an increase in treatment conditions including requirements that parolees participate in educational/employment, substance abuse, and

psychological programs. The second theme is an enhanced effort for crime control and crime prevention effectiveness in supervision. Many conditions have been added or adapted to strengthen supervision such as requirements that changes in employment be reported, visits to parolees' homes and work locations are conducted, and similar conditions aimed at strengthening surveillance and control of parolee behavior. Third, some conditions represent the development of changes in technology including drug testing and GPS tracking that are now additional conditions of parole. Lastly, some conditions have been added that represent notice of applicable statutes or policies such as conditions that bail may be denied or that time served credit may not be awarded if parole is revoked. Parole rules and conditions have changed over time to reflect popular thinking about crime and technology. The definition of what is the appropriate response to violations of these rules has also changed. In addition, other types of punishment have been developed in order to try to strengthen the effectiveness of parole such as intensive supervision programs (Petersilia & Turner, 1993; Petersen & Palumbo, 1997; Tonry, 1990).

Other changes to make parole more efficient has been the philosophy of the parole organization and officer. An officer's philosophy of supervision greatly influences their strategies for effective offender reentry. This topic is explored in the following section.

Officer Supervision Philosophy

Early Progressives' ideology of probation and parole envisioned agents being friends and counselors to the offenders they supervised (Rothman, 1971). Agents needed to be assigned small caseloads in order to implement such relationships in their supervision strategies. Although idealistic, maintaining friendships or counseling roles with probationers and parolees proved to be difficult as caseload sizes continued to increase (Rothman, 1971). In the 1970s, parole officers

handled caseloads averaging 45 offenders; today, officers supervise up to 70 or more offenders (Travis & Petersilia, 2001).

Officers are overworked, understaffed, and have limited training to carry out such roles (Petersilia, 2003; Robinson, 2005; Sluder, Sapp, & Langston, 1994). Public rejection of leniency, rejection of rehabilitation practices, and tightening of state budgets are also explanations for contemporary parole practices that sacrifice casework and treatment to focus on risk management and administrative efficiency (Caplan, 2006). Depending on which practices, casework or risk management, are supported by an officer depends on their style of supervision.

Casework or Surveillance. Parole supervision styles of officers generally fall into either casework or surveillance approaches. The social casework approach emphasizes assisting parolees with problems, counseling, and working to make sure they succeed on supervision (Caplan, 2006; Clear & Latessa, 1993; West & Seiter, 2004). Until the late 1960s, probation and parole supervision focused on restoring offenders to the community through the casework approach, which predominated supervision strategies (Caplan, 2006; Seiter & West, 2003). This style has shifted over the past 30 years to one of surveillance as a result of the get tough movement and rejection of rehabilitation approaches (Caplan, 2006; Paparozzi & Kozlowski, 2004). Surveillance approaches emphasize law enforcement, enforcing compliance with the rules of supervision, and the close monitoring of parolees to catch them if they fail and return them to prison (Seiter, 2002; Travis & Petersilia, 2001; West & Seiter, 2004). It is suggested that the change from casework to surveillance has contributed to the increase in revocation rates (Seiter & West, 2003). Caplan (2006) argues that the combination of casework and surveillance and an overwhelming societal concern for public safety have created an anomic state of parole in the

United States, one that results in confusion and a lack of regulation, further results in role conflicts among community supervision officers.

Balanced Approaches. There is limited understanding of the factors that impact supervision styles (Caplan, 2006). It is unclear whether officers obtain their styles from personal philosophies, agency policies, supervisors, stated agency missions, court and judicial oversights, or from geographical locations (Seiter & West, 2003). West and Seiter (2004) sought to explain officers' supervision styles along a casework to surveillance continuum. Officers from four district offices self-reported their time spent on the job engaged in various casework or surveillance activities. Officers estimated that they spent over half (54 percent) of their time engaged in casework activities, although officers perceived themselves as more surveillance oriented on a 10 point continuum. Although officers perceived current caseloads to force more of a surveillance approach, they believed that a balanced supervisory style should be the goal. Increased time spent in surveillance activities was related to decreased time in casework activities and to having a regular caseload. These results can be attributed to the significantly larger number of offenders being assigned to regular caseloads than specialized caseloads. Officers who had regular caseloads spent significantly more time engaged in surveillance activities than officers with specialized caseloads. Having smaller caseloads, being female, and perceiving oneself to have a casework orientation is associated with increased time in casework activities. Overall, officers believe a surveillance style is necessary for community protection but recognize the need for a balanced approach.

A strictly surveillance-oriented style of parole is not effective at reducing recidivism (Fulton, Stichman, Travis, & Latessa, 1997; Paparozzi & Kozlowski, 2004). A balance of both social worker and law enforcer provides the best results for parolees and parole officers (Fulton

et al., 1997; Paparozzi & Kozlowski, 2004). For example, one study found offenders assigned to parole officers who used a law enforcement strategy for supervision received more technical violations (Paparozzi & Kozlowski, 2004). On the other hand, officers who adhered to a balanced approach between surveillance and casework had significantly lower instances of new convictions and revocations. Balanced officers had greater reductions in recidivism overall as well as reductions in new convictions (Paparozzi & Kozlowski, 2004).

Officers who adhere to surveillance supervision styles can be trained to change their orientation to a more balanced style (Fulton et al., 1997). As shown above, a balanced style has better outcomes for parole officers and the offenders they supervise. Research has shown that although officers' perceive themselves to adhere to one style of supervision, their work-related activities may suggest otherwise.

Attitudes, Activities, and Strategies. Many studies have examined the role of probation and parole officer attitudes and its relationship with supervision strategies (Seng and Lurigio, 2005; Steiner et al., 2011; West & Seiter, 2004). Steiner, Travis, Makarios, and Brickley (2011) examined the impact of officers' orientations on both their intended behavior and their actual behavior. Sampling 351 parole officers, the authors found that officers' orientation impacts both their intended behavior and actual behavior to some extent. Officers who held more authoritative attitudes were more likely to pursue revocation hearings for offender noncompliance and were more inclined to enforce offenders' conditions of release. Officers who were more assistance-oriented were more willing to reward offenders who completed supervision goals. However, the findings were mixed regarding the relationship between orientation and actual behavior.

A potential reason for the finding that officers' attitudes had no effects on the rate of sanctions they imposed could be how officers view sanctioning (Steiner et al., 2011). Officers

who are more assistance oriented may view sanctions as mechanisms that permit offender change as the imposition of sanctions allows offenders to remain in the community and continue under supervision. It has been argued that sanctions, when applied in a fair and consistent manner, can aid in the reentry process (Committee on Community Supervision and Desistance from Crime, 2008; Taxman, Soule, & Gelb, 1999). In contrast, officers who are more authoritative may view sanctions as a punishment. These differing views for imposing sanctions may be influenced by officers' attitudinal preferences, but could contribute to similar levels of sanctioning (Steiner et al., 2011). The null relationship between officers' attitudes and the rate of sanctions they imposed could be due to similar levels of sanctioning. Officers' attitudes may impact their reasoning and purpose for imposing sanctions which in turn could affect the outcomes of offender supervision and reentry through revocations of parole.

In a study that examined supervision styles and activities, respondents were found to believe their own supervision style was closer to the surveillance end of the continuum than their peers (Seiter & West, 2003). However, the mean rating for respondents' own style description indicated a balanced supervisory style. Officers who rated themselves as having more of a casework than a surveillance style spent more time doing casework-categorized activities than surveillance-categorized activities. This finding suggests that officers who align themselves with a certain supervision style tend to conduct activities related to the style.

High failure rates of parolees and probationers may be attributed to the type of supervision they receive, the intensity of supervision, and even the supervision attitudes of their parole/probation officer. For instance, parole and probation agencies may instill a certain philosophy that influences how officers respond to offender behavior or case tasks (Clear & Latessa, 1993). Clear and Latessa (1993) found organizational philosophies of treatment and

control are not incompatible as an officer's preference for one perspective will not cause avoidance of tasks consistent with the other. Organizational philosophies are important and can determine staff members' attitudes and tasks. Values and promoted supervisory behaviors of officers in an agency can impact officers' task preferences, which in turn affects their interactions and disciplinary action for the offenders on their caseload.

Supervision Philosophy Summary. Overall, an officer's adherence to a supervision philosophy is impacted by their attitudes as well as work-related tasks. A balanced supervision strategy, one focusing on fair but firm enforcement, is supported within the research to be the best approach for successful offender reentry, focusing on both rehabilitation and surveillance (Fulton et al., 1997; Paparozzi & Kozlowski, 2004; West and Seiter, 2004). A balanced supervision strategy may lead to lower recidivism and fewer technical violations for offenders on community supervision.

The previous sections exemplify why it is important to measure officer attitudes and reactions to certain scenarios. The current study seeks to explore how officer adherence to either a surveillance or casework philosophy impacts officers' perception on offender reentry and the oil boom. If an officer is surveillance-oriented, he or she may view offender reentry and the oil boom negatively as oil booms can be associated with crime, substance use, and criminal populations (Little, 1976). A casework-orientated officer may view offender reentry and the oil boom positively as the oil boom may provide more resources, such as employment and housing, to help aid offender reentry. Officers' understanding and perceptions of offender reentry may explain their adherence to a supervision style.

Community Supervision Officer Perceptions on Reentry

Considering the perspective of offenders during their reentry phase is instrumental to understanding the barriers and obstacles they face in the community. Gaining the perspective of officers who supervise such offenders is helpful in understanding the role officers perceive supervision to have in the reentry process. The current study gauges officer perceptions on offender reentry to help illustrate if officers' perspectives are influential on their supervision strategies and the success of offenders on their caseloads.

Previous research suggests that parole officers are intuitive in gauging barriers to offenders during the reentry process (Brown, 2004; Graffam, Shinkfield, Lavelle, & Mcpherson, 2004; Gunnison & Helfgott, 2007; Seiter, 2002). Using surveys of parole officers and other professionals, much research indicates that these officials identify housing, employment, lack of finances, poor education and skills, and substance abuse as the most important needs of newly released offenders (Graffam, Shinkfield, Lavelle, & Mcpherson, 2004; Gunnison & Helfgott, 2007; Seiter, 2002). Several parole officers also perceived close surveillance as a resourceful strategy to address the many barriers of offender reentry (Brown, 2004; Seiter, 2002). Overall, officials felt that offenders who are being released need increased access to employment and housing resources (Brown, 2004; Graffam et al., 2004; Gunnison & Helfgott, 2007; Seiter, 2002).

Identifying offender needs is important for officers to understand how to address concerns that will emerge while offenders are on supervision, including recidivism. Female officers have been found to be more thorough in identifying offender needs than male officers (Gunnison & Helfgott, 2007). Female officers also rate such needs significantly more important. As a result, offenders may experience a difference in support during their reentry process

depending on the officer an offender is assigned to. Officers themselves suggest that community corrections officers need to be more involved with offenders (Gunnison & Helfgott, 2007).

Involvement with Offenders. Seiter (2002) attempted to identify important reentry activities performed by parole officers and what they perceive as important in assisting offenders for a successful reentry process. Officers were asked to identify the most important aspect of their job in improving offender reentry. Four themes emerged including monitor/supervise/control, assess offender needs and refer them to appropriate community agencies, help maintain employment, and hold offenders accountable for behavior and success. Officers responded with activities that seem to be on the casework side of the supervision style continuum. Seiter (2002) argues that while monitoring and holding offenders accountable are typically seen as surveillance activities, in this study, officers' focus was not on catching offenders. Instead, all of the activities (see themes above) identified by the majority of parole officers as important aspects of their job for offender reentry are activities that emphasize assisting offenders in their success in the community. Officers continue to believe that the most effective functions they perform are those that help and assist offenders under supervision even during a period when parole officers are implementing close surveillance strategies. This finding suggests that officers are trying to implement a balanced approach to supervision styles.

Officer Perceptions Summary. Community supervision officers are able to fairly accurately describe the barriers and challenges that the offenders on their caseloads experience. Officers' perceptions on offender reentry may play a large part in the supervision philosophy that they adhere to. In the research above, many officers could be considered to adhere to a balanced approach to supervision strategies when asked about offender reentry (Brown, 2004; Seiter, 2002; West & Seiter, 2003). Many officers thought monitoring and surveillance were important

aspects of their job in terms of offender reentry (Brown, 2004; Seiter, 2002) as well as referring offenders to appropriate community agencies and assessing needs (Graffam et al., 2004; Gunnison & Helfgott, 2007) . These important aspects are reflective of both a surveillance and casework philosophy for supervision when addressing offender reentry.

Chapter Overview

The shifting goals of parole has resulted in a more surveillance-oriented system that focuses on monitoring offenders and sanctioning technical violations (Caplan, 2006; Paparozzi & Kozlowski, 2004; Petersilia & Turner, 1993; Seiter, 2002). Conditions of parole have become more stringent while supporting a surveillance focus to ensure offenders are adhering to the conditions set by the state (Travis & Stacey, 2010; Scott-Hayward, 2011). How these conditions are enforced or monitored depends on an officer's philosophy.

A surveillance philosophy for supervision is least effective compared to a casework philosophy or a balanced philosophy. A balanced philosophy is supported within the research to be the best approach for successful offender reentry (Fulton et al., 1997; Paparozzi & Kozlowski, 2004; West and Seiter, 2004). The type of philosophy an officer adheres to may impact how they perceive offender reentry and the barriers that offenders face. The perceptions of officers regarding offender reentry may be paramount to offender success on supervision. It is important to study and understand the role officer perceptions and attitudes play in the supervision styles they adhere to.

The second part of the current study seeks to explore probation and parole officers' perceptions in terms of offender reentry. Officers will be asked what they perceive as the most influential barriers to offender reentry. Their attitudes and activities will be recorded to identify what type of supervision style they adhere to. Supervision styles will be reviewed in conjunction

with the barriers officers list for offender reentry. This study also examines how perceptions of offender reentry and supervision strategies may be impacted by changes within the studied state. Officers may change their tactics and supervision styles to adapt to changes within offender populations, departmental polices, environmental influences, or for efficiency with work-related tasks (Clear & Latessa, 1993). This study will create a link between officer supervision styles and their perceptions of offender reentry, while documenting any reported changes in work-related behaviors.

METHODOLOGY

Focus of the Project

The previous chapters have outlined the importance of studying offender reentry. This project sought to enhance the current literature with two goals in mind. The first objective of the study was to examine the effects the North Dakota oil boom has had on offender reentry. This study took advantage of a natural experiment by examining two time frames of the ND oil boom and its role in offender reentry. The first time period selected for this study was 2006, prior to the large start of the oil boom and changes in the state including population, employment and housing rates. The second time period was 2013 during the highest peak of oil production in the state. The reason for choosing these two timeframes is that they document large changes overtime in the state due to the oil boom. Reentry factors were expected to be different for offenders released from institutional custody (prison) in 2006 from offenders released in 2013 as a result of the oil boom. Demographic information was collected on these individuals as well as institutional and community supervision variables. A follow-up period of two years determined success of offender reentry, measured as recidivism, during the two time periods.

Examining the role of the oil boom in offender reentry is important as many of the common reentry variables are directly impacted by the oil boom. The common variables for reentry detailed in the last chapters include housing, substance abuse, education, and employment. The housing growth rate in North Dakota for 2015 has surpassed all other states (Nocholson, 2015). The state has also reached an unemployment rate of 2.6 percent, well below the national average of 5 percent (Krogstad, 2014). Changes in housing and employment have been contributed to the oil boom as the state has experienced exponential population growth (MacPherson, 2015; U.S. Census Bureau, 2015) along with economic growth.

The oil industry has contributed to changing population demographics as many out-of-state workers are attracted by the employment opportunities and wages in the oil industry. The oil industry has also contributed to the growing demand for housing units, social resources, and new strategies and resources to address the needs of a changing population. These changes throughout the state may cause offender reentry to look different from the period before the oil boom. The natural experiment that exists for this study determines how changes within a state can impact offender reentry overtime. The ability to examine offender reentry in this regard is unique to the literature.

The second objective of this study was to examine perceptions of probation and parole officers on offender reentry. A large sum of work on officer perceptions has suggested that officer opinion and attitudes not only affects the performance of their job (Fulton et al., 1997; Seng and Lurigio, 2005; Steiner et al., 2011; West and Seiter, 2004) but can ultimately impact offender outcomes on supervision (Paparozzi & Kozlowski, 2004; Steiner et al., 2011). Gauging officers' perceptions of reentry is important to help determine what role an officers' supervision philosophy will play in offender reentry (Brown, 2004; Graffam et al., 2004; Gunnison & Helfgott, 2011; Helfgott & Gunninson, 2008; Puloka, 2012; Seiter, 2002). This study also considered and surveyed the effects the oil boom had on officer supervision strategies and departmental changes. Previous research suggests that in order to adequately address population and demographic changes that resulted from the oil boom, criminal justice officials alter their work-related tasks (Archbold, Dahle, & Jordan, 2014). This study assessed changes in supervision strategies and new departmental protocol as a response to the oil boom.

In order to carry out the second objective, probation and parole officers were surveyed on their perceptions of offender reentry. The literature on probation and parole officers suggests

there are two main philosophies that guide officers' supervision strategies. A surveillance philosophy suggests that officers are more punitive focused, rule enforcers, and view the main goal of supervision as monitoring offenders. The second philosophy, caseworker philosophy, suggests that officers simulate social workers, provide resources to offenders, and view rehabilitation as the main goal of supervision. Officers were surveyed to assess their attitudes, behaviors, and job duties regarding their supervisory role. Officers in this study were also asked about their perception of offender reentry and the role of the North Dakota oil boom on offender reentry. Officers were asked about changes in their supervision strategies in relation to changes stemming from the oil boom. Officers were categorized as those who supervise offenders in oil counties and those who supervise offenders in non-oil counties. In order to thoroughly understand the goals and background of the study, the current setting must be reviewed in terms of offender reentry variables.

Current Setting

Two of the most important offender reentry variables as outlined in the literature are employment (Baer et al., 2006; Berg & Huebner, 2011; Petersilia, 2003; Solomon et al., 2004; Travis & Petersilia, 2001) and housing (Meredith et al., 2007; Petersilia, 2003; Steiner et al., 2015; Visher & Courtney, 2007). This section will discuss changes in the state's population as well as the changes in the reentry variables of employment and housing.

The population in North Dakota has been increasing for the past decade. Vast amounts of oil extraction from the Bakken region contributes to North Dakota's lead in the nation for population growth (MacPherson, 2015). The U.S. Census Bureau estimates a total population of 756,927 in July 2015, an increase of about 2.3 percent compared to July 2014. In the decade before the oil boom the population in North Dakota increased by .5 percent from 1990 (638,800)

to 2000 (642,200). Population growth for the following decade documents changes from the oil boom. The population from 2000 (642,200) increased by 18 percent in 2015 (756,927). North Dakota has been the fastest-growing state in the nation for the past four years according to the census data (MacPherson, 2015; U.S. Census Bureau, 2015). Since 2006, the state has moved from the ninth-biggest oil producer to second in the nation (MacPherson, 2015). North Dakota experienced a declining population in the early 2000s but this trend reversed in 2004 due to increased oil activity, with population growing every year since.

Employment in the state has also grown exponentially due to the oil industry (see Figure 1). In 2001, 311,880 North Dakota residents had occupational employment (U.S. Census Bureau, 2001). By 2013, the number of North Dakota residents with occupational employment raised 36 percent to 422,930. High increases in employment are largely seen in the oil field industry.

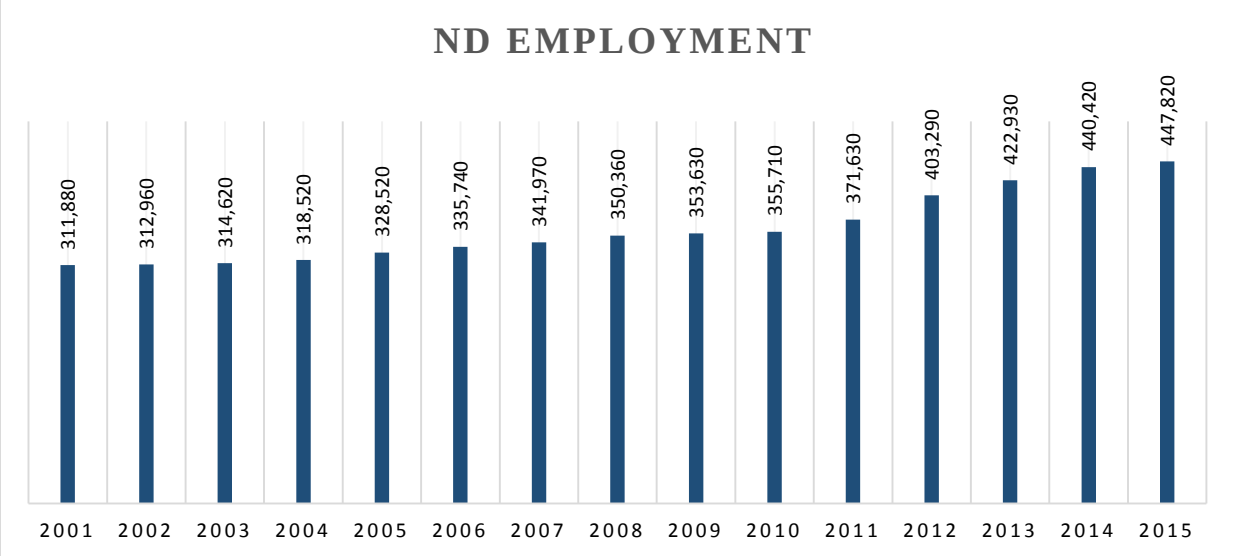

Figure 1. North Dakota Employment. Data retrieved from U.S. Bureau of Labor Statistics. (2015). Occupational Employment Statistics, Division of Occupational Employment Statistics.

Looking specifically at the construction and extraction occupation employment numbers (see Figure 2), 17,770 residents were employed in this field in 2001 and by 2013 the number of

residents employed in construction and extraction occupations (44,140) rose by 148 percent. The large increase in construction and extraction occupation has played a part in creating additional customer service positions and lower-entry positions. These positions have created employment opportunities for individuals with entry-level skills and lower levels of education. Those with a criminal record are speculated to have more employment opportunities in service occupations and in construction and extraction (Uggen, 2000). The state has approximately 15,000 more jobs than there are applicants. Overall, the unemployment rate for North Dakota is well below the national average at 2.6 percent (Krogstad, 2014).

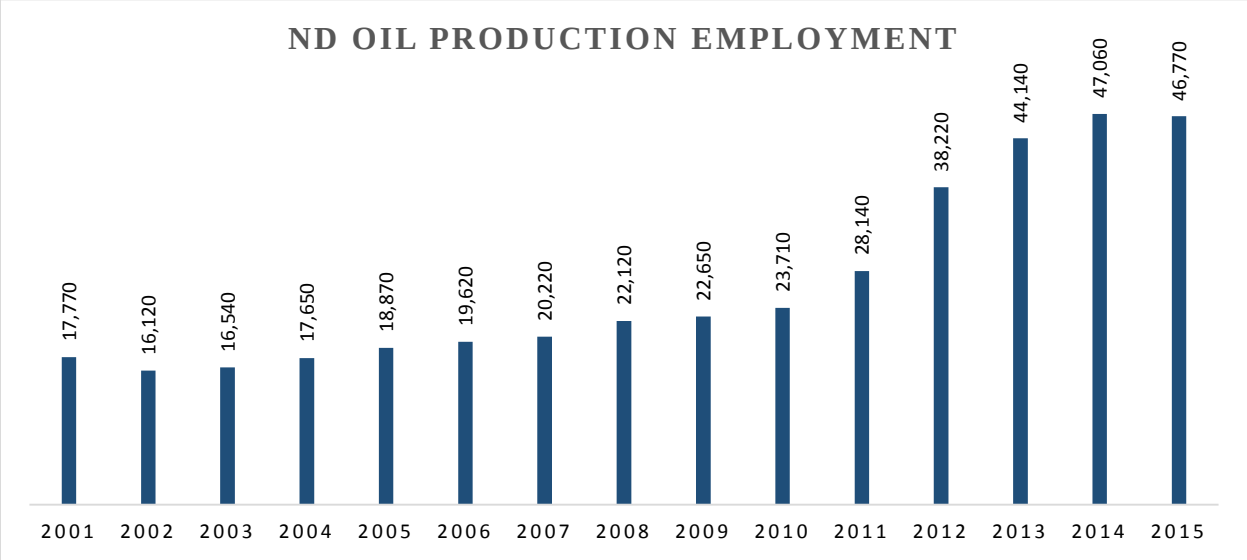

Figure 2. North Dakota Oil Production Employment. Data retrieved from U.S. Bureau of Labor Statistics. (2015). Occupational Employment Statistics, Division of Occupational Employment Statistics.

Another area of massive growth in North Dakota has been the housing rate. The U.S. Census Bureau (2015) estimates that North Dakota's housing growth rate far outpaces any other state in 2015, a trend that has been continuing since 2010. From 2010 through mid-2014, North Dakota's housing units grew by 10.4 percent (Nicholson, 2015). In the heart of the North Dakota

oil patch, Williams County had the fastest housing growth rate from mid-2013 through mid-2014, at 11.6 percent (Nicholson, 2015). Other counties have also seen housing growth, even those outside of the oil Bakken. Cass and Grand Forks counties show growth rates above 3 percent (U.S. Census Bureau, 2014). The U.S. Census Bureau estimates 350,560 housing units in North Dakota for 2014. This has increased by 26.9 percent from 1990 (276,340) and by 21 percent from 2000 (289,677).

Changes in population, employment, and housing has reconstructed the demographics of the state. These structural changes have led to various social changes, such as increased crime (Komarek, 2015; Ruddell et al., 2014) and overwhelmed social services (Archbold et al., 2014; Bohnenkamp et al., 2011; Weber, Geigle, & Barkdull, 2014), which newly released offenders may contribute to. The next section discusses these issues and concludes with an analysis of the pros and cons of the oil boom for offender reentry.

Impacts of an Oil Boom

As discussed in the previous section, North Dakota has experienced many changes as a result of the oil boom. One final area of growth in North Dakota since the oil boom starting in 2006 has been in its incarceration population. Researchers from the Council of State Governments Justice Center have collected data on North Dakota's incarceration population (Nowatzki, 2016). The state's prison population increased from 1,329 to 1,751 inmates in ten years from 2005 to 2015, making a 32 percent increase. The statewide jail population increased from 959 to 1,754 inmates, about an 83 percent increase. If incarcerated populations continue to grow, the Department of Corrections and Rehabilitation project a growth of 75 percent in the next decade. The incarceration population increase has been speculated to be driven by the state's oil boom (Nowatzki, 2016).

Crime and Oil. Communities that experience large population growth, economic development, increased incarceration populations, and low unemployment rates as a result of the development of an oil industry may affect outcomes of offender reentry (Kohrs, 1974; Little, 1976; Reynolds, 2004; Ruddell et al., 2014). Some research indicates that boom town developments may increase crime or arrests (Kohrs, 1974; Komarek, 2015; Ruddell et al., 2014). An argument exists that oil booms draw individuals with criminal histories and propensities to the area because of the difficulty of finding workers willing to engage in physically demanding and often dirty work (Berger & Beckmann, 2009; Ruddell & Ortiz, 2014). High rates of employment and high salaries in oil industries make these areas attractive to ex-offenders as other employers may be unwilling to hire them (Berger & Beckmann, 2009). Some anecdotal resources suggest that some oil companies have a reputation for hiring ex-felons (City Data Forum, 2012; Ex-Offender Jobs, 2014), making oil booms especially attractive to newly released offenders who are seeking employment.

The population growth from resource booms come primarily from young, male extraction workers and support industries (Ruddell et al., 2014). Transient populations are typically associated with high crime rates (Little, 1976). In particular, young males participate in a disproportionate amount of violent crime and property crimes (Alarid, Burton, & Cullen, 2000; Bennett, Farrington, & Huesmann, 2005; Bureau of Justice Statistics, 2015; Moffitt, 2001; Rowe, Flannery, & Flannery, 1995). A study using county-level data of areas experiencing natural gas extraction found those areas had an increase in overall violent crimes while property crimes remained similar to non-boom areas (Komarek, 2015). Another study found modest increases in violent and property crime in oil producing counties when compared to non-producing counties (Ruddell, Jayasundara, Mayzer, & Heitkamp, 2014). The results provide support for the

proposition that crime is higher in oil producing counties that have an influx of temporary extraction workers.

Social Services and Oil. High crime rates in boom towns indicate not only a deterioration in the quality of life (Fernando & Cooley, 2015) but also presents additional problems for social service agencies (Archbold et al., 2014; Bohnenkamp et al., 2011; Weber, Geigle, & Barkdull, 2014). Many North Dakota agencies and resources are overwhelmed, understaffed, and not equipped to deal with the influx of new clientele from oil activity (Fernando & Cooley, 2015; Weber et al., 2014). Many social services have had to strategically adapt to the large population growth and the diversity of needs that the oil boom has brought to the area (Archbold et al., 2014; Bohnenkamp et al., 2011; Weber, Geigle, & Barkdull, 2014). Released offenders may find difficulties in acquiring services or resources from overwhelmed social service agencies as well as from their community supervision officers. The impact of the oil boom on community supervision agencies may in turn shape offender success during the reentry process.

Overall Effects of Oil. North Dakota communities experiencing natural resource extraction and production have both negatives and positives, especially when thought of in terms of released offenders. Offenders may be released into these areas or may relocate to these areas in hopes for a successful reentry process. Oil extraction may supply employment and good wages, housing, and other opportunities for released offenders. On the other hand, oil extraction also presents more criminal activity such as increased crime and arrests (Komarek, 2015; Ruddell et al., 2014), availability of drugs and the presence of substance abuse issues (Little, 1976; Reynolds, 2004), and the weakening of social support and social services (Bohnenkamp et al., 2011; Weber, Geigle, & Barkdull, 2014).

The impact of oil booms on communities, social services, and the police has been well documented in the literature (i.e., Archbold et al., 2014; Bohnenkamp et al., 2011; Fernando & Cooley, 2015). Less is known about the effect of the oil boom on corrections and offender reentry. The current study sought to bridge this gap by examining offender reentry before and after oil development in a Midwestern state. The goal of this study was to examine the natural experiment of the North Dakota oil boom and its effects on offender reentry. It also sought to add information on community supervision officers' perceptions on reentry and the effects oil extraction has had on officer supervision strategies.

Offender Hypotheses

The hypotheses for the offender samples in this project are as follows:

(1) Offenders who are employed will have lower recidivism.

(2) Offenders who have housing will have lower recidivism.

(3) Offenders who complete educational training or treatment services while in custody will have better (fewer) recidivism outcomes.

(4) Offenders with substance abuse issues will have higher recidivism.

(5) More offenders released from custody during the oil boom phase will be employed than offenders released from custody during the pre-oil boom phase.

(6) More offenders released from custody during the oil boom phase will have housing than offenders released from custody during the pre-oil boom phase.

(7) Offenders released from custody during the oil boom phase (2013) will have lower recidivism than offenders released during the pre-oil boom phase (2006).

Offender Hypotheses Rationale. Offenders released during the peak of the oil boom may have more opportunities to abstain from crime. As mentioned in the earlier chapters,

offenders who are able to obtain employment (see Baer et al., 2006; Berg & Huebner, 2011; Uggen et al., 2005) and housing have lower recidivism (see Baer et al., 2006; Meredith et al., 2007; Steiner et al., 2015). The oil boom has added more jobs to North Dakota as well as housing developments. Offenders released from institutional custody in 2013 may have easier access to the surplus of employment and housing that has resulted from the oil boom.

Many offenders become involved in crime due to substance use issues or commit crime while under the influence of substances. Offenders who have substance abuse prior to incarceration will typically have issues with substance abuse after incarceration. Offenders who have taken advantages of services offered while in custody may be better prepared to adjust to free society upon release.

Officer Hypotheses

The hypotheses for the officer sample in this project are as follows:

(1) Officers who supervise offenders in oil counties will perceive more changes in their supervisory strategies as a result of the oil boom.

(2) Officers who supervise offenders in oil counties will perceive the oil boom as having a positive effect on offender reentry.

(3) Officers will identify changes in employment as the main factor influencing offender reentry since the oil boom.

(4) Officers who have a casework philosophy will perceive the oil boom as having a positive effect on offender reentry whereas officers with supervision philosophies will perceive the oil boom as contributing to negative effects on offender reentry.

Officer Hypotheses Rationale. Officers in oil counties may perceive changes in their caseload size and caseload characteristics that resulted from the state's population growth due to

the oil boom. Officers who supervise offenders living in oil counties may perceive more resources for offenders as a result of the oil boom such as employment in the oil industry. Housing developments and units have also increased in oil counties which may increase housing options for supervised offenders. The impact of the oil boom on offender reentry may be perceived as helping offenders decrease recidivism and obtain positive outcomes such as housing and employment while on supervision. Prior to the oil boom, employment and housing were more limited, especially to populations with a criminal history. Officers supervising offenders in these counties may be more likely to see these changes as positives for offender reentry than officers supervising offenders in non-oil counties.

Caseload changes may require officers to adjust their supervision strategies accordingly. Officers with a casework philosophy act as social workers and seek to provide resources to offenders. Officers with a caseworker philosophy may perceive the oil boom as allotting offenders with more access to and options for resources that are instrumental to offender reentry success such as housing and employment. Officers with a supervision philosophy are focused on monitoring and enforcing rules. Officers with this philosophy may perceive the oil boom as contributing to offender criminal behavior through a perceived increase in presence of drugs, crime, and criminal associates.

Data Collection

Data collection efforts were focused on what happened with offenders during their incarceration and after release from prison. Data on the offender samples came from information provided by the North Dakota Department of Corrections and Rehabilitation (ND DOCR). Aside from demographic data, the imprisonment data consisted of information regarding educational level at the time of admission to prison, sentencing county, type of offense, type of admission to

prison, substance abuse problems, prior criminal history (i.e., prior supervision failures and prior convictions), risk score, and start and end dates of institutional custody. An interest of whether or not offenders received programming while incarcerated included variables of institutional discipline, educational and vocational training, chemical dependency treatment, and other treatment. Data after an offender's release from prison consisted of information regarding start and end dates of community supervision, employment, education, homelessness, living arrangements, multiple residences, relationship status, additional supervision conditions, and referral to and received treatment services from community agencies. Criminal history and recidivism data was obtained from the publicly accessible online database North Dakota Courts Records Inquiry and through ND DOCR. Institutional data came from three male correctional centers (prisons) within the state. A decision to only include male offenders was made for two reasons. The first reason was that information on female offenders released from the ND DOCR institution was not easily attainable. Also, if females were to be included they would be underrepresented for this project as there are three male facilities in ND and only one female facility.

The second reason to only include males in the study is supported by the oil boom literature which suggests that the influx of population and employment in the state is largely from males (Krogstad 2014; Ruddell et al., 2014). Krogstad (2014) states that men have accounted for nearly two-thirds of North Dakota's population growth. From 2009 to 2013, the number of males in North Dakota increased by 14 percent (46,000), compared with a 9 percent increase among women (30,000). As a result, North Dakota has the greatest concentration of men (51 percent) of any state besides Alaska (52 percent) (Krogstad, 2014). Many males are attracted to the state for employment opportunities in the oil industry. As a result of the growing

population being predominately male, this study looked specifically at a male offender population and the impact of the ND oil boom on these offenders.

Data collection also focused on probation and parole officers' perceptions of reentry and the North Dakota oil boom effects. The target population was all North Dakota probation and parole officers who are responsible for the community supervision of offenders released from prisons under supervision in North Dakota. The decision to include all probation and parole officers in North Dakota was made because of the small number of officers in the state. It was also important to get a good representation of officers in the state, whether or not they supervise offenders in oil counties. The entire state has experienced the impact of the oil discovery, regardless of geographical location to the oil Bakken. An online survey was created and distributed to officers in July 2016 via electronic mail that included a web link for access to the survey. Several reminders regarding the survey were sent through electronic mail. The survey consisted of 67 questions ranging from Likert-scale responses to open-ended questions. Officers who participated in the survey were limited to taking the survey only once from their computer URL number. Before participating in the survey, a short consent form was displayed before a participant could enter the survey. Participants had to check a box in order to signify their agreeance to voluntarily complete the survey and their understanding of the consent form. The survey is further detailed below and can be found in Appendix A.

Dependent Variables

Recidivism, which is the main dependent variable in this study, is measured as three nominal variables with dummy variables. The first variable is a new conviction, the second is a technical violation, and the third is re-incarceration. A new conviction strictly measures new criminal offenses. In contrast, technical violations represent a broader measure of rule-breaking

behavior. Offenders can have their supervision revoked for violating the conditions of their supervised release. These violations can include activity that may not be criminal in nature (e.g., use of alcohol, failure to maintain agent contact, failure to follow curfew, etc.), and do not necessarily measure reoffending. Any re-incarceration provides a measure of both criminal and non-criminal behavior since it examines whether offenders return to prison for either a technical violation or a new felony-level sentence. Many scholars look at recidivism as separate variables (see Duwe, 2012; Gendreau & Leipciger, 1978; Makarios et al., 2010).

Recidivism data were collected on offenders through December 31, 2015 to ensure both samples had a follow-up period of at least two years. The follow-up time for the offenders examined in this study was two years after release from incarceration. In using the publicly accessible North Dakota Courts Records Inquiry online database, the main limitation with using these data are that the website only records charges and convictions in North Dakota. The findings presented may underestimate the true recidivism rates as this source does not include charges or convictions that occurred in other states.

Independent Variables

The primary goal of this evaluation involves assessing the impact of the North Dakota oil boom. In order to assess the impact, offenders who were released in 2006 (pre-oil boom sample) were given a value of "0" whereas those released in 2013 (oil boom sample) were given a value of "1." The 2006 time period was selected to study what offender reentry looked like prior to the large start of the oil boom and changes in the state including population, employment and housing rates. The second time period of 2013 was selected to study offender reentry during the highest peak of oil production in the state. The reason for choosing these two timeframes is that they allow documentation of a before and after period of large changes within the state due to the

oil boom. The county an offender was on supervision in was also recorded. Offenders on supervision in non-oil counties were assigned a value of "0," and offenders who were on supervision in oil counties were assigned a value of "1." The statistical analyses also included independent variables either known or hypothesized to have an impact on recidivism. The following section lists the pre-release and post-release variables and describes how they were created.

Pre-release Variables

Offender race: recorded as a nominal variable with six categories: Caucasian, African American, Native American, Asian, Hispanic/Latino, or other.

Age at release: the age of the offender in years at the time of release based on the date of birth and release date.

County: measured as two nominal variables to document the county where offenders were supervised. The first variable was dichotomized as oil county (1) or non-oil county (0) (see Appendix B for a list of oil counties and non-oil counties in ND). A second variable was created to indicate the population size of the county: urban cluster, urban, or rural. Counties were recorded according to the definition of urban, urban clusters, and rural by the U.S. Census Bureau (see Appendix B for definitions).

Prior supervision failures: number of prior revocations an offender had while under correctional supervision.

Prior convictions: number of prior convictions, excluding the conviction(s) that resulted in the offender's incarceration.

Pre-Incarceration Employment: measured the status of employment offenders had prior to incarceration. A nominal variable was created with four categories: unemployed; disabled, retired, or receiving social security insurance; part-time; or full-time.

LSI-R score: the LSI-R is a risk assessment tool designed to predict an offender's risk of recidivism. The higher an offender's LSI-R score, the greater the risk of recidivism. The total score, which ranges from 0 to 54, was used from the most recent LSI-R administered in prison before an offender was released (Andrews & Bonta, 2000).

Offense type: one nominal variable with five categories was created to document the offense an offender was convicted of and admitted to incarceration for. The five categories were drug offense, property offense, violent offense, sexual offense, and other offense.

Institutional start date: the official date the offender began institutional custody.

Institutional end date: the official date the offender was released from institutional custody.

Institutional discipline: the number of discipline write-ups received during the term of imprisonment for which the offender was released.

Institutional education: data were collected on education level at the time of admission to prison. An ordinal variable was created to measure offenders with less than a GED or HSD at intake, GED at intake, high school diploma at intake, some college at intake, technical or vocational degree, or graduate education at intake.

Institutional vocational training: data were collected on whether or not offenders completed vocational training while institutionalized. This may include training on welding, carpentry, or any vocational training. The variable was measured as a dichotomous nominal variable with the following categories: offenders who did not participate in any prison

programming while incarcerated and offenders who participated in any type of treatment or training during their incarceration stay.

Chemical dependency treatment: measured whether offenders participated in chemical dependency treatment in the institution. An ordinal variable was used to measure offenders who did not participate in chemical dependency treatment while incarcerated, offenders who participated but did not complete the treatment, and offenders who completed the chemical dependency treatment.

Other treatment: determined whether offenders received other forms of treatment aside from chemical dependency treatment such as cognitive-behavioral treatment. All types of treatment were coded in the dataset. For analysis, an ordinal variable was created to measure offenders who did not receive other treatment while incarcerated, offenders who received other treatment but did not complete the treatment, and those who completed other treatment.

Post-Release (Community Supervision) Variables

Community start date: the official date the offender began community supervision (i.e., parole).

Community end date: the official date the offender completed community supervision.

Community employment: this variable measured whether offenders obtained employment at any time following their release from prison. The employment start date was recorded to indicate the length of time from release the offender was employed. Employment was recorded as a nominal variable with four categories: unemployed; offender is disabled, retired, or receiving social security insurance; part-time; or full-time.

Community education: measured the level of education the offender had during community supervision. Education was measured as an ordinal variable with the following

categories: less than high school diploma or GED; GED; high school diploma; some college, vocational training; or graduate education.

Homeless: measured by two variables: whether offenders were homeless prior to incarceration and if offenders were homeless at any time within the first six months of institutional release. The researcher also tried to track the length of time an individual was homeless and the length of time from release it took an individual to gain housing.

Living arrangement: this variable looked at information on the individuals with whom offenders lived with during the first six months after release (i.e., spouse/significant other, children, relatives, friends, etc.). In the statistical analyses, this variable was categorized as living alone, living with family, living with non-legal alliance, or correctional facility.

Multiple residences: a proxy of housing stability, this variable measured the number of residences offenders had within the first six months after release. For statistical analyses, offenders with one residence were assigned a value of "0," whereas those with more than one residence were given a value of "1."

Relationship status: measured as a nominal variable including single, married, separated, divorced, or widowed.

Additional supervision conditions: measured as whether or not an individual had additional supervision conditions while on community supervision. The number of additional supervision conditions was recorded for each offender. The variable was later dichotomized as offenders with additional supervision conditions or offenders who did not have additional supervision conditions.

Referred to treatment services: examined whether offenders were referred to treatment services from community agencies.

Received treatment services: examined whether offenders received treatment services from community agencies.

Officer Measures

In order to properly assess an officers' perception of change in offender reentry, it was believed to be necessary to measure officer adherence to a surveillance or casework philosophy in their supervision strategy, as suggested by the literature (Caplan, 2006; Clear & Latessa, 1993; Paparozzi & Kozlowski, 2004; Seiter & Kadela, 2003; Seiter & West, 2003; West & Seiter, 2004). Predictor variables measuring officers' demographic and employment characteristics included officers' age, sex, and race, along with their education and type of degrees, length of time (years and months) in their current position, and if they were a supervisor or an officer. Characteristics of officers' caseloads included caseload size along with minimum and maximum caseload sizes, type of caseload, what proportion of their caseload lives in same area as them, and if their caseloads are supervised in a county in the oil Bakken.

The survey used part of Steiner et al.'s (2011) survey on parole officer attitudes and supervision practices. The items used from this survey were the measures of officers' intended behaviors, enforcement and reward. Enforcement was a three-item scale designed to measure officers' intentions regarding the enforcement of offenders' conditions of release. Reward was measured by inquiring whether officers agreed with the statement: "A parole officer should reward parolees who complete supervision goals."

The survey for this project also replicated Fulton et al.'s (1997) survey on probation and parole officer attitudes and desired outcomes. The survey consisted of 33 semantic differentials designed to measure officers' attitudes. Fulton et al. (1997) give the explanation that semantic differentials, used to measure attitudes, record subjects' reactions to pairs of words and concepts

that are opposite in meaning (Heise, 1971). For example, pairs of terms that are opposite in meaning such as control—assistance and coercion—negotiation were placed at opposite ends of a 6-point scale. The goal was to measure officer attitudes about officer roles, the goals of supervision, and supervision strategies (Fulton et al., 1997). The individual items that make up the survey used in this project are described in Appendix A.

The last section of the officer survey consisted of items measuring officers' perception of the North Dakota oil boom and its effect on offender reentry. In order to gauge an officers' perception of offender reentry, officers were asked what the biggest problems facing offenders were in terms of reentry. Then to understand their perception on the impact of the oil boom, officers were asked how these problems had changed due to factors related to the oil boom. Officers were asked if the oil boom influenced their supervision jurisdiction and whether the oil boom could be thought of as positive or negative in terms of offender reentry. Finally, officers were asked if their department had changed supervision strategies to adapt to the impacts of the oil boom. If officers answered yes they were then asked how the oil boom had influenced departmental changes. Officers were then asked if they themselves had changed their supervision strategies, separate from the departmental changes, to adapt to the impacts of the oil boom. If officers answered yes they were asked how the oil boom had influenced their changes in supervision strategies and what aspects were changed.

Analysis

Data analyses included univariate tests for demographic purposes (i.e., means, medians, standard deviations). To determine demographic differences between sample populations the appropriate statistical tests will be used. Tests will include *t*-tests, chi-squares, and ANOVAs.

Since this project has two different samples over two different time periods, the samples may need to be weighted. Weighted logistic regression will be used if necessary to estimate the relationship between the sample populations. If the sample populations are similar in size logistic regression will be used. Multivariate regressions will be used to investigate if the variables education, employment, housing, or substance abuse predict recidivism for the two sample populations. *z*-tests between regression coefficients for the sample populations will be conducted to indicate the sources of any significant differences (Paternoster, Brame, Mazerolle, & Piquero, 1998).

For the officer survey, the appropriate statistical tests will be used to calculate demographic differences between officer populations. Tests will include *t*-tests, chi-squares, and ANOVAs. Logistic regression models will be used to determine which factors among county, position, sex, age, educational level, and number of years as an officer predict officer attitudes. The degree to which differences in officer attitudes exist between officers in oil counties and non-oil counties, and between officers who adhere to casework philosophies and officers who adhere to supervision philosophies will also be examined.

OFFENDER REENTRY RESULTS

Analytic results are divided into several sections for easier interpretation, including offender population findings, 2006 offender sample findings, 2013 offender sample findings, and results related to probation and parole officers (see next chapter). Offender population findings include demographic characteristics of both sample populations, as well as regression models to determine differences between the 2006 offender sample and the 2013 offender sample. Demographic findings include frequencies related to individual's characteristics such as prison admittance offense. Finally, separate logistic regression models are conducted for both samples to determine which characteristics predict recidivism.

Univariate Findings for Offender Population

Table 2 presents frequencies of the total offender population. Findings indicated the age range of the sample was 18 to 77 years old, with the average offender in the dataset being 33 years old. The majority of the sample were white (68.4%) and single (71.0%). Most offenders had a GED (35.6%) with a high school diploma being the second most common education level (20.9%). In terms of risk level, the largest proportion of the population was moderate-high risk/needs (35.7%) with moderate risk/needs being a close second (34.2%). This suggests that the population were more high risk than they were low risk. The average offender for the dataset was a 33 year-old, single, white male with moderate-high risk/needs and a GED level education.

Less than a quarter of the population were in an oil county (19.5%). A large percentage of offenders were in an urban county (62.7%). The most common offense that resulted in prison admittance were drug offenses (33.5%). The second largest offense category that resulted in prison admittance were offenses categorized as other (31.5%) which included offenses such as disorderly conduct, driving under the influence, and violation of protection order.

Table 2

Total Offender Population Characteristics

	2006 Offender Sample		2013 Offender Sample		Total Population	
Variable	N	%	N	%	N	%
Race						
White	734	70.9	694	65.9	1428	68.4
Black	47	4.5	69	6.5	116	5.6
Native American	208	20.1	242	23.0	450	21.5
Other	47	4.5	48	4.6	95	4.5
Race Total	1036	100.0	1053	100.0	2089	100.0
Marital Status						
Single	417	68.8	440	73.2	857	71.0
Married	67	11.1	42	7.0	109	9.0
Divorced/Separated	116	19.1	115	19.1	231	19.2
Widowed	6	1.0	4	0.7	10	0.8
Marital Status Total	606	100.0	601	100.0	1207	100.0
Education***						
Less than GED	78	13.0	152	30.0	230	20.8
GED	249	41.6	144	28.6	393	35.6
High School Diploma	121	20.2	110	21.7	231	20.9
Some College	109	18.2	67	13.2	176	15.9
Technical/Vocational School	25	4.2	24	4.7	49	4.4
College Graduate	17	2.8	9	1.8	26	2.4
Education Total	599	100.0	506	100.0	1105	100.0
Risk Level***						
Low Risk/Needs	20	1.9	27	2.6	47	2.3
Low-Moderate Risk/Needs	170	16.5	126	12.0	296	14.3
Moderate Risk/Needs	412	40.0	298	28.5	710	34.2
Moderate-High Risk/Needs	349	34.0	393	37.5	742	35.7
High Risk/Needs	78	7.6	203	19.4	281	13.5
Risk Level Total	1029	100.0	1047	100.0	2076	100.0
Oil County						
No	850	82.0	832	79.0	1682	80.5
Yes	186	18.0	221	21.0	407	19.5
Oil County Total	1036	100.0	1053	100.0	2089	100.0
County Size						
Urban	643	62.1	667	63.3	1310	62.7
Urban Cluster	369	35.6	359	34.1	728	34.9
Rural	24	2.3	27	2.6	51	2.4
County Size Total	1036	100.0	1053	100.0	2089	100.0
Incarceration Offense***						
Drug	394	38.0	306	29.0	700	33.5
Property	201	19.4	215	20.4	416	20.0
Violent	68	6.6	106	10.1	174	8.3
Sexual	59	5.7	81	7.7	140	6.7
Other	314	30.3	345	32.8	659	31.5
Incarceration Offense Total	1036	100.0	1053	100.0	2089	100.0
Age at Prison Release***	Range 18-68	Mean 32	Range 19-77	Mean 34	Range 18-77	Mean 33.0
	Std. Dev. 9.6		Std. Dev. 10.8		Std. Dev. 10.2	

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Table 3

Total Offender Population Predictor Variables Characteristics

Variable	2006 Offender Sample N	%	2013 Offender Sample N	%	Total Population N	%
Employed						
No	276	45.5	301	58.6	577	51.5
Yes	330	54.5	213	41.4	543	48.5
Employed Total	606	100.0	514	100.0	1120	100.0
Living Situation						
Living Alone	128	21.1	78	15.3	206	18.5
Living w/Someone	319	52.6	212	41.6	531	47.6
Correctional/Treatment Facility	159	26.2	220	43.1	379	34.0
Living Situation Total	606	100.0	510	100.0	1116	100.0
Substance Abuser						
No	463	52.9	423	40.3	886	46.0
Yes	413	47.1	627	59.7	1040	54.0
Substance Abuse Total	876	100.0	1050	100.0	1926	100.0
Participated in Prison Programming						
No	604	58.3	657	62.4	1261	60.4
Yes	432	41.7	396	37.6	828	39.6
Prison Programming Total	1036	100.0	1053	100.0	2089	100.0

Table 3 displays frequencies for the variables that were examined as predictors of recidivism including employment, living situation, substance abuse, and prison programming. The first predictor examined was employment. The majority of the 2006 offender sample (54.5%) were employed compared to less than half of the 2013 offender sample (41.4%). The majority of the 2006 offender sample were living with someone while on community supervision (parole) (52.6%) whereas the majority of the 2013 offender sample had an address listed as a correctional or treatment facility (43.1%). The 2013 offender sample contained more offenders with substance abuse problems (59.7%) than the 2006 offender sample (47.1%). The final predictor variable, prison programming, showed that more offenders released from prison in 2006 participated in prison programming (41.7%) compared to the 2013 offender sample (37.6%). Overall, for the total population, the average offender was not employed, were living

with someone during their supervision period, were a substance abuser, and did not participate in prison programming during their incarceration stay.

Bivariate Findings for Offender Population

Bivariate *t*-tests and chi-square tests, presented in Table 2, were analyzed for the total offender population (N=2,089). The *t*-test showed that age was statistically significant (t= -3.647; p=.000). Offenders who were released from prison in 2006 (N=1,036) were significantly younger than those released in 2013 (N=1,053). The mean age of offenders released from prison in 2006 was 32 years old, whereas those released in 2013 were 34 years old. Results of the chi-square test revealed significant differences between the two samples on several variables. Education level (χ^2=59.476; df=5; p=.000), risk level (χ^2=83.952; df=4; p=.000), and incarceration offense (χ^2=24.612; df=4; p=.000) were significantly different for the samples, all at the .001 level.

Attention is called to the education variable as close to half the sample had missing values for this variable. The sample size for offenders released from prison in 2006 dropped from 1,036 to 599; similarly, the 2013 sample dropped from 1,053 to 506. This gave the 2006 data an advantage as it was able to report 93 more education levels of offenders. Chi-squares were run to determine if there were significant differences between offenders who had data for the education variable and those who had missing data for the variable. Risk level (χ^2=23.496; df=4; p=.000), oil county (χ^2=4.127; df=1; p=.042), employment (χ^2=7.583; df=1; p=.006), and participation in prison programming (χ^2=53.048; df=1; p=.000) showed statistically significant differences among offenders who had data recorded for their education level and those who did not have data for the variable.

Consideration of removing this variable to maintain the large sample size was discredited as education has been shown in the literature to be an important component of offender reentry

(Baer et al., 2006; Batiuk et al., 1997; Freeman, 1992; Harlow, 2003; Holzer et al., 2003; Nally et al., 2014; Petersilia, 2003; Solomon et al., 2004; Stevens & Ward, 1997). Although significant differences were present between offenders who had data for the education variable and those who did not, it was decided to include the limited variable in the analyses as a wealth of offender reentry literature suggests that education is an essential variable when examining reentry.

As the data stands, the majority of offenders in the 2006 sample had a GED (41.6%, n=249) while the highest majority of the 2013 offenders had less than a GED (30.0%; n=152). Greater percentages of 2006 offenders had educations higher than a GED compared to the 2013 offenders; resulting in 2006 offenders having higher levels of education. Interpretation of further analyses on education outcomes must keep the sample size in mind.

The 2006 sample were mainly moderate risk/needs offenders (39.8%; n=412) whereas the 2013 sample were mostly moderate-high risk/needs (37.3%; n=393). In terms of the offense offenders were incarcerated for, the majority of the 2006 sample were drug offenders (38.0%; n=394) and the 2013 sample were convicted of other crimes (32.8%; n=345). Findings for this section show that the 2006 population were younger, more educated, and lower risk than the 2013 population.

Table 4 shows the frequencies of all three measures of recidivism for the sample groups and the total population. Offenders who were released from prison in 2013 fared worse in new convictions (48.5%; n=511) than offenders released in 2006 (43.1%; n=447). The same was also true for re-incarcerations in which approximately 21 percent of offenders released from prison in 2013 were re-incarcerated compared to 19 percent of offenders released in 2006. Although more 2013 offenders had new convictions and were re-incarcerated, the 2006 sample had more technical violations (24.9%; n=258) than the 2013 sample (22.0%; n=232).

Table 4

Bivariate of Recidivism Outcomes

Variable	Sample					
	2006		2013		Total Population	
	n	%	n	%	n	%
New Conviction*						
No	589	56.9	542	51.5	1131	54.1
Yes	447	43.1	511	48.5	958	45.9
Technical Violation						
No	778	75.1	821	78.0	1599	76.5
Yes	258	24.9	232	22.0	490	23.5
Re-Incarceration						
No	843	81.4	834	79.2	1677	80.3
Yes	193	18.6	219	20.8	412	19.7

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Chi-squares were run on the three measures of recidivism and showed that only a new conviction was statistically significant (χ^2=6.091; df=1; p=.014). Overall, offenders released in 2013 were significantly more likely to be convicted of a new charge than offenders released from prison in 2006. Technical violations and re-incarcerations were not statistically significant, meaning that there were no differences for the samples on those measures of recidivism. As a whole, less than half (45.9%; n=958) of the offender population had a new conviction and less than one-quarter (23.5%; n=490) had a technical violation or were re-incarcerated (19.7%; n=412) after prison release.

Risk Level and Recidivism. Comparisons were made for the LSI-R risk level of offenders and the three measures of recidivism. Chi-squares were run to determine if there was a statistically significant relationship between recidivism and risk. Technical violations (χ^2=5.348; df=4; p=.253) and re-incarcerations (χ^2=7.549; df=4; p=.110) did not have a statistically significant relationship with risk. New conviction was the only measure of recidivism that had a statistically significant relationship with risk (χ^2=21.821; df=4; p=.000). These results are displayed in Table 5. The majority of the offenders in the sample population were moderate and

moderate-high risk/needs. Less than half of those who were moderate risk/needs (46.1%; n=327) and moderate-high risk/needs (49.2%; n=365) had a new conviction. Similarly, 48 percent of the offenders who were high risk/needs had a new conviction (48.4%; n=136).

Table 5

Bivariate of Risk Level and New Conviction

Variable	Risk Level									
	Low		Low Moderate		Moderate		Moderate High		High	
	n	%	n	%	n	%	n	%	n	%
New Conviction***										
No	38	80.9	178	60.1	383	53.9	377	50.8	145	51.6
Yes	9	19.1	118	39.9	327	46.1	365	49.2	136	48.4

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Multivariate Findings for Offender Population

Multivariate regressions were conducted to isolate the effects of demographic characteristics (i.e., marital status, education, oil county, county size, type of offense) and variables known to have an impact on recidivism (i.e., age, race, and risk level). Models were run to determine the role that employment, living situation, residential mobility, substance abuse, and prison programming had in predicting the three measures of recidivism (new conviction, technical violation, and re-incarceration). Multivariate regressions reported in this chapter display odds ratios for the variables. Models that include the unstandardized betas, odd ratios, standard error, Wald test, and constants can be found in Appendices C - S. Education was collapsed into three categories: less than a GED; GED or high school diploma; and some form of college. Risk was also collapsed to examine whether values reached larger significance when the low and low-moderate risk/needs categories were combined. The analyses did not substantially change when models with the full categories of education and risk were compared to models that

had collapsed the two variables. Therefore, the following models were run with the collapsed variables of education and risk.

New Convictions. Table 6 provides logistic regression models predicting a new conviction for the full offender population. Model 1 in Table 6 examined the variables that were controlled for: age, race, marital status, education, risk, oil county, county size, and incarceration offense. Odd ratios were reported for the variables. Age, GED or high school diploma, moderate-high or high risk/needs, and sample were statistically significant. That is, those who are older, have a GED or high school diploma, are of moderate-high or high risk/needs, and were released from prison in 2013 were statistically more likely to have a new conviction. More specifically, the 2013 offender sample were 53.3 percent more likely to have a new conviction compared to the 2006 offender sample.

Employment was added to the variables in Model 2 and the same variables (age, GED/high school diploma, moderate-high risk, high risk, and sample) were statistically significant. Offenders with a GED/high school diploma were 65.7 percent more likely to have a new conviction. Those who were moderate-high risk were 56.0 percent more likely to have a new conviction compared to low/low-moderate risk/needs and those who were high risk/needs were 79.4 percent more likely to have a new conviction. Offenders in the 2013 sample were 52.1 percent more likely to have a new conviction. Employment, however, was not statistically associated with a new conviction for the offender population.

Table 6

Odds Ratios of 7 Models Predicting New Conviction

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Full
N	1105	1105	1105	825	1061	1105	1061
Age	0.973***	0.972***	0.973***	0.984	0.972***	0.973***	0.973***
Race							
Black	0.939	0.932	0.927	1.021	0.909	0.897	0.842
Native American	1.197	1.185	1.177	1.373	1.202	1.195	1.168
Other	0.617	0.604	0.602	0.617	0.592	0.635	0.589
Marital							
Married	0.897	0.916	0.921	0.893	0.889	0.920	0.948
Divorced/Separated/Widowed	0.984	0.992	0.985	0.976	1.009	0.983	1.018
Education							
GED/High School Diploma	1.639**	1.657**	1.651**	1.676***	1.651**	1.637**	1.677**
Some Form of College	1.225	1.237	1.232	0.994	1.232	1.259	1.284
Risk							
Moderate	1.300	1.289	1.284	1.224	1.239	1.259	1.186
Moderate-High	1.585*	1.560*	1.560*	1.262	1.367	1.514*	1.292
High	1.848*	1.794*	1.769*	1.174	1.425	1.663*	1.228
Oil County	0.950	0.950	0.952	0.941	0.964	0.936	0.952
County Size							
Urban Cluster	1.229	1.243	1.231	1.610	1.408	1.281	1.487
Urban	1.468	1.492	1.479	1.770	1.652	1.538	1.774
Incarceration Offense							
Property	0.911	0.896	0.896	0.732	0.901	0.900	0.862
Violent	0.910	0.904	0.898	0.849	0.938	0.837	0.851
Sexual	0.734	0.721	0.710	0.643	0.914	0.754	0.893
Other	1.069	1.064	1.057	0.925	1.107	1.026	1.048
Sample	1.533***	1.521***	1.503**	0.673*	1.392*	1.558***	1.387*
Employed		0.892					0.895
Living Situation							
Living w/Someone			0.955				0.969
Correctional/Treatment Facility			1.137				1.105
Residential Mobility				1.103***			
Substance Abuser					1.841***		1.798***
Programming						1.415**	1.393*
χ^2	9.412	3.913	4.777	10.732	4.416	5.996	6.790
Cox and Snell R^2	0.060	0.061	0.062	0.099	0.081	0.066	0.087
Nagelkerke R^2	0.080	0.081	0.082	0.133	0.108	0.089	0.116

Reference variables: Race (White); Marital Status (Single): Education (Less than GED); Risk Level (Low/Low Moderate Risk/Needs); County Size
(Rural); Incarceration Offense (Drug); Sample (2006); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Model 3 examined living situation. The original intent was to examine whether obtaining housing predicting recidivism but the data available to the researcher were limited. The available information for this variable was categorized as whether an offender lived alone (reference value), lived with someone, or had an address listed as a correctional or treatment facility. The

same variables in Model 1 and Model 2 were also statistically significant in Model 3. However, living situation was not statistically significant for the offender population.

Model 4 looked at residential mobility for the 2013 offender sample. This variable measured residential mobility or the number of times an offender changed addresses while on community supervision. The residential mobility data were limited as it had only been recorded starting in 2010. However, two years of address information was recorded for the 2013 offender sample for their follow-up period of 2013-2015. Therefore, no data for the 2006 offender sample were available for this measure. Residential mobility was statistically associated with a new conviction along with having a GED or high school diploma for the 2013 offender sample. Those who moved more frequently were 10.3 percent more likely to have a new conviction.

Substance abuse was examined in Model 5 in regards to a new conviction. Offenders who scored very high and high on the alcohol and drug category of the Level of Service Inventory-Revised (LSI-R) were deemed to be offenders who had substance abuse issues. If an offender scored 6 or above out of the 9 total questions, the offender was classified as high risk for abuse issues. Substance abuse was statistically significant with a new conviction as well as age, having a GED or high school diploma, and offender sample. More specifically, offenders who were substance abusers, were older, had a GED or high school diploma, and were in the 2013 offender sample were more likely to have a new conviction. Offenders who were substance abusers were 84.1 percent more likely to have new conviction and those who were in the 2013 offender sample had a 39.2 increased odds of a new conviction.

The last variable added to the models was participation in prison programs; measured as a dichotomous variable. Programs included treatment, cognitive-behavioral treatment, educational and vocational training, and numerous others. This variable was limited as it did not capture

treatment programs versus educational/vocational services. It was additionally limited as programming differed overtime for the offender samples. The ND DOCR transitioned to evidence-based practices in 2011; resulting in evidence-based programming for the 2013 offender sample only. From the model, age, GED/high school diploma, moderate-high and high risk/needs, 2013 offender sample, and programming were statistically significant in predicting a new conviction. More specifically, offenders who received prison programming were 41.5 percent more likely to have a new conviction. The interpretation of these results are cautioned as the differences in treatment programs overtime were not captured in the data or measurement of prison programming.

The final model run was a full model of all variables for the offender population. Age, GED/high school diploma and offender sample remained statistically significant for new convictions. Risk was no longer statistically significant. Only two predictors of a new conviction were statistically significant in this model: substance abuse and prison programming. Offenders who were substance abusers were 79.8 percent more likely to have a new conviction and those who participated in prison programming were 39.3 percent more likely to have a new conviction.

Parsimonious Model of New Convictions. A parsimonious model was run in Table 7 for new convictions in order to see if removing the non-significant variables would increase the significance of previously significant variables. All of the same variables were statistically significant in the new models predicting new conviction when the non-significant variables (race, marital status, oil county, oil size, incarceration offense, employment, and living situation) were removed. Age, GED or high school diploma, offender sample, substance abuse, and programming remained statistically significant in the parsimonious model. Risk, however, did not reach statistical significance in the model.

These results show that age, education, substance abuse, prison programming and sample group predict new convictions. From the model, those who are have a GED/high school diploma, are substance abusers, participated in prison programs, and were released from prison in 2013 were significantly more likely to have a new conviction. The 2013 offender sample were 44.5 percent more likely to have a new conviction than the 2006 offender sample.

Table 7

Parsimonious Model of Logistic Regression Predicting New Conviction

Variable	B	*(B)*exp	S.E.	Wald
Age	-0.028***	0.972	0.007	16.904
Education				
GED/High School Diploma	0.544***	1.723	0.168	10.455
Some Form of College	0.286	1.331	0.198	2.088
Risk Level				
Moderate	0.199	1.221	0.188	1.129
Moderate-High	0.296	1.344	0.195	2.312
High	0.288	1.334	0.257	1.257
Sample	0.368**	1.445	0.134	7.520
Substance Abuser	0.587***	1.799	0.135	19.059
Programming	0.328*	1.389	0.131	6.299
Constant	-0.323			
Model χ^2	2.711			

Reference variables: Education: (Less than GED); Risk Level (Low Risk/Needs); Sample (2006 Offenders)

*p ≤ .05 **p ≤ .01 *** p ≤ .001
Cox and Snell R^2.078 Nagelkerke R^2.104

Technical Violations. Table 8 shows logistic regressions that were run predicting technical violations for the offender population. None of the models run in Table 8 showed education, risk, or offender sample to be statistically significant as they were in the models predicting new convictions. The first model in Table 8 was run to examine the control variables. Statistically significant variables were Native American race, married or divorced/separated/widowed, and being incarcerated for a property or sexual offense.

Table 8

Odds Ratios of 7 Models Predicting Technical Violation

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Full
N	1105	1105	1105	825	1061	1105	1061
Age	0.986	0.984*	0.987	0.983	0.986	0.986	0.986
Race							
Black	0.784	0.730	0.710	0.720	0.890	0.774	0.736
Native American	1.465*	1.357	1.321	1.325	1.470*	1.463*	1.285
Other	1.031	0.877	0.880	1.215	1.058	1.041	0.869
Marital							
Married	0.462**	0.540*	0.521*	0.406**	0.460**	0.465**	0.580*
Divorced/Separated/Widowed	0.595*	0.626*	0.591*	0.557*	0.584*	0.596*	0.600*
Education							
GED/High School Diploma	1.082	1.185	1.141	1.095	1.113	1.080	1.227
Some Form of College	0.901	0.981	0.941	0.764	0.875	0.907	0.961
Risk							
Moderate	1.016	0.955	0.945	1.007	0.984	1.004	0.873
Moderate-High	1.215	1.080	1.105	0.971	1.081	1.195	0.915
High	1.185	0.929	0.897	0.937	1.003	1.144	0.652
Oil County	1.126	1.129	1.166	1.001	1.127	1.122	1.158
County Size							
Urban Cluster	1.072	1.163	1.059	1.421	1.163	1.085	1.251
Urban	0.993	1.120	1.013	1.177	1.103	1.006	1.265
Incarceration Offense							
Property	1.471*	1.303	1.350	1.134	1.412	1.466*	1.201
Violent	1.302	1.236	1.196	1.094	1.334	1.270	1.142
Sexual	3.087***	2.756***	2.637***	2.336**	3.367***	3.114***	2.853***
Other	0.956	0.914	0.886	0.761	0.930	0.945	0.827
Sample	1.147	1.083	0.998	0.735	0.985	1.150	0.868
Employed		0.386***					0.520***
Living Situation							
Living w/Someone			0.851				0.870
Correctional/Treatment Facility			2.565***				1.983***
Residential Mobility				1.043**			
Substance Abuser					1.345*		1.347*
Programming						1.112	1.224
χ^2	4.291	8.491	6.211	8.051	13.169	6.317	7.999
Cox and Snell R^2	0.062	0.101	0.108	0.079	0.067	0.063	0.127
Nagelkerke R^2	0.086	0.140	0.150	0.108	0.092	0.087	0.175

Reference variables: Race (White); Marital Status (Single): Education (Less than GED); Risk Level (Low/Low Moderate Risk/Needs);
County Size (Rural); Incarceration Offense (Drug); Sample (2006); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Interpreted, these results reveal that offenders who were Native American, single, and serving prison time for a property or sexual offense were significantly more likely to receive a technical violation after release.

Age became statistically significant when a model was run to examine employment and technical violations (see Model 2). Marital status and sexual offense remained statistically

significant in this model, but a property incarceration offense became non-significant. Offender sample was not statistically significant but employment was. Those who were unemployed were 38.6 percent more likely to receive a technical violation.

Model 3 examined living situation. Marital status and sexual offense remained statistically significant. For the variable living situation, those who were listed as living in a correctional or treatment facility were 156 percent more likely to receive a technical violation than offenders who were listed as living alone. Offender sample again was not statistically significant.

Model 4 looked at residential mobility for the 2013 offender sample. As previously mentioned, the data for this variable was limited to only the 2013 offender sample. The same variables (marital status and sexual offense) remained statistically significant. Residential mobility was statistically significant. That is, offenders who moved more often were 4.3 percent more likely to receive a technical violation.

Substance abuse was examined in Model 5. The race Native American became statistically significant in this model. Again, marital status and sexual offense were statistically significant. Substance abuse was statistically significant when added to the baseline model; that is, those who were substance abusers were 34.5 percent more likely to receive a technical violation.

Prison programming was run with the controlled variables in Model 6. Native American race remained statistically significant in this model along with marital status and sexual offense. Property offense became statistically significant. Sample and prison programming were not statistically significant when predicting technical violations.

The final model in Table 8 shows the full model with all variables. Marital status and sexual offense were the only controlled variables that remained statistically significant. Employment, living in a correctional or treatment facility, and substance abuse were statistically significant in predicting technical violations for the offender population. That is, offenders who were unemployed were 52.0 percent more likely to receive a technical violation. Those who were living in a correctional or treatment facility were 98.3 percent more likely to receive a technical violation. Finally, offenders who had substance abuse issues were 34.7 percent more likely to receive a technical violation.

Parsimonious Model of Technical Violations. Models were run without the non-significant variables of education, risk, oil county, county size, and programming to predict technical violations (see Table 9). Separate models were run with risk to see if it would become statistically significant for the new models but significance was not reached so risk was not included in the model shown in Table 9. Age, race, and substance abuse were no longer statistically significant in the parsimonious model. These variables were only significant at the $p \leq .05$ level in Table 9.

Sexual incarceration offense, employment, and living situation remained statistically significant in the model. That is, offenders who were incarcerated for a sexual offense were 181.2 percent more likely to receive a technical violation. Those who were unemployed were 53.2 percent more likely to receive a technical violation and those who had an address listed as a correctional/treatment facility were 87.9 percent more likely to have a new technical violation. Offender sample never reached statistical significance when predicting a technical violation.

Table 9

Parsimonious Model of Logistic Regression Predicting Technical Violation

Variable	B	*(B)*exp	S.E.	Wald
Age	-0.016	0.984	0.008	3.576
Race				
Black	-0.249	0.780	0.316	0.619
Native American	0.257	1.293	0.173	2.216
Other	-0.272	0.762	0.345	0.621
Marital				
Married	-0.568*	0.567	0.272	4.369
Divorced/Separated/Widowed	-0.503*	0.605	0.216	5.414
Incarceration Offense				
Property	0.147	1.158	0.195	0.563
Violent	0.183	1.200	0.277	0.435
Sexual	1.034***	2.812	0.282	13.419
Other	-0.197	0.821	0.176	1.252
Sample	-0.161	0.851	0.142	1.282
Employed	-0.631***	0.532	0.154	16.704
Living Situation				
Living w/Someone	-0.150	0.860	0.200	0.568
Correctional/Treatment Facility	0.631**	1.879	0.211	8.945
Substance Abuser	0.275	1.316	0.143	3.697
Constant	-0.006			
Model χ^2	12.579			

Reference variables: Race (White); Marital Status (Single); Incarceration Offense (Drug); Sample (2006); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.123 Nagelkerke R^2.168

Re-Incarceration. Models were run in Table 10 to predict the third and final measure of recidivism, re-incarceration. Age, some form of college, and offender sample were statistically significant in Model 1. Offenders with some form of college were 55.7 percent less likely to be re- incarcerated compared to offenders with an educational level that was less than a GED (reference category). Additionally, the 2013 offender sample was 166.1 percent more likely to be re-incarcerated than the 2006 offender sample.

Table 10

Odds Ratios of 7 Models Predicting Re-Incarceration

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Full
N	1105	1105	1105	825	1061	1105	1061
Age	0.959***	0.959***	0.961***	0.976*	0.961***	0.959***	0.962***
Race							
Black	0.752	0.716	0.703	0.873	0.853	0.739	0.758
Native American	1.312	1.241	1.222	1.510*	1.319	1.310	1.205
Other	0.725	0.655	0.662	0.876	0.722	0.731	0.645
Marital							
Married	0.601	0.662	0.642	0.486*	0.640	0.608	0.733
Divorced/Separated/Widowed	0.951	0.986	0.949	0.811	0.934	0.954	0.966
Education							
GED/High School Diploma	0.812	0.847	0.830	0.729***	0.831	0.809	0.870
Some Form of College	0.557*	0.585*	0.571*	0.438	0.548*	0.560*	0.584*
Risk							
Moderate	1.276	1.249	1.253	1.217	1.176	1.254	1.127
Moderate-High	1.533	1.446	1.482	1.338	1.231	1.495	1.137
High	1.627	1.426	1.432	1.179	1.196	1.547	0.950
Oil County	0.796	0.791	0.809	0.814	0.803	0.790	0.803
County Size							
Urban Cluster	0.766	0.817	0.783	0.662	0.905	0.785	1.005
Urban	0.888	0.971	0.924	0.743	1.058	0.911	1.217
Incarceration Offense							
Property	1.358	1.259	1.300	0.996	1.339	1.350	1.220
Violent	1.160	1.124	1.125	0.979	1.228	1.124	1.130
Sexual	1.261	1.165	1.158	1.020	1.524	1.280	1.405
Other	0.994	0.972	0.965	0.786	1.012	0.979	0.959
Sample	2.661***	2.597	2.493***	0.882	2.265***	2.672***	2.156***
Employed		0.573					0.652*
Living Situation							
Living w/Someone			0.979				0.993
Correctional/Treatment Facility			1.679*				1.408
Residential Mobility				1.109***			
Substance Abuser					1.931***		1.926***
Programming						1.150	1.180
χ^2	20.335**	7.332	5.471	18.846*	8.283	8.202	11.904
Cox and Snell R^2	0.104	0.114	0.07	0.121	0.114	0.105	0.129
Nagelkerke R^2	0.153	0.169	0.103	0.168	0.167	0.154	0.188

Reference variables: Race (White); Marital Status (Single): Education (Less than GED); Risk Level (Low/Low Moderate Risk/Needs);
County Size (Rural); Incarceration Offense (Drug); Sample (2006); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Age and the educational value of some form of college remained statistically significant when employment was examined in Model 2. Offenders who had some form of college were

58.5 percent less likely to be re-incarcerated compared to offenders with less than a GED. Offender sample was no longer statistically significant in the model. Employment never reached significance when predicting re-incarceration in this model.

Model 3 examined living situation in the prediction of re-incarceration. Age and some form of college were again statistically significant. Offender sample and correctional/treatment facility became statistically significant in this model. Offenders in the 2013 sample were 149.3 percent more likely to be re-incarcerated. Those who had addresses listed as correctional or treatment facilities were 67.9 percent more likely to be re-incarcerated than offenders in the 2006 sample and those who were living alone.

Residential mobility was statistically significant when run in Model 4 with the controlled variables for the 2013 offender sample. Similar to new convictions, those who moved more frequently were more likely to be re-incarcerated. Offenders who moved more frequently had increased odds of 67.9 percent of being re-incarcerated. Age, being Native American, being married, and having a GED or high school diploma were statistically significant when predicting re-incarceration.

Model 5 examined substance abuse in the prediction of re-incarceration. Age, some form of college, and offender sample were statistically significant. Substance abuse was statistically significant in predicting re-incarceration. Those who were substance abusers were 93.1 percent more likely to be re-incarcerated in comparison to offenders who did not have substance abuse issues.

Model 6 looked at prison programming. Again age, some form of college, and offender sample were statistically significant. Older offenders were 95.9 percent more likely to be re-incarcerated. Those with some form of college were 56.0 percent less likely to be re-incarcerated. Offenders released from prison in 2013 were 167.2 percent more likely to be re-

incarcerated than offenders released from prison in 2006. For this model, prison programming was not statistically significant in predicting re-incarceration.

The full model in Table 10 shows that age, some form of college, and offender sample remained statistically significant. Employment became statistically significant although it was not statistically significant when run in its own model in Model 2. Living in a correctional or treatment facility lost statistical significance while substance abuse remained statistically significant. Overall, the 2013 offender sample were 115.6 percent more likely to be re-incarcerated compared to the 2006 offender sample. Those who were unemployed were 65.2 percent more likely to be re-incarcerated and substance abusers were 92.6 percent more likely to be re-incarcerated.

Parsimonious Model of Re-Incarceration. Models were run in Table 11 without variables that were not statistically significant in the previous model predicting re-incarceration including risk, oil county, county size, and incarceration offense. A separate model was run with risk to see if it would become statistically significant but it did not become statistically significant in the new model so it was left out. Race, marital status, and living situation were no longer statistically significant in the parsimonious model.

Age, GED/high school diploma, sample, employment, and substance abuse remained statistically significant in the parsimonious model. These variables predicted the re-incarceration of an offender. That is, those with a GED/high school diploma were 61.7 percent more likely to be re-incarcerated. Offenders released from prison in 2013 had increased odds of 113.0 to be re-incarcerated. Unemployed offenders had increased odds of 65.2 and substance abusers had increased odds of 95.6 for re-incarceration.

Table 11

Parsimonious Model of Logistic Regression Predicting Re-Incarceration

Variable	B	*(B)*exp	S.E.	Wald
Age	-0.040***	0.961	0.010	16.733
Race				
Black	-0.145	0.865	0.346	0.175
Native American	0.237	1.268	0.182	1.707
Other	-0.460	0.631	0.393	1.371
Marital				
Married	-0.317	0.728	0.312	1.033
Divorced/Separated/Widowed	-0.072	0.931	0.243	0.087
Education				
GED/High School Diploma	0.481*	1.617	0.238	4.086
Some Form of College	0.390	1.476	0.202	3.726
Sample	0.756***	2.130	0.156	23.471
Employed	-0.427*	0.652	0.169	6.423
Living Situation				
Living w/Someone	-0.025	0.975	0.226	0.012
Correctional/Treatment Facility	0.322	1.380	0.237	1.853
Substance Abuser	0.671***	1.956	0.155	18.686
Constant	-0.789			
Model χ^2	4.783			

Reference variables: Race (White); Marital Status (Single); Education (Less than GED); Sample (2006); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.122 Nagelkerke R^2.178

Logistic Regressions Comparing Population Samples

As this project set out to determine differences between two sample populations, analyses were conducted to compare how reentry variables influenced each offender sample. Logistic regression models were run separately for the 2006 offender sample and for the 2013 offender sample. This was done to more easily compare the two sample groups in terms of the three recidivism measures- new conviction, technical violation, and re-incarceration. The separate models helped determine how factors differed significantly across the two samples. The results of these models are in the tables to follow with only odds ratios reported.

Comparison of Populations for New Convictions. Table 12 displays logistic regressions for the first measure of recidivism, new convictions, were run separately for the 2006

offender sample and the 2013 offender sample. The first model looks at the control variables for both 2006 offenders and 2013 offenders. Age was statistically significant for both samples. Having a GED or high school diploma and being high risk/needs was statistically significant for the 2013 offender sample.

Model 2 examines employment for both samples. Again age was statistically significant for both 2006 offenders and 2013 offenders. Similar to Model 1, having a GED or high school diploma and being high risk/needs was statistically significant for only the 2013 offender sample. Employment was not statistically significant for either sample when predicting a new conviction.

Living situation was examined in Model 3. The same variables were statistically significant for the 2013 sample and only age was statistically significant for the 2006 offender sample. Living situation was not statistically significant for either sample.

Residential mobility was run in Model 4 for only the 2013 offender sample. As previously mentioned, this variable was limited to the data available and as the data had only been collected since 2010, only the 2013 offender sample had information regarding their residential mobility during their follow-up period. Having a GED or high school diploma was the only statistically significant variable in the model.

Model 5 looked at substance abuse for both sample groups. Age was statistically significant for both 2006 offenders and 2013 offenders. GED or high school diploma was a significant variable in the model for the 2013 offender sample. Substance abuse was statistically significant for both offender samples in predicting new convictions.

Prison programming was the last variable examined for predicting new convictions

(Model 6). Age again was statistically significant for both offender samples. GED or high school diploma was statistically significant for the 2013 offender sample. Prison programming was only statistically significant for the 2006 offender sample.

Full Model for Sample Populations New Conviction. A full model logistic regression that included all variables in the equation was run for each sample group in Table 13. Age remained statistically significant for the 2006 offender sample, showing that older offenders were 96.6 percent more likely to have a new conviction. Also remaining statistically significant in the full model was substance abuse and prison programming. More specifically, offenders released from prison in 2006 who were substance abusers were 63.8 percent more likely to have a new conviction and offenders who received programming while in prison were 52.5 percent more likely to have a new conviction. As mentioned previously, the 2006 offender sample did not receive prison programming that was evidence-based, which may explain why programming was predicting an increase in recidivism.

The 2013 sample results, also in Table 13, shows that age was no longer statistically significant. Having a GED or high school diploma increased the odds of having a new conviction by 99.2. Similar to the previous models for the 2013 offender sample, the only predictor variable in the full model that was statistically significant was substance abuse. Offenders released from prison in 2013 with a substance abuse issue were 98.8 percent more likely to have a new conviction compared to offenders who did not have a substance abuse problem.

Table 12

Odds Ratios for Full Sample Populations New Convictions

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	2006	2013	2006	2013	2006	2013	2006	2013	2006	2013	2006	2013
N	602	503	602	503	602	503	--	502	558	503	602	503
Age	0.972*	0.974*	0.971*	0.974*	0.970**	0.977*	--	0.988	0.969**	0.977*	0.973*	0.975*
Race												
Black	0.912	0.884	0.904	0.887	0.932	0.861	--	0.737	0.758	0.977	0.851	0.858
Native American	1.210	1.189	1.196	1.193	1.193	1.155	--	1.241	1.241	1.170	1.206	1.183
Other	0.890	0.441	0.850	0.444	0.873	0.427	--	0.397	0.892	0.405	0.931	0.439
Marital												
Married	0.761	1.026	0.802	1.022	0.816	0.989	--	0.994	0.715	1.101	0.779	1.057
Divorced/Separated/Widowed	0.813	1.153	0.831	1.151	0.821	1.158	--	0.968	0.884	1.066	0.786	1.179
Education												
GED/High School Diploma	1.137	1.944**	1.185	1.943**	1.147	1.983**	--	1.846*	1.100	1.973**	1.145	1.928**
Some Form of College	0.798	1.509	0.826	1.506	0.795	1.538	--	1.470	0.759	1.559	0.829	1.534
Risk												
Moderate	1.225	1.392	1.199	1.394	1.187	1.415	--	1.305	1.201	1.272	1.195	1.335
Moderate-High	1.565	1.595	1.509	1.600	1.486	1.596	--	1.320	1.418	1.275	1.539	1.476
High	1.515	2.075*	1.421	2.089*	1.419	2.019*	--	1.463	1.184	1.490	1.456	1.777
Oil County	1.143	0.733	1.154	0.734	1.126	0.732	--	0.754	1.185	0.723	1.133	0.717
County Size												
Urban Cluster	1.525	1.128	1.532	1.121	1.495	1.169	--	1.061	1.602	1.474	1.522	1.225
Urban	2.209	1.065	2.254	1.057	2.196	1.115	--	1.037	2.264	1.406	2.221	1.172
Incarceration Offense												
Property	1.041	0.771	0.990	0.772	1.018	0.767	--	0.689	1.008	0.780	1.025	0.757
Violent	0.769	1.001	0.740	0.999	0.738	1.025	--	1.142	0.782	1.016	0.690	0.935
Sexual	0.654	0.723	0.610	0.723	0.608	0.742	--	0.729	0.847	0.921	0.661	0.760
Other	1.111	0.979	1.088	0.978	1.098	0.979	--	1.028	1.131	1.048	1.052	0.953
Employed			0.788	1.031			--					
Living Situation												
Living w/Someone					0.796	1.271						
Correctional/Treatment Facility					1.038	1.386						
Residential Mobility							--	1.119***				
Substance Abuser									1.690**	2.055***		
Programming											1.493*	1.367
χ^2	10.312	6.689	13.819	14.787	6.770	4.781		9.355	7.362	3.703	10.113	11.575
Cox and Snell R^2	0.057	0.069	0.059	0.069	0.060	0.071		0.121	0.078	0.091	0.065	0.703
Nagelkerke R^2	0.076	0.092	0.079	0.092	0.080	0.095		0.161	0.105	0.122	0.087	0.098

Reference variables: Race (White); Marital Status (Single): Education (Less than GED); Risk Level (Low/Low Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug); Sample (2006); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Table 13

Logistic Regression Model for Full Sample Populations New Convictions

	2006	2006	2006	2006	2013	2013	2013	2013	
Variable	b	*(B)*exp	S.E.	Wald	B	*(B)*exp	S.E.	Wald	*z*-test
N	558				503				
Age	-0.034**	0.966	0.012	7.713	-0.021	0.980	0.011	3.466	-0.799
Race									
Black	-0.390	0.677	0.470	0.686	-0.076	0.926	0.405	0.036	-0.506
Native American	0.182	1.200	0.239	0.580	0.128	1.137	0.243	0.279	0.158
Other	-0.108	0.897	0.485	0.050	-0.925	0.396	0.500	3.429	1.173
Marital									
Married	-0.186	0.830	0.315	0.349	0.084	1.088	0.375	0.050	-0.551
Divorced/Separated/Widowed	-0.134	0.875	0.277	0.233	0.088	1.092	0.297	0.088	-0.547
Education									
GED/High School Diploma	0.150	1.162	0.286	0.274	0.689**	1.992	0.227	9.220	-1.476
Some Form of College	-0.205	0.815	0.317	0.418	0.472	1.603	0.283	2.789	-1.593
Risk									
Moderate	0.114	1.121	0.255	0.201	0.227	1.255	0.305	0.555	-0.284
Moderate High	0.284	1.328	0.272	1.092	0.193	1.212	0.303	0.405	0.223
High	0.044	1.045	0.404	0.012	0.261	1.298	0.384	0.461	-0.389
Oil County	0.165	1.179	0.229	0.515	-0.341	0.711	0.249	1.877	1.496
County Size									
Urban Cluster	0.489	1.631	0.727	0.453	0.473	1.604	0.684	0.477	0.016
Urban	0.869	2.385	0.720	1.456	0.449	1.567	0.677	0.440	0.425
Incarceration Offense									
Property	-0.084	0.920	0.260	0.104	-0.271	0.763	0.285	0.903	0.485
Violent	-0.439	0.645	0.406	1.170	-0.021	0.980	0.381	0.003	-0.751
Sexual	-0.280	0.756	0.417	0.452	-0.030	0.970	0.397	0.006	-0.434
Other	0.027	1.028	0.226	0.015	0.018	1.018	0.242	0.006	0.027
Employed	-0.266	0.766	0.215	1.530	0.033	1.033	0.212	0.024	-0.990
Living Situation									
Living w/Someone	-0.217	0.805	0.240	0.817	0.215	1.240	0.292	0.545	-1.143
Correctional/Treatment Facility	-0.063	0.939	0.292	0.047	0.309	1.362	0.303	1.041	-0.884
Substance Abuser	0.494**	1.638	0.190	6.749	0.687***	1.988	0.209	10.835	-0.683
Programming	0.422*	1.525	0.185	5.207	0.267	1.305	0.206	1.673	0.560
Constant	-0.091				-0.875				
Model $\chi 2$	8.966				8.540				
Cox and Snell R2	0.092				0.096				
Nagelkerke R2	0.123				0.128				

Reference variables: Race (White); Marital Status (Single): Education (Less than college); Risk Level (Low/Low Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

***z*-tests for Sample Coefficients**. *z*-tests were used to test the differences between regression coefficients across the two independent samples. Paternoster et al. (1998) state that using *t*-tests to test the difference between slopes in coefficient comparisons negatively biases hypothesis that result in a rejection of the null hypothesis. The authors suggest using z-tests to correctly estimate differences between regression coefficients using two independent samples. The following formula was used for the statistical testing of the regression coefficients:

$$Z = \frac{b_1 - b_2}{\sqrt{SEb_1^2 + SEb_2^2}}$$

In the formula, b_1 is the unstandardized regression coefficient for the 2006 offender sample and b_2 is the unstandardized regression coefficient for the 2013 offender sample. SEb_1^2 is the standard error associated with the regression coefficient for the 2006 offender sample, likewise SEb_2^2 is the standard error associated with the regression coefficient for the 2013 offender sample. The outcome Z is reported in the models including its associated significance level.

Table 13 shows the *z*-tests that were run on the regression coefficients for the sample populations to determine if significant differences were present for the two offender groups for new convictions. All variable coefficients for both sample groups were examined. No z-tests were statistically significant for the regression coefficients predicting new convictions for the two sample groups. These results suggest that there were no significant differences among the two sample groups for the variables or a new conviction.

Comparison of Populations for Technical Violations. Logistic regressions for the second measure of recidivism, technical violations, were run separately for the 2006 offender sample and the 2013 offender sample in Table 14. The first model examined the control variables in predicting technical violations. Being married was statistically significant for both offender samples and being divorced/separated/widowed was statistically significant for only the 2006 offender sample. A violent or sexual incarceration offense was statistically significant for the 2006 offender sample whereas only a sexual incarceration offense was statistically significant for the 2013 offender sample.

Employment was added to the variables in Model 2. Age and being married remained statistically significant for the 2013 offender sample. Divorced/separated/widowed was statistically significant for the 2006 model. A sexual incarceration offense remained statistically significant for both samples. Employment was statistically significant for both the 2006 and 2013 offender samples.

Model 3 examined living situation for both samples. The previous statistically significant variables of age and marital status were significant for the respective samples. A sexual incarceration offense was still statistically significant for both samples and the other category of incarceration offenses became statistically significant for only the 2013 offender sample. Living in a correctional or treatment facility was statistically significant for both samples when predicting technical violations.

Model 4 examined residential mobility for the 2013 offender sample. Age, being married, and a sexual incarceration offense were statistically significant in the residential mobility model. Residential mobility was statistically significant when predicting technical violations for the 2013 offender sample.

Substance abuse was examined in Model 5. Age was statistically significant for only the 2013 offender sample. Being married was statistically significant for both samples while being divorced/separated/widowed was only statistically significant for the 2006 sample. A violent and sexual incarceration offense was statistically significant for the 2006 offender sample while only a sexual offense was significant for the 2013 sample. Substance abuse was not statistically significant for either sample group in predicting technical violations.

Table 14

Odds Ratios for Full Sample Populations Technical Violations

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	2006	2013	2006	2013	2006	2013	2006	2013	2006	2013	2006	2013
N	602	503	602	503	602	503	--	502	558	503	602	503
Age	1.010	0.964**	1.006	0.964**	1.006	0.971*	--	0.970*	1.008	0.965**	1.011	0.963***
Race												
Black	0.846	0.752	0.819	0.642	0.913	0.544	--	0.688	1.073	0.769	0.798	0.774
Native American	1.544	1.383	1.500	1.198	1.466	1.163	--	1.412	1.571	1.375	1.537	1.389
Other	1.241	1.156	1.060	0.944	1.103	0.909	--	1.161	1.335	1.131	1.280	1.159
Marital												
Married	0.500*	0.335*	0.595	0.374*	0.597	0.332*	--	0.325*	0.485*	0.342*	0.507*	0.320*
Divorced/Separated/Widowed	0.419**	0.883	0.446**	0.961	0.430**	0.865	--	0.821	0.423**	0.862	0.407**	0.867
Education												
GED/High School Diploma	1.086	1.089	1.249	1.141	1.208	1.127	--	1.054	1.167	1.092	1.092	1.106
Some Form of College	1.029	0.651	1.146	0.691	1.084	0.701	--	0.640	1.005	0.654	1.064	0.644
Risk												
Moderate	1.057	0.994	0.975	0.962	0.951	0.965	--	0.966	1.036	0.956	1.032	1.050
Moderate-High	1.105	1.499	0.969	1.400	0.937	1.429	--	1.369	0.966	1.377	1.082	1.638
High	1.015	1.519	0.811	1.201	0.795	1.121	--	1.264	0.822	1.351	0.980	1.772
Oil County	1.412	0.754	1.454	0.684	1.394	0.774	--	0.769	1.411	0.752	1.408	0.763
County Size												
Urban Cluster	1.215	1.117	1.208	1.468	0.991	1.592	--	1.083	1.275	1.236	1.195	1.027
Urban	1.383	0.659	1.446	0.868	1.178	0.970	--	0.658	1.527	0.729	1.370	0.596
Incarceration Offense												
Property	1.592	1.459	1.369	1.422	1.481	1.348	--	1.421	1.463	1.472	1.573	1.480
Violent	2.052*	0.678	1.856	0.684	1.718	0.728	--	0.703	2.225*	0.687	1.870	0.717
Sexual	2.893**	2.859**	2.350*	3.055**	2.294*	2.985**	--	2.934**	3.219**	3.114**	2.960**	2.749*
Other	1.266	0.611	1.183	0.601	1.202	0.571*	--	0.625	1.187	0.623	1.212	0.623
Employed			0.453***	0.301***			--					
Living Situation												
Living w/Someone					0.666	1.343						
Correctional/Treatment					1.810*	4.261***						
Facility												
Residential Mobility							--	1.050*				
Substance Abuser									1.364	1.279		
Programming											1.416	0.751
χ^2	9.114	18.658	5.071	6.602	4.812	10.628		21.153	2.724	21.896	6.871	16.847
Cox and Snell R^2	0.054	0.121	0.081	0.174	0.086	0.179		0.131	0.062	0.123	0.060	0.124
Nagelkerke R^2	0.076	0.165	0.113	0.238	0.120	0.245		0.178	0.086	0.168	0.083	0.169

Reference variables: Race (White); Marital Status (Single): Education (Less than GED); Risk Level (Low/Low Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug); Sample (2006); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Model 6 looked at prison programming in the prediction of technical violations. Age was statistically significant for the 2013 offender sample. Marital status and a sexual incarceration offense remained statistically significant for the sample groups. Prison programming did not reach statistical significance for either sample group.

Full Model for Sample Populations Technical Violations. Table 15 displays a full model logistic regression that included all variables in the equation to predict technical violations for each sample group. Offenders released from prison in 2006 who were divorced, separated, or widowed were 42.4 percent more likely to receive a technical violation compared to offenders who were single. A sexual incarceration offense increased the odds of an offender in the 2006 sample to receive a technical violation by 147.4 percent. Unemployed offenders were 60.3 percent more likely to receive a technical violation and those who received prison programming were 60.9 percent more likely to receive a technical violation. Again, 2006 offenders did not receive evidence-based programming.

The logistic regression for the 2013 offender sample shows that offenders who were older were 97.1 percent more likely to receive a technical violation. Similar to previous models, marital status, incarceration offense, employment, and living situation remained statistically significant when predicting a technical violation. Married offenders were 35.9 percent more likely, and those who were incarcerated for a sexual offense were 240.2 percent more likely to receive a technical violation. Unemployed offenders in the 2013 sample had increased odds of receiving a technical violation by 40.3 percent. Those who had a correctional or treatment facility listed as their address were 229.1 percent more likely to receive a technical violation.

Table 15

Logistic Regression Model for Full Sample Populations Technical Violations

	2006	2006	2006	2006	2013	2013	2013	2013	
Variable	b	*(B)*exp	S.E.	Wald	B	*(B)*exp	S.E.	Wald	*z*-test
N	558				503				
Age	0.004	1.004	0.013	0.112	-0.029*	0.971	0.013	5.306	1.795*
Race									
Black	-0.038	0.962	0.480	0.006	-0.634	0.531	0.473	1.794	0.884
Native American	0.381	1.464	0.248	2.357	0.086	1.090	0.269	0.102	0.806
Other	0.208	1.232	0.532	0.154	-0.220	0.803	0.511	0.185	0.580
Marital									
Married	-0.430	0.650	0.346	1.543	-1.024*	0.359	0.489	4.384	0.992
Divorced/Separated/Widowed	-0.858**	0.424	0.307	7.836	-0.091	0.913	0.337	0.073	-1.682*
Education									
GED/High School Diploma	0.331	1.392	0.303	1.190	0.161	1.175	0.252	0.409	0.431
Some Form of College	0.146	1.157	0.335	0.189	-0.338	0.713	0.331	1.041	1.028
Risk									
Moderate	-0.130	0.878	0.268	0.237	-0.051	0.950	0.358	0.020	-0.177
Moderate High	-0.231	0.794	0.290	0.635	0.294	1.342	0.350	0.707	-1.155
High	-0.549	0.577	0.434	1.602	-0.003	0.997	0.431	0.000	-0.893
Oil County	0.359	1.432	0.240	2.230	-0.345	0.708	0.286	1.453	1.886*
County Size									
Urban Cluster	0.086	1.090	0.716	0.015	0.669	1.951	0.900	0.551	-0.507
Urban	0.349	1.418	0.707	0.243	0.163	1.177	0.893	0.033	0.163
Incarceration Offense									
Property	0.200	1.221	0.273	0.535	0.333	1.395	0.309	1.160	-0.323
Violent	0.469	1.599	0.408	1.326	-0.260	0.771	0.437	0.355	1.219
Sexual	0.906*	2.474	0.414	4.783	1.224**	3.402	0.439	7.763	-0.527
Other	0.015	1.015	0.245	0.004	-0.519	0.595	0.274	3.577	1.453
Employed	-0.506*	0.603	0.224	5.100	-0.908***	0.403	0.236	14.744	1.235
Living Situation									
Living w/Someone	-0.384	0.681	0.255	2.261	0.333	1.396	0.367	0.824	-1.604
Correctional/Treatment Facility	0.367	1.443	0.296	1.532	1.191***	3.291	0.363	10.775	-1.759*
Substance Abuser	0.290	1.336	0.204	2.020	0.246	1.279	0.239	1.065	0.140
Programming	0.475*	1.609	0.196	5.863	-0.193	0.824	0.231	0.702	2.205**
Constant	-1.204				-0.258				
Model $\chi 2$	4.334				6.353				
Cox and Snell R2	0.109				0.207				
Nagelkerke R2	0.151				0.283				

Reference variables: Race (White); Marital Status (Single): Education (Less than college); Risk Level (Low/Low Moderate Risk/Needs);
County Size (Rural); Incarceration Offense (Drug); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

The *z*-tests in Table 15 for the regression coefficients shows that there were significant differences between the two samples in age, marital status, oil county, living situation, and programming. Age, oil county, and prison programming were significantly more influential for the 2006 sample in predicting technical violations. The result for prison programming helps explain the influence of non-evidence-based programming that the 2006 offenders received while in prison. As mentioned previously, receiving non-evidence-based programming has the

potential of increasing recidivism. Being divorced/separated/widowed and living situation having an address listed as a correctional or treatment facility was more influential for the 2013 offender sample when predicting technical violations. This may suggest 2013 were more unstable in their living arrangements during their reentry period.

Comparison of Populations for Re-Incarceration. Table 16 examines the final measure of recidivism, re-incarceration for both sample groups. Model 1 examines control variables and showed age to be statistically significant for both offender samples. Those with some form of college were less likely to be re-incarcerated than those with less than a GED in the 2013 offender sample. High risk/needs in the 2006 offender sample were more likely to be re-incarcerated than offenders who were low risk/low-moderate risk/needs (reference category).

Model 2 examined employment. Age was statistically significant for both offender samples. Again, some form of college was statistically significant for only the 2013 offender sample. High risk/needs was statistically significant for the 2006 offender sample. Offenders who were employed were less likely to be re-incarcerated among the 2006 offender sample.

Offender living situation was examined in Model 3. Age was statistically significant for both offender samples. Those with some form of college were less likely to be re-incarcerated in the 2013 sample than offenders with less than a GED education level. High risk/needs offenders in the 2006 sample were more likely to be re-incarcerated than those with low/low moderate risk/needs. Offenders living in an urban cluster were less likely to be re-incarcerated than those in rural areas in the 2006 offender sample. For the 2013 offender sample, living in a correctional or treatment facility increased the odds of an offender being re-incarcerated.

Table 16

Odds Rations for Full Sample Populations Re-Incarcerations

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	2006	2013	2006	2013	2006	2013	2006	2013	2006	2013	2006	2013
N	602	503	602	503	602	503	--	502	558	503	602	503
Age	0.947**	0.964**	0.945***	0.964**	0.944**	0.968**	--	0.973*	0.944**	0.966**	0.946**	0.964**
Race												
Black	0.817	0.811	0.777	0.776	0.841	0.713	--	0.714	1.103	0.849	0.754	0.814
Native American	1.260	1.401	1.190	1.338	1.167	1.293	--	1.459	1.293	1.387	1.264	1.402
Other	0.977	0.570	0.817	0.535	0.871	0.505	--	0.562	1.042	0.542	1.010	0.570
Marital												
Married	0.712	0.522	0.864	0.545	0.814	0.530	--	0.507	0.781	0.550	0.737	0.519
Divorced/Separated/Widowed	0.879	1.054	0.954	1.087	0.905	1.045	--	0.945	0.927	1.014	0.852	1.051
Education												
GED/High School Diploma	1.338	0.732	1.596	0.737	1.482	0.738	--	0.684	1.556	0.729	1.354	0.733
Some Form of College	1.370	0.302***	1.635	0.308***	1.478	0.310***	--	0.285***	1.470	0.301***	1.431	0.301***
Risk												
Moderate	1.542	1.164	1.441	1.157	1.484	1.161	--	1.115	1.396	1.091	1.476	1.172
Moderate High	1.860	1.398	1.646	1.366	1.697	1.371	--	1.215	1.360	1.191	1.795	1.415
High	3.642**	1.106	3.024*	1.033	3.168*	0.973	--	0.825	2.400	0.889	3.464**	1.129
Oil County	0.900	0.609	0.918	0.598	0.897	0.617	--	0.621	0.995	0.603	0.883	0.610
County Size												
Urban Cluster	0.262	1.915	0.240	2.085	0.218*	2.323	--	1.920	0.256	2.319	0.252	1.890
Urban	0.460	1.605	0.454	1.767	0.395	2.003	--	1.674	0.451	1.946	0.454	1.582
Incarceration Offense												
Property	1.748	1.033	1.446	1.013	1.673	0.987	--	0.975	1.662	1.052	1.693	1.035
Violent	1.584	0.853	1.335	0.855	1.345	0.882	--	0.909	1.953	0.874	1.413	0.860
Sexual	1.295	1.284	1.025	1.276	1.124	1.286	--	1.319	1.731	1.516	1.320	1.275
Other	1.485	0.720	1.388	0.721	1.446	0.709	--	0.744	1.474	0.752	1.401	0.723
Employed			0.394***	0.718			--					
Living Situation												
Living w/Someone					0.828	1.181						
Correctional/Treatment Facility					1.690	1.939*						
Residential Mobility							--	1.080***				
Substance Abuser									2.582***	1.621*		
Programming											1.611*	0.960
χ^2	5.985	7.487	6.458	7.655	12.193	12.235		13.443	3.438	15.874	5.291	6.521
Cox and Snell R^2	0.069	0.097	0.092	0.101	0.080	0.109		0.121	0.098	0.105	0.076	0.097
Nagelkerke R^2	0.116	0.133	0.154	0.139	0.134	0.150		0.166	0.159	0.144	0.127	0.133

Reference variables: Race (White); Marital Status (Single): Education (Less than GED); Risk Level (Low/Low Moderate Risk/Needs); County Size (Rural); Incarceration Offense(Drug); Sample (2006);
Living Situation (Alone)

*p ≤.05 **p ≤ .01 ***p ≤.001

Residential mobility was run for the 2013 offender sample in Model 4. Age and some form of college were statistically significant in the model. Residential mobility was statistically significant in predicting re-incarceration for the 2013 offender sample.

Model 5 examined substance abuse. Age was statistically significant for both offender samples. Some form of college was statistically significant for the 2013 offender sample. Offenders who were substance abusers were more likely to be re-incarcerated than offenders without substance abuse issues for both sample groups.

The last model, Model 6, examines prison programming. Again age was statistically significant for both sample groups. Those with some form of college were less likely to be re-incarcerated than those with less than a GED in the 2013 offender sample. High risk/needs offenders were more likely to be re-incarcerated in the 2006 offender sample than offenders who were low/low-moderate risk/needs. Similar to the prediction of a new conviction, prison programming was only statistically significant for the 2006 offender sample when predicting re-incarceration.

Full Model for Sample Populations Re-Incarcerations. Table 17 examines full logistic regression models for both sample groups. Variables previously significant for the 2006 offender sample remained statistically significant. Older offenders were 93.9 percent more likely to be re-incarcerated; unemployed offenders were 45.2 percent more likely to be re-incarcerated; substance abusers were 157.0 percent more likely to be re-incarcerated; and those who received prison programming were 72.7 percent more likely to be re-incarcerated. Urban cluster was previously significant for the 2006 sample when examining living situation in Model 3 of Table 16. In the full logistic regression (Table 17), offenders living in urban clusters were 21.7 percent more likely to be re-incarcerated compared to offenders living in rural areas.

Table 17

Logistic Regression Model for Full Sample Populations Re-Incarceration

	2006	2006	2006	2006	2013	2013	2013	2013	
Variable	b	*(B)*exp	S.E.	Wald	B	*(B)*exp	S.E.	Wald	*z*-test
N	558				503				
Age	-0.063***	0.939	0.019	11.025	-0.031*	0.970	0.012	6.487	-1.424
Race									
Black	-0.072	0.930	0.625	0.013	-0.295	0.745	0.442	0.446	0.291
Native American	0.190	1.210	0.308	0.383	0.236	1.266	0.249	0.893	-0.116
Other	-0.078	0.925	0.655	0.014	-0.746	0.474	0.532	1.967	0.792
Marital									
Married	0.039	1.040	0.467	0.007	-0.562	0.570	0.447	1.585	0.930
Divorced/Separated/Widowed	-0.037	0.963	0.408	0.008	0.023	1.024	0.322	0.005	-0.115
Education									
GED/High School Diploma	0.667	1.948	0.395	2.842	-0.302	0.739	0.232	1.695	2.115**
Some Form of College	0.620	1.858	0.436	2.020	-1.167***	0.311	0.331	12.467	3.264***
Risk									
Moderate	0.238	1.269	0.382	0.389	0.091	1.095	0.333	0.074	0.290
Moderate High	0.212	1.236	0.396	0.285	0.161	1.175	0.329	0.240	0.099
High	0.662	1.939	0.505	1.719	-0.240	0.787	0.406	0.348	1.392
Oil County	-0.014	0.986	0.321	0.002	-0.500	0.607	0.269	3.464	1.160
County Size									
Urban Cluster	-1.529*	0.217	0.779	3.853	1.041	2.831	0.801	1.687	-2.300*
Urban	-0.874	0.417	0.758	1.329	0.895	2.447	0.796	1.265	-1.609
Incarceration Offense									
Property	0.283	1.327	0.336	0.712	0.003	1.003	0.299	0.000	0.623
Violent	0.271	1.311	0.520	0.271	-0.095	0.910	0.404	0.055	0.556
Sexual	0.383	1.466	0.572	0.447	0.409	1.506	0.415	0.972	-0.037
Other	0.240	1.272	0.316	0.579	-0.295	0.745	0.257	1.309	1.313
Employed	-0.793**	0.452	0.280	8.041	-0.190	0.827	0.223	0.724	-1.685*
Living Situation									
Living w/Someone	-0.144	0.866	0.332	0.188	0.150	1.162	0.328	0.208	-0.630
Correctional/Treatment	0.230	1.259	0.371	0.384	0.566	1.761	0.332	2.905	-0.675
Facility									
Substance Abuser	0.944***	2.570	0.261	13.047	0.469*	1.599	0.226	4.314	1.376
Programming	0.546*	1.727	0.246	4.922	-0.038	0.963	0.217	0.030	1.780*
Constant	0.065				-0.526				-1.424
Model $\chi 2$	8.502				7.816				
Cox and Snell R2	0.129				0.118				
Nagelkerke R2	0.210				0.162				

Reference variables: Race (White); Marital Status (Single): Education (Less than college); Risk Level (Low/Low Moderate Risk/Needs);
County Size (Rural); Incarceration Offense (Drug); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Older offenders in the 2013 sample were 97.0 percent more likely to be re-incarcerated. Education remained statistically significant in the full model. Missing data errors may be influencing the significance of this variable for the 2013 offender sample. Offenders released

from prison in 2013 who were substance abusers were 59.9 percent more likely to be re-incarcerated.

z-tests for the regression coefficients showed that education and programming were significantly more influential for re-incarceration outcomes for the 2006 offender sample. Although education was not statistically significant for the 2006 sample models, the *z*-test suggests that there was a significant effect for the 2006 sample who had a GED/high school diploma or some form of college. Again, caution is observed in the interpretation of these results as the 2006 sample had nearly 100 more cases for the variable. Similar to the *z*-test outcomes for technical violations, prison programming was more influential for the 2006 sample reinforcing the explanation that this sample received non-evidence-based programming that increased recidivism outcomes. An urban cluster county size and employment were significantly more influential for the 2013 offender sample.

Employment Prediction for Offender Samples

As this project examined offender reentry and the oil boom, employment differences between the samples needed to be analyzed. It was hypothesized that the 2013 offenders would have more employment than the 2006 offender sample, as a result of the increased employment opportunities offered by the oil boom. In order to determine employment differences frequencies were run on the two sample groups. The majority of the 2006 offender sample (54.5%; n=320) were employed (N=606) whereas less than half of the 2013 offender sample (41.4%; n=213) were unemployed (N=514). These results are opposite of the expectations of the oil boom providing more employment opportunities.

The analysis was taken a step further in order to control for influential factors of employment such as education. Table 18 displays a logistic regression that was run predicting

employment outcomes for the offender samples. As the results show, the 2013 offender sample were less likely to be employed during their follow-up period. Offenders released in 2013 were 27.5 percent less likely to be employed compared to their 2006 counterparts.

Table 18

Logistic Regression Model Predicting Employment

Variable	B	*(B)*exp	S.E.	Wald
N	1105			
Age	-0.010	0.991	0.008	1.567
Race				
Black	-0.290	0.748	0.282	1.059
Native American	-0.401*	0.670	0.166	5.857
Other	-0.902**	0.406	0.347	6.758
Marital				
Married	0.821***	2.274	0.232	12.555
Divorced/Separated/Widowed	0.356	1.427	0.191	3.482
Education				
GED/High School Diploma	0.396*	1.486	0.172	5.320
Some Form of College	0.349	1.418	0.199	3.072
Risk				
Moderate	-0.322	0.725	0.184	3.069
Moderate High	-0.595**	0.552	0.188	9.998
High	-1.165***	0.312	0.260	20.115
Oil County	-0.014	0.986	0.162	0.007
County Size				
Urban Cluster	0.396	1.486	0.465	0.725
Urban	0.579	1.784	0.459	1.589
Incarceration Offense				
Property	-0.612***	0.543	0.185	10.911
Violent	-0.231	0.794	0.260	0.794
Sexual	-0.741**	0.477	0.271	7.462
Other	-0.169	0.844	0.156	1.173
Sample	-0.275*	0.760	0.132	4.329
Constant	0.255			
Model χ^2	3.329			

Reference variables: Race (White); Marital Status (Single): Education (Less than college); Risk Level (Low/Low Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug); Sample (2006)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.088 Nagelkerke R^2.118

Other results show that whites were significantly more likely to be employed compared to Native American and other races. Those who were married were 82.1 percent more likely to be employed than offenders who were single. Offenders who had a GED or high school diploma were 39.6 percent more likely to be employed than offenders who had less than a GED. In the

model, risk was statistically significant showing that moderate-high risk/needs and high risk/needs offenders were less likely to be employed compared to offenders with low/low-moderate risk/needs. Offenders with a property or sexual offense were less likely to be employed compared to offenders incarcerated for a drug offense. The final interpretation of these results are in the discussion chapter.

Summary of Offender Results

Data analyses for the offender samples included univariate tests for demographic purposes. Multivariate regressions were used to investigate if the variables education, employment, housing, or substance abuse predicted recidivism for the offender population and the sample populations individually. z-tests were performed to indicate sources of any significant differences between the two offender samples coefficients. The following chapter reviews the results from the probation and parole officer survey. The remaining chapter will then thoroughly analyze the results in relation to the hypotheses to form conclusions and recommendations.

Officer Survey Results

The second part of the project sought to supplement the offender findings by examining perceptions of the individuals who supervise offenders during their reentry process (i.e., probation and parole officers). The sections to follow include analyses for the probation and parole officer survey outcomes. Demographic findings include frequencies related to officers' characteristics. Logistic regression models determine which characteristics predict officers' attitudes. Finally, supervision philosophies were examined to determine if they predicted officer perceptions.

Univariate Findings for Probation/Parole Officers

The survey was sent to 107 probation and parole officers and supervisors. Participants were given three weeks to complete and submit the survey. Several reminder emails were sent to try to raise the response rate. The response rate was 83.2 percent with a total of 89 participants. However, the final sample was reduced to 69 as surveys of 20 officers were determined to be unusable due to substantial missing data, resulting in a response rate of 64.5 percent. Previous studies surveying probation and parole officers have reported similar or smaller response rates (e.g., Crews & Seiter, 2004; Seiter & West, 2003; Simmons, Cochran, & Blount, 1997). The average time to complete the survey for participants was 25 minutes.

Table 19 displays frequencies for the surveyed officer population. The average participant who completed the survey was a 40-year-old, white, female probation officer with a bachelor's degree in criminal justice who supervised a mixed caseload type. The mean length of employment for surveyed participants was 9 years. An average caseload size for the sample was 63 with an average minimum caseload size being 46 and an average maximum caseload size of 74. A large majority (60.7%) of officers did not supervise offenders in an oil county. The mean response of what percentage of offenders on an officers' caseload lived in the same area was 56.5 percent.

Oil Boom and Offender Reentry. In order to answer the hypotheses, questions surveyed participants on their perceptions of the oil boom and its influences (see Table 20). Although the majority of officers did not supervise offenders in oil counties, over half (62.9%; n=56) stated that the oil boom had influenced offender reentry in their supervision jurisdiction (N=77).

Table 19

Total Officer Population Characteristics (N=86)

Variable	N	%	Range	Mean	Std. Dev.
Age			25-74	40	10.7
Length of Employment (Years)			0-30	9	7.9
Average Caseload Size			1-146	63	28.2
Sex					
Male	42	48.8			
Female	44	51.2			
Race					
White	79	88.8			
Black	2	2.2			
Native American	2	2.2			
Other	3	3.4			
Education					
Some College	2	2.2			
Associate's Degree	3	3.4			
Bachelor's Degree	71	79.8			
Graduate Degree	10	11.2			
Position					
Probation Officer	49	55.1			
Parole Officer	19	21.3			
Supervisor	8	9.0			
Admin. Assistant w/ Diversion Caseload	10	11.2			
Caseload Type					
Regular	16	18.0			
Intensive Supervision	2	2.2			
Sex Offenders	8	9.0			
Violent Offenders	4	4.5			
Mental Health Offenders	2	2.2			
Substance Abuse Offenders	13	14.6			
Mixed	23	25.8			
Diversion	9	10.1			
Probation and Parole Officers	9	10.1			
Supervise Oil County (N=76)					
No	54	60.7			
Yes	22	24.7			

When asked to list what factors associated with the oil boom influenced reentry in their jurisdiction most stated that their caseload size had increased and that a large proportion of their caseload were not natives to the state. One participant equated changes in their supervision jurisdiction to “Literally everything. Everything is just 10 pounds of crap in a 5-pound bag so to speak.”

Table 20

Frequencies of Officer Responses

Question	N	%
Oil boom has influenced supervision jurisdiction		
Yes	56	62.9
No	21	23.6
Overall effects of oil boom		
Positive	8	9.0
Negative	65	73.0
Department made changes to adapt to oil boom		
Yes	55	61.8
No	17	19.1
Officer made changes in supervision strategies		
Yes	31	34.8
No	41	46.1

When asked if they perceived the oil boom as positive or negative for offender reentry, nearly all officers (73.0%; n=65) stated that the oil boom has had a negative effect on offender reentry (N=73). The most common factors identified as positive effects of the oil boom on offender reentry were employment opportunities and higher wages. Negative effects that were listed included more crime, drugs, and housing issues. One participant summarized the most common response by stating "Unfortunately, with the extra cash in their pockets, many [offenders] have gotten more into the drug/alcohol scene and have not benefited from their extra earnings."

Oil Boom and Supervision Changes. Looking at changes within departments and individual supervision strategies, the majority of officers (61.8%; n=55) felt their department made changes to adapt to the influences of the oil boom (N=72). Many stated their departments hired more probation officers, changed contact standards, and had become more lenient with violations and holding offenders accountable; all to help officers manage increasing caseloads. One participant wrote "Offenders get away with a LOT more then they have ever before."

Similarly, another participant stated “Due to overcrowding at the prison, we are not holding people as accountable as we used to.”

Little variation existed between officers who changed their supervision strategies to adapt to oil boom influences (46.1%; n=41) and those who did not (34.8%; n=31). Many officers alluded to having made changes in how they respond to violations. “There has been a need to get creative in how we handle non-compliance because of lack of services.” Many mentioned that increased offender caseloads have overburdened prisons, jails, and community resources/services/treatment, resulting in fewer resources for officers to use. “Due to increased caseloads and reduced resources I have had to "think outside the box" to address violations.” Another mentioned “We had to learn how to put out the fires as they happened so we just dealt with situations as they happened. There was no time to be proactive.”

Multivariate Findings for Officer Survey

Many variable categories were collapsed together to strengthen the measurements in order to run logistic regressions. Race was dichotomized to white (0) and non-white (1). Two categories in education were combined: some college and associate’s degree. Caseload type was combined for the following categories: intensive supervision, violent offenders, and mental health offenders. Supervisors and administrative assistants who supervised diversion caseloads were removed from the following analyses as they would not have the same supervision experiences of probation/parole officers.

Changes in Supervision Strategies. In order to determine differences in supervision strategy changes for officers in oil counties and officers in non-oil counties logistic regression was used in Table 21. The model examines officers and whether or not they have changed their supervisory strategy as a result of the oil boom. No variables were statistically significant in the

Table 21

Logistic Regression Model of Supervision Changes (N=53)

Variable	B	*(B)*exp	S.E.	Wald
Age	-0.033	0.968	0.036	0.841
Sex	0.960	2.611	0.707	1.842
Race	1.769	5.867	1.300	1.852
Education	-0.057	0.945	1.175	0.002
Type of Caseload				
Intensive/Violent/Mental Health	0.205	1.228	1.058	0.038
Sex Offenders	0.886	2.425	1.049	0.712
Substance Abusers	2.104	8.195	1.157	3.305
Mixed	0.037	1.037	0.947	0.002
Supervise Oil Bakken	0.400	1.491	0.734	0.296
Constant	-0.239			
Model χ^2	12.505			

Reference variables: Race (White); Sex (Female); Education: (Bachelor's Degree); Job Position (Probation Officer); Type of Caseload (Regular)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.180 Nagelkerke R^2.240

model, likely due to the limited sample size and the number of control variables. An additional logistic regression was run without the control variable of type of caseload but no variables approached statistical significance. A chi-square was run to determine if any differences would be produced from the analyses. The chi-square was not statistically significant when testing differences in changes to supervision strategies for officers in oil and non-oil counties (χ^2=.610; df=1; p=.435). Thus, there were no statistically significant differences in officers' changes in supervision strategies.

Effects of the Oil Boom. To gauge the effects of the oil boom on offender reentry, officers were asked "Overall, do you think the effects of the oil boom have been positive or negative for reentry for individuals on supervision?" Responses were dichotomized to include positive (0) or negative (1). Only 8 participants (out of 73 total) viewed the oil boom as positive, thus limiting the ability to conduct a logistic regression on this outcome.

A chi-square was run to determine how many officers supervising offenders in the oil Bakken recorded the oil boom as being positive (n=64) in Table 22. Although the analysis was not statistically significant, only two officers out of 20 supervising offenders in the oil Bakken perceived the oil boom as being positive. The majority of officers who supervised offenders outside of the oil Bakken perceived the oil boom as being negative (68.4%; n=39). More officers supervising outside the oil Bakken perceived the oil boom as positive (71.4%; n=5) compared to officers who supervise the Bakken and thought the oil boom was positive (28.6%; n=2).

Officer Philosophy and Oil Effects. The scales used in this study from Steiner at al. (2011) and Fulton et al. (1997) were collapsed in order to interpret officer philosophy. For example, in Fulton et al. (1997), the authors conducted a factor analysis to identify reliable measurements of the underlying concepts. They produced two scales- the subjective role scale and the strategy scale. Lower scores on these scales reflected a stronger focus on the caseworker philosophy whereas higher scores reflected a stronger focus on the surveillance philosophy.

Table 22

Bivariate Chi-Square Test of Oil Booms Effects

Variable	Supervise Oil Bakken		Does Not Supervise Oil Bakken		$\chi 2$
	N	%	N	%	
Oil Boom is Positive	2	28.6	5	71.4	0.037
Oil Boom is Negative	18	31.6	39	68.4	

The respective questions that consist of the subjective scale and the strategy scale used from Fulton et al. (1997) for the current study is noted in Appendix A. The same process was completed for the Steiner et al. (2011) scale. The scores from these questions/scales were summed and officers were categorized according to their summed score as either having a caseworker (1) or surveillance (0) philosophy.

Table 23 shows a chi-square that was run to determine if officers differed in their supervision philosophy and their perception of the oil boom as positive or negative (N=69). The results show that seven officers (10.1%) out of 69 who completed the survey adhered to a surveillance philosophy. The small representation of officers who have a surveillance philosophy may be explained by greater adherence of probation and parole departments to evidence-based practices and training in using rehabilitation techniques (i.e., the risk, need, and responsivity model) for supervision in recent years (Bogue et al., 2004; Hyatt & Libby, 2016; Jannetta & Burrell, 2014; Skeem, & Manchak, 2008; Taxman & Belenko, 2012; Trinder, 2000). As previously mentioned, North Dakota Department of Corrections transitioned to evidence-based practices around 2011 with full implementation around 2012.

Table 23

Bivariate Chi-Square Test of Officer Philosophy

Variable	Caseworker Philosophy		Surveillance Philosophy		$\chi 2$
	N	%	N	%	
Oil Boom is Positive	10	16.1%	1	14.3%	0.016
Oil Boom is Negative	52	83.9%	6	85.7%	

The majority of officers with either a casework (83.9%) or surveillance philosophy (85.7%) perceived the oil boom as being negative for offender reentry. This suggests that regardless of an officers' supervision philosophy, North Dakota parole and probation officers perceived the oil boom as negatively impacting reentry outcomes of offenders on supervision.

A logistic regression was run in order to determine if differences existed between officers who have a casework philosophy and officers who have a surveillance philosophy (see Table 24). As only 53 responses could be included in the logistic regression and only 7 officers had a surveillance philosophy, limitations in sample sizes and variation in the data resulted in no

statistically significant variables. An additional logistic regression was run limiting the number of variables being controlled for and the results still did not reach statistical significance. Thus, there were no differences between an officers' philosophy and their perception of whether or not the oil boom was positive or negative.

Summary of Officer Survey Results

Data analyses for the officer survey included univariate tests for demographic purposes. Multivariate regressions were attempted to examine if differences existed between officers supervising offenders in the oil Bakken and officers not supervising in that area. In the next chapter, an overall summary of this study is provided as well as conclusions based on the offender data analyses and officer survey analyses. Hypotheses will be examined in terms of acceptance or rejection according to the analyses. Limitations of the study and recommendations for further research are also presented.

Table 24

Logistic Regression Model Predicting Effects of Oil Boom- Positive or Negative (N=53)

Variable	B	*(B)*exp	S.E.	Wald
Age	0.033	1.033	0.038	0.736
Sex	1.453	4.276	0.869	2.794
Race	0.797	2.218	1.700	0.220
Education	0.540	1.716	1.367	0.156
Type of Caseload				5.355
Intensive/Violent/Mental Health	0.609	1.838	1.360	0.200
Sex Offenders	-0.570	0.566	1.184	0.231
Substance Abusers	0.129	1.138	1.176	0.012
Mixed	-1.839	0.159	1.043	3.111
Supervise Oil Bakken	-0.824	0.439	1.668	0.244
Philosophy	0.798	2.220	0.775	1.058
Constant	-0.240			
Model χ^2	3.805			

Reference variables: Race (White); Sex (Female); Education: (Bachelor's Degree);
Job Position (Probation Officer); Type of Caseload (Regular); Philosophy (Surveillance)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.158 Nagelkerke R^2.220

DISCUSSION AND SUMMARY OF FINDINGS

This chapter beings with a summary of the study and the components of the project. This summary is followed by a discussion on the implications of the findings from the previous two results chapters. The discussion is split into several sections examining bivariate and multivariate findings separately for the offender population hypotheses as well as the officer population hypotheses. Following this section, a discussion on the recommendations and limitations of the present research is offered, along with suggestions for future studies. Finally, a conclusion to the study is provided.

Summary of Study

This project was twofold. The first part involved a natural experiment by examining offender reentry and the role of an oil boom. More specifically, it analyzed offender reentry at two different time periods in order to study how factors of offender reentry may be influenced by statewide changes associated with an oil boom. A sample of offenders released from prison prior to the oil boom were compared to offenders released from prison during the highest peak of the oil boom. Comparisons were made on reentry-related variables including education, employment, housing, substance abuse, and recidivism. Institutional and community data on the offender samples came from information provided by the North Dakota Department of Corrections and Rehabilitation (ND DOCR). The recidivism measure of new convictions was recorded by using the publicly accessible North Dakota Courts Records Inquiry online database. The following hypotheses guided this section of the study:

(1) Offenders who are employed will have lower recidivism.

(2) Offenders who have housing will have lower recidivism.

(3) Offenders who complete educational training or treatment services while in custody will have better (fewer) recidivism outcomes.

(4) Offenders with substance abuse issues will have higher recidivism.

(5) More offenders released from custody during the oil boom phase will be employed than offenders released from custody during the pre-oil boom phase.

(6) More offenders released from custody during the oil boom phase will have housing than offenders released from custody during the pre-oil boom phase.

(7) Offenders released from custody during the oil boom phase (2013) will have lower recidivism than offenders released during the pre-oil boom phase (2006).

The second part of the study examined probation and parole officers. This portion of the project was utilized in hopes to supplement findings for offender reentry. All probation/parole offices and supervisors employed by the ND DOCR were surveyed. Probation and parole officers and their supervisors were surveyed to gauge their perceptions of the role of the oil boom on offender reentry. The survey also examined supervision strategies, attitudes, and roles of officers as suggested by the literature. These characteristics were used to determine what influenced officers' perceptions. Participants were contacted via email and were provided a link to complete the survey on an online database called qualtrics. Officers were given three weeks to complete the survey.

The hypotheses that guided this section of the study include:

(1) Officers who supervise offenders in oil counties will perceive more changes in their supervisory strategies as a result of the oil boom.

(2) Officers who supervise offenders in oil counties will perceive the oil boom as having a positive effect on offender reentry.

(3) Officers will identify changes in employment as the main factor influencing offender reentry since the oil boom.

(4) Officers who have a casework philosophy will perceive the oil boom as having a positive effect on offender reentry whereas officers with supervision philosophies will perceive the oil boom as contributing to negative effects on offender reentry.

Offender Bivariate Analyses Discussion

The sample sizes of the offender groups were comparable; the 2006 offender sample had 1,036 offenders and the 2013 offender sample consisted of 1,053 offenders, resulting in a total offender population of 2,089. The 2006 offender sample was significantly younger, more educated, and of lower risk than the 2013 offender sample. Less than 20 percent of the total offender population were in oil counties.

The chi-square results showed that only one measure of recidivism, new conviction, was statistically significant. In addition, new conviction was the only recidivism measure to be statistically significant with an offender's level of risk. These bivariate results may be fundamental in understanding the multivariate analyses below.

Offender Multivariate Analyses Discussion

Hypothesis 1. (1) Offenders who are employed will have lower recidivism.

Employment was examined to determine if it would predict recidivism for the offender population. Previous literature has shown that offenders who are employed have lower odds of recidivism (Andrews & Bonta, 2000; Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990; Gendreau, Little, & Goggin, 1996; Griffin & Armstrong, 2003; Uggen et al., 2005; Visher &

Courtney, 2007). Employment helps offenders form commitments to convention, creates a prosocial network of acquaintances, (Sampson & Laub, 1993; Solomon et al., 2004) and meets a condition of parole. The results from this study in terms of employment and recidivism outcomes are discussed below.

In the new conviction models (see Table 6) employment was not statistically significant, suggesting that employment does not predict a new conviction. These results were not expected as previous literature has found employment instability to be related to new arrests and convictions (i.e., Sampson & Laub, 1993). However, employment was predictive of a technical violation. This outcome may be explained as employment is often a condition of parole and if a supervised individual does not acquire or maintain employment officers may issue a technical violation as a result.

In Table 8 and Table 9 (parsimonious model), employment was statistically significant at the $p \leq .001$ level for the baseline model as well as the full model in predicting technical violations. That is, offenders who were employed were significantly less likely to receive a technical violation. Unemployed offenders were 38.6 percent more likely to receive a technical violation. This may be explained as technical violations are measures of non-compliance or rule-breaking behavior (Duwe, 2012; Makarios et al., 2010). Parole conditions often include a requirement for individuals on supervision to acquire and maintain employment. Thus, offenders who were unemployed may have received technical violations at higher rates as they did not meet the parole condition of employment (Solomon et al., 2004).

For re-incarceration, employment did not reach statistical significance in the baseline model but became statistically significant in the full model (see Table 10). In the parsimonious model, employment reached statistical significance. Offenders who were employed were less

likely to be re-incarcerated and those who were unemployed were 65.2 percent more likely to be re-incarcerated. These findings allow the acceptance of Hypothesis 1 as two out of three measures of recidivism showed that employment was predictive of a technical violation and re-incarceration.

Hypothesis 2. (2) Offenders who have housing will have lower recidivism.

Another predictor of recidivism that was examined was housing. Literature suggests that reentering offenders who do not have stable housing arrangements are more likely to return to prison (Baer et al., 2006; La Vigne & Parthasarathy, 2005; Meredith, Speir, & Johnson, 2007; Roman & Travis, 2004; Roman & Travis, 2006; Steiner et al., 2015; Visher & Courtney, 2007). Those who do obtain housing but have unstable living situations or move frequently are more likely to recidivate (Meredith, Speir, & Johnson, 2007; Steiner et al., 2015; Visher & Courtney, 2007).

Hypothesis 2 could not be answered as the data available to the researcher were limited. Two measures were used to examine housing but were not sufficient in determining the hypothesis. The first measure was living situation, which examined whether an offender lived alone, living with someone, or had an address listed as a correctional or treatment facility. Studies have found that offenders who live with others such as spouses, parents, or relatives are less likely to recidivate (Horney et al., 1995; Steiner et al., 2015). The second measure was residential mobility and was limited to the 2013 offender sample. This measure was the number of times an offender changed addresses during the follow-up period.

Living situation was not statistically significant in the models predicting a new conviction (see Table 6 and Table 7). The technical violation models showed living situation to be predictive of recidivism for both the baseline and full model (see Table 8 and Table 9).

Offenders who had their address listed as a correctional or treatment facility were significantly more likely to have a technical violation. Residences of correctional or treatment facilities may have been a result of the technical violation. For instance, a parole officer may have revoked an offender's parole for a technical violation and had the offender placed in jail or a treatment facility as a result. Having a correctional or treatment facility address was statistically significant for the re-incarceration baseline model but not the full model (Table 10). This remained true for the parsimonious model as well (Table 11). Living in a correctional or treatment facility was significantly predictive of re-incarceration. These results may be explained by the increased surveillance of offenders in correctional or treatment facilities. While in facilities, offenders are under the watch of several individuals or staff who continuously monitor their behavior, thus increasing the likelihood of observed criminal or noncompliance behavior.

Residential mobility was statistically significant in all of the models run. Caution is needed in interpreting these results as only the 2013 offender sample had data for this measure. However, offenders who moved more often were more likely to receive a new conviction, technical violation, and be re-incarcerated. This is in line with previous literature (i.e., (Meredith, Speir, & Johnson, 2007; Steiner et al., 2015; Visher & Courtney, 2007). More specifically, offenders who moved more frequently were 39.2 percent more likely to have a new conviction, 4.3 percent more likely to receive a technical violation, and 67.9 percent more likely to be re-incarcerated. Having higher residential mobility may result in higher recidivism for several reasons. The first may be that unstable personal relationships cause an offender to move, especially if their lifestyle of crime or drugs is not supported by the individuals they live with. A second reason may be that the offender is moving in and out of high-crime areas. The environment where one lives can provide or limit the opportunities for criminal activity and the

potential for new criminal associates. A final possibility might be that offenders experience barriers associated with not having a permanent address such as needing one for job or housing applications, thus they are not able to partake in prosocial conduct. This may leave the offender unwilling to apply for jobs or an apartment and resort to recidivism.

From the probation and parole survey conducted on officers, much of the qualitative answers to the open-ended questions raised concerns about adequate housing for individuals on supervision. Most commonly cited was the high price for housing, especially the areas closet to the oil Bakken. This is not surprising as the 2013 offender sample seemed to have more unstable living situations.

Although the two measures for housing showed statistical significance in the models, Hypothesis 2 cannot be accepted or rejected. Future research should try to uncover whether or not reentering offenders who acquire housing have lower recidivism compared to homeless reentering offenders. Also, research should focus on the length of time before an offender is able to acquire housing and if there is a relationship between recidivism and timing of housing.

Hypothesis 3. (3) Offenders who complete educational training or treatment services while in custody will have better (fewer) recidivism outcomes.

Studies have shown that both educational and treatment services offered while in custody reduce recidivism rates of reentering offenders (Belenko, Foltz, Lang, & Sung, 2004; Dynia & Sung, 2000; Hiller, Knight, & Simpson, 2000; Jensen & Reed, 2006; Pratt, 1998; Nuttall et al., 2003; Solomon et al., 2004; (Steurer et al., 2001; Stevens & Ward, 1997; Wilson et al., 2000). Evidence-based treatment services help offenders deal with various criminogenic needs they may have such as substance abuse, criminal thinking, or lack of problem solving (Andrews et al., 1990). Educational training not only helps improve an offender's employment opportunity (Baer

et al., 2006; Freeman, 1992; Holzer, Raphael, & Stoll, 2003) but it also reduces recidivism (Harlow, 2003, Nally et al., 2014; Nuttall et al., 2003; Steurer et al., 2001; Wilson et al., 2000).

Hypothesis 3 was tested by using a variable called Programming. The variable was measured by indicating whether or not an individual participated in any prison program including treatment programs and educational and vocational services. The dichotomous variable was limited as treatment was not separated from educational/vocational services, thus caution is needed in the interpretation of the findings.

Programming was statistically significant in predicting a new conviction when run for the full population (Table 6). Further examination of the models in Table 12 and Table 16, where the 2006 and 2013 offender sample odds ratios were compared, programming was statistically significant for the 2006 offender sample prediction of new convictions and re-incarcerations. However, programming was not statistically significant in the expected direction. Offenders released in 2006 who received prison programming were significantly more likely to receive a new conviction or be re-incarcerated.

There may be multiple explanations for this. As previously mentioned, ND DOCR transitioned to evidence-based practices in 2011 with full implementation in 2012. This means that offenders released in 2006 who participated in prison programs did not receive evidence-based programs, thus resulting in increased recidivism compared to the 2013 offender sample who did receive programs that used evidence-based practices. *z*-tests were run to compare regression coefficients for the two samples on the programming variable. Results showed that programming was more influential for the 2006 offender sample when predicting technical violations and re-incarceration. Interpretation of those findings can mean that the 2006 offender sample had increased technical violations and re-incarcerations as a result of the programming

they received. Previous literature suggests that non-evidence-based treatment can lead to increased recidivism as it does not appropriately target an offender's risk, needs, or responsivity (Andrews et al., 1990). This can also explain why programming did not have an effect on the 2013 offender sample in terms of predicting recidivism.

An additional reason for this finding may be a result of the measurement itself. Prison programming for this study was limited to a dichotomous variable of participation in any type of programming. The dichotomous measurement limits the ability of the analyses to separate out types of programs that offenders received. For example, this means offenders who received only educational training were compared to offenders who received treatment programs such as substance abuse treatment, thus limiting the ability to conclude outcomes solely based on educational outcomes or treatment outcomes.

As this variable is limited in terms of measurement, interpretation of the results cannot be conclusive for acceptance or rejection of Hypothesis 3. However, an assumption can be made that prison programming that is not evidence-based may lead to higher recidivism, as shown by the 2006 offender sample outcomes and previous literature (see Andrews et al., 1990). Prison programming was not statistically significant for the 2013 offender sample, but the direction of the odds ratios suggests that the evidence-based programming the 2013 offenders received was not driving recidivism.

Hypothesis 4. (4) Offenders with substance abuse issues will have higher recidivism.

Many criminal offenders report substance abuse issues (Baer et al., 2006; Bureau of Justice Statistics, 2015; Harrison, 2001; Travis & Petersilia, 2001; Visher, 2007). Offenders with substance abuse histories and those who engage in substance abuse after prison release are at high risk to recidivate (Baer et al., 2006; Harrison, 2001; Mallik-Kane & Visher, 2008). This

study sought to examine the impact substance abuse had on the reentry process in terms of recidivism.

To measure substance abuse, offenders who scored very high and high on the alcohol and drug category of the Level of Service Inventory-Revised (LSI-R) were deemed to be offenders who had substance abuse issues. If an offender scored 6 or higher out of the 9 total questions, the offender was classified as having abuse issues. Over half (54.0%) of the total offender population had substance abuse problems.

Substance abuse was statistically significant in all models for the three measures of recidivism (new convictions, technical violations, and re-incarceration). Offenders who were classified as substance abusers were significantly more likely to have a new conviction, technical violation, and be re-incarcerated. Offenders with substance abuse issues were 84.1 percent more likely to have a new conviction, 34.5 percent more likely to receive a technical violation, and 93.1 percent more likely to be re-incarcerated than offenders who were not substance abusers. Hypothesis 4 is accepted as substance abuse predicted all three measures of recidivism.

Hypothesis 5. (5) More offenders released from custody during the oil boom phase will be employed than offenders released from custody during the pre-oil boom phase.

As shown in Hypothesis 1, employment was an important predictor of recidivism. More specifically, this study found offenders who had employment were significantly less likely to receive a technical violation or be re-incarcerated. It was hypothesized that the oil boom would increase employment opportunities for offenders released from prison in 2013 during the highest peak of the oil boom. As a direct result of the oil boom, North Dakota was below the national unemployment rate (Krogstad, 2014) and the number of individuals working in construction and

extraction as well as customer service positions and lower-entry positions increased. These occupation types are speculated to employ individuals with a criminal history (Uggen, 2000).

Frequencies were run to determine differences between the two sample populations. The majority of the 2006 offender sample (54.4%; n=330) were employed (N=606) whereas the majority of the 2013 offender sample (58.5%; n=301) were unemployed (N=514). The analysis was taken a step further in order to examine this hypothesis. A separate logistic regression model was run in Table 18 to predict employment for the two offender samples. The 2006 offender sample was significantly more likely to be employed than the 2013 offender sample. Offenders released in 2013 were 27.5 percent less likely to be employed than their 2006 counterparts.

The oil boom had increased employment in North Dakota so much so that the unemployment rate was well below the national average. However, it does not appear that the 2013 offender sample profited from the increase of jobs. Many officers who participated in the survey suggested that jobs were not available because of high competition from out-of-state individuals who came to North Dakota to work in the oil Bakken. Although the oil boom had created a surplus of jobs, the 2013 offender sample were less likely to be employed. Hypothesis 5 is rejected.

Hypothesis 6. (6) More offenders released from custody during the oil boom phase will have housing than offenders released from custody during the pre-oil boom phase.

The North Dakota oil boom increased housing units by 10.4 percent (Nicholson, 2015). Counties outside of the oil boom also saw growth in housing (Nicholson, 2015). It was hypothesized that the increased housing options would be beneficial for the offenders reentering during the oil boom.

As this variable was limited, conclusive findings for the housing variable cannot be determined but some observations can be examined through bivariate analyses. The majority of the 2006 offender sample (52.6%; n=319; N=606) were living with someone whereas the largest proportion of the 2013 offender sample (43.1%; n=220; N=510) were living in a correctional or treatment facility. Although these results are not controlling for other factors, it is suggestive that the 2006 offender sample may have had more stable living environments than the 2013 offender sample. As presented, the data available is unable to answer Hypothesis 6.

Hypothesis 7. (7) Offenders released from custody during the oil boom phase (2013) will have lower recidivism than offenders released during the pre-oil boom phase (2006).

As it was hypothesized that offenders released during the oil boom would have more employment (Hypothesis 5) and housing opportunities (Hypothesis 6), it was hypothesized that offenders released during the oil boom would have lower recidivism as a result of fewer reentry barriers (specifically employment and housing).

Tables 6, 8, and 10 presented results predicting all three measures of recidivism for the samples. The 2013 offender sample were significantly more likely to have a new conviction and be re-incarcerated in nearly all of the models run. More specifically, offenders released from prison in 2013 were 38.7 percent more likely to have a new conviction and 115.6 percent more likely to be re-incarcerated compared to offenders released from prison in 2006. There were no statistical differences for the offender samples in terms of technical violations.

Earlier bivariate analyses showed that the 2013 offenders were higher risk, had more substance abuse, and were less educated than the 2006 offender sample which could explain their higher likelihood of recidivism. However, related to previous literature suggesting that oil booms increase crime (Kohrs, 1974; Komarek, 2015; Ruddell et al., 2014), the results of this study show

that offenders released during the oil boom had more negative outcomes. Hypothesis 7 is rejected as the results show that the 2013 offender sample had more recidivism in terms of new convictions and re-incarcerations than the 2006 offender sample.

Officer Survey Bivariate Analyses Discussion

The response rate for the survey was 64.5 percent with a total of 69 usable surveys (N=89). Comparable response rates have been reported in similar studies surveying probation and parole officers (e.g., Crews & Seiter, 2004; Seiter & West, 2003; Simmons, Cochran, & Blount, 1997). The average officer to complete the survey was a 40-year-old, white, female with a bachelor's degree in criminal justice who supervised a mixed caseload. The majority of officers did not supervise offenders in an oil county (60.7%). Over half of the officers (62.9%; n=56) stated that the oil boom had influenced offender reentry (N=77). Regardless of their supervision county (oil or non-oil), nearly all officers (73.0%; n=65) stated that the oil boom had a negative effect on offender reentry (N=73).

Officer Survey Multivariate Analyses Discussion

Hypothesis 1. (1) Officers who supervise offenders in oil counties will perceive more changes in their supervisory strategies as a result of the oil boom.

Previous work has shown that many social services in North Dakota have had to strategically adapt to the large population growth and diversity of needs that the oil boom has brought to the area (Archbold et al., 2014; Bohnenkamp et al., 2011; Weber et al., 2014). Many agencies and resources are overwhelmed, understaffed, and not equipped to deal with the influx of the new clientele from oil activity (Fernando & Cooley, 2015; Weber et al., 2014). Thus, it was hypothesized that probation and parole officers would experience changes in their

supervision strategies in response to influences of the oil boom (e.g., changing demographics/needs of caseloads).

Officers were asked "Have you changed your supervision strategy, separate from departmental changes, to adapt to influences the oil boom has on the individuals you supervise?" The response options were dichotomized as no (0) and yes (1). A logistic regression was run to determine the differences between officers in oil and non-oil counties and whether or not an officer's county predicted changes in their supervision strategies (see Table 21). Age, sex, race, education, job position, and type of caseload were controlled for. The logistic regression was not statistically significant for supervision strategy changes. The small sample size (N=53) for the logistic regression limits the statistical ability of the analyses. A chi-square was run for the analysis and no variables reached statistical significance. Thus, Hypothesis 1 is rejected as there were no statistically significant differences between oil county and non-oil county officers in their perceptions of supervision strategy changes.

Hypothesis 2. (2) Officers who supervise offenders in oil counties will perceive the oil boom as having a positive effect on offender reentry.

As it was hypothesized that offenders released from prison in 2013 would experience less barriers during their reentry, it was thought that probation and parole officers would see less challenges for reentering offenders due to expanded opportunities from the oil boom.

Officers were asked "Overall, do you think the effects of the oil boom have been positive or negative for reentry for individuals on supervision?" The response options were dichotomized to negative (0) and positive (1). Response totals limited the ability to run a logistic regression. In order to observe differences between officers who supervise offenders in oil counties and those who supervise in non-oil counties, a chi-square was run (see Table 22). Officers' perceptions of

the effects the oil boom has had on offender reentry in regards to being positive or negative was not statistically significant (χ^2=.026; df=1; p=.871). Similar to Hypothesis 1, Hypothesis 2 is also rejected as no significant differences were found in the sample of officers in regards to a positive effect of the oil boom on offender reentry. Small sample size and variation in responses contributed to limited analysis for this hypothesis.

Hypothesis 3. (3) Officers will identify changes in employment as the main factor influencing offender reentry since the oil boom.

As previously stated, North Dakota experienced an increase in the employment rate by 36 percent in 2013. More specifically, an increase of 148 percent was seen in construction and extraction occupations (U.S. Census Bureau, 2015), where individuals with a criminal history are more likely to be employed (Uggen, 2000). These large increases lowered the North Dakota unemployment rate well below the national average at 2.6 percent (Krogstad, 2014). It was expected that reentering offenders on supervision would benefit from job growth in construction and extraction occupations.

In order to address this hypothesis, the question "What factors, since the oil boom, do you think have the largest effect on reentry for individuals on supervision across the state?" was asked. Text responses were sorted according to categories that participants listed. For example, if an officer stated that "Jobs are not as high paying…" then this response was categorized as an employment factor. If an officer stated that "Housing and treatment are no longer available [for offenders]…" then the response was coded as both a housing and treatment factor. An analysis of the qualitative responses showed that housing, employment, substance abuse, and treatment were prominent issues listed by officers. Overall, housing was mentioned the most out of the issues listed (27 times) followed by treatment (24 times) and employment (20 times) and finally

substance abuse issues (17 times). These results are interesting as the main positive factor of the oil boom on offender reentry listed by officers was employment and higher wages. It is assumed then that officers are more likely to see housing as a larger issue than employment during offender reentry. This hypothesis is rejected as officers stated housing to be the main factor influencing offender reentry since the oil boom, not employment.

Hypothesis 4. (4) Officers who have a casework philosophy will perceive the oil boom as having a positive effect on offender reentry whereas officers with supervision philosophies will perceive the oil boom as contributing to negative effects on offender reentry.

Officers who have a casework philosophy emphasize assisting parolees with problems, counseling, and working to make sure they succeed on supervision (Caplan, 2006; Clear & Latessa, 1993; West & Seiter, 2004). It was hypothesized that officers with a caseworker philosophy would see advantages of the oil boom, such as increased employment and housing opportunities, to help them assist offenders on their caseload during the reentry process. The opposite was hypothesized for officers with surveillance philosophies. Officers with surveillance philosophies focus on law enforcement, enforcing compliance with the rules of supervision, and closely monitor parolees (Seiter, 2002; Travis & Petersilia, 2001; West & Seiter, 2004). It was hypothesized that these officers would perceive the oil boom as negative since oil booms can be perceived as being associated with increased crime and drug use, which can translate to having to monitor offender behavior/compliance to supervision more closely (Kohrs, 1974; Komarek, 2015; Ruddell et al., 2014).

The previously tested scales used in this study to predict officer philosophy were collapsed in order to create a dichotomous variable of supervision philosophy (casework=1, surveillance=0). A chi-square was run to understand the variance in supervision philosophy in

Table 23. The chi-square was not statistically significant but displayed that only seven officers out of 69 had a surveillance philosophy. The small number of surveillance philosophies was unexpected but can be explained by a growing adoption of evidence-based practices by the North Dakota Department of Corrections specifically and probation and parole departments in general (Bogue et al., 2004; Hyatt & Libby, 2016; Jannetta & Burrell, 2014; Skeem, & Manchak, 2008; Taxman & Belenko, 2012; Trinder, 2000). Training probation and parole officers on evidence-based practices may sway their supervision strategies to be more rehabilitation and treatment focused. The results from the chi-square show that regardless of an officers' supervision philosophy, the majority perceived the oil boom as being negative for offender reentry. More specifically, 83.9 percent of officers with a caseworker philosophy and 85.7 percent of officers with a surveillance philosophy perceived the oil boom negatively.

Additionally, a logistic regression was run to see if any variables would show statistical significance (see Table 24). The analysis was limited as the sample size decreased to 53 for the logistic regression and thus showed no statistically significant variables. Hypothesis 4 is rejected as the analysis displayed no differences in officer philosophy and their perception of oil boom effects on offender reentry. Again, small sample size and variation in responses contributed to limited analysis for the hypothesis.

Recommendations and Limitations

The present research offers some promising implications on the methodology used to examine the offender reentry. However, this research is not without its limitations. This section will begin with a discussion of limitations, along with directions for future research.

The first limitation was the inclusion of the education variable. As this variable reduced close to half the sample size for the multivariate analyses, outcomes found for the samples could

be an error of missing data. Chi-squares showed that significant differences were present in risk level, oil county, employment, and prison programming for offenders with data for this variable compared to those without data. As previously mentioned, the decision to keep this variable in the analyses was influenced by extensive literature suggesting the importance of examining education in relation to offender reentry (Baer et al., 2006; Batiuk et al., 1997; Freeman, 1992; Harlow, 2003; Holzer et al., 2003; Nally et al., 2014; Petersilia, 2003; Solomon et al., 2004; Stevens & Ward, 1997; Traivs, 2005).

Another limitation, as previously mentioned, was the housing variable. Data were not available to properly research the effects of housing on offender reentry. Thus this study was limited in included housing as a predictor of recidivism. Another limitation was the decision to only include male offenders in the study. Male offender data was more accessible for this study and more representative of the population in the state as well as the oil boom industry. Future research should consider gender-specific differences in the reentry process. One final limitation was the variable prison programming. The data was limited as treatment was not separated from educational/vocational services in the dichotomous measurement. Future studies should examine how participation in prison programs such as cognitive-behavioral treatment may influence reentry recidivism outcomes differently than an educational prison program.

As this study was unable to examine the influence of housing on offender reentry, future studies should try to research the effects of homelessness. More studies should include different sample populations in order to understand the effects of offender reentry overtime and across differing population characteristics. Future studies should try to incorporate natural experiments, like the current study, in order to better understand the impact of economic, industrial, and other changes on offender reentry within a given area.

Limitations for the officer survey include a small population size. Although the response rate was close to 65 percent, the overall population of probation/parole officers in the state was limited. Future studies should try to survey large urban states or several states in order to be able to more easily detect differences among officers with a larger sample size.

Policy Implications

Consistent with previous literature, education, employment, and substance abuse were influential during the reentry process for the current study's offender population. These areas may have become more vulnerable as a result of the oil boom. Looking at offender reentry overtime, the results from this study showed that the 2013 offender sample experienced more barriers as well as more recidivism outcomes. Offenders from the 2013 offender sample had less education and employment during their reentry periods. The 2013 offender sample also had more substance abusers than the 2006 offender sample. With these outcomes in mind, several policy implications are suggested.

Only approximately 40 percent of the total offender population participated in prison programming. Of that, only 37.6 percent of the 2013 offender sample took advantage of prison programs. This finding is in line with research from the Bureau of Justice Statistics (2015) that found only 40 percent of state inmates report participating in (substance abuse) programs since admission to prison. Although several programs are offered in the institutional setting, few inmates take advantage of the services.

It may be assumed that if the 2013 offender sample had participated in the prison programs, including educational and employment services and substance abuse treatment, these barriers may have decreased during their reentry period. Requiring individuals with educational, employment, and substance abuse needs to complete training or treatment while incarcerated

may be fundamental to their reentry success. Additionally, offering aftercare for these individuals while on parole supervision may be essential for them to adjust while in the community.

Another suggestion comes from the qualitative response from a probation officer in regards to the effects of the oil boom: "…many [offenders] have…not benefited from their extra earnings." The officer described increased wages as a result of the oil boom but emphasized that the extra money was being spent on drugs and not housing or other necessities. Increased wages, more access to illegal substances, and skyrocketed housing prices have also been negative associations of the oil boom. Reentering offenders need resources to help them find adequate housing, refrain from drug use, and properly manage their finances. Community collaborations should be made in order to ensure the offender continues to receive training, treatment, and other resources once they leave the institution and during their reentry process. Although many officers did mention that services and treatment facilities were overburdened with the increase in offender populations, more needs to be done to ensure individuals on supervision are receiving the right tools along the way in their reentry process for their success.

Conclusions

This project was able to advance research on offender reentry in three ways. The first addition was using a natural experiment, the oil boom, in order to understand how offender reentry may be influenced by changes within a given state. Second, it advanced the research by comparing two separate samples from two time periods in order to examine changes of offender reentry overtime. Finally, it went a step further and included perceptions of probation and parole officers on offender reentry and the oil boom. Findings from this research suggest that, in line with previous research, education (Baer et al., 2006; Freeman, 1992; Holzer, Raphael, & Stoll,

2003), employment (Freeman, 1992; Holzer, Raphael, & Stoll, 2003; Nally et al., 2014), and substance abuse (Baer et al., 2006; Harrison, 2001; Mallik-Kane & Visher, 2008) were important factors in offender reentry for the studied population.

Other factors that the project set out to test were housing and prison programming. The study was unable to determine the role of housing as limitations in the data existed. Data available for the prison programming variable was also limited in variation and measurement. However, results showed that prison programming increased new convictions; this result is unusual but the transition of the ND DOCR to evidence-based practices explains these findings. Offenders released in 2006 who participated in prison programming were 49.3 percent more likely to receive a new conviction and were 61.1 percent more likely to be re-incarcerated than 2006offenders who did not participate in prison programming. The *z*-tests for the variable also showed that prison programming was more influential for the 2006 offender sample when predicting technical violations and re-incarcerations. These offenders did not receive evidence-based prison programming, which can explain why prison programming predicted recidivism for this sample (Andrews et al., 1990). Results for the 2013 offender sample were not statistically significant but models for the sample showed findings in the anticipated direction for evidence-based programming and recidivism.

Overall, offenders released during the oil boom period did not have better outcomes and may have experienced increased barriers in reentry as a result. Offenders released in 2013 were significantly more likely to receive a new conviction and to be re-incarcerated. These results reveal that the 2013 offender sample had more criminal behavior as new convictions and re-incarcerations are measures of criminal offenses. There were no statistically significant

differences among the two samples for technical violations, which represented a measure of rule-breaking or non-compliance behavior.

Findings suggest that the oil boom negatively influenced offender reentry in terms of recidivism. The 2013 offender sample were higher risk, had less education, and were more likely to be substance abusers compared to the 2006 offender sample, which may help explain their increased recidivism. Fewer offenders released from prison in 2013 were employed compared to 2006 offenders, providing another possible explanation for the increased recidivism found for this sample.

It was hypothesized that the oil boom would be a great resource for offender reentry in terms of employment and housing options. Limitations in the data restricted the measurement of housing and did not allow for proper analysis of the hypothesis. However, findings from the study regarding employment show the opposite effect of what was hypothesized. Those released from prison during the oil boom were less likely to have employment. Thus, the oil boom may have brought more barriers to reentering offenders including high housing rates, increased competition for high paying jobs, and overwhelmed, limited social resources.

The second part of the research project examined the perspectives of probation and parole officers on offender reentry. Results from the survey suggests that regardless if probation/parole officers supervised an oil county or non-oil county, the majority perceived the oil boom as negative for offender reentry. Most officers reported changes in department policy as well as their own supervision strategies in order to accommodate influences of the oil boom. The majority of officers listed overburdened resources such as treatment services, jails, and prisons as causes for utilizing different strategies. Housing was the largest factor that officers contributed as influencing offender reentry since the oil boom.

Many studies have examined the role of probation and parole officer attitudes and its relationship with supervision strategies (Fulton et al., 1997; Seng and Lurigio, 2005; Steiner et al., 2011; West & Seiter, 2004). The current study tried to reproduce such findings in terms of officers' supervision philosophies and their respective perceptions of the oil boom impact on supervised offenders. Analyses were limited due to sample sizes but logistic regressions and chi-squares showed there were no differences among officers in oil counties and officers in non-oil counties regarding changes in supervision strategies, perceptions of the oil boom as positive or negative, or supervision philosophies. However, caution must be exercised in these interpretations as the data limited the analyses.

Similar to previous literature, the present study found several factors such as education, employment, and substance abuse influential for offender reentry. Analyses indicated negative findings in terms of the oil boom. Offenders released from prison during the peak of the oil boom had higher recidivism compared to offenders released prior to the oil boom. Additionally, probation and parole officer perceptions highlighted bleak outcomes of the oil boom regarding overburdened correctional resources, additional barriers for offenders, and negative impacts for offender reentry. Overall, offender recidivism and officer perceptions have shown that the North Dakota oil boom may have been more of a curse than a blessing in regards to offender reentry and reintegration into the community.

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APPENDIX A. OFFICER SURVEY

1. What is your date of birth? (mm/dd/yyyy)
2. What is your sex?
    a. Male
    b. Female
3. What is your race?
    a. White
    b. Black
    c. American Indian
    d. Asian
    e. Pacific Islander
    f. Other
4. What is the highest level of education that you have completed?
    a. High school diploma
    b. GED
    c. Some college
    d. Associate's degree
    e. Bachelor's degree
        i. What major is your bachelor's degree in?
    f. Graduate degree
        i. What major is your graduate degree in?
5. What is your job position?
    a. Supervisor
    b. Parole Officer
    c. Probation Officer
6. How long have you worked as a community supervision officer?
    a. ____Years ____Months
7. What is your average caseload size? For example 45.
8. What is your minimum caseload size? For example 15.
9. What is your maximum caseload size? For example 70.
10. What type of caseload do you supervise?
    a. Regular
    b. Intensive supervision
    c. Sex offenders
    d. Violent offenders
    e. Mental health offenders
    f. Substance abuse offenders
    g. Mixed
11. What percentage of your current supervision caseload would you estimate to live in the same area that you do? (0-100% range)
12. Are the areas (cities and/or counties) you supervise considered a county in the Oil Bakken?
    a. No
    b. Yes

The following section is very important to understanding the role of the oil boom on reentry and supervision. Questions will focus on reentry and the North Dakota oil boom. For these questions, <u>reentry</u> is defined as the return to the community under supervision after institutional custody, mainly prison. <u>Oil boom</u> is defined as an increase in oil extraction that results in large economic benefits for the state, and influences other aspects such as rapid population growth, employment rates, and housing rates.

13. Please list what you think are the biggest problems facing individuals on supervision in terms of reentry. For example: finding adequate housing or a lack of social support.
14. Think of what reentry looked like before the start of the ND oil boom in 2006. Do you think reentry has changed due to factors related to the oil boom (for example, population growth and area resources/services)? Why or why not has it changed?
15. What factors, since the oil boom, do you think have the largest effect on reentry for individuals on supervision across the state?
16. Has the oil boom influenced reentry in your supervision jurisdiction?
    a. No
    b. Yes
        i. If yes, what factors associated with the oil boom have influenced reentry in your supervision jurisdiction?

The oil boom offers two outcomes for individuals on supervision. A positive effect of the oil boom may result in parolees obtaining employment and housing more easily. Negative effects of the oil boom may result in increased supervision failures, drug use, and criminal associations.

17. What effects do you think have been positive?
18. What effects do you think have been negative?
19. Overall, do you think the effects of the oil boom have been positive or negative for reentry for individuals on supervision?
    a. Positive
    b. Negative
20. Please list what factors you think the oil boom has influenced to have a positive or negative effect on reentry for individuals on supervision.
21. Has your department changed any supervision strategies to adapt to influences the oil boom has on the individuals supervised within your agency?
    a. No
    b. Yes
        i. How has the oil boom influenced departmental changes?
22. Have you changed your supervision strategy, separate from departmental changes, to adapt to influences the oil boom has on the individuals you supervise?
    a. No
    b. Yes
        i. How has the oil boom influenced your change in supervision strategy?
        ii. What aspect(s) of your supervision strategy have you changed?

The next section is very important to understanding the role of supervision on reentry for individuals on supervision. Below each statement, select a bubble corresponding to the numbers 1 - 6 to indicate which term best describes your perceptions or behaviors. For example:

I would describe myself as:

Optimist					**Pessimist**
1	**2**	**3**	**4**	**5**	**6**

If the number 5 were selected for this question, the respondent perceives themselves as neither an optimist nor a pessimist, but more pessimistic than optimistic. If the bubble below optimist (1) were selected, the respondent perceives themselves fully as an optimist.[1]

23. *As a probation/parole officer, your primary obligation is to:
    a. Rehabilitate the individual on supervision 1 2 3 4 5 6 Enforce supervisory conditions
24. When enforcing supervisory conditions you are:
    b. Strict 1 2 3 4 5 6 Flexible
25. The role you adopt when working with individuals on supervision most closely approximates:
    c. Advisor 1 2 3 4 5 6 Director
26. *Your primary concern as a probation/parole officer is to:
    d. Monitor individuals on supervision compliance 1 2 3 4 5 6 Rehabilitate the individuals on supervision
27. When working with individuals on supervision you are:
    e. Suspicious 1 2 3 4 5 6 trusting
28. ***The most important aspect of your job is:
    f. Intervention 1 2 3 4 5 6 Surveillance
29. The goal of probation/parole should be:
    g. Restoration 1 2 3 4 5 6 Rehabilitation
30. Your relationship with individuals on supervision is best described as:
    h. Concerned 1 2 3 4 5 6 Impartial
31. *Which best describes your role as a probation/parole officer:
    i. Police officer 1 2 3 4 5 6 Social worker
32. Your primary responsibility is to the:
    j. Individual on supervision 1 2 3 4 5 6 Community
33. You respond to individuals on supervision behavior most often with:
    k. Punishments 1 2 3 4 5 6 Rewards
34. Your style of communication with individuals on supervision is best described as:
    l. Coercion 1 2 3 4 5 6 Negotiation

[1] *Subjective scale
***Strategy scale

35. *Your most appropriate role with individuals on supervision is as:
    m. Advocate 1 2 3 4 5 6 Supervisor
36. *The most essential part of a probation/parole officer's job is:
    n. Counseling 1 2 3 4 5 6 Enforcing
37. Effective case supervision requires:
    o. Subjectivity 1 2 3 4 5 6 Objectivity
38. Probation/parole is best described as a(n):
    p. Opportunity 1 2 3 4 5 6 Punishment
39. The primary purpose of monitoring activities is to:
    q. Promote progress 1 2 3 4 5 6 Ensure compliance
40. *Your primary function as an officer is:
    r. Enforcement 1 2 3 4 5 6 Intervention
41. Your attitude toward individuals on supervision recently placed under your supervision is:
    s. Hopeful 1 2 3 4 5 6 Skeptical
42. ***The most important part of your job is:
    t. Monitoring 1 2 3 4 5 6 Counseling
43. As a probation/parole officer your primary role is to:
    u. Empower 1 2 3 4 5 6 Incapacitate
44. The rules and regulations of probation are:
    v. Minimal acceptable standards 1 2 3 4 5 6 Constructive aids
45. ***The most effective way to change behavior is through:
    w. Positive reinforcement 1 2 3 4 5 6 Punitive sanctions
46. Your role with individuals on supervision is best described as:
    x. Coach 1 2 3 4 5 6 Boss
47. Case plans are best viewed as:
    y. Guidelines 1 2 3 4 5 6 Mandates
48. Conditions of probation/parole should be enforced:
    z. Uniformly 1 2 3 4 5 6 Individually
49. Your primary function as an officer is:
    aa. Enforcement 1 2 3 4 5 6 Intervention
50. Personal issues for individuals on supervision should be viewed as:
    bb. Problems to be addressed 1 2 3 4 5 6 Potential excuses
51. The most important aspect of probation/parole supervision is:
    cc. Surveillance 1 2 3 4 5 6 Services
52. ***Case supervision should be designed to
    dd. Regulate behavior 1 2 3 4 5 6 Change behavior
53. *Your function as a probation/parole officer most closely approximates:
    ee. Law enforcement 1 2 3 4 5 6 Social work
54. Your primary goal as a probation/parole officer is individuals on supervision:
    ff. Control 1 2 3 4 5 6 Rehabilitation
55. Probation/parole work is best viewed as:
    gg. Prevention 1 2 3 4 5 6 Crisis Management

For this section, please consider how often a parole officer should pursue a hearing for:
56. A pattern of late arrivals and no shows for appointments

always (A), very frequently (VF), often (O), occasionally (OC), or never (N)

57. A parolee who keeps losing his/her job
always (A), very frequently (VF), often (O), occasionally (OC), or never (N)

58. A pattern of positive drug tests
always (A), very frequently (VF), often (O), occasionally (OC), or never (N)

For this section, please consider how often a parole officer should:

59. Make unannounced home visits
always (A), very frequently (VF), often (O), occasionally (OC), or never (N)

60. Test their parolees for alcohol/drugs
always (A), very frequently (VF), often (O), occasionally (OC), or never (N)

61. Perform record checks
always (A), very frequently (VF), often (O), occasionally (OC), or never (N)

62. Make checks on who their parolees have been hanging out with
always (A), very frequently (VF), often (O), occasionally (OC), or never (N)

For this section, please consider how much you agree/disagree with the following. A parole officer should:

63. Refer a parolee to an employment service if he/she reports having trouble finding a job
strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD)

64. Help a parolee make a budget if he/she is having trouble making child support payments
strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD)

65. Work with parolees on structuring their time
strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD)

66. Assist parolees who report having family problems
strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD)

67. A parole officer should reward parolees who complete supervision goals
strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD)

APPENDIX B. OIL AND NON-OIL COUNTIES IN NORTH DAKOTA[2]

Oil Producing Counties in ND (1)	Non-oil Producing Counties in ND (0)
Adams	Barnes*
Billings	Benson*
Bottineau*	Burleigh[+]
Bowman*	Cass[+]
Burke	Cavalier*
Divide	Dickey
Dunn*	Eddy
Golden Valley	Emmons*
Hettinger	Foster*
McHenry*	Grand Forks[+]
McKenzie*	Grant
McLean*	Griggs
Mercer*	Kidder
Mountrail*	LaMoure*
Renville	Logan
Slope	McIntosh*
Stark*	Morton*
Ward[+]	Nelson*
Williams*	Oliver
	Pembina*
	Pierce*
	Ramsey*
	Ransom*
	Richland*
	Rolette*
	Sargent*
	Sheridan
	Sioux*
	Steele
	Stutsman*
	Towner
	Traill*
	Walsh*
	Wells*

[2] The U.S. Census Bureau identifies two types of urban areas: urbanized areas ([+]) of 50,000 or more people and urban clusters (*) of at least 2,500 and less than 50,000 people. Rural encompasses all population, housing, and territory not included within an urban area.

APPENDIX C. LOGISTIC REGRESSION MODEL OF NEW CONVICTION AND SAMPLE GROUP

Variable	B	*(B)*exp	S.E.	Wald
N	1105			
Age	-0.0278***	0.973	0.008	13.142
Race				
Black	-0.063	0.939	0.279	0.051
Native American	0.179	1.197	0.163	1.220
Other	-0.482	0.617	0.324	2.216
Marital Status				
Married	-0.109	0.897	0.222	0.239
Divorced/Separated/Widowed	-0.016	0.984	0.190	0.008
Education				
GED/High School Diploma	0.494**	1.639	0.168	8.640
Some College	0.203	1.225	0.197	1.064
Risk Level				
Moderate Risk/Needs	0.262	1.300	0.182	2.082
Moderate High Risk/Needs	0.461*	1.585	0.186	6.127
High Risk/Needs	0.614*	1.848	0.248	6.108
Oil County	-0.051	0.950	0.159	0.103
County Size				
Urban Cluster	0.206	1.229	0.467	0.196
Urban	0.384	1.468	0.461	0.695
Incarceration Offense				
Property	-0.093	0.911	0.181	0.262
Violent	-0.095	0.910	0.256	0.137
Sexual	-0.309	0.734	0.266	1.344
Other	0.066	1.069	0.155	0.183
2013 Offender Sample	0.427***	1.533	0.131	10.576
Constant	-0.255			
Model χ^2	9.412			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.060 Nagelkerke R^2.080

APPENDIX D. LOGISTIC REGRESSION MODEL OF TECHNICAL VIOLATION AND SAMPLE GROUP

Variable	B	*(B)*exp	S.E.	Wald
N	1105			
Age	-0.014	0.986	0.008	3.179
Race				
Black	-0.243	0.784	0.305	0.634
Native American	0.382*	1.465	0.166	5.260
Other	0.031	1.031	0.340	0.008
Marital Status				
Married	-0.772**	0.462	0.260	8.824
Divorced/Separated/Widowed	-0.518*	0.596	0.211	6.048
Education				
GED/High School Diploma	0.079	1.082	0.174	0.204
Some College	-0.104	0.901	0.209	0.247
Risk Level				
Moderate Risk/Needs	0.016	1.016	0.196	0.006
Moderate High Risk/Needs	0.195	1.215	0.199	0.963
High Risk/Needs	0.170	1.185	0.261	0.425
Oil County	0.119	1.126	0.166	0.512
County Size				
Urban Cluster	0.070	1.072	0.485	0.021
Urban	-0.007	0.993	0.479	0.000
Incarceration Offense				
Property	0.386*	1.471	0.187	4.253
Violent	0.264	1.302	0.266	0.981
Sexual	1.127***	3.087	0.266	17.963
Other	-0.045	0.956	0.168	0.070
2013 Offender Sample	0.137	1.147	0.138	0.983
Constant	-0.503			
Model χ^2	4.291			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.062 Nagelkerke R^2.086

APPENDIX E. LOGISTIC REGRESSION MODEL OF RE-INCARCERATION AND SAMPLE GROUP

Variable	B	*(B)*exp	S.E.	Wald
N	1105			
Age	-0.042***	0.959	0.010	17.962
Race				
Black	-0.285	0.752	0.337	0.714
Native American	0.271	1.312	0.183	2.207
Other	-0.322	0.725	0.387	0.691
Marital Status				
Married	-0.509	0.601	0.306	2.776
Divorced/Separated/Widowed	-0.050	0.951	0.241	0.044
Education				
GED/High School Diploma	-0.208	0.812	0.184	1.275
Some College	-0.586*	0.557	0.235	6.192
Risk Level				
Moderate Risk/Needs	0.244	1.276	0.235	1.069
Moderate High Risk/Needs	0.428	1.533	0.233	3.359
High Risk/Needs	0.486	1.627	0.290	2.821
Oil County	-0.229	0.796	0.194	1.383
County Size				
Urban Cluster	-0.267	0.766	0.542	0.242
Urban	-0.119	0.888	0.535	0.050
Incarceration Offense				
Property	0.306	1.358	0.208	2.162
Violent	0.149	1.160	0.298	0.249
Sexual	0.232	1.261	0.306	0.572
Other	-0.006	0.994	0.188	0.001
2013 Offender Sample	0.979***	2.661	0.155	40.104
Constant	-0.199			
Model χ^2	20.335			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.104 Nagelkerke R^2.153

APPENDIX F. LOGISTIC REGRESSION MODEL OF NEW CONVICTIONS FOR 2006 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	602			
Age	-0.0283*	0.972	0.011	6.057
Race				
Black	-0.092	0.912	0.402	0.052
Native American	0.191	1.210	0.227	0.704
Other	-0.116	0.890	0.452	0.066
Marital Status				
Married	-0.273	0.761	0.289	0.892
Divorced/Separated/Widowed	-0.207	0.813	0.263	0.621
Education				
GED/High School Diploma	0.128	1.137	0.267	0.230
Some College	-0.226	0.798	0.299	0.573
Risk Level				
Moderate Risk/Needs	0.203	1.225	0.237	0.734
Moderate High Risk/Needs	0.448	1.565	0.251	3.194
High Risk/Needs	0.416	1.515	0.376	1.219
Oil County	0.134	1.143	0.217	0.378
County Size				
Urban Cluster	0.422	1.525	0.706	0.358
Urban	0.792	2.209	0.700	1.283
Incarceration Offense				
Property	0.040	1.041	0.243	0.027
Violent	-0.263	0.769	0.367	0.514
Sexual	-0.424	0.654	0.393	1.167
Other	0.105	1.111	0.211	0.247
Constant	-0.209			
Model χ^2	10.312			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.057 Nagelkerke R^2.076

APPENDIX G. LOGISTIC REGRESSION MODEL OF NEW CONVICTIONS FOR 2013 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	503			
Age	-0.026*	0.974	0.011	5.926
Race				
Black	-0.123	0.884	0.392	0.099
Native American	0.173	1.189	0.238	0.529
Other	-0.820	0.441	0.488	2.819
Marital Status				
Married	0.025	1.026	0.363	0.005
Divorced/Separated/Widowed	0.142	1.153	0.290	0.240
Education				
GED/High School Diploma	0.665**	1.944	0.222	8.936
Some College	0.411	1.509	0.277	2.200
Risk Level				
Moderate Risk/Needs	0.331	1.392	0.296	1.249
Moderate High Risk/Needs	0.467	1.595	0.287	2.655
High Risk/Needs	0.730*	2.075	0.350	4.359
Oil County	-0.311	0.733	0.244	1.621
County Size				
Urban Cluster	0.121	1.128	0.667	0.033
Urban	0.063	1.065	0.658	0.009
Incarceration Offense				
Property	-0.260	0.771	0.279	0.869
Violent	0.001	1.001	0.371	0.000
Sexual	-0.324	0.723	0.383	0.714
Other	-0.021	0.979	0.237	0.008
Constant	0.270			
Model χ^2	6.689			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.069 Nagelkerke R^2.092

APPENDIX H. LOGISTIC REGRESSION MODEL OF TECHNICAL VIOLATIONS FOR 2006 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	602			
Age	0.010	1.010	0.012	0.657
Race				
Black	-0.168	0.846	0.435	0.149
Native American	0.435	1.544	0.234	3.454
Other	0.216	1.241	0.492	0.193
Marital Status				
Married	-0.692*	0.500	0.323	4.605
Divorced/Separated/Widowed	-0.869**	0.419	0.297	8.577
Education				
GED/High School Diploma	0.083	1.086	0.282	0.087
Some College	0.029	1.029	0.314	0.009
Risk Level				
Moderate Risk/Needs	0.055	1.057	0.252	0.048
Moderate High Risk/Needs	0.099	1.105	0.267	0.138
High Risk/Needs	0.015	1.015	0.402	0.001
Oil County	0.345	1.412	0.226	2.330
County Size				
Urban Cluster	0.195	1.215	0.702	0.077
Urban	0.324	1.383	0.695	0.218
Incarceration Offense				
Property	0.465	1.592	0.257	3.265
Violent	0.719*	2.052	0.367	3.837
Sexual	1.062**	2.893	0.380	7.819
Other	0.236	1.266	0.231	1.046
Constant	-1.653			
Model χ^2	9.114			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.054 Nagelkerke R^2.076

APPENDIX I. LOGISTIC REGRESSION MODEL OF TECHNICAL VIOLATIONS FOR 2013 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	503			
Age	-0.037**	0.964	0.012	9.721
Race				
Black	-0.285	0.752	0.439	0.421
Native American	0.324	1.383	0.249	1.699
Other	0.145	1.156	0.501	0.084
Marital Status				
Married	-1.095*	0.335	0.464	5.570
Divorced/Separated/Widowed	-0.125	0.883	0.323	0.150
Education				
GED/High School Diploma	0.086	1.089	0.234	0.134
Some College	-0.429	0.651	0.313	1.879
Risk Level				
Moderate Risk/Needs	-0.006	0.994	0.330	0.000
Moderate High Risk/Needs	0.405	1.499	0.314	1.663
High Risk/Needs	0.418	1.519	0.374	1.248
Oil County	-0.282	0.754	0.263	1.155
County Size				
Urban Cluster	0.111	1.117	0.754	0.022
Urban	-0.418	0.659	0.746	0.314
Incarceration Offense				
Property	0.378	1.459	0.289	1.714
Violent	-0.388	0.678	0.405	0.921
Sexual	1.051**	2.859	0.404	6.776
Other	-0.493	0.611	0.256	3.705
Constant	0.816			
Model χ^2	18.658			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.121 Nagelkerke R^2.165

APPENDIX J. LOGISTIC REGRESSION MODEL OF RE-INCARCERATION FOR 2006 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	602			
Age	-0.055**	0.947	0.018	8.994
Race				
Black	-0.203	0.817	0.579	0.122
Native American	0.231	1.260	0.289	0.641
Other	-0.023	0.977	0.606	0.001
Marital Status				
Married	-0.340	0.712	0.441	0.594
Divorced/Separated/Widowed	-0.129	0.879	0.395	0.107
Education				
GED/High School Diploma	0.291	1.338	0.370	0.621
Some College	0.314	1.370	0.412	0.583
Risk Level				
Moderate Risk/Needs	0.433	1.542	0.367	1.394
Moderate High Risk/Needs	0.620	1.860	0.375	2.741
High Risk/Needs	1.292**	3.642	0.478	7.318
Oil County	-0.105	0.900	0.305	0.119
County Size				
Urban Cluster	-1.341	0.262	0.745	3.243
Urban	-0.776	0.460	0.726	1.144
Incarceration Offense				
Property	0.558	1.748	0.312	3.207
Violent	0.460	1.584	0.473	0.946
Sexual	0.258	1.295	0.542	0.227
Other	0.395	1.485	0.297	1.771
Constant	-0.010			
Model χ^2	5.985			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.069 Nagelkerke R^2.116

APPENDIX K. LOGISTIC REGRESSION MODEL OF RE-INCARCERATION FOR 2013 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	503			
Age	-0.037**	0.964	0.012	9.806
Race				
Black	-0.210	0.811	0.427	0.242
Native American	0.337	1.401	0.243	1.922
Other	-0.563	0.570	0.523	1.158
Marital Status				
Married	-0.650	0.522	0.437	2.214
Divorced/Separated/Widowed	0.053	1.054	0.318	0.028
Education				
GED/High School Diploma	-0.312	0.732	0.227	1.891
Some College	-1.198***	0.302	0.326	13.499
Risk Level				
Moderate Risk/Needs	0.152	1.164	0.325	0.218
Moderate High Risk/Needs	0.335	1.398	0.311	1.163
High Risk/Needs	0.101	1.106	0.372	0.073
Oil County	-0.496	0.609	0.263	3.563
County Size				
Urban Cluster	0.650	1.915	0.772	0.708
Urban	0.473	1.605	0.764	0.384
Incarceration Offense				
Property	0.032	1.033	0.293	0.012
Violent	-0.159	0.853	0.394	0.163
Sexual	0.250	1.284	0.398	0.394
Other	-0.328	0.720	0.252	1.690
Constant	0.446			
Model χ^2	7.487			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.097 Nagelkerke R^2.133

APPENDIX L. LOGISTIC REGRESSION MODEL OF NEW CONVICTION AND EMPLOYMENT FOR 2006 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	602			
Age	-0.029*	0.971	0.012	6.518
Race				
Black	-0.101	0.904	0.402	0.064
Native American	0.179	1.196	0.228	0.618
Other	-0.163	0.850	0.454	0.129
Marital Status				
Married	-0.220	0.802	0.292	0.569
Divorced/Separated/Widowed	-0.185	0.831	0.264	0.491
Education				
GED/High School Diploma	0.170	1.185	0.270	0.395
Some College	-0.192	0.826	0.301	0.407
Risk Level				
Moderate Risk/Needs	0.181	1.199	0.238	0.582
Moderate High Risk/Needs	0.412	1.509	0.253	2.655
High Risk/Needs	0.351	1.421	0.380	0.854
Oil County	0.143	1.154	0.218	0.430
County Size				
Urban Cluster	0.427	1.532	0.708	0.363
Urban	0.813	2.254	0.703	1.339
Incarceration Offense				
Property	-0.010	0.990	0.246	0.002
Violent	-0.302	0.740	0.369	0.666
Sexual	-0.494	0.610	0.397	1.547
Other	0.084	1.088	0.212	0.157
Employed	-0.238	0.788	0.180	1.741
Constant	-0.052			
Model χ^2	13.819			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*$p \leq .05$ **$p \leq .01$ *** $p \leq .001$

Cox and Snell R^2.059 Nagelkerke R^2.087

APPENDIX M. LOGISTIC REGRESSION MODEL OF NEW CONVICTION AND EMPLOYMENT FOR 2013 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	503			
Age	-0.026*	0.974	0.011	5.932
Race				
Black	-0.120	0.887	0.393	0.094
Native American	0.177	1.193	0.239	0.546
Other	-0.812	0.444	0.490	2.746
Marital Status				
Married	0.022	1.022	0.364	0.004
Divorced/Separated/Widowed	0.140	1.151	0.290	0.234
Education				
GED/High School Diploma	0.664**	1.943	0.222	8.907
Some College	0.409	1.506	0.278	2.174
Risk Level				
Moderate Risk/Needs	0.332	1.394	0.296	1.258
Moderate High Risk/Needs	0.470	1.600	0.287	2.678
High Risk/Needs	0.737*	2.089	0.352	4.372
Oil County	-0.309	0.734	0.244	1.598
County Size				
Urban Cluster	0.114	1.121	0.669	0.029
Urban	0.056	1.057	0.660	0.007
Incarceration Offense				
Property	-0.259	0.772	0.279	0.857
Violent	-0.001	0.999	0.371	0.000
Sexual	-0.324	0.723	0.383	0.716
Other	-0.022	0.978	0.237	0.009
Employed	0.030	1.031	0.193	0.024
Constant	0.263			
Model χ^2	14.787			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.069 Nagelkerke R^2.092

APPENDIX N. LOGISTIC REGRESSION MODEL OF NEW CONVICTION AND LIVING SITUATION FOR 2006 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	602			
Age	-0.030**	0.970	0.012	6.740
Race				
Black	-0.070	0.932	0.403	0.031
Native American	0.176	1.193	0.228	0.598
Other	-0.136	0.873	0.455	0.089
Marital Status				
Married	-0.204	0.816	0.294	0.482
Divorced/Separated/Widowed	-0.197	0.821	0.264	0.557
Education				
GED/High School Diploma	0.138	1.147	0.270	0.260
Some College	-0.230	0.795	0.301	0.582
Risk Level				
Moderate Risk/Needs	0.171	1.187	0.238	0.517
Moderate High Risk/Needs	0.396	1.486	0.254	2.434
High Risk/Needs	0.350	1.419	0.381	0.845
Oil County	0.119	1.126	0.218	0.296
County Size				
Urban Cluster	0.402	1.495	0.709	0.322
Urban	0.786	2.196	0.702	1.254
Incarceration Offense				
Property	0.018	1.018	0.244	0.005
Violent	-0.303	0.738	0.372	0.666
Sexual	-0.498	0.608	0.397	1.573
Other	0.093	1.098	0.212	0.193
Living Situation				
Living w/Someone	-0.228	0.796	0.227	1.009
Correctional Facility	0.038	1.038	0.257	0.021
Constant	0.012			
Model χ^2	6.770			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.060 Nagelkerke R^2.080

APPENDIX O. LOGISTIC REGRESSION MODEL OF NEW CONVICTION AND LIVING SITUATION FOR 2013 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	503			
Age	-0.024*	0.977	0.011	4.771
Race				
Black	-0.150	0.861	0.396	0.143
Native American	0.145	1.155	0.240	0.364
Other	-0.851	0.427	0.490	3.017
Marital Status				
Married	-0.011	0.989	0.370	0.001
Divorced/Separated/Widowed	0.147	1.158	0.291	0.256
Education				
GED/High School Diploma	0.685**	1.984	0.224	9.357
Some College	0.430	1.538	0.278	2.396
Risk Level				
Moderate Risk/Needs	0.347	1.415	0.298	1.362
Moderate High Risk/Needs	0.468	1.596	0.288	2.644
High Risk/Needs	0.702*	2.019	0.355	3.917
Oil County	-0.312	0.732	0.245	1.631
County Size				
Urban Cluster	0.156	1.169	0.669	0.054
Urban	0.109	1.115	0.660	0.027
Incarceration Offense				
Property	-0.265	0.767	0.280	0.894
Violent	0.025	1.025	0.373	0.005
Sexual	-0.299	0.742	0.387	0.596
Other	-0.021	0.979	0.237	0.008
Living Situation				
Living w/Someone	0.240	1.271	0.288	0.693
Correctional Facility	0.326	1.386	0.290	1.264
Constant	-0.090			
Model χ^2	4.781			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug); Living Situation (Living Alone)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.071 Nagelkerke R^2.095

APPENDIX P. LOGISTIC REGRESSION MODEL OF NEW CONVICTION AND SUBSTANCE ABUSE FOR 2006 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	558			
Age	-0.032**	0.969	0.012	6.889
Race				
Black	-0.277	0.758	0.465	0.355
Native American	0.216	1.241	0.237	0.831
Other	-0.114	0.892	0.480	0.057
Marital Status				
Married	-0.336	0.715	0.304	1.218
Divorced/Separated/Widowed	-0.123	0.884	0.275	0.200
Education				
GED/High School Diploma	0.095	1.100	0.281	0.114
Some College	-0.276	0.759	0.311	0.786
Risk Level				
Moderate Risk/Needs	0.183	1.201	0.251	0.535
Moderate High Risk/Needs	0.349	1.418	0.267	1.702
High Risk/Needs	0.169	1.184	0.396	0.182
Oil County	0.170	1.185	0.226	0.564
County Size				
Urban Cluster	0.472	1.602	0.715	0.435
Urban	0.817	2.264	0.708	1.332
Incarceration Offense				
Property	0.008	1.008	0.254	0.001
Violent	-0.246	0.782	0.394	0.389
Sexual	-0.166	0.847	0.410	0.165
Other	0.123	1.131	0.223	0.304
Substance Abuser	0.525**	1.690	0.188	7.793
Constant	-0.291			
Model χ^2	7.362			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.078 Nagelkerke R^2.105

APPENDIX Q. LOGISTIC REGRESSION MODEL OF NEW CONVICTION AND SUBSTANCE ABUSE FOR 2013 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	503			
Age	-0.023*	0.977	0.011	4.534
Race				
Black	-0.024	0.977	0.402	0.003
Native American	0.157	1.170	0.240	0.426
Other	-0.905	0.405	0.496	3.321
Marital Status				
Married	0.096	1.101	0.368	0.069
Divorced/Separated/Widowed	0.064	1.066	0.295	0.047
Education				
GED/High School Diploma	0.680**	1.973	0.225	9.109
Some College	0.444	1.559	0.281	2.492
Risk Level				
Moderate Risk/Needs	0.241	1.272	0.301	0.641
Moderate High Risk/Needs	0.243	1.275	0.297	0.671
High Risk/Needs	0.399	1.490	0.365	1.195
Oil County	-0.324	0.723	0.247	1.716
County Size				
Urban Cluster	0.388	1.474	0.681	0.325
Urban	0.341	1.406	0.672	0.257
Incarceration Offense				
Property	-0.248	0.780	0.282	0.774
Violent	0.016	1.016	0.376	0.002
Sexual	-0.082	0.921	0.393	0.043
Other	0.047	1.048	0.241	0.039
Substance Abuser	0.720***	2.055	0.208	12.041
Constant	-0.416			
Model χ^2	3.703			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.091 Nagelkerke R^2.122

APPENDIX R. LOGISTIC REGRESSION MODEL OF NEW CONVICTION AND PRISON PROGRAMMING FOR 2006 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	602			
Age	-0.028*	0.973	0.012	5.651
Race				
Black	-0.162	0.851	0.404	0.160
Native American	0.187	1.206	0.228	0.675
Other	-0.072	0.931	0.455	0.025
Marital Status				
Married	-0.249	0.779	0.290	0.740
Divorced/Separated/Widowed	-0.240	0.786	0.264	0.829
Education				
GED/High School Diploma	0.136	1.145	0.268	0.256
Some College	-0.188	0.829	0.300	0.391
Risk Level				
Moderate Risk/Needs	0.178	1.195	0.238	0.561
Moderate High Risk/Needs	0.431	1.539	0.252	2.926
High Risk/Needs	0.375	1.456	0.379	0.984
Oil County	0.125	1.133	0.218	0.327
County Size				
Urban Cluster	0.420	1.522	0.709	0.350
Urban	0.798	2.221	0.703	1.289
Incarceration Offense				
Property	0.025	1.025	0.245	0.010
Violent	-0.371	0.690	0.370	1.005
Sexual	-0.414	0.661	0.394	1.103
Other	0.051	1.052	0.213	0.056
Participation in Programs	0.401*	1.493	0.174	5.306
Constant	-0.389			
Model χ^2	10.113			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.065 Nagelkerke R^2.087

APPENDIX S. LOGISTIC REGRESSION MODEL OF NEW CONVICTION AND PRISON PROGRAMMING FOR 2013 OFFENDERS

Variable	B	*(B)*exp	S.E.	Wald
N	503			
Age	-0.025*	0.975	0.011	5.568
Race				
Black	-0.153	0.858	0.393	0.151
Native American	0.168	1.183	0.238	0.499
Other	-0.823	0.439	0.489	2.831
Marital Status				
Married	0.056	1.057	0.364	0.023
Divorced/Separated/Widowed	0.164	1.179	0.291	0.320
Education				
GED/High School Diploma	0.657**	1.928	0.223	8.674
Some College	0.428	1.534	0.278	2.366
Risk Level				
Moderate Risk/Needs	0.289	1.335	0.298	0.944
Moderate High Risk/Needs	0.389	1.476	0.291	1.788
High Risk/Needs	0.575	1.777	0.364	2.500
Oil County	-0.333	0.717	0.245	1.849
County Size				
Urban Cluster	0.203	1.225	0.670	0.092
Urban	0.159	1.172	0.661	0.058
Incarceration Offense				
Property	-0.279	0.757	0.280	0.989
Violent	-0.067	0.935	0.375	0.032
Sexual	-0.275	0.760	0.385	0.510
Other	-0.048	0.953	0.238	0.041
Participation in Programs	0.312	1.367	0.201	2.404
Constant	0.096			
Model χ^2	11.575			

Reference variables: Race (White); Marital Status (Single); Education: (Less than GED); Risk Level (Low/Low-Moderate Risk/Needs); County Size (Rural); Incarceration Offense (Drug)

*p ≤ .05 **p ≤ .01 *** p ≤ .001

Cox and Snell R^2.073 Nagelkerke R^2.098