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# THE IMPACT OF EMPLOYMENT ON PROBATIONER RECIDIVISM

Clayton T. Cottle

78 Pages

There is increasing need to understand and improve rates of recidivism in all fields associated with the Criminal Justice system. This research investigated the influence that employment status and job stability have on probationer recidivism. For this project, recidivism is defined as any arrest within four years after the termination of probation. Results from this study indicate that obtaining and sustaining employment can reduce the likelihood of recidivism in probationers. Additionally, the findings suggest that job stability is indicative of increased desistance. Findings from this study lend support to the notion that there is an employment-crime relationship. The findings of this analysis have important implications for local probation practices.

KEYWORDS: Probation, Recidivism, Employment, Job Stability

THE IMPACT OF EMPLOYMENT ON PROBATIONER RECIDIVISM

CLAYTON T. COTTLE

A Thesis Submitted in Partial  
Fulfillment of the Requirements  
for the Degree of

MASTER OF SCIENCE

Department of Criminal Justice Sciences

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2017

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# THE IMPACT OF EMPLOYMENT ON PROBATIONER RECIDIVISM

CLAYTON T. COTTLE

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C. T. C.

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## CHAPTER I: INTRODUCTION

### **Statement of the Problem**

Community supervision accounts for a large majority of our nation's correctional population where about one in every 36 adults are under some form of community supervision (Kaeble, Glaze, Tsoutis, & Minton, 2015). According to the most recent figures obtained and reported by the Bureau of Justice Statistics (BJS) there were a total of approximately 6,851,000 persons under supervision in the entire adult correctional system. Of those nearly seven million adults, 4,708,100 were under community supervision; further, 3,864,100 were under the adult probation population (Kaeble et al., 2015). These figures illustrate the sheer size of the probation population, which accounts for roughly 56% of the entire correctional population and 82% of the community correction population.

Probation refers to court ordered supervision in the community through a probation agency, generally in lieu of incarceration (BJS, 2015). This type of sanction fills a unique gap in correctional services, as it provides a “means of balancing the need for rehabilitation and reintegration with the requirement to administer court orders and offer a level of public protection and reassurance” (Senior, Ward, Burk, Knight, Teague et al., 2016, p. 24). A benefit of probation is that offenders are able to be supervised and advised while remaining within the community. Supervision plays a dual role in this form of community corrections. On one hand it eases the public's concerns to the potential threat of having a criminal remain in the community as well as allowing the probation officer to impose sanctions for any misbehavior by a probationer while on their probation sentence. In terms of structure, all probation departments are “organizationally linked to the court at the state or county levels” and implementation of different programs and practices are decided at the local level (Zajac, Lattimore, Dawes &

Winger, 2016, p. 89). This means that although the overall goals of probation may be similar nationally, the conditions, programs used, and services offered may vary greatly from department to department.

One common goal of probation is to reduce recidivism. According to the National Institute of Justice (2014) “recidivism is one of the most fundamental concepts in criminal justice. It refers to a person’s relapse into criminal behavior, often after the person receives sanction or undergoes intervention for a previous crime” (Recidivism, para. 1). Prior research in the criminal justice field has examined rates of recidivism to evaluate the effectiveness of community corrections (Cochran, Mears, & Bales, 2014; Engel, Hennig-Schmidt, Irlenbusch, & Kube, 2015; Lockwood, Nally, & Ho, 2016; Nally, Lockwood, Ho, & Knutson, 2012).

Monitoring rates of recidivism is important because it is a means to evaluate performance and identify areas of improvement. An additional focus in criminal justice literature is devoted to identifying risk factors that lead to recidivism. Reducing risk factors in offenders’ correlates to a reduced likelihood of reoffending.

Employment represents one such risk factor that may play an integral role in reducing recidivism within the correctional population. Employment is an important element in getting a probationer independent financially, increasing contact with pro-social peers (Warr, 1988), and promoting conformity through the informal social controls of the workplace (Sampson & Laub, 1993). An array of criminological and economic theories suggest that employment is capable of influencing offending.

Economic choice theory suggests that when the returns from illegal opportunities surpass the returns of legal opportunities, accounting for the risk of punishment, then those who are unemployed may find the illegal opportunities to be a more attractive option (Chamlin &

Cochran, 2000). Strain theory holds that the strains of unemployment may cause individuals to turn to crime to both achieve success and release their frustrations. Social control theory assumes that the more time one spends at work the less time they have to commit crime and the more likely they will be to adopt pro-social values. Life course theory suggests that employment, more importantly 'job stability', are imperative variables relating to the reduction of recidivism (Sampson & Laub, 2005). There is a substantial number of theoretical implications that suggest employment is related to recidivism. Much of the criminological attention has been given to how individuals can be prevented from criminality but little focus has been devoted to how individuals can "escape from the risk process" (Rutter, 1988, p. 3). This research will further investigate how criminals may be able to escape criminality through employment. Many studies have been conducted that have evaluated the impact of employment on community corrections success (Bushway & Reuter, 1997; Laub & Sampson, 2003; McMillin, 2007; Nielsen, 1999; Tripodi, Kim, & Bender, 2010; Uggen & Staff, 2001). There is some debate within the academic community pertaining to employment's relation to desistance (the cessation of committing crime). There have been studies that have found no correlation between employment and desistance (McMillin, 2007; Nielsen, 1999; Tripodi et al., 2010) but overall most researchers believe that employment is one of the strongest tools of successful offender reintegration and promotes desistance (Bushway & Reuter, 1997; Laub & Sampson, 2003; Uggen & Staff, 2001; Uggen, Wakefield, & Western, 2005). Other authors have found that employment increased the amount of time that an offender remained in the community before recidivating (Tripodi et al., 2010).

## Purpose of Study

The vast majority of studies conducted evaluating the impact of employment on recidivism are focused solely on the parole population (Tripodi et al., 2010; Lockwood, et al., 2016; Berg & Huebner, 2011). The parole population may receive more attention due to the higher risk they pose to the community. However, probation is equally important considering the probation population has nearly three million more members than the parole population. Although there have been studies conducted evaluating the impact of employment on the parole population, and these results are somewhat translatable to probation, there is still a large gap in the literature evaluating the direct impact of employment on the probation population.

In an attempt to bridge this gap, this research will evaluate the impact of employment on probationers. Specifically, the following research questions seek to examine the influence employment has on post-probation recidivism.

- 1) Does employment status at termination predict future offending?
- 2) Does the number of employment status changes (i.e., job stability) while on probation predict future re-offending?
- 3) Does the employment status at termination or job stability influence the time it takes to recidivate?
- 4) Is the employment status at termination or job stability related to recidivism offense type?

Answering these questions will allow this study to further assess the influence of employment as a risk factor that can enhance success and deter criminality.

## **Description of Study**

To answer the research questions, the researcher requested data from the Piatt County probation department. Piatt County is a small, rural, and predominantly Caucasian county in Illinois. The data consisted of all terminated probation cases from the years 2007 – 2011, and only included that of the adult probation population. There were four key measures or variables analyzed: 1) recidivism, 2) employment statuses captured throughout probation period, 3) job stability (capturing the number of changes in employment), and 4) relevant control variables. The combination of these key variables, with the addition of control variables to rule out spuriousness, allowed the researcher to conduct both bivariate and multivariate statistical analysis.

## **Importance of Study**

The goal of this research is to better understand the impact that both employment and job stability have on probationer recidivism. As most states, and our nation as a whole, are facing budget deficits, forcing increasing pressures to cut spending, we are faced with the problem of determining how we can improve our criminal justice system based on evidence based practices and scientifically-grounded research. Considering how probation accounts for such a large portion of all the correctional population it is then imperative that recidivism in probation be addressed with extreme diligence and care. Any increase or decrease in probationer recidivism can impact the correctional population tremendously. A second goal is for the findings of this research to provide the sample county with valuable information on how to improve their probation practices.

## CHAPTER II: LITERATURE REVIEW

### Overview

The following chapter contains an extensive review of the existing literature that discusses the influence of employment in community corrections. The beginning of the literature review will discuss the origin, goals, philosophies, and the current state of probation. The importance of recidivism as a variable of measurement in criminal justice literature proceeds. The conversation will then shift towards discussing the increased use of evidence based programming in criminal justice. The risk-needs-responsivity (RNR) model is one example of an evidence-based program. Risks are discussed under the RNR model. Extending off of the risks outlined in the RNR model the writing will begin to focus in on one risk: employment. This section will include an extensive review of literature relating to employment's influence on recidivism, time to recidivism, recidivism offense type as well as, job stability and recidivism. The literature review will conclude by discussing limitations of prior research and the outline of the current study.

### Probation

The Bureau of Justice Statistics (2015) defines probation as relating to “adult offenders whom courts place on supervision in the community through a probation agency, generally in lieu of incarceration” (para 1.). Beyond the definition of the term, the overall goal for the probationer is to comply with their probationary conditions and in return they will be released from further involvement in the criminal justice system. Probation is typically reserved for low-level, first time offenders however, there are some instances in which a repeat offender or some serious offenders may be placed on probation.



There are both state probation departments and federal probation departments. Each department operates with many similarities, the main difference is simply the state probation department manages clients tried in state level courts and the federal probation department manages clients tried in federal level courts. State probation departments operate at the county level and are often a function of the executive branch. Federal probation operates out of federal judicial districts and function under the judicial branch. With respect to state probation operations, conditions of probation vary from department to department, display little uniformity, and are often not publically accessible, which makes a discussion of probation conditions from a national perspective nearly impossible (Doherty, 2016).

For example, in Illinois the court will issue an order of a probation period for no less than two years (720 ILCS§ 570/410). The judge and the probation department will then lay out the guidelines of the community sentence. These guidelines will ensure the probationer does not violate any criminal statutes, refrain from possessing a firearm, periodically and randomly submit to drug testing, and perform a certain amount of community service hours (720 ILCS§ 570/410). On top of those conditions of the probations sentence the judge can add conditions to the sentence such as: paying restitution, acquiring employment, pursuing training or education, allow searches of the home, person, or possessions, remain in the state without permission from the court, or any other recommendation that the court believes would promote offender rehabilitation (720 ILCS§ 570/410). The judge possesses a wide range of discretion in terms of what additional conditions can be added to the sentence.

The overall goal is for the probationer to complete their probation sentence and fulfill each of their established conditions. In the case of a violation of a term or condition of the probation sentence the “court may enter a judgment on its original finding of guilt and proceed as

otherwise provided by law” (720 ILCS§ 570/410). In the event that the probationer successfully completes their probation sentence, which is meeting all terms and conditions that were initially laid out in their sentence, then “the court shall discharge the person and dismiss the proceedings against the person” (720 ILCS§ 570/410).

### **Philosophy and Origin of Probation**

The term probation is derived from the Latin ‘probatum’ which meant a period of proving or trial and forgiveness. Although there were already instances in the early 1800s that showed judges were suspending periods of incarceration for offenders, John Augustus is most often credited for being the ‘father’ of probation. In 1841, Augustus convinced a judge to release alcoholics into his custody with the promise that they would return reformed and rehabilitated to their next hearing. Augustus did return the man to his next hearing both reformed and rehabilitated demonstrating that he may be capable of deterring individuals away from traditional incarceration through a community-like program. To the surprise of most, Augustus was able to prevent nearly 2,000 individuals from being incarcerated through his own form of what is now known as probation. One of the more important contributions of Augustus was his idea and belief of rehabilitation being the key focus in his conceptualization of probation. To this day, rehabilitation is one of the imperative philosophical aims of probation (Champion, 2002).

### **Probation Today**

While rehabilitation was the original focus of probation, another focus of probation today is offender control. Offender control has become a large focus due to the fear of the general public that there is some eminent threat imposed through sentences served within the community. Following the “get tough” era in criminal justice and Martinson’s (1974) “nothing works”, probation and all areas of criminal justice experienced a trend where offender

rehabilitation took a back seat to law enforcement (Hsieh, Hafoka, Woo, van Wormer, Stohr, Hemmerns, 2015). The probation officer role has now evolved into combining rehabilitation and law enforcement to address the need of treatment and control (Taxman, 2008). This dual focus of both rehabilitation and law enforcement is the accepted goal of today's probation officers (Lutze, 2013; Miller, 2015). Like all other agencies in the public arena, probation departments have begun to adopt evidence-based practices to best serve their probation clients.

### **Recidivism & Evidence Based Programming**

Recidivism is possibly one of the most used variables of analysis in criminal justice literature. Recidivism is an "important feature" in criminal justice research and many studies use recidivism as a measurement to analyze probation and parole policy (National Institute of Justice, 2008a). Data on recidivism provides the means for researchers to be able to test the quality of programs as well as inform the community on the effectiveness of interventions. As a result, a recent trend in the field of corrections has been to adopt evidence-based practices.

The premise of the adoption of evidence-based practices is twofold. First, these practices should be more likely to promote successful program completion, as they have been scientifically tested ensuring reliability and validity. Second, adopting practices that increase the effectiveness and success of programs should reduce the aggregate spending in corrections through recidivism reduction. In other words, if evidence-based programs can reduce the number of new offenses committed, the societal cost of crime and corrections should be reduced. There are challenges to adopting these evidence based practices, mostly the opposition derives from the current culture of corrections and the lack of empirical support from early academic research in this area.

The current culture of corrections, as briefly discussed earlier, is focused much more on enforcement than on rehabilitation. The focus on enforcement as the means to manage crime relies on the assumption that incarceration and penalties will somehow change the offender and reduce their criminality (Baron, 2013). However, increased sanctions and penalties do nothing to address the criminality component of the offender. In order to truly address the variables associated with criminality and reduce re-offense rates, the correctional system may benefit from adopting a much more rehabilitative approach (Lipsey & Cullen, 2007). Although there has been a growing urge to increase the use of rehabilitative programs, there has been reluctance for financial support to fund these programs (American Bar Association, 2008).

Additionally, academics have been debating for years whether the effects of rehabilitative programs are worth the investment (Martinson, 1974; Palmer, 1992). Opponents of rehabilitative programs argue that such programs have lacked consistent empirical support demonstrating an ability to improve offender outcomes (Martinson, 1974; Illescas, Sanchez-Meca, & Genoves, 2001). Martinson's (1974) review of evaluation studies reinforced the notion that rehabilitation was ineffective, reporting that recidivism was reduced by very few treatment programs.

Despite these challenges, scholars have suggested that the small effects of correctional programming can be bolstered through increasing the quality of programs that are used (Lowenkamp, Latessa, & Smith, 2006). To address the need to increase program quality, policy developers have begun to promote evidence-based practices, specifically programs that can increase the efficiency of current resources and reduce the use of resources where they are not needed. One major advancement in evidence-based practices is the assessment of offender's risk and needs to establish successful treatment.

## **Risk-Need-Responsivity (RNR)**

Andrews and Bonta (2007), focusing on individual level factors of criminality, established three principles that should be adhered to in order to reduce recidivism: risk, needs, and responsivity. This has come to be known as the RNR model. The RNR model combines classifying offenders based on risks and needs with effectively administering correctional rehabilitative programs. The concept of service matching, based on the principles of RNR, is considered best practice in corrections (Taxman & Marlowe, 2006). These tools are capable of both predicting recidivism and indicating which criminogenic factors should be addressed through the correctional intervention. A reduction in criminogenic risk factors equates to a reduction in the chance of an offender re-offending. And the opposite is true, too, an increase in criminogenic risk factors leads to an increased risk of re-offending.

The purpose of the RNR model is twofold: identify risks that can predict offending (static vs. dynamic) and provide the best method for correction. The risk principle determines who should be treated, the need principle determines what should be treated, and the responsivity principle determines how to treat the offender. The responsivity principle holds that individuals' strengths and socio-biological-personality factors should be considered before placement in treatment. In other words, in order to increase the efficiency of the prescribed program the ability of the offender to respond to that type of treatment should be factored in.

A major focus of the RNR model is to identify risks that can predict offending. Andrews and Bonta (2006) laid out the key risks that are most relevant to recidivism. These eight intervention areas are referred to as the "Central Eight" and include: "(1) history of antisocial behavior, (2) antisocial personality pattern, (3) antisocial cognition, (4) antisocial associates, (5)

family and/or marital, (6) school and/or work, (7) leisure and/or recreation, and (8) substance abuse” (Andrews & Bonta, 2006, p. 11).

These risks are comprised of what are referred to as static and dynamic risks. Static risks are risks that cannot be changed or manipulated, the most important being a person's criminal history. The rationale for including a static risk is that criminal history has consistently been proven to be a strong indicator of future offending (National Research Council, 2007). However, it is important to remember that this is a static risk and not a risk that criminal justice programs can attempt to change.

The remaining seven intervention areas are considered dynamic risks. Dynamic risks, addressed in the needs principle, are risks that are amenable to change and can be targeted through correctional programming; such as employment, substance abuse, and criminal thinking. The dynamic risks that Andrews and Bonta (2006) listed as the most influential intervention areas include antisocial personality pattern, antisocial cognition, antisocial association, family and/or marital, school and/or work, leisure and/or recreation, and substance abuse.

Anti-social personality pattern is one’s likelihood to be characterized as being impulsive, having low self-control, demonstrating aggression/irritability, and having adventurous pleasure seeking tendencies (Bonta & Andrews, 2006). Antisocial cognition is a pro-criminal thinking pattern where individuals use their negative attitudes towards the law as a rationalization for their crime (Bonta & Andrews, 2006) and mistake their wants for needs, failing to consider the consequences (Taxman & Pattavina, 2013). Antisocial associates are essentially social supports for crime (Bonta & Andrews, 2006). Increased association with antisocial associates has shown to increase the chance of offending (Haynie, 2003; Wright & Cullen, 2004; Yahner & Visser, 2008).

Another intervention area is family and/or marital relationships. This is somewhat of an extension from antisocial associates however, criminality is reduced when surrounded by families with strong social pro-social ties (Cobbina, Huebner, & Berg, 2012; Laub & Sampson, 2003; Berg & Huebner, 2011) and ineffective parental monitoring and discipline will increase criminality (Bonta & Andrews, 2006). The next intervention area is leisure and/or recreation. This area of intervention holds that offenders should be encouraged to participate in prosocial recreational activities (Bonta & Andrews, 2006) as offenders may be at a higher risk of recidivism if they display low levels of involvement or are unsatisfied with prosocial leisure and recreational activities (Andrews et al., 2006)

Substance abuse represents another intervention area. The focus here is on those with a dependency disorder not just a substance user. This risk can be neutralized through reduction of use, providing alternative to the substances, and different forms of therapy (Bonta & Andrews, 2006). The final risk factor is school and/or work. Offenders are less likely to have graduated with their GED than the rest of the general population (Greenberg, Dunleavy, Lutner, & White, 2007) which increases the chances that an offender's employability is weaker than those with an education. Research has shown that criminal offenders have lower steady employment (Petersilia, 2005). Studies have also shown that post-release employment increases offender success (Berg & Huebner, 2011; Redcross, Millenky, Rudd, & Levshin, 2011). While these studies highlight work as a risk factors, the results are not considered definitive. For example, Taxman and Pattavina (2013) urge future research to attempt to clarify employments recidivism reduction potential and to clarify the mechanisms in which employment can affect recidivism.

## Employment and Recidivism

Employment is a non-criminogenic risk factor that has been a focus of recidivism reduction for quite some time. The remainder of this chapter will solely focus on reviewing the existing literature examining the influence of employment on recidivism. To begin one must turn to theory to first acquire an understanding of how employment might influence recidivism. There are a number of economic and criminological theories that suggest employment can be responsible for reduced offending or lack of employment can be responsible for increased offending. Although these theories all suggest that there is a link between employment and crime, the reasoning for this relationship differs amongst them. The primary theories relevant for employment and offending are strain theory, economic choice theory, social control theory, and life course theory.

Strain theory proposes that if an individual cannot obtain success in the legitimate labor market they will “innovate” ways to achieve success, often through crime. (Merton, 1938). If legitimate avenues to achieve success (e.g., being wealthy) are blocked, then the individual will experience anger, frustration, desperation, or other negative feelings (Agnew, 1992). This theory then suggests that those who are experiencing the strains of unemployment may turn to crime to both achieve success and release frustrations stemming from the inability to achieve success.

Economic choice theory is rooted in the belief that individuals will choose to commit crime based on the cost and benefits of crime. In other words, if the expected returns of legitimate income are underscored by the expected returns of crime, taking into account the risk of punishment, then one is more likely to choose crime. This theory is driven by a utility model that assumes people base their decisions off of self interest or incentives and make decisions that will maximize their utility (Becker, 1968). In this theory those who are unemployed may find



illegal income opportunities to be a more attractive option than legitimate opportunities when benefits from the illegal opportunities outweigh the risks of punishment for such opportunities (Chamlin & Cochran, 2000).

Social control theory suggests that a strong attachment to an institution (i.e. work or employment) will result in informal social control that can reduce an individual's criminal propensity (Hirschi, 1969). This theory assumes that those who spend their time at work have a reduced amount of time that they could be committing crime (Hirschi, 1969). Extending the notion of this theory, Sampson and Laub (2003) propose that the influence of employment or work will also alter how an individual spends their time outside of work. This suggests that the pro-social benefits of work will increase the number of pro-social and law-abiding decisions outside of one's employment in turn decreasing one's likelihood of reoffending.

An extension of the social control theory, Life course theory, too, suggests that employment can influence offending. This is an age-graded theory of informal social control that looks at individual differences and the development of social bonds from childhood to adulthood in order to explain criminality. Sampson and Laub (1993) explain the evolution of criminality across the life course using two main concepts: trajectories and transitions.

Trajectories, also referred to as pathways, are the long-term developmental patterns of behavior throughout one's life. Trajectories could include marriage, parenthood, criminal behavior, or work life (Cullen, Wright, & Blevins, 2011). Transitions are short-term events that occur within the trajectories. Transitions could include obtaining a new occupation, becoming a parent, getting married, or a prison sentence (Elder, 1985). These transitions are capable of leading to "turning points" (Elder, 1985), which are capable of changing the trajectory of an individual's life course. Sampson and Laub (1993) propose that quality social relationships, marriage, joining

the military, and employment are the primary turning points. These turning points can then be used as indicators of future offending.

The life course theory acknowledges that there is a relationship between employment and desistance but the focus is not just on whether an individual is employed, but also on job stability (Sampson & Laub, 1993). Job stability can be defined as the number of employment changes one experiences over a period of time. Along with marital attachment, Sampson and Laub (2005) state that job stability is significantly and negatively related to offending. Job stability provides a sense of stronger ties to work and pro-social ways. Using historical longitudinal data that was originally collected by Glueck and Glueck (1950, 1968), Sampson and Laub were able to analyze job stability between 500 delinquents and 500 non-delinquents. This research found that job stability was significantly related to changes in adult offending (Sampson and Laub, 1993).

Collectively, all of the theoretical explanations indicate that employment is related to crime. Strain, economic choice, and social control theory all suggest that those who are unemployed are more likely to offend while those who are employed are less likely to offend. These theories rely heavily on the influence of a person's employment status as the determining factor that either leads to or limits offending. Extending from these theories, the Life course theory suggests that job stability is imperative to reduce the likelihood of reoffending. These theoretical assertions have driven researchers to critically examine the relationship between employment and recidivism. Research has focused on one of the following areas: employment status and recidivism, employment and time to recidivism, employment and recidivism offense types, and job stability and recidivism. The remainder of the literature review will discuss empirical findings in relation to employments influence on recidivism as well as discuss some of the common methodological issues past studies have encountered.

## Employment Status & Recidivism

The simplest and most common method of analyzing employment's influence on recidivism is to use the employment status of the offender upon release from supervision. In doing so, researchers have found that employment may have effects even after offenders are released from correctional supervision programs such as parole or probation. Horney, Osgood, and Marhsall (1995) conducted interviews on a sample of 658 newly convicted offenders between 1989 and 1999. They found that upon release from supervision, probation or parole, the offender's odds of offending doubled. However, if a life circumstance was altered such as loss of employment, loss of a marriage, or drug use the odds of offending quadrupled. This indicates that employment may be able to sustain some of the supervision like effects of correctional programming.

Even outside of correctional supervision, studies have also shown that post-release employment may be a predictor of recidivism. In a five-year follow up study (2005-2009) of 6,651 offenders released from the Indiana Department of Corrections, employment was a strong indicator of desistance (Lockwood, Nally, Ho, & Knutson, 2012). Specifically, those who were unemployed were 1.5 times more likely to recidivate compared to those who were employed. Results of this study indicated that post-release employment was the most significant variable in relation to recidivism (Lockwood et al., 2012). In a subsequent study using a sub-sample (n=3,869) of their original population from 2012 to explicitly examine the effects of post-release employment on recidivism Lockwood, Nally, and Ho (2016) demonstrated once more that offenders were less likely to recidivate if they were employed for an extended period and if they had higher wages. Similar results from a study of boot-camp graduates lend support to the argument that full time employment is associated with reduced recidivism (Benda et al., 2005)

## **Employment Status & Time to Recidivism**

The value of employment for offenders released from correctional institutions has shown to be important. Policy analysts have report that correctional agencies can increase their parole release planning procedures by adjusting such procedures to adhere to the importance employment plays in the role of desistance and reintegration into society (La Vigne, Davies, Palmer, & Halberstadt, 2008). In an effort to explore the influence of social ties and employment on recidivism, Berg and Huebner (2011) examined 401 males who were paroled in 2000 and collected data on them until the year 2004. They found that the parolees who were employed during the four years of analysis were less likely to be arrested than parolees who were unemployed. The results of the study suggest that post-release employment was significantly related to a reduction in recidivism as well as prolonging any instances of recidivism. In other words, those who were employed while on parole were both less likely to fail and if they did fail, they did not fail as quickly as those who were unemployed.

However, not all studies have been able to find a direct relationship between employment and recidivism. When analyzing a random sample of 250 male parolees who were released between 2001 and 2005, Tripodi, Kim, and Bender (2010) found that obtaining employment did not decrease the likelihood of recidivism. However, lending support to the relationship between unemployment and crime, the same study reported that although there was no direct relationship between recidivism and employment there was a significant relationship between employment and increased time to incarceration (Tripodi, Kim, & Bender, 2010). These results indicate that employment is capable of prolonging recidivism.

## **Employment Status & Recidivism Offense Type**

An additional body of literature has been dedicated to investigating recidivism across different offense types. Kleck and Jackson (2016) focus on serious property crime offending comparing a national sample of convicted inmates to a general sample of the U.S. adult population and employ five different labor force statuses: unemployed, underemployed, out of the labor force for widely socially accepted reasons (i.e. retired or student), out of the labor force for reasons not widely accepted, and fully employed. The results indicated that being out of the labor force for reasons not widely accepted as legitimate is both significantly and positively related to serious property crime offending. The findings suggest that the likelihood to commit serious property crimes is not statistically different between those who are employed and those who are unemployed. However, burglars and robbers were five times more likely to be unemployed than non-offenders.

There seems to be a substantial difference in the rates of recidivism based on an offender's initial offense type. These variations are illustrated in reentry studies that have shown the recidivism rate of violent offenders to be 61.7 percent, 73.8 percent for property offenders, 66.7 percent for drug offenders, and 62.2 percent for public-order offenders (Hughes & Wilson, 2004; Langan & Levin, 2002; Nally et al., 2012). Demonstrating employment's influence on recidivism across different offense types, Horney et al. (1995) found that upon release from correctional supervision programs offenders were less likely to commit property offenses during the months in which they were employed. Further research focusing on offense type and recidivism may provide community corrections practitioners reason to employ more supervision to certain types of offenders, potentially decreasing their rates of recidivism.

## **Job Stability & Recidivism**

The relationship between employment and crime may be better understood through examining job stability. Although, in some instances, looking at employment status has been able to show the employment can reduce recidivism, job stability still remains a big challenge for ex-offenders (Farrington, Gallagher, Morley, St. Ledger, & West, 1986). Job stability was the focus of Sampson and Laub's (1993) original assertion in which they stressed that in order to achieve a reduction in crime and an increase in social control an offender must not only be employed but experience stability in his/her employment. Sampson and Laub (1993) were able to demonstrate with their sample of 500 delinquents and 500 non-delinquents that job stability was a key indicator in reduced offending. Research that has went beyond the dichotomous level of measurement for employment by incorporating measures that distinguish between types of employment or assess job quality have found that those who are employed full-time and have high quality jobs are less likely to recidivate (Bahr, Harris, Fisher, & Armstrong, 2010; Benda et al., 2005; Tripp, 2007; Wright & Cullen, 2004). These findings suggest individual's level of commitment to work may help further predict desistance. Although job stability may be an imperative piece in understanding employment's influence on recidivism, the available literature focusing on job stability and recidivism is scarce.

### **Studies Demonstrating No Relationship Between Employment & Recidivism**

It seems that the large-scale analyses of employment's influence on recidivism tend to be conducted on employment focused reentry programs. Some of these employment-focused reentry programs have not been found to successfully reduce recidivism. A randomized study of a Southern California employment program was conducted analyzing the differences between employment and recidivism in the control and experiment group. The analysis was unable to

find any significant differences between the two groups on either variable indicating that the employment-focused reentry program had no effect on offender recidivism (Farabee, Zhang, & Wright, 2014).

Another recent study found similar results when evaluating the effectiveness of the Center for Employment Opportunities (CEO) Transitional Jobs Program (Redcross, Millenky, Rudd, & Levshin, 2012). The study found promising recidivism results after the one year follow up but, after a three year period the between group differences were scarce. After a cost-benefit analysis Redcross et al. (2012) urged these types of programs to be more rigorously examined given that the CEO program benefits outweighed the cost 2 to 1. The issue with the results of these studies is that there is often contamination between the control and treatment group, as the control group will often receive similar services as the treatment group elsewhere (Chalfin & McCrary, 2015). Also, Chalfin and McCrary (2015) warn that these randomized experiments are often offered to high-risk populations (such as released prisoners) and that these populations may not be responsive to positive incentives.

### **Limitations**

Prior research has looked at the influence of employment on released offenders, employment for offenders on parole, employments influence on the time to recidivism, job stability and recidivism, employment and offense type, and the influence of prison work programs. The findings of these studies have been inconsistent, possibly due to the dichotomous measures of employment, analyzing only one component of recidivism, and the conceptualizations of unemployment.

Although there was an abundance of research that examined recidivism and employment, the majority of this research was focused mainly on the parole population. Although this

population is the higher risk population for community corrections, the lack of attention given to probation has created an enormous gap in correctional literature – especially considering the fact that probation is the largest correctional population. The issue with the focus on the parole population is that the effect of employment on recidivism may differ across the parole and probation populations. This may be the case because individuals on parole have been incarcerated and have both lost their employment already and are returning to society with the felon label. These two distinctions may predispose the parole population to experience a different, and most likely more difficult, process of obtaining and maintaining employment. The failure to study these two populations separately may be failing to find accurate employment-recidivism results.

Studies that have failed to find employment to be significantly and negatively related to recidivism may be because mainly they focus on employment status instead of incorporating additional mechanisms to explore the true influence of employment (Kleck & Jackson, 2016). A good amount of studies that have failed to find a relationship between employment and crime were using a dichotomous measure of employment – simply whether or not the individual had a job (Devers, 2011). Kleck and Jackson (2016) believe that past studies using individual level research have failed to uncover true results because they do not incorporate multiple measures of employment. Although Sampson and Laub (1993) stress that job stability is the key to reduced offending, the available literature shows a lack of focus on job stability and what seems to be a preference to study only employment status at one instance. The reason for the lack of focus on job stability may be caused by the lack of available longitudinal data to sufficiently capture multiple employment statuses (or developmental phases – from the life course perspective),



which would provide researchers with the ability to capture the turning points and transitions of the study population (Jennings, Zgoba, Piquero, & Reingle, 2013)

### **Current Study**

It is important to look at employment as a risk factor of recidivism. Employment is dynamic risk factor meaning it is amenable to change through the implementation of proper programming. The studies that have been conducted thus far have found mixed results for the relationship between crime and employment. Although there are an abundance of theoretical contributions that suggest employment should reduce criminality, a negative and significant relationship between employment and crime has yet to be held as universal. However, studies still have found employment to reduce recidivism, the issue is the relationship is not as strong and consistent as theories predict. Studies do continue to show that those who are employed are less likely to re-offend than those who are not employed (Lockwood et al., 2012) and that being employed prolongs the instance of recidivism (Berg & Huebner, 2011).

In an effort to address the above limitations, this study will combine the use of multiple measures of recidivism and use multiple measures of employment and unemployment. Using multiple measures of recidivism will provide additional clarity into the influence of employment considering the majority of prior research has only focused on one component of recidivism such as a dichotomous measurement of yes/no or analyzing time to recidivism. Additionally, this study will be conducted on a probationer population. The focus on recidivism and employment for a population of probationers will begin to address the large void previously discussed in the employment-recidivism correctional literature. Addressing another large gap in the prior literature, this study will explicitly examine the influence of job stability and the influence it has on recidivism. The findings of this study will provide readers with a clearer understanding of the

influence of employment on probationer recidivism whereas previously the influence was most often an inference of the influence employment had on parolee recidivism.

## CHAPTER III: METHODOLOGY

### Introduction

The influence of employment on offender recidivism is a relationship that has been studied extensively yet has yielded mixed and muddled results. Considering the focus on the parole population in correctional literature (Triopodi et al., 2010; Lockwood, et al. 2016; Berg & Huebner, 2011) there is a large gap in the current literature that fails to exclusively focus on employment's influence on probationer recidivism. Attempting to provide the correctional literature with a bit of clarity, this study focused on the probation aspect of the community corrections population. In addition to probationers, this research investigated the influence that employment status as well as job stability has on recidivism. Studies have continuously found support indicating that employment can reduce recidivism for those released from correctional institutions (Nally et al., 2012, D'Alessio, Stolzenberg, & Eitle, 2014) but the influence of employment on probationers is much less understood. To bridge this gap in correctional research this study examined terminated adult probationers from a local probation department, using an array of control variables, to answer the following research questions:

- 1) Does employment status at termination predict future offending?
- 2) Does the number of employment status changes (i.e., job stability) while on probation predict future re-offending?
- 3) Does the employment status at termination or job stability influence the time it takes to recidivate?
- 4) Is the employment status at termination or job stability related to recidivism offense type?

Answers to these questions will contribute to the correctional literature. This quantitative cross-sectional assessment will help explain the influence that employment status and job stability have on probationer recidivism.

### **Data Collection**

The data used to investigate the influence of employment on probationer recidivism was obtained from the Piatt County Probation Department. The researcher requested all available data for each of the terminated adult probation cases from the years 2007 to 2011. Anonymous probation data was exported from Piatt County's Probation Department's probation tracker program and their digital LEADS (Law Enforcement Agencies Data System) system into paper format that was then delivered to the researcher. The majority of the study's variables were sourced from the probation department's probation tracker program. The LEADS system is statewide, computerized system that essentially is a shared computer that allows agencies to pool and share information. LEADS is maintained by the Illinois State Police and includes information from law enforcement agencies in Illinois (Illinois Integrated Justice Information Systems, n.d.). The LEADS information provided the researcher with the recidivism data.

Upon receiving the print hard copy of that data the researcher began to input the data into the electronic statistical program SPSS (Statistical Analysis Software Package) for analysis. Each of the adult probationers is given a unique case number that is used as their identifier while still on probation. So, once the data leaves the probation office and is obtained by the researcher, the identity of the subjects is completely unknown to the researcher, providing complete anonymity. It is important to stress that no identifying information was included in the data provided by the department.

## **Setting**

An extended explanation of the county of interest is crucial in order to provide the reader with a clearer understanding of the probationers that was used in the analysis. At the center of this study is Piatt County. Located in rural Illinois, Piatt County is a small county, roughly 439 square miles with a population of 16,727, predominantly comprised of Caucasians - 98% (U.S. Census Bureau, 2010). Other rural and agricultural areas surround this county. The setting of this county differs greatly from the settings of many of the previous recidivism studies, which tends to examine populations in large metropolitan areas (Lockwood et al., 2012) or use national and state level data (Mustard, 2010).

To provide a better understanding of the current state of income and poverty in the county, the median household income in Piatt County is \$63,002 (above the national average: \$53,482) and the percent of persons in poverty is 7.4% (below the national average: 13.5%) (U.S. Census Bureau, 2015). Based on the reported demographic characters of the county one can conclude that the county is small and rural, predominantly Caucasian, and in a better economic standing than the rest of the country.

## **Probation Operation**

As discussed in the literature review, the overall goal for the probationer is to comply with their probationary conditions and the conditions vary from department to department (Doherty, 2016). Given the potential variation in the conditions imposed by probation departments, it is appropriate to discuss the conditions that are imposed in Piatt County.

Piatt County's Adult Probation certificate of conditions states that a probationer shall be on probation for no more than 48 months. There are seven conditions that must be followed by all probationers, an array of conditions that can be added as well as an option to create new

conditions under the category of “other.” Outlined in Piatt County’s Probation Certification of Conditions, seven conditions that all probationers must adhere to are:

- 1) Not violate any criminal statute of any jurisdiction.
- 2) Report to or appear in person before such person or agency as directed by the Court and the Probation Office; and comply with and successfully complete any program as directed by the probation office.
- 3) Refrain from possessing a firearm or other dangerous weapon.
- 4) Not leave the State without the consent of the Court or, in circumstances of an emergency nature where prior consent by the Court is not possible, without the prior notification and approval of the Probation Officer.
- 5) Not change residence without prior approval from the Probation Department; and contact the probation officer within 72 hours of any change of employment status.
- 6) Permit the Probation Officer to visit you at your home or elsewhere to the extent necessary as determined by the Probation Officer, and to search said person, premises, computer or vehicle as to carry out duties and conditions of this court order.
- 7) Refrain from using, and/or possessing alcohol, cannabis, or any controlled substances and submit to random bodily fluid and/or breath testing; and not to be present when said substances are being consumed or possessed illegally. Defendant agrees to the admissibility of any certified laboratory report at a probation revocation proceeding without foundation testimony.

Following the seven conditions all probationers must follow there are additional conditions that can be added on a case-to-case basis. The options listed on the probation certificate of conditions include an array of different payments (fines, restitution, DNA

assessments, equipment charges, public defender reimbursement, etc.), serve a period of incarceration (if applicable), agree to have no contact directly or indirectly with certain individuals, agree to stay off of specific property, undergo an evaluation (substance abuse/alcohol treatment, sex offender treatment, mental health treatment, life skills program, certified domestic violence counseling, anger control counseling, and DUI education and treatment), submit medical tests for sexually transmitted diseases, not enter establishments whose primary source of business is the sale of alcohol, attend a victim impact panel, perform a number of public service work hours, obtain a certain level of education (GED or High School diploma), attend school with the only excused absence being a doctor's excuse or approval from the Probation Officer, observe a curfew, submit specimens of blood, saliva, or tissue to the Illinois State Police for DNA indexing, comply with sex offender special conditions, and lastly to appear in the court room on a said date and time for either reviewing compliances with the Certificate of Conditions or remission hearing. In addition to all the listed conditions there is an option to create a new condition, which would be written in under the "other" condition. The other condition could include anything that the court or the probation officer feels necessary.

Any violation of the agreed upon conditions will bring about additional court action, which could result in: (1) Extension of your sentence; (2) Modification of the rules and conditions; (3) The imposing of additional conditions; (4) Being held in Contempt of Court with imposition of sanctions; or (5) Revocation and sentencing on the charge(s) for which you were found guilty. Technical violations of the Certificate of Conditions subject the violator to the Administration Sanctions Program, unless otherwise specified by the Court.

Not present in the conditions of probation is a requirement that the probationers obtain or possess employment. There is a condition that requires the probationer to notify the Probation

Officer if their employment status changes but, there exists no condition in which the probationer must possess employment.

### **Sample Population**

This study is focused on only the terminated adult probationers from Piatt County who were terminated between 2007-2011. The juvenile probation population was excluded from this study based on the lack of applicability of the study variables. Juveniles tend to respond to paid employment in a different manner than adults. Paid employment tends to have a weak effect in adolescents because it represents a premature or precocious transition to adult roles (Bachman & Schulenberg, 1993). However, paid employment for adults has the potential to reduce crime through reducing economic need, increasing the amount of informal social controls, and facilitating a conforming self-concept opposed to a deviant one (Uggen & Staff, 2001).

### **Study Design**

This quantitative study relied on secondary data from the Piatt County probation department to examine the influence that employment status and job stability had on probationer recidivism. In order to address these questions a total of five variables were created. The dependent variables in this analysis are recidivism, time to recidivism, and property crime recidivists. Two independent variables have been created employment status at termination and job stability.

### **Recidivism Variables**

#### **Recidivism**

One of the key variables that criminal justice researchers study to evaluate corrections programs is recidivism: “the reversion of an individual to criminal behavior after he or she has been convicted of a prior offense, sentenced, and (presumably) corrected” (Maltz, 1984, p. 1).



Measuring recidivism, most often recidivism reduction, provides researchers with a means to evaluate the effectiveness of programs, initiatives, or just evaluate overall performance.

However, there are some inherent difficulties with the conceptualization of recidivism. Mainly, there is no universal definition of recidivism and therefore varies from study to study. This variation in the conceptualization of recidivism makes comparing results of studies difficult. The National Institute of Justice (2008b) suggests researchers address three recidivism measurement factors: how the researcher determines a re-offense has occurred, when the offender recidivates, and how risk is factored into the research design.

Although there are many different definitions of recidivism there is no “right” definition (Elderbroom & King, 2014). Different measures of recidivism can include: reconviction, re-incarceration, imprisonment, re-arrest, and re-arraignment, but by no means is this an exhaustive list (Rugger et al., 2015). The issue with the different conceptualizations of recidivism was perfectly demonstrated in a recent BJS study of post-release recidivism of ex-prisoners released in 2005 from 30 states. This study compared different conceptualizations of recidivism (adjudication, conviction, incarceration, imprisonment, and returns to prison) with their respective five-year follow up recidivism rates. The results showed that “the most conservative measure (imprisonment) indicated a recidivism rate of 28.2 percent” while the “most liberal definition (adjudication of any kind), indicated a failure rate 30 percentage points higher (60.0 percent)” (Osterman, Salerno, & Hyatt, 2015, p. 774). This study illustrates the immense amount of variation that can be attributed to the various conceptualizations of recidivism.

For the purposes of this study, the researcher is limited to Piatt County Probation Department’s definition of recidivism: any arrest within four years following probation termination. An arrest without a conviction is still considered an act of recidivism by this

definition.. The dependent variable ‘recidivism’ was coded dichotomously as either a ‘yes’ or a ‘no’. The individuals that are arrested within the four-year window following their probation termination were coded as a 1. The individuals that are not rearrested in that same four-year window following their probation termination were coded as a 0.

### **Time to Recidivism**

In order to answer the third research question relating to the time to recidivism, the researcher created another variable that calculated the number of years between the date of the probation termination and the date of recidivism. This new variable, “recidivism\_time”, can then be compared with the “employment status at termination” and the “job stability” variables to determine what the effect of each are on the time to recidivism.

### **Property Offense Recidivists**

The final research question is focused on determining whether a relationship exists between the final employment status of a probationer and the type of recidivism offense that is committed, specifically a property crime. The sample for this question consisted only of those probationers who did recidivate. In order to select out the recidivists from the entire study sample the select cases function will be used in SPSS. The select cases function will allow the researcher to select only those who are coded as a 1 (those who recidivated) and omit those coded as a 0 (those who did not recidivate). In order to address this question the variable ‘Recid\_Property’ will be created. This new variable will be measured dichotomously as either a yes (1) or no (0). A yes will indicate that the recidivism offense was indeed a property crime. The reason that not all property offenses were separated and looked at individually comes from Kleck and Jackson’s (2016) article in which they discussed how prior research shows that unemployment is most likely to affect property crime.

## Independent Variables

### Employment Status

The independent variables that were used to examine variations in recidivism will be employment status at termination and job stability. The first independent variable, employment status, will be measured at the nominal level of measurement. To more precisely test the influence of the employment status at termination, this study goes beyond a dichotomous coding scheme as either 'employed' or 'unemployed'. Based on Kleck and Jackson's (2016) suggestion that researchers should differentiate between types of employment (i.e. underemployed) and joblessness (socially acceptable vs. non-socially acceptable), this study utilized the following categories to examine the influence of the variable 'employment status at termination': employed, underemployed, unemployed, and unemployed for reasons seen as socially acceptable.

Those who are employed full time at the termination of their probation were placed in the 'employed' category and were coded as a 0. The second category is underemployed. An individual who is only employed part time fell into the category 'underemployed' and was coded as a 1. In the available data there is no way to determine how many hours of work the probation department considered part time so the only true distinction is that it is less than full time and more than unemployed. Individuals who are unemployed at the time of their termination were categorized as 'unemployed' and were coded as a 2. The final employment status category is 'unemployed for reasons seen as socially acceptable' and was used based on Kleck and Jackson's (2016) assertion that those who are retired, disabled, or attending school full time should not be considered as unemployed. So, extending off that notion, the final category for 'employment status at termination' is 'unemployed for reasons seen as socially acceptable' and

included individuals who were either retired, disabled, or attending school full time at the termination of their probation – coded as a 3. The ‘employment status at termination’ variable combined with the recidivism variable provided the means to answer the first research question: Does employment status at termination predict future offending. For the multivariate analysis, the employment status measurements were transformed into their own dummy variable in order for the analysis to be properly conducted; these variables included: ‘full time’, ‘underemployed’, ‘unemployed’, and ‘unemployed for reasons seen as socially acceptable’.

### **Job Stability**

The second independent variable in this study sought to examine the influence of job stability on probationer recidivism. Many of the past studies on recidivism have been conducted using only single measures of employment, such as this study’s first independent variable. Using the categorical and most often dichotomous measure of employment (employed vs. unemployed) researchers have continuously found mixed results. This study attempted to push beyond the simplistic measurement of employment at termination and instead focus on the stability of the probationer’s employment while on their probationary term. The current data only provides information on each probationer while they are on the probation term, leaving the analysis of job stability and the inference of job stability’s influence on recidivism to be subjective to only the time while the individual was on probation. In a perfect world, the researcher would have access to the employment statuses of each probationer for the entire four years following their termination, however, the only data that is collected at the four-year mark following termination is whether or not the offender recidivated. This lack of data is due to the fact that individuals must report information to the probation office while serving their probationary sentence but

following their termination from individual no longer is obligated to report such information to the department.

Beyond this, the focus of this second independent variable is founded in Sampson and Laub's (1993) original assertion that 'job stability' not just employment status was a key indicator in reduced offending. To capture job stability the variable 'job stability' was created and measured at the nominal level of measurement. The number of employment status changes that each probationer encounters while on probation indicated job stability. The job stability variable included three categories: no employment status changes, one employment status change, and two or more employment status changes. This was possible to quantify because the probation officer would change the employment status of the probationer, if applicable, in the probation department's computer system each time the probation officer was informed of such a change. Each change that is made in the system is recorded therefore there are often strings of employment statuses for each probationer such as: employed full time, then unemployed, and ending the probation term as employed part time. In sum, the 'job stability' variable tracked the number of employment changes each probationer experiences while on probation. The 'job stability' variable in combination with the 'recidivism' variable allowed the researcher to answer the second research question: Do the number of employment status changes while on probation predict future offending?

### **Control Variables**

In addition to the independent and dependent variables of the study there was an array of control variables that were included to combat spuriousness within the results. The control variables were used within the multivariate portion of analysis and included the following variables: race, gender, education level, year terminated, termination type, probation type, age at

termination, initial offense type, case type, classification, and number of days on probation. In order for the multivariate test to compute properly the categorical control variables were transformed into new variables that leave out one of the categorical responses to provide the statistical test a unit of comparison, referred to as dummy variables. To illustrate, the variable ‘year terminated’ originally included all years’ probationers could be terminated 2007-2011. However, in order to control for one certain year a new variable will be created and titled “RA\_20XX”; XX will be 07, 08, 09, 10, and 11. These new variables were then included in the multivariate test, excluding the one variable that has the most cases terminated within that year. The variable that is left out was the variable that the multivariate test controlled all other years for.

The same process of creating dummy variables was done for all of the categorical demographic type variables (sex, race, and highest education level), termination statuses (revoked = 1; all others = 0) (unsatisfactory = 1; all others = 0), initial offense types (crimes against person, property crimes, DUI, DWR/DWS, drug/alcohol offense, and other), disposition (adult probation = 1; all other probation types = 0), and classification type (unclassified, low/minimum, moderate/medium, high/maximum). Including the classification type as a control variable was important because it is a proxy for other risk factors. Although access to the actual LSI-R results cannot be obtained, the final result is their classification. Other control variables that were included, but do not need to be transformed into dummy variables due to their continuous nature, are age at termination and number of days on probation.

### **Analytical Strategy**

This study was conducted using univariate, bivariate, and multivariate statistical tests in the statistical analysis software SPSS (Statistical Package for the Social Science). The univariate

analysis was conducted to get a better understanding of the distribution on the collected data.

Univariate analysis, or descriptive statistics, serves as the foundation for inferential statistics as they provide an understanding of the central tendency (mean, median, and mode) and variability of the data (spread and dispersion). Following a univariate analysis, a bivariate analysis was conducted to assess the presence of correlation between study variables. The bivariate correlation analysis provided the researcher with the probability of a statistically significant relationship, the direction or nature of the relationship, and strength or magnitude of the association between the variables. As the statistical analyses advance in complexity and begin to result in inferential statistics, the researcher used the most agreed upon standard p-value in social sciences of .05.

The final analyses utilized multivariate statistics. Conducting a regression model on the data set allowed the researcher to analyze more than two variables while incorporating statistical controls to rule out spuriousness. Given the study design, using multiple independent variables, a regression analysis allowed the researcher to investigate the influence of all the independent variables on the dependent variables simultaneously.

## CHAPTER IV: RESULTS

### Overview

The contents of the results section are laid out in a logical statistical progression, beginning with the univariate or descriptive statistics. The descriptive statistics provides a general summary of the data collected including measures of central tendency, measure of variability, and frequencies. The bivariate analyses follow the presentation of the descriptive statistics. Bivariate analyses provides the first of the inferential statistics as this type of analysis can explain association or correlation. The bivariate analyses consist of a series of chi-square tests conducted to determine if there was a relationship between recidivism and employment, recidivism and job stability, time to recidivism and employment, time to recidivism and job stability, property crime recidivists and employment, and property crime recidivists and job stability. The chi-square test was the statistical test used for each of variable's analyses given the categorical nature of all of the study's variables. The last types of statistical analyses presented are multivariate analyses. The multivariate analyses allow for causation to be established in the findings, as there are statistical controls that combat spuriousness.

### Descriptive Statistics

The following figures will be simple statistical frequencies of the variables from the data set in an effort to provide the readers with a better understanding of the data that was analyzed. These statistics are obtained and presented to provide the foundation for inferential statistical analyses as well as to develop a better understanding of the composition of the data that was used. The type of bivariate and multivariate statistical tests that was used further along in the statistical analyses were determined by the findings of the univariate statistics; along with the variables level of measurement.



There were 1,047 adult probationers terminated between 2007 and 2011 from the Piatt County Probation Department. However, recidivism data was only available for 943 of the adult probationers terminated. Therefore, the total population for the purposes of this study will be those 943 adult probationers terminated between the years 2007 and 2011 with available recidivism data. The adult probation was mostly male (71.6%) and Caucasian (91.5%). A little over half of the probationers (55.1%) had their high school diploma or the equivalent GED. Probationers were mostly employed (47.2%) at the termination of their probation with an average of .50 (SD: .83). changes in employment statuses while on probation. The average age of the probationers at termination was 31.04 (SD: 12.04) with the youngest being 16 and the eldest being 78. The average number of days spent on probation was 395.31 (SD: 253.31). The most common disposition type was adult probation (50.9%) and misdemeanors (55.7%) were the most common case type. Scheduled termination (57.9%) was the main reasons for termination. One of the proxy's of other risk factors that cannot be measured given the limitations of the data is the classification status of the offender. The most common classification status for offender's was minimum (40.6%) with only 4.4% of the total probationers being classified as maximum.

A total of 329 (34.9%) of the adult probationers recidivated within the four year tracking period following the termination of their probation with the average time to recidivism being 2.27 years (SD: 1.25). The most common type recidivism offense committed was both crimes against persons (20.7%) and driving under the influence violations (20.7%). The number of recidivists for property offenses only accounted for 6.8% (48) of the total number of recidivism instances.

When conducting the univariate analysis a complication with the data was brought to light. The variable measuring the number of days each probationer was on probation was

extremely positively skewed. This is an issue known as lack of symmetry and although it will not compromise the integrity of the regression models that will be employed in the following analyses, failing to address and correct it will weaken the results of the statistical tests. To address this concern and transform the non-normally distributed variable of days on probation to a normally distributed variable a process known as log transformation was used. The purpose of taking the natural log of days on probation is to increase the symmetry of the distribution in order for the statistical analysis to function optimally. Transforming the variable to a natural log is essentially grouping the larger values closer together and pushing the smaller values apart. The old variables “days on probation” are now labeled “ln days.”

Table 1

*Descriptive Statistics*

	N (%)
<u>Dependent Variables</u>	
Recidivism	
No	614 (65.1)
Yes	329 (34.9)
Time to Recidivism	
Did no recidivate	614 (65.1)
One year	108 (11.5)
Two years	82 (8.8)
Three years	64 (6.8)
Four years	74 (7.8)
Property Crime Recidivists	
No	281 (85.4)
Yes	48 (14.6)
<u>Independent Variables</u>	
Employment Status at Termination	

*(Table continues)*

	N (%)
Employed	443 (47.2)
Underemployed	128 (13.7)
Unemployed	286 (30.5)
Unemployed for reasons seen as socially acceptable	81 (8.6)
Job Stability	
No employment status changes	595 (63.6)
One employment status change	266 (28.5)
Two + employment status changes	74 (7.9)
<u>Control Variables</u>	
Year Terminated	
Year 2007	200 (21.2)
Year 2008	156 (16.6)
Year 2009	210 (22.2)
Year 2010	173 (18.4)
Year 2011	204 (21.6)
Gender	
Female	268 (28.4)
Race	
White	863 (91.5)
Highest Education Level	
NoHighSchool	227 (24.1)
Termination Status	
Revoked	155 (16.4)
Unsatisfactory	80 (8.4)
Disposition	
AdultProbation	478 (50.6)
Classification Type	
Unclassified	133 (14.2)
Low/Minimum	389 (41.3)
Moderate/Medium	365 (38.7)
High/Maximum	54 (5.8)
Age at Termination	Mean = 31.04; SD = 12.042
Number of Days on Probation (Log)	Mean = 5.81; SD = .681

## Bivariate Statistics

### Employment Status & Recidivism

**Relationship between recidivism & final employment status.** The Chi-Square analysis computed a test value of 40.86 which exceeds the value in the distribution table for  $p=.05$  (accepted alpha value). The chi-square test indicates a significant relationship between recidivism and final employment statuses (see Table 2),  $\chi^2=40.86$ ,  $p<.000$ ,  $N=938$ ,  $df=3$ . The results of this show that those who were unemployed for reasons seen as socially acceptable recidivated the least (21%) followed by those who were employed (27.8%). Probationers who were unemployed at the termination of their probation recidivated the most (48.6%).

Table 2

*Results of Chi-square Test for Relationship between Recidivism and Final Employment Status*

Final Employment Status	Recidivism	
	No	Yes
Employed	320 (72.2%)	123 (27.8%)
Underemployed	80 (62.5%)	48 (37.5%)
Unemployed	147 (51.4%)	139 (48.6%)
Unemployed for Reasons Seen as Socially Acceptable	64 (79%)	17 (21%)

*Note.*  $\chi^2 = 40.86^{***}$ ,  $df = 3$ . Numbers in parentheses indicate row percentages.

$***p < .001$

**Relationship between time to recidivism & final employment status.** This test was conducted only on those probationers who did recidivate. In order to include only those who did recidivate the 'select cases' function in SPSS was used to omit all the non-recidivists from the

analysis. The Chi-Square analysis computed a test value of 7.14 which does not exceed the value in the distribution table for  $p=.05$  (accepted alpha value). The chi-square test indicates that there is no significant relationship between time to recidivism and final employment statuses (see Table 3),  $\chi^2 = 7.15, p > .05, N=326, df= 9$ .

Table 3

*Results of Chi-square Test for Relationship between Time to Recidivism and Final Employment Status*

Final Employment Status	Time to Recidivism			
	1 year	2 years	3 years	4 years
Employed	42 (34.1%)	23 (18.7%)	28 (22.8%)	30 (24.4%)
Underemployed	16 (33.3%)	17 (35.4%)	6 (12.5%)	9 (18.8%)
Unemployed	44 (31.9%)	36 (26.1%)	26 (18.8%)	32 (23.2%)
Unemployed for Reasons seen as Socially Acceptable	5 (29.4%)	5 (29.4%)	4 (23.5%)	3 (17.6%)

*Note.*  $\chi^2 = 7.15, df = 9$ . Numbers in parentheses indicate row percentages.  $p > .05$

**Relationship between property crime recidivists & final employment status.** This test was only conducted on those probationers who did recidivate. The Chi-Square analysis computed a test value of 13.39 which exceeds the value in the distribution table for  $p=.05$  (accepted alpha value). The chi-square test indicates significant relationship between property crime recidivists and final employment status (see Table 4),  $\chi^2 = 13.39, p < .01, N=327, df= 3$ . The results of this test show that those who recidivated for property offenses were more likely to be unemployed (60.4%) than those who recidivated with any other type of crime (39.4%).

Further, only 14.6% of property crime recidivists were employed at the termination of their probation, much lower than 41.6% of the probationers who recidivated with any other type of offense.

Table 4

*Results of Chi-square Test for Relationship between Property Crime Recidivists and Final Employment Status*

Final Employment Status	No	Yes
Employed	116 (41.6%)	7 (14.6%)
Underemployed	40 (14.3%)	8 (16.7%)
Unemployed	110 (39.4%)	29 (60.4%)
Unemployed for Reasons Seen as Socially Acceptable	13 (4.7%)	4 (8.3%)

Note.  $\chi^2 = 13.39^{**}$ ,  $df = 3$ . Numbers in parentheses indicate row percentages.  $^{**}p < .01$

### Job Stability & Recidivism

**Relationship between recidivism & job stability.** The Chi-Square analysis computed a test value of 27.78 which exceeds the value in the distribution table for  $p=.05$  (accepted alpha value). The chi-square test indicates significant relationship between recidivism and final employment statuses (see Table 5),  $\chi^2 = 27.78$ ,  $p < .001$ ,  $N=935$ ,  $df= 2$ . The results of this analysis found that the majority who did not recidivate experienced zero employment status changes while on probation (70.6%). Only 29.4% of those who did recidivate experienced zero employment status changes while on probation.

Table 5

*Results of Chi-square Test for Relationship between Recidivism and Job Stability*

Job Stability	No	Yes
No Employment Changes	420 (70.6%)	175 (29.4%)
One Employment Change	157 (59%)	109 (41%)
Two + Employment Changes	32 (43.2%)	42 (56.8%)

*Note.*  $\chi^2 = 27.78^{***}$ ,  $df = 2$ . Numbers in parentheses indicate row percentages.  
\* $p < .001$

**Relationship between time to recidivism & job stability.** The Chi-Square analysis computed a test value of 10.14 which does not exceed the value in the distribution table for  $p = .05$  (accepted alpha value). The chi-square test indicates that there is no significant relationship between time to recidivism and a probationer's job stability while on probation (see Table 6),  $\chi^2 = 10.14$ ,  $p > .05$ ,  $N = 325$ ,  $df = 6$ . The results of this show that there is very little correlation between the time it takes one to recidivate and their job stability while on probation.

Table 6

*Results of Chi-square Test for Relationship between Time to Recidivism and Job Stability*

Job Stability	Time to Recidivism			
	1 year	2 years	3 years	4 years
No Employment Changes	56 (32.2%)	37 (21.3%)	33 (19%)	48 (27.6%)
One Employment Change	32 (29.4%)	31 (28.4%)	26 (23.9%)	20 (18.3%)
Two + Employment Changes	18 (42.9%)	13 (31%)	5 (11.9%)	6 (14.3%)

*Note.*  $\chi^2 = 10.14$ ,  $df = 6$ . Numbers in parentheses indicate row percentages.  $p > .05$

**Relationship between property crime recidivists & job stability.** The Chi-Square analysis computed a test value of .52 which does not exceed the value in the distribution table for  $p=.05$  (accepted alpha value). The chi-square test indicates that no significant relationship exists between property crime recidivists and job stability (see Table 7),  $\chi^2 = .52$ ,  $p > .05$ ,  $N=326$ ,  $df= 2$ . The results of this analysis show that little correlation exists between those who recidivated for property offenses and those who recidivated for other offenses in relation to the job stability experienced while on probation.



Table 7

*Results of Chi-square Test for Relationship between Property Crime Recidivists and Job Stability*

Job Stability	Property Crime Recidivists	
	No	Yes
No Employment Changes	152 (86.9%)	23 (13.1%)
One Employment Change	92 (84.4%)	17 (15.6%)
Two + Employment Changes	35 (83.3%)	7 (16.7%)

*Note.*  $\chi^2 = .525$ ,  $df = 2$ . Numbers in parentheses indicate row percentages.  $p > .05$

### Multivariate Statistics

In order to assess the independent affect each variable has on the dependent variable and assess how each variable jointly affects the dependent variable regression analyses were conducted. Additionally, a regression analysis aids in establishing causality.

As was with the bivariate statistical analyses, the variables level of measurement within the analysis determines which type of regression to use. This research seeks to analyze three dependent variables. Two of the three dependent variables (recidivism and property recidivists) are measured dichotomously (yes/no) which indicates that a binary logistic regression should be used.

In order to ensure that the binary regression is the correct test to conduct on the data, a number of assumptions must first be met. The first assumption of a binary logistic regression is that the dependent variable be measured dichotomously. Both of the variables ‘Recidivism’ and ‘Recid\_Property’ are measured dichotomously as either a yes or a no. The second assumption of the binary logistic regression is that there be one or more independent variables. In each of the

analyses there are multiple independent variables analyzed. The third assumption is that the dependent variables should have mutually exclusive and exhaustive categories. Each of the dependent variables for the binary logistic regression are categorized mutually exclusive and exhaustive. Fourth, this tests operates on the assumption that the sample size is large enough; mainly that there be five cases per independent variable being analyzed.

The third dependent variable, time to recidivism, will require a different type of regression based upon the non-dichotomous nature of the dependent variable. The third dependent variable, time to recidivism, is measured nominally too; however there are five categories, which indicates that a multinomial logistic regression should be used to analyze this dependent variable. There are a host of assumptions that the variables and data must first meet before a multinomial logistic regression can be performed. The first assumption is that the dependent variable be measured at the nominal level. Time to recidivism is measured nominally as either a 0, 1, 2, 3, or 4. The second assumption is that there be one or more independent variable that is continuous, ordinal, or nominal. There are multiple nominal independent variables in this analysis. The third assumption is that the dependent variable should have mutually exclusive and exhaustive categories. Time to recidivism has four categories that are both mutually exclusive and exhaustive. The fourth assumption is that no multicollinearity exists. Examining the correlations between the independent variables of employment assesses the multicollinearity in this analysis. The fifth assumption is that there be no extreme outliers. This assumption is addressed through taking the natural log of the extremely skewed variable of number of days on probation, discussed above.

The regression analyses consisted of six different models: recidivism and final employment status, recidivism and job stability, time to recidivism and final employment status,

time to recidivism and job stability, property recidivists and final employment status, and property recidivists and job stability. For the binary logistic regression models there were two models included per table. For the multinomial logistic regression models there was one model reported per table. The tables are separated based on the dependent variable in the analysis: recidivism, time to recidivism, and property recidivists.

The first table includes two models. The first model includes the dependent variable 'Recidivate' and the independent variables 'Underemployed', 'Unemployed', and 'UnemployedSociallyAcceptable'. The first model is analyzing the influence of the final employment status on overall recidivism. The second model includes the dependent variable 'Recidivate' and the independent variables 'JobStablityOneChange' and "JobStabilityTwoPlus". The second model is analyzing the influence that job stability has on probationer recidivism.

### **Model 1: Recidivism & Final Employment Status**

The first binary logistic regression model was conducted to evaluate the effects that final employment status had on a probationer's likelihood to recidivate while controlling for year of termination, sex, race, highest level of education, termination type (revoked and unsatisfactory), disposition type, classification status, age at termination, and the number of days on probation. These controls will remain consistent throughout all of the regression models. The binary logistic regression model was statistically significant,  $\chi^2(18)= 106.29$ ,  $p < .001$ . The model explained 15.5% (Nagelkerke  $R^2$ ) of the variance in probationer recidivism and correctly classified 69.5% of cases. The results from this test show that probationers who ended their probation term unemployed were 60% (Wald= 6.014) more likely to recidivate than those who were employed at the end of their probation term. Those whose probation was terminated in the year 2007 were 66% more likely to recidivate (Wald= 4.721). Also, white probationers were 50% (Wald= 4.884)

less likely to recidivate. Probationers who had their sentence revoked were 2.1 times more likely to recidivate (Wald= 12.767). Additionally, those whose termination status was unsatisfactory were, too, 2.1 times more likely to recidivate (Wald= 7.458). Last, for each year a probationer age increased their likelihood to recidivate reduced 3.3% (Wald=20.799).

### **Model 2: Recidivism & Job Stability**

The second binary logistic regression model evaluates the effect that job stability had on probationer's likelihood to recidivate. The binary logistic regression model was statistically significant,  $\chi^2(17)= 102.467$ ,  $p < .001$ . The model explained 15% (Nagelkerke  $R^2$ ) of the variance in probationer recidivism and correctly classified 65.6% of cases. The results of this regression model indicate that the probationers who experienced two or more employment changes while on their probation term were twice as likely (Wald=6.808) to recidivate than those who experienced no employment status changes. The probationers who were terminated in the year 2007 were 50% (Wald= 3.915) more likely to recidivate. White probationers were 56% less likely to recidivate (Wald= 7.026). Termination statuses also were predictive of recidivism where those whose probation was revoked (Wald=17.873) and those who ended probation unsatisfactory (Wald= 10.430) were 2.4 times more likely to recidivate.

Table 8

## Binary Logistic Regression: Recidivism Model 1 &amp; Model 2

	Model 1		Model 2	
	b(SE)	Exp(b)	b(SE)	Exp(b)
Constant	-.51(.83)	.60	-.39(.80)	.67
Underemployed	.36(.23)	1.40	-	-
Unemployed	.47(.19)*	1.60	-	-
UnemployedSociallyAcceptable	-.31(.32)	.73	-	-
JobStabilityOne	-	-	.19(.17)	1.21
JobStabilityTwoPlus	-	-	.72(.28)**	2.05
2007	.51(.23)*	1.66	.46(.23)*	1.58
2008	.40(.25)	1.50	.36(.25)	1.44
2010	.05(.04)	1.04	.06(.24)	1.07
2011	.31(.23)	1.36	.34(.23)	1.41
Female	-.25(.17)	.78	-.23(.17)	.80
White	-.70(.31)*	.50	-.83(.31)**	.44
NoHighSchool	.03(.19)	1.03	.06(.18)	1.07
TerminationRevoked	.78(.22)***	2.19	.88(.21)***	2.42
TerminationUnsatisfactory	.77(.28)**	2.16	.88(.27)**	2.43
AdultSupervision	.23(.25)	1.26	.21(.25)	1.24
Unclassified	-.11(.31)	.89	-.07(.31)	.93
ModerateMedium	-.14(.24)	.87	-.18(.24)	.84
HighMax	.06(.38)	1.06	.11(.38)	1.12
AgeAtTermination	-.03(.01)*	.97	-.03(.01)	.97
Indays	.15(.13)	1.17	.15(.13)	1.16
<u>Model Results</u>				
N	896		893	
$\chi^2$ Value model	98.82		102.46	
Nagelkerke $r^2$	.144		.150	

Note. \* =  $p < .05$ ; \*\* =  $p < .01$ ; \*\*\* =  $p < .001$

### **Model 3: Time to Recidivism & Final Employment Status**

To examine the relationship between time to recidivism and final employment status a multinomial logistic regression was conducted. Time to recidivism is a nominally measured variable but it has more than two categories or polytomous, which drives the reason for conducting a multinomial logistic regression; instead of dichotomous measurement which is used in binary regressions. This analysis includes all probationers (recidivists and non-recidivists) because the statistical test needs a reference category in order to compute correctly. Although the bivariate analysis of time to recidivism did not include the recidivists, the multivariate analysis includes the recidivists because the statistical test needs a reference category and to allow for each year to be analyzed against a constant. Therefore, the output provides an analysis of each variable by the year of recidivism compared to those who did not recidivate. The multinomial logistic regression model was statistically significant,  $\chi^2(72) = 163.001, p < .001$ . The model explained 18.7% (Nagelkerke  $R^2$ ) of the variance in probationer's time to recidivism.

The multinomial logistic regression for time to recidivism and final employment status had many findings. Those whose probation termination status was revoked (Wald= 15.404) or unsatisfactory (Wald= 8.64) were three times more likely to recidivate in one year. Probationers whose termination status was revoked were 2.5 times more likely to recidivate in two years (Wald= 7.508). All four years indicated that with each year of increased age the likelihood to recidivate is reduced by 2-4%. If a probationer's final employment status was unemployed (Wald= 6.38) or underemployed (Wald= 5.336) they were two times more likely to recidivate at the second year mark. Last, those who recidivated in the fourth year were 61.3% less likely to be female (Wald= 6.654) and 68.8% less likely to be white (Wald= 6.623).

Table 9

## Multinomial Logistic Regression: Time to Recidivism and Final Employment Status Model 3

	Year 1		Year 2		Year 3		Year 4	
	b(SE)	Exp(b)	b(SE)	Exp(b)	b(SE)	Exp(b)	b(SE)	Exp(b)
Underemployed	.37(.35)	1.45	.86(.37) <sup>x</sup>	2.37	-.24(.49)	.79	.23(.43)	1.27
Unemployed	.31(.29)	1.37	.82(.32) <sup>x</sup>	2.26	.37(.35)	1.44	.39(.34)	1.48
UnemployedSociallyAcceptable	-.27(.52)	.76	-.09(.55)	.92	-.41(.58)	.66	-.59(.65)	.57
2007	.56(.38)	1.75	.63(.38)	1.87	.38(.41)	1.47	.52(.42)	1.68
2008	.66(.39)	1.93	.68(.39)	1.97	.06(.47)	1.06	.04(.47)	1.04
2010	.32(.39)	1.38	-.19(.43)	.83	-.09(.45)	.91	.13(.43)	1.14
2011	.65(.37)	1.91	.08(.41)	1.09	.16(.43)	1.17	.29(.41)	1.33
Female	-.01(.26)	.99	-.11(.28)	.90	-.16(.32)	.85	-.95(.37) <sup>xx</sup>	.39
White	-.50(.47)	.60	-.17(.59)	.84	-.92(.51)	.40	-.12(.45) <sup>xx</sup>	.31
NoHighSchool	-.17(.27)	.84	.17(.28)	1.18	-.48(.36)	.62	.56(.29)	1.75
TerminationRevoked	1.22(.31) <sup>xxx</sup>	3.40	.92(.33) <sup>x</sup>	2.50	.50(.40)	1.66	.04(.41)	1.04
TerminationUnsatisfactory	1.15(.39) <sup>xx</sup>	3.15	.67(.45)	1.95	.37(.55)	1.45	.56(.44)	1.75
AdultSupervision	.05(.39)	1.05	.40(.40)	1.50	.03(.47)	1.02	.40(.46)	1.48
Unclassified	-.02(.48)	.98	-.22(.52)	.80	-.11(.56)	.89	-.24(.54)	.78
ModerateMedium	-.01(.37)	.99	.07(.39)	1.08	-.42(.44)	.65	-.34(.45)	.71
HighMax	.04(.59)	1.04	-.38(.65)	.68	.62(.63)	1.86	.02(.64)	1.02
AgeAtTermination	-.02(.01) <sup>x</sup>	.98	-.04(.01) <sup>xx</sup>	.96	-.04(.01) <sup>x</sup>	.96	-.04(.01) <sup>xx</sup>	.96
Indays	.22(.20)	1.25	-.11(.19)	.90	.10(.25)	1.11	.68(.27) <sup>x</sup>	1.98
<u>Model Results</u>								
N								895
$\chi^2$ Value model								163.00
Nagelkerke $r^2$								.187

Note.  $x = p < .05$ ;  $xx = p < .01$ ;  $xxx = p < .001$

#### **Model 4: Time to Recidivism & Job Stability**

A multinomial logistic regression was conducted in model 4 to examine the relationship between time to recidivism and job stability. As was with model 3, this analysis included all of the terminated adult probationers from the years 2007-2011. The multinomial logistic regression model was statistically significant,  $\chi^2(68)= 159.157, p< .001$ . The model explained 18.3% (Nagelkerke  $R^2$ ) of the variance in probationer's time to recidivism. The results of this analysis show that those who had experienced two or more employment changes while on probation were 2.7 times more likely (Wald= 7.101) to recidivate in the first year following the termination of their probation and 2.5 times more likely (Wald= 5.518) in the second year. White probationers were 65% less likely (Wald= 4.258) to recidivate in the third year following termination from probation and 70% less likely (Wald=7.261) at the four-year mark. Compared to non-recidivists those who recidivated within year 4 the longer a person was on probation the more likely they were to recidivate (Wald= 6.509).



Table 10

## Multinomial Logistic Regression: Time to Recidivism and Job Stability Model 4

	Year 1		Year 2		Year 3		Year 4	
	b(SE)	Exp(b)	b(SE)	Exp(b)	b(SE)	Exp(b)	b(SE)	Exp(b)
JobStabilityOne	.17(.27)	1.18	.37(.28)	1.71	.47(.31)	1.60	-.23(.32)	.79
JobStabilityTwoPlus	.99(.37) <sup>x</sup>	2.70	.94(.40) <sup>x</sup>	2.56	.41(.54)	1.50	.24(.50)	1.27
2007	.52(.37)	1.68	.54(.38)	1.71	.38(.41)	1.46	.50(.42)	1.64
2008	.62(.39)	1.86	.69(.39)	1.99	.00(.47)	1.00	.00(.47)	1.00
2010	.33(.39)	1.40	-.12(.43)	.89	-.10(.45)	.90	.12(.43)	1.13
2011	.70(.37)	2.02	.19(.40)	1.21	.12(.43)	1.12	.31(.41)	1.36
Female	-.04(.26)	.96	-.06(.28)	.95	-.17(.32)	.84	-.86(.37) <sup>x</sup>	.42
White	-.64(.48)	.52	-.39(.58)	.68	-.10(.51) <sup>x</sup>	.35	-1.2(.45) <sup>x</sup>	.30
NoHighSchool	-.13(.27)	.88	.20(.28)	1.22	-.44(.36)	.64	.59(.29) <sup>x</sup>	1.81
TerminationRevoked	1.2(.30) <sup>xx</sup>	3.28	1.1(.32) <sup>x</sup>	2.94	.62(.38)	1.85	.23(.38)	1.26
TerminationUnsatisfactory	1.2(.38) <sup>x</sup>	3.28	.83(.44)	2.29	.47(.54)	1.60	.76(.43)	2.13
AdultSupervision	.01(.39)	1.01	.35(.40)	1.42	-.02(.47)	.98	.45(.46)	1.57
Unclassified	.06(.48)	1.06	-.17(.52)	.84	-.07(.56)	.93	-.25(.54)	.78
ModerateMedium	-.05(.37)	.95	.03(.40)	1.03	-.41(.44)	.66	-.39(.45)	.68
HighMax	.03(.59)	1.03	-.34(.65)	.71	.71(.63)	2.02	.06(.63)	1.06
AgeAtTermination	-.02(.01)	.98	-.04(.01) <sup>x</sup>	.96	-.03(.01) <sup>x</sup>	.97	-.04(.01) <sup>x</sup>	.96
Indays	.20(.20)	1.23	-.14(.19)	.87	.12(.25)	1.13	.69(.27) <sup>x</sup>	1.99
<u>Model Results</u>								
N								892
$\chi^2$ Value model								159.16
Nagelkerke $r^2$								.183

Note.  $x = p < .05$ ;  $xx = p < .01$ ;  $xxx = p < .00$ ; reference category are non-recidivists

### **Model 5: Property Crime Recidivists & Final Employment Status**

Model 5 includes a binary logistic regression examining the influence the final employment status has on one's likelihood to be a property crime recidivists. Like models 1 and 2, this model's dependent variable is nominal and measured dichotomously and the independent variable is measured nominally, indicating that a binary regression be conducted. The binary logistic regression model was statistically significant,  $\chi^2(18)= 31.982$ ,  $p < .05$ . The model explained 17.3% (Nagelkerke  $R^2$ ) of the variance in property crime recidivism and correctly classified 85.1% of cases. The results from this analysis show that if a probationer were unemployed at the termination of their probation they were 4.5 times more likely (Wald= 9.09) to recidivate for a property offense than any other recidivism offense. Also, probationers terminated in 2008 were 76.5% less likely to recidivate with a property offense.

### **Model 6: Property Crime Recidivists & Job Stability**

The final binary logistic regression model, model 6, includes an analysis of the dependent variable of property crime recidivists and how that is influenced by job stability. The binary logistic regression model was not statistically significant,  $\chi^2(17)= 22.165$ ,  $p > .05$ . The model explained 12.3% (Nagelkerke  $R^2$ ) of the variance in property crime recidivism and correctly classified 85.3% of cases. This statistical analysis failed to find any relationship between job stability and property crime recidivists. However, the results of this model indicate that the probationers terminated in 2008 were 80.6% less likely to recidivate with a property crime offense.

Table 11

## Binary Logistic Regression: Property Recidivists Model 5 &amp; Model 6

	Model 5		Model 6	
	b(SE)	Exp(b)	b(SE)	Exp(b)
Constant	-3.69(1.8)	.02	-1.56(1.7)	.21
Underemployed	1.05(.58)	2.85	-	-
Unemployed	1.50(.50) <sup>xx</sup>	4.50	-	-
UnemployedSociallyAcceptable	1.51(.80)	4.52	-	-
JobStabilityOne	-	-	.31(.40)	1.36
JobStabilityTwoPlus	-	-	.41(.54)	1.51
2007	-.82(.54)	.44	-.87(.53)	.42
2008	-1.4(.66) <sup>x</sup>	.23	-1.6(.71) <sup>xxx</sup>	.19
2010	-.38(.54)	.68	-.27(.52)	.76
2011	-.18(.49)	.84	-.01(.47)	.99
Female	.44(.39)	1.55	.52(.38)	1.67
White	1.23(.83)	3.44	.82(.81)	2.28
NoHighSchool	.22(.39)	1.24	.38(.38)	1.46
TerminationRevoked	.43(.42)	1.54	.66(.40)	1.94
TerminationUnsatisfactory	-.64(.68)	.53	-.56(.70)	.56
AdultSupervision	.09(.58)	1.01	-.07(.58)	.93
Unclassified	.19(.70)	1.21	.43(.70)	1.54
ModerateMedium	.41(.55)	1.50	.27(.56)	1.31
HighMax	-.94(.95)	.39	-.67(.95)	.51
AgeAtTermination	.00(.02)	1.00	.00(.02)	1.00
InDays	-.06(.27)	.943	-.21(.27)	.813
---Model Results---				
N		308		307
$\chi^2$ Value model		31.98		22.16
Nagelkerke $r^2$		.173		.123

Note.  $x = p < .05$ ;  $xx = p < .01$ ;  $xxx = p < .001$

## Summary of Findings

There are many results to take away from both the bivariate and multivariate statistical analyses conducted. The interpretations and hypothesized reasons behind these results are considered in the following discussion section. The conclusion of this results section will merely recap the larger findings from both the bivariate chi-square analyses and the multivariate regressions. The bivariate analyses included a total of six different Chi-Square analyses. The bivariate analyses appeared to find stronger correlations with the dependent variables based on final employment status as opposed to job stability. In terms of general recidivism, the bivariate analyses found that those who were unemployed at the termination of their probation were the most likely to recidivate (48.6%) and those who experienced no employment status changes (i.e. job stability) while on probation were the least likely to recidivate (29.4%). The analyses investigating the influence that employment and job stability had on time to recidivism failed to find any significant relationship at the bivariate level of analyses. When investigating the influence employment factors have on property crime recidivists the bivariate analyses showed no correlation in relation to job stability but, property crime recidivists were much more likely to be unemployed at the termination of their probation (60.4% compared to 39.4%) and a very low number were employed at their termination (14.6%).

The multivariate regressions were able to provide more in depth results that can be interpreted in terms of odds. The first two models looked at the influence that final employment status and job stability had on recidivism. These models found that those who were unemployed were 60% more likely to recidivate than those who were employed at the termination of probation and probationers who experienced two or more employment status changes while on probation were twice as likely to recidivate than those probationers who experienced no

employment status changes. Additionally, the first two models found that the probationers whose termination status was revoked or unsatisfactory were over two times as likely to recidivate.

The third and fourth regression models were multinomial logistic regressions conducted to analyze the influence that employment status and job stability had on the time it took a probationer to recidivate. These models found that probationers whose final employment status was underemployed or unemployed were twice as likely to recidivate at the two year mark. In relation to job stability, probationers who experienced two or more employment status changes were 2.7 times more likely to recidivate in the first year following the termination of their probation and 2.5 times more likely at the second year mark. The type of termination was predictive of recidivism in these models, too. If a probationer's termination status was revoked they were 2.5 times more likely to recidivate at the second year mark.

The fifth and sixth regression models were binary logistic regressions interpreting the effect employment status and job stability had on a probationer's likelihood to recidivate for a property offense. Although there were not many findings in these two models, there were two significant results. Probationers who were unemployed at the termination of their probation were 4.5 times more likely to recidivate for a property offense than any other type of recidivism offense. Also, probationers terminated in the year 2008 were over 75% less likely to recidivate for a property offense.

## CHAPTER V: DISCUSSION

### Overview

The results of this study will add considerably to the current body of community corrections literature. As discussed in the literature review, there was a large void in academic focus and research explicitly examining the influences certain social factors have on probationers. Given the reality that probation is by far the largest correctional population in our country, and the fact that most community corrections research is focused on the parole population, this study is by nature a vital step in understanding how to more effectively manage our national probation population. Evidence based practices have identified certain intervention areas that may provide the most effective and efficient path of recidivism reduction. One of the more commonly discussed areas of intervention is employment and employment factors. To increase the quality of this study and enhance the findings, the variables that were used were measured in unique ways that went beyond the typical units of measurement commonly seen in corrections literature.

Prior studies have found a plethora of evidence suggesting that employment is related to a reduced likelihood of recidivating (Berg & Huebner, 2011; Lockwood, Nally, Ho, & Knutson, 2012; Kleck & Jackson, 2016). The studies that have failed to find a strong relationship or no relationship at all were often using conceptually weak measures of employment. This study addressed this concern by using multiple measures of employment. As past studies have done, this study used the final employment status at termination of probation as one measure of employment. The more complex measure of employment was based off of Sampson and Laub's (1993) life course theory that suggested it was job stability not just employment that was the true indicator of desistance. In this fashion this study tracked the number of employment changes

while on probation as an indication of job stability and then compared this variable to the multiple recidivism variables utilized.

Extensively discussed in the literature review, recidivism is one the most common variables of analyses in criminal justice literature. No different than any other correctional population, probationer recidivism rates are not only important as performance indicators for probation departments but they too reflect the social costs of crime to society – higher recidivism rates equate to more crime which increases the social burden of criminals. Therefore, in order to delve deeper into an analysis of recidivism it was imperative that this study extend beyond the very common dichotomous measure of recidivism used in criminal justice research where recidivism is either a yes or a no. This study used three different measures of recidivism. Keeping with prior research, the first measure of recidivism was just a dichotomous measure of a yes or no. To investigate the influence employment factors may have on the time it takes an individual to recidivate the second measure of recidivism captured the number of years it took a probationer to recidivate. The final measure of recidivism analyzed the differentiation between independent variables effects on property crime recidivists versus all other types of recidivism offense. The motivation for singling out property crime recidivists was taken from Kleck and Jackson's (2016) analyses of serious property crime recidivists.

### **Discussion of Results**

Combining all of these variables into bivariate and multivariate analyses there was a surplus of findings as well as many possible implications based off of those findings. Examining the analyses it appears that both employment and job stability seem to have more of an immediate effect on desistance; immediate being within two years following the termination of probation. Many of the statistically significant findings in the multivariate regression models

indicated that the influence of employment and job stability seem to be significant in the first and second year following the termination but in the third and fourth year the effect appears to diminish. The multinomial logistic regression models that included time to recidivism, job stability, and final employment status show that those who were unemployed at termination or experienced two or more employment changes were two to nearly three times more likely to recidivate but only until the second year. The significance of the study variable drops below the threshold of statistical significance going into years three and four of recidivism monitoring. The implications of this finding could be to not only focus on requiring a probationer to remain employed while on probation but also focus on the long term and provide the probationer with services that can be utilized following the termination of their probation to seek out and maintain employment. Additionally, as Tripodi, Kim, and Bender (2010) found, employment may not always reduce the likelihood of recidivism but it may be capable of prolonging any instances of recidivism, which to some scholars is still a positive.

Through borrowing Kleck and Jackson's (2016) measurements of employment this study was able to investigate the influence unemployment and underemployment have on recidivism whilst removing those who are unemployed for reasons seen as socially acceptable (retired, student, disabled). The results of the analysis looking at the final employment status revealed that those who are unemployed seem to be the population that is of the highest risk of recidivism where 48.6% of those who ended probation unemployed recidivated and were 4.5 times more likely to recidivate for a property offense. However, separating the employed from the underemployed (part-time) revealed results that should be recognized. It would not be illogical for a study to consider part-time employment the same as employment for the simplicity of the analyses and on the basis that a job is a job and the benefits are even regardless of the type.



To evaluate the relationship between employment and crime further, scholars have also examined job quality and how the effects of a “good job” may further explain the employment-crime relationship. Extending this notion, Uggen (1999) analyzed the National Supported Work Demonstration Project and the 1977 Quality of Employment Survey in an effort to explore the influence of high quality jobs on criminality. The National Supported Work Demonstration Project was a randomized experiment that provided lower class criminal offenders in the treatment group with minimum wage jobs. Analyzing these data, Uggen (1999) found criminal behavior (both economic and on-economic) is reduced by job quality. These findings stress that the relationship between employment and crime may have more to do with the quality of employment an offender obtains rather than just the status of ‘employed’. That is the motivation in this study to differentiate between the influence of full time employment and part time employment or being underemployed.

Although the findings revealed that those who are unemployed at the termination of their probation are the most likely to recidivate, the second most likely population for recidivism are those who are underemployed. Those who were unemployed were twice as likely to recidivate compared to those who were employed; the same odds as those who were unemployed. The implications of this findings could be to allocate more resources to finding full time employment for probationers. A probation policy could be drafted in which the employment status condition of probation be that the probationer must prove that he/she is actively seeking full time employment throughout their probation sentence instead of a part-time occupation providing the means to fulfill that condition.

The more unique measurement of employment in this analysis was job stability. This measurement captured the number of employment changes a probationer experienced while on

their probation term and compared that to the variables of recidivism. The findings from the study concerning job stability indicate that the stability of a probationer's employment is very influential in overall recidivism. Probationers who experienced two or more employment status changes while on probation were two times more likely to recidivate than those who experienced no changes in their employment status. And in relation to the variables investigating the time to recidivism job stability was again an indicator of increased odds of recidivism where those who experienced two or more employment status changes were 2.7 time more likely to recidivate one year following termination and 2.5 time more likely two years following termination. These findings are important to digest and discuss as job stability may have more explanatory power of the influence of employment than simply the employment status at the termination of probation. It is a more complex level of measurement that captures employment along the entire probation term and provides a sense of the probationer's level of commitment to employment. The resulting implications of the findings from job stability could be to actively monitor probationer's employment status changes and when a probationer loses the status of full-time probation to quickly assist them in finding full-time employment rather than settling for a part-time position.

An attempt in this study was to investigate the influence employment may have on a probationer's likelihood to recidivate for a property offense. The motivation for this analyses stemmed from national recidivism rates that property offenders had the highest rate of recidivism (Hughes & Wilson, 2004; Langan & Levin, 2002; Nally et al., 2012) and that offenders were less likely to commit property offense while employed (Horney et al., 1995). The results of this study do lend some support to prior research as those who were unemployed at the termination of their probation were 4.5 times more likely to recidivate for a property offense than any other type of

offense. Additionally, property crime recidivists were more likely to be unemployed at the termination of their probation than any other recidivism offense type. When investigating the influence job stability on property crime recidivists this analysis failed to return any statistically significant relationships. These findings could be suggestive that those who are unemployed at the termination of their probation are committing property crimes in an effort to supplement the monetary benefit of employment.

There were other significant findings in the analyses not related to the independent and dependent variables. One of the most common findings throughout the regression models across the board was that the termination status of the probationer was a strong indicator of future recidivism. Specifically, if a probationer were to end their probation term as either revoked or unsatisfactory they were much more likely to recidivate. Three of the six regression models conducted found that a termination status of revoked or unsatisfactory was indicative of a little greater than two times chance of recidivating than any other termination status. A potential way to combat this issue could be to provide more opportunities for reparation for those who appear to be on the path leading to either a revoked or unsatisfactory termination status.

Other significant findings from the analyses were that white probationers were less likely to recidivate than any other race. This is concerning because the probation population consists primarily (91.5%) of Caucasian offenders. A future analysis could begin to investigate the reasoning why such a small racial minority population have higher odds of recidivating. The final relevant finding is consistent with all of the prior criminal justice research and that is the aging out effect. Aging out effect refers to one likelihood of committing crime gradually reducing with each year of age. This study reinforced this notion finding that with each year age increases the likelihood of recidivating decreases between 2-4%. An implication based on this

finding could be to provide the younger population with a more intensive approach and possibly provide minimal resources to the older population whose risk of recidivating is considerably lower.

### **Limitations**

As there are with all scholarly research, there were some limitations present in this study. Many of these limitations were unable to be addressed through study design nonetheless they are still important to acknowledge. One of the larger limitations of this study is that the sample size is relatively low (N=943) and the population is not highly generalizable as the county is mostly rural and Caucasian. Additionally, the study is conducted on secondary data which limits the study variables to variables that can be formulated based on the data that has already been collected. Another inherent limitation when studying recidivism is the conceptualization of recidivism. This study was limited to the Piatt County probation department's conceptualization of recidivism as was any arrest (no conviction needed) within four years following the termination of probation. The issue is that one could argue a recidivism offense committed four years following the termination of probation may not truly reflect the effectiveness of the probation sentence. Additionally, considering an arrest without a conviction to be a recidivism offense may be leading to skewed recidivism statistics for the probation department.

Throughout the literature review and in other parts of the paper it has been mentioned that there has been little research conducted investigating the influence employment and job stability have on probationer recidivism. Although there have been employment studies conducted on community correction populations they tend to be hyper focused on the parole population. The lack of prior literature provides little guidance as to how a study of such should be constructed and developed.

There were some inherent constraints with the available variables from Piatt County's probation department. Piatt County probation was only capable of providing employment status information on each probationer for the period of time they were under supervision. Although this still allowed for an analysis to be conducted investigating the influence of employment on probationer recidivism it would be optimal if the employment status data extended beyond the termination of an individual's probation. Without being able to factor in the probationer's employment statuses following the termination of their probation the resulting conclusions from the statistical analyses are intrinsically limited.

The available data did provide the capability to track the time it took each probationer to recidivate however it the most precise unit of measurement was by year. Since the probation department only tracks for four years following the termination of a probationer's term this allowed for only four different categories of time to be analyzed. When assessing the influence employment had on time to recidivism for probationers these analyses found that the effect of employment factors seems to be limited to two years following the termination of probation. One way in which these findings could be better understood is if the Piatt County probation department began tracking the number of days it takes a terminated probationer to recidivate. Capturing the number of days to recidivism compared to simply capturing the number of years would increase the accuracy of the findings.

The main focus of this study was to assess the influence employment factors imposed on recidivism rates for probationers. As discussed in the literature review, employment is a risk factor. Risk factors are assessed in the LSI-R that is administered to each probationer and is the determining factor for the probationer's classification status. The limitation arises with the vagueness of the classification status. Although this study was able to control for the

classification status of each probationer it would have had been more effective to include the exact scores assessed in the LSI-R for each risk factor. The probation department could begin to record these scores independent of the classification status to allow for future research to independently assess each risk factor and the influence they impose on recidivism.

### **Future Research**

Although the goal of this research was to attempt to address some of the limitations of past research, there were some limitations that could not be addressed or new limitations that were revealed. One of the biggest recommendations for future research would be to simply begin exclusively examining the probation population in studies. Failing to adequately study the largest population of corrections in the nation could be leading to a situation in which the way the probation population is managed is ineffective and potentially wasting resources.

Future research interested in examining the influence employment related factors have on recidivism could benefit from developing a variable that measures job quality. Job quality could be measured through salary or type of occupation. Although potentially an ambitious recommendation, if a probation department could ask probationers to voluntarily provide their employment status following termination every so many months this then could provide data that would be capable of exploring the influence of employment on recidivism well beyond the probation term. Another conceptual issue that future research could benefit from addressing is measuring job stability as positive and negative employment changes. This study focused on just any employment change that occurred on probation however, it may be beneficial to measure job quality changes. Job quality changes could assess a transition from full time employment to part time or unemployed as a negative employment change and a change from unemployment to part time or full time employment as a positive change.

In terms of variables that could be implemented to further explore the influence employment has on probationers future research could examine different recidivism offenses as this study focused only on property crime recidivists. An additional variable that could be included in future analyses is controlling for the initial offense types committed by each probationer to assess the influence they impose on recidivism variables. To address the generalizability limitation that this study was bound by, future studies could mirror this study's design but use a population of probationers that is more generalizable to the national probation population – including more minority probationers and an urban setting would increase the generalizability substantially.

Although there was a brief discussion of the criminological theoretical assertions that would suggest employment influenced one's likelihood to recidivate, this study did not test any specific theory. Future studies could build off of the foundation of this study by specifically testing a criminological theory with the available probation data. Through including a test of theory the results could be more easily translatable to real world implications. Although findings of this study lend support to the criminological theories that suggest employment influences offending, there is no way, through this study, to conclude that any specific theory can be supported or rejected.

The final recommendation for future research would be to potentially focus less on recidivism and more on success. Although the majority of prior research has utilized recidivism as the main dependent variable there could be potential to uncover more implications through trading the recidivism variable for success. Researching what leads probationers to be more successful oppose to what leads probationers to be less successful would provide the literature with a much needed and different perspective on the effectiveness of probation.

## **Policy Recommendations for the Piatt County Probation Department**

To conclude this paper a few recommendations for the Piatt County probation department will be offered. The first set of recommendations is in relation to the conceptualization of recidivism. The probation department may find it beneficial to adjust their current conceptualization of recidivism in two ways. The current conceptualization of recidivism includes any arrest even without a conviction as a recidivism offense. Including those who are not convicted may be over exaggerating the recidivism rates. Another potential issue with the current conceptualization of recidivism is the time frame in which a recidivism offense is counted. Although there is no scholarly standard of duration for looking at recidivism post-termination, viewing an offense four years following the termination of probation may not speak to the effectiveness of the probation term. The probation department may find that looking at shorter window of time will provide data and results that are more indicative of the effectiveness of the probation strategies applied.

When analyzing the provided data the researcher noticed that many of the entries in variables were inconsistent. For example certain terms were spelled differently or in an instance where no entry was capable of retrieving (i.e. unable to determine one's employment status) the entry was simply left blank opposed to being unknown. The probation department's data could become more manageable and interpretable if logged data was more consistent. A potential remedy to this issue is to create a pre-set list of responses to each condition in which the officer filling out the information could select a specific response from a list rather than typing the response in themselves.

The overall results of this study indicate that employment does influence a probationer's likelihood of recidivating. More specifically, full time employment and fewer employment status



changes reduce a probationer's likelihood to recidivate. In order to provide probationer's with more opportunities for acquiring employment it may be beneficial for the probation department to begin to partner with community programs that assist citizens in locating and gaining employment. Not only would this increase the number of employment opportunities but it would alleviate some of the pressure off of the probation officers in relation to assisting probationers find employment.

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