A Thesis

entitled

Sentence Length and Recidivism: Are Longer Incarcerations the Solution to High Rates of Reoffending?

by

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The effect of sentence length on recidivism is an important area of research in the fields of Sociology and Criminology. With all of the social and economic considerations that go into the effectiveness of a correctional institution, there is a consistent demand for making sure these institutions are meeting their societal needs. This study analyzed the implications of sentence length on recidivism when controlling for type of crime, length of sentence, sex, race and age. This study also analyzed the effect of interventions and infractions inside a correctional institution on recidivism. The data used for this study was titled, "Recidivism of Prisoners Released in 1994," and was provided by the United States Department of Justice (Bureau of Justice Statistics). The aim of this study was to see if longer sentences continuously reduce the probability of reoffending once released. Using cross-tabulations, survival analysis and logistic regressions, the probabilities for reoffending become stable from a moderate (4-10 year) to a high (11-25 year) sentence length, supporting the idea that longer sentences may not be more effective for reducing recidivism. Also, individuals with criminal history, especially previous prison
experience, had higher probabilities of reoffending. These analyses were done while controlling for age, race, sex, type of crime, sentence length and criminal history.
I dedicate this thesis to my family. Without the opportunities and support you provide for me, I would not be where I am today.
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Chapter 1

Introduction

1.1 Statement of the problem/Importance of Study

This study was designed to examine sentence length and recidivism with regard to correctional institutions. I examined the relationship between the length of an individual’s initial sentence and the rate of recidivism. This study used data from the United States Department of Justice (Bureau of Justice Statistics) from 1994. The following discussion examines previous research on recidivism, discusses theoretical perspectives that lead to an interest in this possible relationship, and investigates the possible implications an individual’s sentence length may have on recidivism rates. Specifically, I wanted to see if there is a positive relationship between the two variables. The main hypothesis of this study was: an individual who receives a shorter sentence for their first conviction will be less likely to return to a correctional institution.

A second aim of this study was to examine whether or not a past history of criminal acts increased the risk of recidivism. By looking at first-time offenders, this study compared individuals who were entering a correctional institution for the first time in their lives to those who were serving a second or subsequent term, which means any significant findings may be applicable to all first-time offenders essentially, regardless of
ascribed factors. By controlling for the previous factors researched in recidivism (i.e. race, type of crime and education), I was able to isolate sentence length as a variable and reveal any possible relationship that can likely be used to analyze first-time offender’s recidivism rates once released.

Finally, I examined whether or not behaviors during imprisonment could be used to predict recidivism risk. In other words, did participating in positive programs, such as educational classes or vocational training reduce risk? Were conduct infractions indicative of increased risk for return?

It is important to note the positive implications this research may have. A better understanding of recidivism and possible methods to reduce recidivism rates can lead to the implementation of new approaches and practices to the correctional system. Reducing recidivism rates on a macro level can lead to several positive outcomes for both individuals who go through the justice system and the rest of society. If a significant relationship between sentence length and recidivism can be shown, the approach to distributing sentence lengths may call for some reconsideration.

1.2 Introduction to the Topic

When considering the function of correctional institutions in our society, one might immediately look at the fact that corrections are enforced to carry out some sanction or consequence an individual has earned. At the same time, it is important to also recognize how correctional institutions function as a deterrent for individuals and society, regardless of one’s involvement in the criminal justice system. By establishing
various sanctions for those who commit crimes, it is apparent how this can also hinder other individuals from committing crimes.

Although correctional institutions may be seen as a deterrent in the overall scheme, there is some skepticism that this is not functioning adequately. It seems that correctional institutions do not deter crime for all as there are always individuals committing crimes. As of 2009, roughly 61% of adult offenders reoffended within one year of their release from a correctional institution (Iorizzo 2012). Statistics such as this may contribute to negative assessments of correctional institutions.

With that in mind, there is a key element to prison life that some may see as the source for these high recidivism rates. One could assume that individuals who are exposed to other convicted criminals for various lengths of time may develop negative traits and lifestyles (or possibly reinforce their original behavior), and this may be a factor that increases the likelihood for recidivism. Although it is difficult to avoid such a situation, it may contribute to individuals finding themselves committing crimes again. A high level of exposure to an environment surrounded by criminals may create a window of opportunity for an individual to develop some negative habits.

In addition to the lifestyle settings and societal considerations within correctional institutions, the length of an individual’s stay could also be seen as a source for affecting their likelihood of reoffending. If an individual is exposed to these conditions for an extended period of time, it seems quite possible that individual may find those societal conditions as acceptable behavior in their everyday life. Once released from a correctional institution after a long sentence, an individual might find that life on “the
outside” is too difficult to adapt to, and he or she may commit a crime simply to get back to a society that is considered normal to them.

When considering all of these factors, a more specific approach to understanding recidivism may be useful. It seems that the length of an individual’s sentence could affect one’s recidivism rate when controlling for specific factors. Specifically, this research, while controlling for several factors, looked at the relationship between the length of an individual’s sentence and their rate of recidivism. By limiting the exposure an individual has to a correctional institution’s lifestyle, the window of opportunity for an individual to develop more criminal tendencies is smaller than it would be with a longer sentence, thus possibly decreasing one’s rate of recidivism.

This study analyzed the risk of recidivism for individuals based on several different criteria. First, descriptive statistics were used, including cross-tabulations, to observe the frequencies of the independent variables in terms of recidivism. Next, logistic regression was used to predict the risk of reoffending for individuals while controlling for demographic variables. Logistic regression was also used to analyze how interventions and infractions within the correctional institution influence recidivism rates. Finally, survival analysis was used to analyze recidivism rates for violent and non-violent offenders as well as individuals with prior prison experience and prior arrests.

Theoretically, this study used a symbolic interactionist approach (Mead 1934) as well as differential association (Sutherland, Cressey and Luckenbill 1992). As these theories demonstrate, individuals learn behavior through social interaction, and the idea of learning criminal behavior was quite applicable to this study. With longer sentence lengths and controlling for the type of crime an individual commits, this study
hypothesized that individuals will be more susceptible to learn criminal behaviors if they experience a longer sentence, especially on their first offense.

The following chapters will review past literature in the area of recidivism. A discussion of the theoretical framework for this study will follow the review of literature. From there, cross-tabulations will provide a better description of the data and the variables that were used in this study. Chapters 5-7 will include the logistic regressions and survival analysis of these variables, which will then be followed by a conclusion and discussion of the findings.
Chapter 2

Literature Review

2.1 Introduction to Recidivism

In order to fully address the issue of risk factors for recidivism, it is necessary to summarize what we know about the problem. Many studies that examine recidivism, also take a life course approach to understanding the criminally delinquent. Social structures, such as community, education and family are often analyzed for dysfunctions. Also, studies examine characteristics of the offender such as age, race, sex and mental health.

A common approach to understanding why individuals eventually reoffend involves looking at factors that surround one’s life (Kirk and Sampson, 2013; Case and Fasenfest, 2004; Mulder et al. 2011). Once identified, these factors become defined as risk factors and they include family characteristics, peers, psychopathology and substance abuse. Although this is not a complete list of everything that might affect an individual’s chance for recidivism, looking at these factors can help understand if an individual’s living situation puts them more at risk for returning to a correctional institution. Furthermore, these risk factors can develop in adolescence and, even if they do not result in a return to the adult prison system, they can influence negative outcomes across the
lifespan of the individual (Willits, D., Broidy, L. and Denman, K 2013). As a result, fully understanding recidivism may require an examination of the life course and the underlying socialization process of the individual.

Mulder and colleagues (2011) examined a sample of 728 serious juvenile offenders, in order to identify areas of an individual’s life that could be improved in order to decrease their risk of recidivism. This study made an important contribution to our understanding of risk for being socialized into a deviant lifestyle. The study revealed that a high number of offenses in the past, a young age at the first offense, and poor parenting skills during childhood are severe, static risk factors for individuals likely to reoffend. The study also revealed that those who committed violent crimes reoffend more often than those who committed non-violent crimes.

Essentially, this study confirmed that the more present these risk factors are in an individual’s life, the higher chances that individual will reoffend. When considering the risk factors presented within this study, one could conclude that exposure to environments involving drugs and violence at young ages will likely increase the chances for that individual to engage in negative behavior. Also, they discussed the importance of a positive childhood when looking to diminish the risk for individuals to be involved in crime. With parenting being such a vital part of a child’s social development, poor parenting methods can be seen as a significant influence on an individual’s criminal activity. Finally, these studies provide evidence for the importance for individuals to develop relationships with non-criminals as a method for decreasing the risk for an individual to reoffend. Mulder’s study, along with that by Willits and colleagues, support the theory of differential association and a symbolic interactionist approach to
understanding the nature of the criminal act. We see further evidence of this relationship when communities are engaged to directly collaborate to socialize the residents to reduce crime (Fulton 2012) so it is likely that ‘fixing’ the socialization of values around deviance would be an effective mechanism of preventing and reducing crime. (See Chapter 4 for a complete discussion of the theoretical implications of socialization and crime.)

Building on the socialization argument, it seems quite beneficial for an individual who is looking to turn his or her behavior around to develop non-delinquent support networks. This leads to the inevitable question that motivated this study: What is the likelihood of this occurring when individuals who are sent to correctional institutions are typically surrounded by convicted criminals for an extended period of time? Although this might not necessarily lead to further relationships among the individuals post release, the exposure to this type of society may increase the risk for an individual to commit more crimes in the future. Also, receiving an extended sentence in this society might increase the window of opportunity for relationships amongst criminals to develop.

2.2 Education

When analyzing other possible factors that might influence an individual’s chances for recidivism, educational attainment and employment after release from corrections play a significant role, as does education obtained during incarceration (Case and Fasenfest, 2004; Case and Fasenfest, 2005; Wheeldon, J. 2011). Lockwood and colleagues (2012) also identified community risk factors for recidivism. They focused on what an individual does after being released from a correctional institution by examining the effect of correctional education on post release employment using offenders from the
Indiana Department of Corrections. The study contained a sample of 6,561 offenders who were released 2005 and followed until 2010. While looking at the education level of the offenders in the study, 66.7% with a college education had found employment, while only 57% of the offenders with an education below high school had been employed since their release. When considering the effect of education on recidivism, the recidivism rate among offenders who had a college education in the study was 31% compared to the 56% recidivism rate for those with less than a high school diploma. As past research has demonstrated, an individual’s education level affects their chances of finding employment. At the same time, both education level and employment status are clearly important for individuals when considering factors that may reduce recidivism. Individuals who are uneducated and unemployed are more likely to reoffend than those with an education and a job (Lockwood et al. 2012). There is a demand for both education and job-training for offenders who are released from correctional institutions. It seems evident that an important element to reducing recidivism comes from the ability to re-socialize individuals back into society. By educating individuals and offering job opportunities, these practices may have an overall positive influence on the individuals being released from correctional institutions and may help them avoid returning to their previous lifestyles.

2.3 Race and Recidivism:

While education and employment opportunities are important aspects to consider when looking to reduce recidivism, the list of factors that might affect one’s rate of recidivism does not stop there. Offenders’ race also has implications on employment,
which can affect an individual’s likelihood to reoffend. By analyzing a sample of 1,568 Ohio ex-prisoners who were released on community supervision during their first six months of release in 1999, Bellair and Kowalski (2011) look at employment opportunities between African Americans and whites and how this might affect recidivism. In general, white parolees returned to communities with greater employment opportunities compared to African Americans. Also, white parolees were less exposed to traditional indicators of hardship and disadvantages such as poverty and school dropout. African American ex-prisoners that move back to neighborhoods with high unemployment rates are more likely to return to prison for a new felony compared to whites. At the same time, African Americans who return to neighborhoods with low to average rates of unemployment are not significantly more likely to return to prison compared to whites (Bellair and Kowalski, 2011).

There is also a relationship between unemployment and type of offense when an individual returns to prison. When Black individuals are released to areas that have high levels of unemployment, they are far more likely to reoffend with a violent crime. White individuals, on the other hand, when they had a non-violent first offense, were less likely to reoffend with a violent crime when they were released to areas with low unemployment rates. High unemployment rates in an area did not increase offense rates for whites, so there is evidence to support that there is an interaction between race and community outcomes that influence recidivism (Wang, et al., 2010).

The implications race can have on recidivism are well documented, and it is clear that a racial disparity in recidivism rates exists in the United States. For example, in a study of 12,545 male ex-inmates who were released from the Allegheny County Jail in
Pennsylvania in 2003, Jung and colleagues (2010) compared recidivism rates between Black and White individuals over three years after their release. The authors also looked at an individual’s survival time after release, which refers to the time frame between being released from a correctional institution and being re-arrested. Survival time was also analyzed in terms of race throughout the study.

They found that the majority of recidivism occurred during the first year of release (36.7% of the studied ex-inmates). Approximately 12% more Black males were rearrested within 12 months of release compared to White males. At 24 months after release, the racial difference increased to 15.7%. Again, there is an increase in Black males being rearrested more than White males at 36 months as 17.6% more Black individuals are rearrested.

As racial disparity is seen in the recidivism rates, survival time demonstrates a similar pattern. Throughout the 3 years of tracking, black males had an increasingly disparity in survival time compared to white males. In other words, black men were more likely to reoffend during the 3-year tracking period compared to white males, and black males were also more likely to reoffend sooner. Black men in the study had fewer survival days (596 days) compared to white males (732 days) (Jung et al. 2010).

Past studies have also found that non-whites are more likely to be arrested and convicted (Case, 2008; Brownsberger, 2000; Bosworth, 2000; Carmichael 2004). These studies that examine increased risk for non-Whites, illustrate a factor that might affect an individual’s rate of incarceration and recidivism that cannot be changed. An individual’s race is as an ascribed status, but this also has the ability to affect recidivism. It is impossible to rehabilitate this risk out of an individual because the origin of the problem
does not lie within the individual. Ascribed factors such as race reveal an idea that demonstrates how recidivism rates can be affected by factors that individuals have no control over. In other words, risk of recidivism that is associated with race is linked to institutionalized racism in our society.

Studies of recidivism vary on comparing outcomes and focusing on reintegration of ex-inmates into society to improve the overall rate of recidivism or understanding adolescent risk so that we can prevent entry into the system. These studies underscore the successes of rehabilitation programs and interventions introducing recidivism to some extent, but there is still room for much improvement. If additional resources are allocated towards better reintegration opportunities and improved rehabilitation programs, it is likely that we would see a further decrease in recidivism rates across the board. However, programs that focus on the individual are not enough to reduce the racial disparities in our rates. That would require a restructuring or our entire social system to eliminate institutionalized racism.

2.4 Mental Factors

Past research on recidivism clearly involved looking for all possible factors that might influence one’s rate of recidivism, and the list continues to grow. Another ascribed factor that may have the ability to affect an individual’s rate of recidivism revolves around one’s mental capabilities. Past research has shown that the mentally ill are overrepresented in the prison population (Warrilow 2012) as are those with cognitive delays. Internal Review guidelines consider both incarcerated and mentally ill individuals to be vulnerable populations due to loss of autonomy. Added to these
vulnerabilities is that minorities are likely to be over-represented in the prison population. This means that prisoners are hit with a ‘triple whammy’ of issues that will confound their ability to reintegrate successfully.

Fitzgerald and colleagues (2011) analyze 145 patients in The United Kingdom who were diagnosed with an intellectual disorder using the International Classification of Diseases. More specifically, the group consisted of 121 patients diagnosed with mild intellectual disorders, 18 with moderate intellectual disorders, five with severe intellectual disorders and one with unspecified intellectual disorder. Also, 49 patients were only diagnosed with intellectual disabilities while 96 patients had another diagnosis of a mental disorder along with their diagnosis of intellectual disorders (Fitzgerald et al. 2011). They determined that the number of previous offenses (including drug and bail offenses) and a history of substance abuse were significantly related to re-conviction in offenders with intellectual disorders. These factors, along with arrest history and sexual offenses, were the risk factors analyzed within individuals with intellectual disorders. Although only 14 of the 145 offenders in the study were reconvicted during the two-year follow up period, Fitzgerald and colleagues (2011) explained that offenders with intellectual disorders were significantly slower to re-offend compared to the control group of mentally disordered offenders who were not diagnosed with intellectual disorders. This would mean that longer follow-up times are required for populations that are known to have cognitive delays. Therefore, they also looked at the ability to predict recidivism in their sample using a risk assessment instrument known as the Offender Group Re-Conviction Scale (OGRS). They found that predicting recidivism in offenders with intellectual disorders was extremely effective. The study demonstrates an important
ability in the OGRS to be able to distinguish between offenders with intellectual disabilities who are more or less likely to reoffend (Fitzgerald et al. 2011).

Offenders are also at greater risk for recidivism when they have more than one mental health issue. For example a substance user might have increased risk for returning to prison, especially if they are released to the same community where they lived pre-conviction. However, if a substance user is self-medicating an underlying mental health issue, such as bipolar disorder or a psychosis, then the risk increases. Recidivism risk is linked to not only the number or concurrent mental health issues but also to the severity of those disorders (Jaffe et al. 2011).

Clearly, mental health and cognitive abilities are linked not only to risk or initial incarceration, but also to risk of reoffending. These factors are exacerbated when more than one cognitive or mental health issue is present, especially if the individual also has an issue with substance abuse. While many of the roots of mental health begin with the individual, such as bipolar disorder that we know to be a chemical imbalance, there are mechanisms of providing social support and socialization for these individuals that might reduce their overall risk. We know, for example, that juveniles with Post Traumatic Stress Disorder (PTSD) are more likely to reoffend (Becker et al. 2012) and that PTSD is treatable and a learned response to severe trauma (Schnurr et al. 2013). It may be possible that other disorders that begin in childhood are also learned behaviors that are the result of ineffective socialization and that addressing socialization issues would reduce the overall risk of crime and recidivism.
2.5 Substance Abuse

As attention is needed for more research involving drugs and recidivism is
needed, Mitchell and colleagues (2012) add to this area by looking at the effectiveness of
drug courts on recidivism. By evaluating 154 drug courts, the authors look to see if those
offenders involved in these programs have lower recidivism rates compared to similar
offenders who are not involved in the drug courts. In terms of specifics for the study,
Mitchell and colleagues (2012) define a drug courts as an option for offenders who are
screened for eligibility where they can agree to get their charges reduced or dismissed if
the program is completed successfully. The offenders, or “clients” in the drug courts,
must abide by the court’s demands, which may include urine tests, treatment attendance
and court appearances. Although these programs are structured to help offenders who are
seen to have a substance problem, there are a high percentage of clients who fail out of
the program.

Mitchell and colleagues (2012) found that individuals who participate in drug
courts have a lower rate of recidivism compared to those who do not. Adult drug courts
have the ability to reduce general recidivism from 50% to roughly 38%. It is important to
point out that the study revealed to be less effective in reducing recidivism rates in
violent offenders involved in drug courts compared to non-violent offenders (Mitchell et
al. 2012). While this may diminish the effectiveness of drug courts in terms of overall
recidivism (since the effects are not applicable to all offenders), it opens a new path of
research in attempting to find the reasons or factors behind these findings.

As the previous study showed, targeting specific factors in individuals has the
ability to reduce one’s chances of returning to a correctional institution. It is important to
note that the option for drug courts is not open to all offenders (Mitchell et al. 2012), and this may influence the overall view of this system. The idea of targeting a factor that may lead an individual to reoffend clearly demonstrates effectiveness, but a system that has the ability to reduce all offenders’ rates of recidivism has to be the goal in mind. One might argue that the role of correctional institutions in our society is to reduce recidivism, but there seems to be a clear consensus that this is not always occurring.

Although the factors discussed differ among individuals, there seem to be some consistencies in those who reoffend. Drug abuse, for example, seems to demonstrate a consistency in playing an important role in affecting an individual’s rate for recidivism. Regardless of other factors within an individual, drug abuse has been demonstrated as a factor in recidivism among various individuals. This consistency seems to call for more attention towards the implications of drug abuse when looking to reduce the rate of recidivism for individuals.

2.6 Correctional/Rehabilitation Techniques

Interactive journaling for inmates can help reduce recidivism as a more modern approach to correctional techniques (Proctor et al. 2012). Proctor and colleagues (2012) define interactive journaling as a 24-page journal developed by The Change Companies, which has a primary focus of helping individuals make the connection between their substance use and criminal activity. The journal also allow inmates to weight the costs and benefits associated with different options they have in developing a plan for change once they are released. Specifically, the journal tries to encourage inmates to reflect on
choices that have led them to their current situation, and to look for better ways to live a more rewarding life (Proctor et al. 2012).

The study placed the qualified inmates into an interactive journal group and a control group. Among the two groups, 51% of those inmates involved in the interactive journaling group reoffended while 66% of the inmates in the control group reoffended (Proctor et al. 2012). These findings revealed as significant effect resulting from the interactive journaling with regard to reducing recidivism rates. The authors also recognized that the three most significant predictors of recidivism were the severity of the individual’s Post Traumatic Stress Disorder, their group assignment (whether the individual was in the interactive journaling group or the control group) and employment status (Proctor et al. 2012).

An interesting component to this study was the idea of looking at techniques that hope to improve an individual’s behavior and decision-making skills rather than a basic correctional approach. Specifically, this interactive journaling technique gives individuals the chance to better their future by learning from their past. One could assume that individuals who do not participate in organizations such as interactive journaling are simply spending their time in a correctional institution counting down the days until release, rather than looking to improve their lives.

At the same time, programs such as interactive journaling and other similar organizations may be counter-productive if an individual is forced into such a program without consent. It is apparent that these voluntary organizations call for some individual drive and motivation within the offender to want to change their behavior. The effectiveness of these programs might be due to the internal motivation within the
offender as opposed to the effects of the program itself. Although one could assume that mandatory placement within these organizations for inmates allows a greater opportunity for an individual to find the desire to make positive changes, it is likely that a large portion of the effectiveness in these organizations lies within the individual and their internal motivation.

Applied practices such as interactive journaling (Proctor et al. 2012) are just one of several approaches for reducing recidivism rates. One method in particular has gained attention. Project Greenlight, for example, was a major program used to transition inmates from a correctional institution back to society (Wilson and Zozula 2012). Developed by the New York State Department of Correctional Services and the Division of Parole, Project Greenlight was an 8-week period prior to an inmate’s release from a correctional institution where inmates are introduced to a cognitive behavioral foundation. This foundation is made up of: life skills education, employment assistance and job readiness training, housing services, drug relapse prevention and drug education, community-based services and working with parole officers (Wilson and Zozula 2012).

Wilson and Zozula (2012) analyzed the effectiveness of Project Greenlight by looking at the number of re-arrested individuals and their involvement with the project compared to other programs known as The Transitional Services Programming and the standard New York Department of Correctional Services. This study also looked at an inmate’s risk level (risk of being rearrested based on factors such as criminal activity and drug use) in order to determine its effectiveness in reducing recidivism rates.

Project Greenlight consistently performed worse than the compared programs in terms of effectiveness in reducing recidivism rates (Wilson and Zozula 2012). In terms
of the analysis of individuals based on their risk level, the study revealed how different programming can affect individuals differently based on their risk factors. For example, intensive programming has the ability to result in negative outcomes for moderate and high-risk offenders when these individual’s specific needs are not targeted properly.

This demonstrates the importance of both the structure and implementation of these projects in order to fully achieve success in reducing recidivism (Wilson and Zozula 2012). It is apparent than individuals have different abilities to learn, thus certain techniques might work on one but not on another. This mentality needs to be in place when structuring these programs if the most effective approach is going to be taken. Also, individuals react differently to different levels of responsibility, and this seems to diminish the effectiveness of rehabilitation programs. Some individuals may need to be monitored at a high level in order to achieve the goal of the program while other individuals may be able to achieve the same level of success with minimal monitoring.

2.7 Sentence Length

Weinrath and Gartrell (2001) look at the effect of sentence length of drunk drivers and their rate of recidivism. While analyzing 514 incarcerated drunk drivers for roughly 24 to 45 months in Alberta, Canada, the authors looked for the optimum sentence length where recidivism rates were lowest. The sample in this study consisted of individuals around 34.5 years of age (the sample ranged from 19 - 66 years) with an average education level of grade 10 (Weinrath and Gartrell 2001).

Findings showed that as sentence length increased, the likelihood of a new drunk driving conviction decreased (Weinrath and Gartrell 2001). Specifically, individuals who
had a sentence less than 91 to 120 days reoffended at a rate of 29%, while those who served a sentence of 4 to 6 months reoffended at a rate of 20%. Interestingly enough, individuals who served a sentence of 7 months to 1 year reoffended at a rate of 26%. The rate of reoffending dropped once again to 22% for those individuals who served a sentence longer than one year (Weinrath and Gartrell 2001).

This reveals the importance of implementing sentence lengths when seeking the most effective deterrent for recidivism. Weinrath and Gartrell (2001) demonstrate a call for longer sentences when looking for a more effective deterrent, as this seemed to be the general pattern among the sampled drunk drivers. This is not applicable to all cases as several other factors also affect one’s rate of recidivism, and this inconsistency was demonstrated in the drunk drivers who served a sentence length longer than 1 year (Weinrath and Gartrell 2001). While there is no clear optimum sentence length that will be the most effective deterrent for reoffending drunk drivers, the role of sentence length on one’s rate of returning to a correctional institution clearly has implications (Weinrath and Gartrell 2001).

### 2.8 Community Service and Recidivism

Looking at the way in which one’s length of sentence can affect their rate of recidivism has been analyzed (Weinrath and Gartrell 2001), and authors revealed a longer sentence could potentially decrease recidivism rates in drunk drivers. It is plausible, however, that a different form of sentencing may have more positive implications on recidivism rates. Muiluvori (2001) assessed how community service sentences compare to prison sentences for individuals in terms of their rate of recidivism. Muiluvori (2001)
looked at two groups of offenders in Finland: individuals sentenced to community and individuals sentenced to prison for no longer than 8 months (control group). After a follow-up period of 5 years, the study revealed that the group of individuals sentenced to community service had slightly lower recidivism rates compared to those who were sentenced to prison (Muiluvori 2001). The study also revealed that community service was even more effective in reducing recidivism in the individuals who have had no previous prison experience (Muiluvori 2001).

Although community service sentences may not be as harsh compared to prison sentences, the effectiveness of community-based sanctions may have much more potential in terms of reducing recidivism. Muiluvori (2001) also observed that individuals who had not been exposed to any prior prison experience benefited even more in terms of reoffending (meaning the recidivism rates decreased). This also potentially demonstrates how community service could be more beneficial than a prison sentence. From cutting costs for constructing facilities and holding inmates to benefiting from the service the individuals are sentenced to, community service sanctions might produce more positive outcomes than a typical prison sentence.

Again, there is evidence that community service sanctions have the ability to improve recidivism rates compared to traditional sanctions such as monetary fines (Bouffard and Muftić 2007) and traditional prison sentences (Muiluvori 2001). One constant factor that influenced the effectiveness of community service was whether an individual has any previous experience in a correctional institution. This too seemed to diminish the effectiveness of prison sentences. Individuals who have previous experience in correctional institutions are already at a higher risk of recidivism, which demonstrates
how effective programs like community service can be. If the exposure to the prison environment is reduced with community service, it may reduce recidivism rates. Although it is difficult to assume that eliminating correctional institutions completely is the solution, past research on recidivism poses alternative actions that may benefit an individual and society in a more position manner.

Through this investigation of past research involving recidivism and sentencing, several factors have been presented that demonstrate the importance of this study. This review of literature has revealed that several factors have the ability to influence one’s recidivism rate. Studying one’s length of sentence and its implications on recidivism will provide additional contributions to this area of study. As research has demonstrated, some of the factors that influence recidivism vary by individual. This thesis, however, is going to look at a sentence length that is going to be consistent for all subjects within the sample, which will add a key component to the research on recidivism.

2.9 Summary

Research has shown how several factors can influence an individual's recidivism rate once released from a correctional institution. With recidivism rates being a constant concern for the corrections system, different approaches to the issue are constantly being used to reduce the number of individuals that reoffend. Interventions inside the institution, such as education and drug rehabilitation, are being applied to keep individuals out of the justice system once released. Various approaches to sentencing individuals, such as community service, are also being applied with the hope that individuals who experience these sentences will be at a lower risk for reoffending.
Even with all of these approaches in place, several individual characteristics still fluctuate one's rate of reoffending. Race, sex and drug abuse are common individual characteristics that can have varying influences on an individual's recidivism rate. Intellectual disabilities also influence recidivism rates. Past research has made it clear that individuals all have varying risks of reoffending, and this makes it even more difficult to find a solution for recidivism that is applicable to everyone who has been released.

Although all individuals who go through the justice system do not have the same background or characteristics, they all share the experience of some sanction. Every individual that comes out of a correctional institution has experienced some length of time in prison, and this makes an individual's sentence length the broadest area to analyze since it can apply to everyone who has been released. Past research has demonstrated an association between sentence length and recidivism rates, and this study will add to that area. The next chapter will discuss the theoretical framework of this study.
Chapter 3

Theoretical Framework

Research has shown how factors such as race (Jung et al 2010) can affect recidivism rates. It is apparent that factors affecting recidivism vary between individuals, which in turn lead to fluctuating recidivism rates. While these factors may differ from one individual to another, a complete understanding of recidivism is necessary when looking to improve the rates of returning to correctional institutions. There is a clear problem with the frequency of individuals returning to correctional institutions (Iorizzo 2012) and some of these factors related to recidivism may be uncontrollable and may not be changed, even with the knowledge of their affect on recidivism rates (Jung et al 2010). While these unchangeable factors, such as race, may be difficult to approach for change due to their ascribed status, they are interconnected and work as a whole when affecting the rates of recidivism (Bellair and Kowalski 2011).

While taking all of this into consideration, I decided to approach the study of recidivism by looking at a factor that affects all individuals who have the opportunity to re-offend. Individual’s race, socioeconomic status, family background and other societal factors all differ from person to person, but these factors all have the ability to affect one’s rate of recidivism (Lockwood et al 2012). In this study, I look at the relationship
between sentence length and recidivism due to the fact that anyone who has the opportunity to reoffend or return to a correctional institution has experienced some type of sanction or sentence for their initial crime. This can be seen as a consistent factor that every offender will experience in some sense, and will allow for a chance to observe a possible relationship between sentence length and recidivism. While controlling for the previous factors discussed that affect recidivism, this study will control for an individual’s sentence length, and may reveal a new approach to understanding and reducing recidivism rates.

Specifically, the theoretical framework for this study revolves around socialization that may occur within correctional institutions. I hypothesized that individuals who spend an extended period of time in a correctional institution may become heavily socialized into a deviant culture due to long term exposure to a mostly deviant sub-group of society. At that point, I hypothesized that those individuals will become comfortable with the idea of returning to a correctional institution once released since they became accustomed to the society. At the same time, I believe those individuals who spend a shorter period of time in a correctional institution, and whom do not become socialized, feel uncomfortable and constantly rejected from their current society. If these individuals are released before ever becoming socialized into the prison culture, I hypothesize that they will be more concerned with reoffending since their sentence was so uncomfortable, thus reducing their rate of recidivism. It is also likely that short term offenders may be treated like an “out-group” within the prison social structure and be victimized and/or shunned by the long-term residents. Negative treatment might also reduce the likelihood of returning to the system.
3.1 Symbolic Interactionism

George Herbert Mead theorizes about the social self, and his work is considered a major foundation in the school of symbolic interactionism (Lemert 2004). Mead looked at the self as being defined socially, and the self arises from social experience. In other words, individuals become who they are through their social interactions as opposed to mentally defining themselves. Mead believed that different social interactions and surroundings have the ability to develop individuals differently. Theoretically, the above explanation is stemmed from a symbolic interactionist approach. One of the most prominent arguments presented by Mead deals with the individual’s development of four distinct aspects of social identity: the “I”, the “Me,” the “Other,” and the “Generalized Other” (Mead 1934). Mead argued that the self and social identity develop through social interactions and over a period of time. The development and internalization of these aspects of social identity guide our actions/reactions when we interact with others and they are developed through our actions/reactions to others.

To clarify, the “I” is the level of socialized self where an individual only thinks of themselves as an individual with no regard to those around them. We have discussed this stage as being quite apparent in a young child’s life where they are constantly calling for their own needs with no regard as to how their demands influence those around them (their parents). A young child will cry at 3:00am if they are hungry and not think about the fact that this feeding time may be inconvenient for the individual who is responsible for feeding. Social interaction begins with every interaction being driven by individual needs and desires.
The “Me” stage of self-awareness begins when the child is able to put themselves in others' shoes and recognize the idea that others in society might have some demands or requests for the individual that must be met, even when the individual would prefer not to do so (Mead 1934). Essentially, this stage seems to represent the idea that an individual begins to realize that social interactions not only involve the individual but it involves everyone around them. An example of this might be the toddler who begins to realize that he or she might be disciplined if they fail to obey parental requests. During the “Me” stage of development, they learn to follow the rules to avoid discipline but the rules have no true value to them.

The “Other” seems to be the most influential stage in developing greater society. This stage represents the idea that an individual reflects on their norms and values that they have internalized from their family and social networks, and decides either to accept or reject these values. Essentially, this is the point where an individual begins to assess who they have become and decide if this is truly how they want to be seen in society. An example of this could be clearly seen in what society refers to as, “a rebel child.” This social stigma typically gets placed on those who blatantly reject the norms and values of their family and choose to act in their own manner. Although this example may come with a negative connotation, it clearly demonstrates the stage where Mead (1934) believes an individual engages in the “Other” and comes to a point where a decision needs to be made about their current norms and values. It is this stage of development where delinquent acts are likely to reflect the true values of the individual. Rather than conform to social expectations, the deviant would actively choose to reject the norms. This would be true of a “normal” society and of a deviant society. If the social norm for
the group is crime, then rejecting criminal activity would be seen as deviant. This is an important argument for the purpose of this study. When immersed in a society, we feel tremendous pressure to adapt and conform. The longer an individual stays in a social setting, positive or negative, they are likely to assimilate into that culture. Finally, Mead presents the stage known as the “Generalized Other” (1934). This stage is achieved once an individual begins to be conscious of the rest of society (or those who are around us), and an individual begins to see themselves the way they believe the rest of society perceives them. The first suggestion of this stage can be easily understood in an example of individuals turning their phones off one inside a movie theatre. Although the individual may want to leave their phone on, they recognize the fact that the noise may be seen as a distraction to those around them, and they decide to act accordingly. Had this individual not recognized their phone as being a distraction to others, it is likely they would experience some negative reactions and stigma from those around them.

Another major emphasis in Mead’s (1934) work involved language and symbols. Mead argues that we as individuals use symbols within our societies to interact with one another. These symbols can be anything from gestures that we make in conversation to a sign that has a certain symbolic meaning with the intent of making everyday life more fluid. The most common form of symbols in our society, in Mead’s perspective, would have to be language. Language allows all individuals who have the knowledge of a specific set of symbols to communicate with one another based on the fact that everyone knows the same meaning of the language. Specific words and phrases have a universal meaning within a language that make it possible for everyone to have the ability to comprehend what others are trying to say. Mead refers to language as a significant
symbol due to the fact that language has the ability to create these universal meanings for various words, and individuals have the ability to recognize a word and associate their personal feelings towards that word.

Mead was quite accurate in his analysis of language being considered a significant symbol, and the complexity of our symbols is endless when considering the combination of language and gestures. When thinking about the significance of language, we can see how certain words have universal meanings that make it easy for all individuals within that particular society to understand what is being said. Nouns, such as a chair, have a unique meaning that all English speaking individuals are able to recognize. We can also assume that individuals may have a different image or thought appear in their head when the word, ‘chair,’ is mentioned, but there is consistency in the meaning that makes the meaning universal within a particular society. Regardless of how we each visualize a chair, we will not go to the door if we are directed to a seat.

Language that expresses emotion also creates a specific meaning and this usually includes various gestures or body language to ensure a particular message is being portrayed accurately (Mead 1934). Raising one’s voice when talking to someone allows individuals to express anger and enhance the message they are trying to deliver. If the goal of an interaction is to let others know you are angry, typically individuals will yell, and this gesture of yelling will make it clear to those around that the individual is upset. Even if the particular words that are being spoken do not always associate with anger, the gesture of raising one’s voice gives the interaction a different meaning. Furthermore, combining a loud voice with gestures, such as shaking a fist or raising one’s hands, has an effect on the meaning of the language showed.
The fascinating part about combining language and gestures is how various combinations can take the same words, or language, and make them have completely different meanings. Sarcasm is an excellent example of this. An individual can say something with a sarcastic gesture, and the statement can have a completely different meaning than the language may blatantly appear. At the same time, those within the society who understand the significant symbols associated with sarcastic gestures easily recognize the intended meaning of something and are able to react accordingly.

The idea of individuals using symbols to decide how to act in various situations is quite applicable to life in a correctional institution. Symbols allow individuals to coordinate their actions, and this allows individuals to adapt to various situations differently. I believe that individuals who enter correctional institutions will initially be confused with how to properly behave and interact with others. They will suffer an identical feeling of culture shock that an unseasoned traveler experiences on their first trip abroad. The lifestyle within a correctional institution will likely involve many differences when compared to the pre-prison lifestyle. These differences will call for some changes within the individual’s behavior, either to adapt and assimilate, or alternatively to survive while rejecting the dominant culture.

Socialization does not occur overnight. We need to learn the complex system of language, symbols and gestures that are present in any culture. Therefore, it is likely that the longer a prisoner stays within the institution the better he or she will be able to learn and adapt to this new cultural process. He or she will be at greater risk to acculturate into the prison sub-culture with time. During this transformation phase, individuals are also likely to struggle with life inside of a correctional institution. Without fully
understanding how to behave within their new surroundings, individuals will likely have an uncomfortable experience. This specific theoretical thinking leads me to believe that a comparison of first-time offenders and repeat offenders will allow for this area to be accurately researched. If individuals have been exposed to life within correctional institutions before, they may not have as much of a struggle adapting to the lifestyle of a correctional institution.

Since this process of fully understanding the proper actions within correctional institutions will likely take some time, and I believe that those individuals who are released before experiencing this transformation will have more concern for reoffending, thus reducing recidivism rates. Based on my hypothesis, I believe that those individuals will have difficulty knowing how to properly act and behave, and will have little knowledge of the symbols and meanings within correctional institutions. While taking all of these factors into consideration, I believe this will create an unpleasant experience, thus influencing the individual to desire to not return to prison post-release.

At the same time, I believe individuals will eventually grasp the symbolic understanding of the society within correctional institutions and begin to find comfort within that society. At this point, I believe individuals who grasp the symbolic understanding will become comfortable with their new surrounding, which will increase their recidivism rates. Once released, I believe these individuals will have little to no regard for reoffending since they found some aspect of comfort within the correctional institutions. I believe a harsher sentence for first time offenders may have a negative effect on the individual if their recidivism rates increase due to their lack of concern for reoffending.
As stated above, the symbolic interactionist approach argues that the self develops within the context of the social experience. This theoretical perspective leads me to believe that life inside correctional institutions has the ability to create a different “self” compared to who an individual was before their life inside corrections. With such a unique social setting, correctional institutions call upon individuals to adapt to their new surroundings in order to fully participate within the society. As Mead explained, social structures have the ability to define individuals, and I believe this theory applies to the socialization process that individuals will go through while adapting to prison life (Lemert 2004). One might argue that individuals entering correctional institutions are already socially labeled and it is difficult to change a person once individuals are adults. As previous research and theories discuss, much of an individual’s socialization occurs during the early phases of an individual’s life (Blumer 1986). At the same time, Mead explains that individuals have the ability to have multiple personalities, or multiple “selves” (Blumer 1986). Finally, Samson and Laub (2005) posited that profound social experiences have the ability to change our sense of self-identity and self-control over the course of our lives. This theoretical understanding of self-development lends itself very well to the development of the hypotheses tested in this study.

I believe the optimum time of release would be when an individual has enough time to experience the uncomfortable aspects of being in a society where they are not displaying a useful or appropriate “self,” but when that experience does not reach a point of socialization. If an individual begins to recognize the necessary traits needed for their self to successfully function in this society, I believe the concern for reoffending begins to diminish at this point. Though there may not be any specific length of sentence where
this transformation begins to occur, the theoretical perspective seems to support the thinking behind this study.

One of the ways in which symbolic interactionism successfully operates is through repetitive interpretations (Blumer 1986). An example of this could be explained as simply as looking at a street light. Our society dictates some of our driving habits off of what we know, or interpret, about street lights. There is a universal definition in our society of what a green light means, and the same applies to yellow and red. Not only do individuals act based on what they interpret the street lights to mean, the entire society uses the same interpretations. These universal definitions allow society to interpret these symbols and act accordingly. With everyone in a society having a universal understanding of the meaning of the colors on a streetlight, traffic can operate successfully with no interruptions.

A major problem can occur if an individual is unaware of these symbolic meanings when operating a car in our society. If a driver is unaware of the universal interpretations of a street light, major problems arise, and traffic accidents are likely. One could now see how an individual who does not have the proper understanding of necessary symbols could have an extremely difficult time operating in society. An interesting aspect to note is that this is just one example of a symbol in our society with a universal definition. There are several others that individuals within society recognize without thinking twice about it. If inaccurately interpreting just one symbol in society such as a street light can have such negative implications, it is easy to see how difficult it would be for an individual with little to no knowledge of universal symbols within a society.
This example of understanding universal symbols seems quite applicable to an individual exposed to correctional institutions for the first time. Although one might see this as an extreme example, it demonstrates how a lack of understanding in societal symbols can create a difficult environment for individuals. As stated earlier, I believe a lack of understanding symbolic meanings within correctional institutions will lead to more concern for reoffending, but one can see how a transformation can occur by looking at the stop light example. A driver might be completely uncomfortable with driving when unfamiliar with the interpretations of the symbols (the lights), and this may even deter the individual from driving. Once those symbols are accurately interpreted, it is likely that the individual will find they are more comfortable with driving. This is why I believe a longer sentence could give an individual more of an opportunity to grasp the meaning of symbols within a correctional institution society, and make it more of a comfortable place to be.

One could argue that even though this study will include first-time offenders, these individuals are going to be coming from various life settings which might affect the implications that sentence length may have on recidivism. It seems logical that an individual who grew up in a life of crime and deviance may have an easier time adapting to a prison lifestyle than an individual who has never been exposed to that type of setting. While taking this into consideration, I still believe there is going to be a process of having to learn new symbols and social interpretations for all individuals, but the time span for adaptation among individuals may vary based on their previous lifestyles. I do not believe I will be able to reveal an optimal sentence length for all individuals that will allow them to have an uncomfortable experience in a correctional institution without
becoming socialized, but I believe a meaningful yet minimal sentence length exists for all. In part, this argument is driven by the fact that the prison is a total institution and will require a level of personal adjustment that will be mediated by the individual.

A theoretical approach that also fits with this study is Erving Goffman’s concept of the “Total Institution” (Goffman 1961). The concept specifically refers to a place where individuals are cut off from wider society, which also leads to a varying degree of control for the individual. Essentially, total institutions take away autonomy, leaving the individual with little control over their own actions. This environment can be easily seen through the prison environment, where individuals enter a society where autonomy is significantly reduced (Goffman 1961).

When individuals are faced with the total loss autonomy, the experience of being in a total institution leaves the individual faced with two possible choices. An individual can choose to adapt to their surrounding society, which will likely increase the level of satisfaction within the prison culture, or the individual can reject the culture and remain isolated and alone. Goffman argues that this isolation becomes necessary in order to avoid breaking rules that will get them in trouble and possibly prolong their time or increase their negative experiences within the institution. What Goffman’s theory does not take into account is the element of time. Considering this study, I believe the conflict of choosing either to adapt or reject the prison culture is also related to the amount of time an individual spends in a correctional institution. I hypothesize that more time will push an individual towards the choice of adaption whereas a shorter amount of time may motivate the individual to maintain their isolation and focus on the end of their sentence.
3.2 Differential Association

While the theory of symbolic interactionism is only one theory that is applied to the study of crime and deviance, the idea of looking at the process of social learning within crime and deviance makes symbolic interactionism quite applicable. Clearly this social psychological approach has been applied when developing major criminological theories. Edwin H. Sutherland’s theory of differential association falls under the study of crime and deviance, as well as social learning (Traub and Little 1978). The theory of differential association argues that criminal behavior is learned though interactions with others that are deviant. The types of attitudes, motives and behaviors that are seen as necessary for crime and deviance are learned through interactions that individuals have with others who have engaged in criminal behavior (Traub and Little 1978). Whether an individual learns the meaning or accurate interpretations of certain symbols necessary to engage in society or he or she learns criminal behaviors through interaction, the idea of social learning is consisted in both of these theories as they both fall under the symbolic interactionist paradigm.

When considering the application of differential association to this particular study, it seems quite apparent that these ideas would fit with the topic under investigation. Again, I hypothesized that individuals who spend less time in a correctional institution will be less likely to reoffend since their shorter time in corrections will consist of an uncomfortable lifestyle due to the lack of understanding of the symbols and culture. However, there is also the fact that longer sentences increase the “differential association” opportunities for individuals. Individuals who spend extended periods of time in a correctional institution will be more likely to learn criminal
behavior which will have the ability to increase recidivism rates. This will be unavoidable since the majority of social interactions will be with other deviant personalities.

To be more specific, Sutherland, Cressey and Luckenbill (1992) present nine statements referring to the process an individual go through to engage in criminal behavior. The first statement is, “criminal behavior is learned.” Essentially, this deals with the idea that an individual does not inherit criminal behavior, and they do not invent the behavior. Criminal acts are learned through social interaction. With regards to this study, this theoretical perspective heavily supports the hypothesis that more time in a correctional institution with heavy exposure to other individuals convicted of crimes would likely lead to learning more criminal behavior. This would then, in turn, increase one's rate for reoffending once released.

The second statement involved in criminal behavior is, “criminal behavior is learned in interaction with other persons in a process of communication” (Sutherland, Cressey and Luckenbill 1992). Through the complex process of communication, which is heavily discusses by Mead (1934), criminal behavior can be learned from other individuals. Language and gestures are all tools of communication, which help support the perspective of learning criminal behavior through social interaction.

Continuing with the discussion of interactions, the third statement regarding learning criminal behavior is, “the principal part of the learning of criminal behavior occurs within intimate personal groups” (Sutherland, Cressey and Luckenbill 1992). This statement would support the perspective that those individuals who are close are more likely to have an influence on one another. Specifically, if individuals are
surrounded by other criminals in a correctional institution for an extended period of time, they will likely be more susceptible to learning criminal behavior. It is important to recognize how these close group relationships are likely to have more of an influence on an individual's behavior that any other outside factors such as the media (Sutherland, Cressey and Luckenbill1992).

The fourth statement regarding criminal behavior is, “when criminal behavior is learned, the learned includes (a) techniques of committing the crime, which are sometimes very complicated, sometimes very simple; (b) the specific direction of motive, drives, rationalizations and attitudes”. This statement is in reference to what an individual can learn when engaging in criminal behavior. Theoretically, this makes perfect sense considering the idea that we as individuals can learn from one another. Even if it is not specifically related to crime, we learn through social interaction, and it is easy to see how one can learn way to 'better' their criminal activity when interacting with other individuals who are knowledgeable in the area.

“The specific direction of motives and drives is learned from definitions of the legal codes as favorable and unfavorable”, is the fifth statement regarding learned criminal behavior (Sutherland, Cressey and Luckenbill1992). This statement deals with the idea that individuals are exposed to all types of perspectives that reflect various perspectives on the society's legal system. Some individuals may be in favor of various legal practices while others may not, and this will influence the way in which an individual views the legal system from their own perspective.

When looking at this statement from the perspective of individuals inside of a correctional institution, one can assume that the individuals being held in the institution
are going to have a different perspective on the legal code that might not be representative of the societal perspective. There will be individuals who have already demonstrated their ability to break the legal code, and now they are dealing with the sanctions of their actions through the legal code (by serving time in a correctional institution). One can also assume that their time inside of these correctional institutions is likely not their most favorable choice of residency and that may alter their view on the legal system.

When taking all of this into consideration, an individual who is serving time in a correctional will be surrounded by individuals sharing this perspective, and it may alter their own views on the legal code. This idea heavily supports my hypothesis, and the idea that criminal behavior will be even easier to learn when surrounded by individuals who have been convicted of crimes. Theoretically, surrounding an individual with other individuals who have been through the negative side of the legal system throughout their lifetime and are likely going to have negative perspectives on the system, could quite possibly lead to the adoption of these negative beliefs. This could then lead to more criminal behavior in the future through rebellion against the legal system and the fact that more criminal behavior was learned throughout their time in a correctional institution.

The sixth statement identifying how criminal behavior is learned is "a person becomes delinquent because of an excess of definitions favorable to violation of law over definitions unfavorable to violation of law" (Sutherland, Cressey and Luckenbill1992). This statement is the principle of differential association. A person will become involved in criminal activity if they are in contact with criminal patterns. In other words, individuals typically adapt to their surrounding cultures without even realizing it. Dialect
is an excellent example of this occurring. Individuals who live in different regions will have different pronunciations and accents that are common to their culture. This dialect may differ from other cultures, but it is likely that the majority of individuals within that culture will adopt the similar dialect. If individuals are in a culture with other criminals, it is safe to assume that they will adopt some of the criminal tendencies (or norms) that exist within that culture. Neutral behaviors and tendencies are also important in an individual’s development. These behaviors are also adopted through culture, but have no influence on criminal activity, meaning they are not indicators of deviant behavior. Neutral behaviors, such as a child learning to brush their teeth, are examples of how individuals learn through their social interactions and can be occupied with learning other social behaviors that will not lead to criminal activity.

The seventh statement regarding learned criminal behavior is “differential associations may vary in frequency, duration, priority, and intensity” (Sutherland, Cressey and Luckenbill 1992). Individuals can experience this process of social learning in a variety of ways and from different environments. As expected, the ‘frequency’ and ‘duration’ of differential associations refer to the amount of time and occurrences an individual experiences this process (Sutherland, Cressey and Luckenbill 1992). ‘Priority’ refers to the idea of learning aspects of social life at an early age, and having these traits throughout one’s life. Habits that individuals develop at early ages, such as delinquent behaviors, may lead an individual more towards an adult life consisting of criminal activity. ‘Intensity’ refers to the emotional experience that occurs when an individual is experiencing the association with a criminal (or anticriminal) behavior, and the ways in
which this will influence the individual in the future (Sutherland, Cressey and Luckenbill 1992).

The main hypothesis for this study is heavily supported through this theoretical statement, especially referring to the frequency and duration aspects of differential association. Since this study is analyzing the relationship between sentence length and recidivism rates, it is easy to see how frequency and duration are applicable. With criminals being confined to one area for extended periods of time, an individual will likely experience both high frequencies and durations of differential associations with regard to criminal behavior in this particular environment. Theoretically, if an individual is in a correctional institution for a longer time, they will experience more opportunities to learn criminal behavior, which will then increase their rate of reoffending once released. More learned criminal behavior will likely lead to more crimes committed once an individual is no longer in a correctional institution.

This theory also argues that, “the process of learning criminal behavior involves all of the mechanisms that are involved in any other learning” (Sutherland, Cressey and Luckenbill 1992). In other words, learning criminal behavior is just as easy (or difficult) as learning any other form of social behavior. This could mean that individuals can learn criminal behaviors through several social processes that go beyond simply imitating others.

Finally, the ninth premise involved in learning criminal behavior is, “while criminal behavior is an expression of general needs and values, it is not explained by those general needs and values, since noncriminal behavior is an expression of the same needs and values” (Sutherland, Cressey and Luckenbill 1992). Similar to Robert
Merton’s modes of individual adaptation (Merton 1967), this statement revolves around the means to societal goals, and the ways in which the means differ among criminals and non-criminals. A criminal might choose to engage in deviant behavior for a source of income and status, while other individuals may choose to seek legal employment in hopes to obtain the same income and status. In other words, it is difficult to distinguish the motives between criminal and noncriminal behavior when both sets of behaviors may share similar goals and motives.

Through a combination of symbolic interactionism (Mead 1934) and differential association (Traub and Little 1978), the theoretical perspective that motivates this hypothesis stems from social interactions and learning criminal behavior through those interactions. Clearly, individuals learn how to behave in society through their social interactions, and the ways in which individuals act can change based on their environment. When thinking of the social environment inside of a correctional institution, the social interactions will be heavily influenced by individual’s criminal pasts, and this may alter the way an individual behaves. Adapting to one’s social surroundings is an expected occurrence, and one could assume the same will happen for an individual who spends enough time in a correctional institution. This analysis of theoretical perspectives supports the hypothesis that individuals who spend less time in a correctional institution will be less likely to reoffend once released. The following chapter will describe the methods for analysis as well as the data through cross-tabulations.
Chapter 4

Methods

4.1 Data Overview

This study utilized existing data on recidivism and sentence lengths. The dataset was provided by the United States Department of Justice (Bureau of Justice Statistics), and is titled, "Recidivism of Prisoners Released in 1994." The time span for the data is 3 years, which starts in 1994. The data, which includes 38,624 individuals from 15 different U.S. states, tracks these individuals for three years following their release from a correctional institution.

Since the study is focused on sentence length and recidivism, there were several variables that needed to be analyzed and controlled in order to accurately observe any possible relationship and to test the main hypothesis. These include basic demographic variables such as race, age and sex. Age, along with race and sex, has been researched to see the implications of criminal behavior among individuals of various ages (Hirschi and Gottfredson 1983). I also analyzed the type of offense an offender commits as well as the

1 Limitations regarding the data will be further discussed in Chapter #8. It is important to note, however, that the fact that the data is from 1994 (meaning it is roughly 20 years old) does not mean it is not applicable to today’s correctional approaches. This too will be further discussed in Chapter #8 (specifically regarding future research).
number of offenses. These were the main control variables. In order to look at the sentence length and recidivism rates, I analyzed the length of an offender’s sentence as well as re-arrests and re-convictions to prison. These were the main independent variables with incidence of recidivism being the main dependent variable. An additional aspect within the study involved looking at a possible relationship between education and recidivism. In order to do this, I analyzed data on the education an offender receives in the correctional institution. Education during an incarceration is a privilege earned through good behavior rather than a basic right. Therefore, it demonstrates positive aspects of socialization within the system that might counter the negative socialization into the deviant culture. I also analyzed whether involvement (and completion) of drug and alcohol programs influenced recidivism. Finally, I analyzed whether individuals who received infractions (any sanctions or disciplinary actions) while in a correctional institution influenced recidivism rates. Just as rehabilitation and education programs represent evidence of positive socialization, infractions represent individuals that are maintaining or possibly escalating pre-arrest deviance.

The temporal variable for this study was time spent in a correctional institution, which refers to the amount of time an individual actually served instead of the length of sentence an individual received. This allowed me to look at any possible relationship between the amount of time spent in a correctional institution and the possible influence this has on recidivism.

The statistical methods used for analyzing the data were cross-tabulations, logistic regression and survival analysis. Both of these methods of analysis have predictive qualities, which predict nonlinear equations. These methods allowed me to look at any
possible relationship between time served in a correctional institution and recidivism. The analysis of this data was completed using SPSS (Statistical Package for the Social Sciences).

Initially, I will analyze some of the possible relationships by looking at various cross-tabulations, which will help establish a better understanding of the sample before analyzing the regression and survival analyses. From there, I will analyze the association between sentence length and recidivism by adding control variables to sequential regressions. This will better isolate any association that may exist between sentence length and recidivism, and it will help answer the question as to whether first-time, non-violent offenders are less likely to reoffend with a shorter sentence.

In order to conduct the analysis, it was necessary to create a series of dummy variables and time spent in prison need to be recoded. For the logistic regressions, the original time variable (TMSRV) was recoded to create five dummies. These dummies were based on the average length of time served. Individuals who served less than the average (3 years) were coded as “1” in the variable SHORTDUM. AVGDUM recorded a “1” for everyone who served that average time. Four to ten years in prison were coded “1” in the variable MODDUM and 11-25 years were coded “1” in the variable LIFEDUM. These times were used to distinguish the relationship between crime and time served and to allow me to determine (as nearly as possible) if there is a cutoff point where time spent begins to have an effect. In other words, the more heinous the crime, the longer the minimum sentence served. It is likely that individuals who violate a more serious crime are already struggling with a fully deviant identity (i.e. murder vs. theft). It is also likely that the range of sentencing would confound the understanding of the
sociality process. For example, someone who serves twenty-five years would most assuredly acclimate to the system and this might make it appear as if a lesser sentence was also problematic.

In order to analyze the data based on race, I recoded the data into a dichotomous variable of whether the individual was a minority or non-minority (white). With the majority of the sample being white, this variable made it easier to analyze the effects of being a minority had on recidivism. Dummy variables for all of the programs inside of the correctional institution were also created and made dichotomous based on whether an individual participated in the program. The four programs were, education (EDUCDUMMY), vocational (VOCATIONALDUMMY), drug treatment (DRUGTREATDUMMY) and alcohol treatment (ALCOHOLTREATDUMMY). Infractions within the correctional institution (INFRACTIONSDUMMY) was also used to analyze the prison experience on recidivism. The dummy variables for an individual's criminal past were whether an individual has ever been to prison (NEVERPRISON) and whether an individual has ever been arrested (NEVERARRESTED). Finally, a dichotomous variable for whether an individual committed a violent crime was created (VIOLENT).

TMSRV was recorded originally in increments of one month. This was recoded for the survival analysis into “Years”. Survival analysis plots a probable trajectory of risk based on the number of individual that “survive” and those that relapse, or in this case return to the prison system. Given the large standard deviation (32.55) from the average of three years, survival analysis used only individuals that served one to twenty-five years. This allowed me to view and discuss risks more effectively since they “piled
up” in the first twenty five years of time spent incarcerated, meaning that risk reduced to zero by twenty five years inside.

4.2 Frequencies and Means

There are 38,624 individuals in the dataset, with 35,995 males and 2,629 females. This means that 93.2% of the sample is male, while only 6.8% is female. With regard to race, 20,484 individuals are white, 16,850 are black, 446 are American Indian, and 159 are Aleutian Asian/Pacific Islander. Fifty-four percent of the sample was White while 46.0% of the sample was non-White. Table 4.1 displays these frequencies and means

Table 4.1: The table below presents frequencies based on race and sex, as well as the mean age and sentence length

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Black</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Age: 32.83 years</td>
<td>19,262</td>
<td>1,222</td>
<td>15,501</td>
</tr>
<tr>
<td>Sentence Length: 27.03 Months</td>
<td><strong>Total</strong>: 20,484</td>
<td><strong>Total</strong>: 16,850</td>
<td><strong>Total</strong>: 605</td>
</tr>
</tbody>
</table>

The average age of an individual in this sample is roughly 33 years (32.83) with a standard deviation of roughly 9.5 years (9.534). In other words, the majority of the sample (68.2%) is between roughly 23.5 years (23.48) and 42 years (42.36) of age. Although individuals within the sample may have served time elsewhere and at different times, this study analyzed the amount of time served for the sentence these individuals
completed in 1994. The average length of an individual’s sentence for this sample is roughly 27 months (27.03) or roughly 2.25 years. Roughly 78% (77.7%) of the sample served no more than 3 years for their 1994 imprisonment, while the remaining 22.3% served more than 3 years. One of the approaches used in order to better understand the effect sentence length has on recidivism is to control for any individual differences that may exist in an individual’s criminal background. To do this, I analyzed whether an individual had any prior arrests, any prior sentences to prison, any infractions while in prison for their 1994 sentence, and the offense for which an individual was convicted of for their 1994 imprisonment. First, 33,220 individuals in the sample had prior arrests before the sentence they were serving in 1994 while only 4,427 were had never been arrested. With 88.2% of the sample being repeat offenders and only 11.8% being first-time offenders, there is a clear difference in the criminal history of the individuals within this sample. There were 997 cases missing from this distribution.

Although the majority of the data (or persons) had prior arrests in their criminal background, only 38% had been to prison before their 1994 imprisonment, while 62% have never been to prison before this sentence. These percentages come out to 11,370 individuals who have been to prison before their 1994 imprisonment and 18,578 have not. There were 8,676 cases either missing or unknown from this frequency distribution. Within the correctional institutions for the 1994 imprisonments, 51% of the sample had some record of infractions during their sentence while 49% had no record. This variable will be able to demonstrate the effectiveness of discipline within the correctional institution depending on the influence this has on recidivism rates.
Another area of interest for this analysis dealt with the participation in drug, alcohol, education and vocational programs while inside a correctional institution. Again, these four variables were dichotomous so that they separate individuals who participated in a program from individuals who did not participate. Even if individuals did participate in any of these programs but did not successfully complete the program, they were counted as participating.

Program participation was lowest in the drug treatment programs with only 764 individuals accounted for being involved. In contrast, 1,399 individuals participated in alcohol treatment programs while 5,314 individuals participated in some type of a vocational program. Finally, 7,056 individuals in this sample were involved in some education program during their 1994 imprisonment. By analyzing the recidivism rates of the individuals involved in these programs, we may be able to see how effective these programs can be when searching for a solution to repeat offenders.

The final variable used to isolate the effect that sentence length will have on recidivism rates is the type of crime an individual committed for their 1994 imprisonment. For purposes of using this variable in a logistic regression model, I chose to make the variable dichotomous by separating violent offenders from non-violent offenders. Within this sample, 17,573 individuals were convicted of a violent offense while 21,015 individuals were convicted of a non-violent offense. This means that 45.5% of the sample was convicted of a violent crime while the remaining 54.4% was convicted of a non-violent crime. There were 36 unknown cases in this frequency distribution. Table 4.2. displays these frequencies.
Table 4.2: Below are the frequencies based on the type of crime

<table>
<thead>
<tr>
<th>Type of Crime</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-violent</td>
<td>21,015</td>
<td>54.4%</td>
</tr>
<tr>
<td>Violent</td>
<td>17,573</td>
<td>45.5%</td>
</tr>
<tr>
<td>Missing Data</td>
<td>36</td>
<td>.1%</td>
</tr>
<tr>
<td>Total</td>
<td>38,624</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.3 Cross-Tabulations

Since there were several variables in the final analysis of sentence length and recidivism, it is important to observe each variable with its implications on sentence length. The following text will display several cross-tabulations with recidivism being the main dependent variable.

To begin, the main hypothesis in this study involves the amount of time an individual serves in a correctional institution and recidivism rates. Table 4.3 displays the frequencies and percentages of individuals who reoffended based on the length of their sentence from the 1994 imprisonment.
Table 4.3: The table below displays the frequencies of recidivism based on sentence length

<table>
<thead>
<tr>
<th>Sentence Length</th>
<th>Did Not Reoffend</th>
<th>Reoffended</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 6 Months</td>
<td>5,374 (75.5%)</td>
<td>1,741 (24.5%)</td>
</tr>
<tr>
<td>7 to 12 Months</td>
<td>4,332 (76.2%)</td>
<td>1,352 (23.8%)</td>
</tr>
<tr>
<td>13 to 18 Months</td>
<td>3,277 (78.6%)</td>
<td>890 (21.4%)</td>
</tr>
<tr>
<td>19-24 Months</td>
<td>2,051 (79.8%)</td>
<td>520 (20.2%)</td>
</tr>
<tr>
<td>25-30 Months</td>
<td>1,597 (79.9%)</td>
<td>403 (20.2%)</td>
</tr>
<tr>
<td>30-36 Months</td>
<td>1,447 (84.2%)</td>
<td>272 (15.8%)</td>
</tr>
<tr>
<td>37-60 Months</td>
<td>2,984 (81.7%)</td>
<td>669 (18.3%)</td>
</tr>
<tr>
<td>60+ Months</td>
<td>2,540 (84.9%)</td>
<td>453 (15.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>23,602 (78.9%)</td>
<td>6,300 (21.1%)</td>
</tr>
</tbody>
</table>

* $\chi^2 = 185.519; p = .000$

By looking at Table 4.3., there is a clear difference within the sample between those who did not reoffend after the 1994 release and those that did reoffend as we see 78.9% of the sample not reoffending once released. It is also important to point out that the percentage for those who did not reoffend continue to increase through the first 36 months (or the first 5 categories). This would support the idea that a longer sentence seems to be a better deterrent for recidivism, and also the decreasing percentages for these first five categories in the reoffended column supports this perspective.

This table does demonstrate one area that supports the hypothesis of a shorter sentence, and that occurs in the category of sentence lengths at 37-60 months. The increasing trend of percentages of individuals who did not reoffend drops in this
category, and there is a slight increase in the percentage for recidivism in this same category, as well. This particular sentence category seems to show the possibility that sentences from 1-36 months may be useful deterrents for recidivism, but 37-60 month sentences may have altering effects. It is important to note, however, that the initial trends for both columns returns for the category of 60+ month sentences. At a significance level of $p<.001$ for the $\chi^2$ test, the association between time served and recidivism is significant, although it is difficult to infer from this table with the limited number of control variables.

One of the specifications (an elaboration) for the main hypothesis of this study is to denote whether the offender committed a non-violent or a violent crime. As previously mentioned, I have made this a dichotomous variable to use in a regression and survival analysis. The justification for choosing to analyze the type of crime and its implications on recidivism comes from the fact that specifying the type of crime makes any findings more applicable to a specific group of individuals.

Table 4.4. presents the frequencies and percentages of individuals who reoffended once released based on the type of crime they committed.

Table 4.4: The table below displays the frequencies of recidivism by type of crime

<table>
<thead>
<tr>
<th>Recidivism by Type of Crime</th>
<th>Non-violent Crime</th>
<th>Violent Crime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Reoffend</td>
<td>11,434 (74.2%)</td>
<td>12,176 (84.0%)</td>
</tr>
<tr>
<td>Reoffended</td>
<td>3,985 (25.8%)</td>
<td>2,324 (16.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>15,419 (100%)</td>
<td>14,500 (100%)</td>
</tr>
</tbody>
</table>

* $\chi^2 = 432.798; p=.000$
There is a clear difference between the amount of individuals who did reoffend and who did not reoffend by the type of crime. Also, these frequencies and percentages show that of the 6,309 individuals that did reoffend once released, the majority committed non-violent crimes. At the same time, although much closer in comparison than those who did reoffend, the majority of individuals who did not reoffend were violent offenders. These frequencies would contradict my hypothesis, and support the idea that violent offenders are less likely to reoffend than non-violent offenders. Several factors may influence these conclusions, but the association between these two variables is important to note. It could be that individuals who committed violent offenses may have received longer sentences, which makes their window of opportunity for reoffending much smaller than those who committed non-violent offenses. Statistically, the association between the type of crime and recidivism is significant for the $\chi^2$ test ($p<.001$).

The next three tables will analyze the association between the drug, alcohol, education and vocational programs within the correctional institutions and how this relates to recidivism rates. Table 4.5 focuses solely on those individuals that participated in educational programs and how many of those individuals reoffended once released from their 1994 imprisonment.
Table 4.5: The table below displays the frequencies of recidivism by participation in education program

<table>
<thead>
<tr>
<th>Recidivism</th>
<th>Did Not Participate</th>
<th>Participated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Reoffend</td>
<td>3,402 (73.3%)</td>
<td>5,133 (79.2%)</td>
</tr>
<tr>
<td>Reoffended</td>
<td>1,239 (26.7%)</td>
<td>1,349 (20.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>4,641 (100%)</td>
<td>6,482 (100%)</td>
</tr>
</tbody>
</table>

*χ² = 52.471; p = .000

The frequencies between the two variables present a clear pattern in the association between participation in education programs and recidivism, and there are some important frequencies to consider. Of those individuals who participated in the education program, 79.2% did not reoffend compared to 73.3% who did not participate while serving their 1994 imprisonment. This would clearly support participation in the program. At the same time, 1,349 individuals who did reoffend participated in an education program while the other 1,239 who reoffended did not participate. Although this cross-tabulation is purely descriptive of the sample, there may be positive implications on the participation in educational programs in terms of reducing recidivism rates for released prisoners. Overall, at a significance level of \( p < .001 \) for the χ² test, the association between education program participation and recidivism is significant.

Vocational training is another type of educational program offered by U.S. correctional institutions in hopes of training individuals the necessary skills for a particular career. Table 4.6. presents the frequencies and percentages of individuals who
reoffended once released based on their participation in a vocational program during their 1994 imprisonment.

Table 4.6: The table below displays the frequencies of recidivism by participation in vocational program

<table>
<thead>
<tr>
<th>Recidivism</th>
<th>Did Not Participate</th>
<th>Participated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Reoffend</td>
<td>4,596 (76.0%)</td>
<td>3,800 (88.9%)</td>
</tr>
<tr>
<td>Reoffended</td>
<td>1,450 (24.0%)</td>
<td>1,075 (22.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>6,046 (100%)</td>
<td>4,875 (100%)</td>
</tr>
</tbody>
</table>

*χ² = 5.663; p = .017

Vocational program participation is demonstrating similar associations as educational training within a correctional institution for this sample. The majority of the individuals who reoffended did not participate in any vocational training while only 1,075 of the 2,525 individuals who reoffended did participate. At the same time, of those individuals who did participate, 88.9% did not reoffend compared to 76% who did not participate. At a significance level of p < .05 for the χ² test, the association between vocational program participation and recidivism is significant.

Substance abuse is also a variable under analysis for this study, and this variable contains similar information about the sample like the education and vocational variables. The drug and alcohol variables for this study are dichotomous variables referring to participation in either a drug treatment program or alcohol treatment program. Variables such as this will demonstrate associations between dealing with individual problems
inside of a correctional institution (drug and alcohol problems) and its implications on how individuals act once released. Table 4.7 displays the frequencies and percentages of individuals who participated in drug treatment and reoffended after their 1994 imprisonment.

Table 4.7: The table below displays the frequencies of recidivism by participation in drug treatment program

<table>
<thead>
<tr>
<th>Recidivism</th>
<th>Did Not Participate</th>
<th>Participated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Reoffend</td>
<td>2,912 (73.0%)</td>
<td>532 (74.0%)</td>
</tr>
<tr>
<td>Reoffended</td>
<td>1,079 (27.0%)</td>
<td>187 (126.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>3,991 (100%)</td>
<td>719 (100%)</td>
</tr>
</tbody>
</table>

*χ² = .327; p = .567

First, it is important to note that the association between participation in a drug treatment program and recidivism is not statistically significant via a χ² test. Although 1,079 of the individuals that did reoffend once released from their 1994 imprisonment did not participate in a drug treatment program, the numbers are similar for those individuals that did not offend. It is difficult to hypothesize either way from these frequencies whether individuals from this sample who participated in drug treatment had reduced recidivism rates. In a similar analysis, Table 4.8 provides the frequencies and percentages of individuals who participated in alcohol treatment and reoffended once released.
Table 4.8: The table below displays the frequencies of recidivism by participation in alcohol treatment Program

<table>
<thead>
<tr>
<th>Recidivism by Participation in Alcohol Treatment Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recidivism</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Did not Reoffend</td>
</tr>
<tr>
<td>Reoffended</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

*χ² = 5.367; p = .021

Similar to the frequencies of the drug treatment participation, the majority of these individuals in this cross-tabulation did not participate in any drug treatment. This also leads to the majority of individuals in both the “reoffended” and “did not reoffend” columns to be from the group of individuals that did not participate, which gives little insight to the association between the treatment program and its influence on reducing recidivism rates. By simply looking at the percentages from each column, there is a slight increase in the number of individuals who do reoffend and did not participate in both the drug (Table 4.7) and alcohol treatment cross-tabulations. Of those individuals that participated in alcohol treatment programs, 76.4% did not reoffend in comparison to 73.3% who did not participate. At a significance level of \( p < .05 \) for the \( \chi^2 \) test, the association between alcohol treatment programs and recidivism is significant.

One of the most important areas of analysis in this study deals with the individual’s criminal background. Specifically, I would like to analyze the association between an individual’s previous exposure to a correctional and its implications on whether the individual reoffends once released from their 1994 imprisonment. Table 4.9
shows a cross-tabulation of whether an individual has even been to prison before their current sentence, and how this influences recidivism rates once released.

Table 4.9: The table below displays the frequencies of recidivism by whether an individual has ever been to prison prior to the 1994 imprisonment

<table>
<thead>
<tr>
<th>Recidivism</th>
<th>Been To Prison</th>
<th>Never Been to Prison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Reoffend</td>
<td>8,232 (72.4%)</td>
<td>15,406 (82.9%)</td>
</tr>
<tr>
<td>Reoffended</td>
<td>3,138 (27.6%)</td>
<td>3,172 (17.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>11,370 (100%)</td>
<td>18,578 (100%)</td>
</tr>
</tbody>
</table>

*χ² = 469.819; p = .000

The most noteworthy frequency within this cross-tabulation is that the majority of individuals from this sample did not reoffend once released from their 1994 imprisonment. Also, the percentages between those who have been to prison compared to those who have never been to prison are much further apart in the “did not reoffend” column when compared to the “reoffended” column. This pattern supports the idea that previous experiences in prison can negatively influence one’s rate of recidivism. Based on the frequencies, 15,406 of the individuals 23,638 who did not reoffend once released had never been to prison. Specifically, of the individuals who had never been to prison, 82.9% did not reoffend compared to 72.4% who had been to prison prior to the 1994 imprisonment. Although the frequencies of individuals who reoffended is quite similar among individuals with or without prior prison experience, there are far more individuals who did not reoffend and also had no prior prison experience. Figure 4-1 shows a clear
image of how no previous prison experience had much low frequencies of recidivism once released from the 1994 imprisonment. At a significance level of $p<.001$ for the $\chi^2$ test, the association between previous sentences to prison and recidivism is significant.
Figure 4-1: The figure below displays the frequencies of individuals who reoffended after their 1994 imprisonment based on previous prison sentences. Lower recidivism rates are in favor of individuals who have never been to a correctional institution.
The importance of this dichotomous variable (previous prison experience) is that it isolates individuals who have never been exposed to that environment. Another important variable analyzed deals with individual’s previous arrests before their 1994 imprisonment. This variable, which is also dichotomous, will separate those individuals who have never been arrested before from those who have previous arrest records. The idea is that this variable, controlled with other variables, will demonstrate the effect that sentence length has on ‘true’ first time offenders who have never been to a correctional institution. Table 4.10 presents the frequencies of individuals who have previous arrest records and who reoffend once released.

Table 4.10: The table below displays the frequencies of recidivism by whether an individual had any previous arrests prior to the 1994 imprisonment

<table>
<thead>
<tr>
<th>Recidivism by Previous Arrests</th>
<th>Arrested</th>
<th>Never Arrested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Reoffend</td>
<td>20,725 (77.7%)</td>
<td>2,913 (89.4%)</td>
</tr>
<tr>
<td>Reoffended</td>
<td>5,965 (72.3%)</td>
<td>345 (10.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>26,690 (100%)</td>
<td>3,258 (100%)</td>
</tr>
</tbody>
</table>

*χ² = 241.453; p=.000

Again, there is a clear difference between the frequency of individuals who have had a previous arrest record and those individuals who have not. With the majority of individuals in this cross-tabulation already having previous arrests, the patterns displayed in these descriptive statistics are not unexpected. Of the individuals who had never been arrested, 89.4% did not reoffend compared to 77.7% who had been arrested prior to the 1994 imprisonment. At the same time, it is important to note that of the 6,310 individual
who have reoffended in this cross-tabulation, 5,965 had a previous arrest record before their 1994 imprisonment. At a significance level of \( p < .001 \) for our \( \chi^2 \) test, the association between previous arrest records and recidivism rates is statistically significant.

Finally, the last variable analyzed in terms of its association with recidivism is whether an individual experienced any infractions while in prison for their 1994 imprisonment. This variable can give light to any association that may exist between an individual misbehaving in a correctional institution and dealing with infractions to how they behave once released. Table 4.11 presents the frequencies and percentages of individuals who had infractions during their 1994 imprisonment and reoffended once released. Again, the variable for measuring infractions is dichotomous.

Table 4.11: The table below displays the frequencies of recidivism by whether an individual received infractions during the 1994 imprisonment

<table>
<thead>
<tr>
<th>Recidivism</th>
<th>Infractions</th>
<th>No Infractions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Reoffend</td>
<td>6,385 (83.1%)</td>
<td>5,984 (73.4%)</td>
</tr>
<tr>
<td>Reoffended</td>
<td>1,295 (16.9%)</td>
<td>2,168 (26.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>7,680 (100%)</td>
<td>8,152 (100%)</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 219.201; p = .000 \]

At a significance level of \( p < .001 \) for the \( \chi^2 \) test, the association between infractions and recidivism is significant. By looking at the frequencies and percentages, we can see that the majority of individuals who reoffended never experienced infractions during their 1994 imprisonment. Specifically, of the individuals that did not receive
infractions, 73.4% did not reoffend when compared to 83.1% who did receive infractions. This would lead to the assumption that infractions have a positive influence on individuals reoffending once released. 6,385 of the individuals that did not reoffend experienced infractions, which supports the idea that infractions reduce recidivism.  

Although no further analysis will be done involving the state an individual was released from and their probability of reoffending, table 4.12 displays the frequencies for that type of analysis. This cross-tabulation not only provides a better understanding the geographic aspects of the data, it opens doors for future research in this similar area involving a state-by-state analysis based on recidivism rates.  

Table 4.12: The table below displays the frequencies of recidivism by state  

<table>
<thead>
<tr>
<th>State</th>
<th>Did not Reoffend</th>
<th>Reoffended</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>1,175 (82%)</td>
<td>258 (18%)</td>
<td>1,433 (100%)</td>
</tr>
<tr>
<td>California</td>
<td>5,750 (81.6%)</td>
<td>1,298 (18.4%)</td>
<td>7,048 (100%)</td>
</tr>
<tr>
<td>Delaware</td>
<td>564 (85.6%)</td>
<td>95 (14.4%)</td>
<td>659 (100%)</td>
</tr>
<tr>
<td>Florida</td>
<td>1,936 (75.5%)</td>
<td>628 (24.5%)</td>
<td>2,564 (100%)</td>
</tr>
<tr>
<td>Illinois</td>
<td>1,731 (74.7%)</td>
<td>586 (25.3%)</td>
<td>2,317 (100%)</td>
</tr>
<tr>
<td>Maryland</td>
<td>1,165 (72.9%)</td>
<td>434 (27.1%)</td>
<td>1,599 (100%)</td>
</tr>
<tr>
<td>Michigan</td>
<td>1,723 (87.7%)</td>
<td>242 (12.3%)</td>
<td>1,965 (100%)</td>
</tr>
<tr>
<td>Minnesota</td>
<td>1,276 (73.8%)</td>
<td>454 (26.2%)</td>
<td>1,730 (100%)</td>
</tr>
<tr>
<td>New Jersey</td>
<td>1,631 (76.6%)</td>
<td>499 (23.4%)</td>
<td>2,130 (100%)</td>
</tr>
<tr>
<td>New York</td>
<td>1,899 (77%)</td>
<td>567 (23%)</td>
<td>2,466 (100%)</td>
</tr>
<tr>
<td>North Carolina</td>
<td>1,439 (70.3%)</td>
<td>608 (29.7%)</td>
<td>2,047 (100%)</td>
</tr>
<tr>
<td>Oregon</td>
<td>1,271 (81.5%)</td>
<td>289 (18.5%)</td>
<td>1,560 (100%)</td>
</tr>
<tr>
<td>Texas</td>
<td>2,078 (85.5%)</td>
<td>352 (14.5%)</td>
<td>2,430 (100%)</td>
</tr>
</tbody>
</table>

*χ² = 425.948; p<.001*

Clearly, some states have more involvement in correctional institutions, which leads to much higher frequencies from state to state. For example, 5,750 of the
individuals who did not reoffend were released only from California. Was it interesting about this cross-tabulation is that it shows the frequencies of individuals who did and did not reoffend based on state, and that also gives some insight on the effectiveness of controlling for recidivism within each state. Of the individuals released from a correctional institution in Delaware, only 14.4% of them reoffended once released. This was the lowest percentage among all of the states in the study. At the same time, 29.7% of the individuals released from a correctional institution in North Carolina reoffended once released from their 1994 imprisonment. This is the highest percentage of individuals who reoffended among all of the states. Again, an analysis of states by their effectiveness for controlling recidivism is an area of research by itself, but this cross-tabulation provides further insight into that area of research and into this particular data set.

From these cross-tabulations, we can see the importance of using these variables with respect to recidivism. Program participation demonstrated lower frequencies of reoffending, along with having no previous criminal history. Demographic variables, specifically age, race and sex will be used as control variables for the next analyses. Also, the main independent variable (sentence length) presented an interesting pattern of decreasing frequencies of reoffending up to the 37-60 month sentence length. This relationship continued to be analyzed in the upcoming chapters. The next three chapters (chapters 5-7) will further analyze the data through logistic regression and survival analysis.
Chapter 5

Predicting Recidivism Risk

5.1 Logistic Regression Analysis

Logistic regression was the chosen statistical technique for this study. I created dummy variables for the basic demographics (age, race and sex) as well as various dummy variables for sentence lengths. The age dummy variable was coded as "1" if the individual fell in the particular age category (less than or greater than 28 years of age). 28 years of age was used as the cutoff for this dummy variable since individuals who are less than 28 years are at a higher risk for committing crimes when compared to individuals older than 28 years. Specifically, as stated by Hirschi and Gottfredson (1983), individuals age out of crime, and the probabilities in the regression demonstrate that trend. Also, "1" was used for black individuals in the race dummy variable, and "1" was used as the value for males in the sex dummy variable. Finally, "1" was used for each of the sentence length variables to denote if an individual received that particular sentence length.

By analyzing recidivism regressed on race, sex, age and sentence length, probabilities were produced for individuals based on various characteristics. These basic demographic variables, as well as the sentence lengths, allowed the probabilities to be
more applicable to individuals in different situations regarding their ascribed statuses.

Table 5.1 displays these probabilities in a tabular format.

Table 5.1: The table below displays the probabilities of reoffending based on sex, age race and sentence length

<table>
<thead>
<tr>
<th></th>
<th>White Male</th>
<th>White Female</th>
<th>Black Male</th>
<th>Black Female</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Less than 28 years old</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (3 years)</td>
<td>0.16</td>
<td>0.11</td>
<td>0.24</td>
<td>0.16</td>
</tr>
<tr>
<td>Moderate (4-10 years)</td>
<td>0.15</td>
<td>0.10</td>
<td>0.22</td>
<td>0.14</td>
</tr>
<tr>
<td>High (11-25 years)</td>
<td>0.15</td>
<td>0.10</td>
<td>0.22</td>
<td>0.14</td>
</tr>
<tr>
<td><strong>Greater than 28 years old</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (3 years)</td>
<td>0.11</td>
<td>0.07</td>
<td>0.16</td>
<td>0.10</td>
</tr>
<tr>
<td>Moderate (4-10 years)</td>
<td>0.10</td>
<td>0.06</td>
<td>0.15</td>
<td>0.09</td>
</tr>
<tr>
<td>High (11-25 years)</td>
<td>0.10</td>
<td>0.06</td>
<td>0.15</td>
<td>0.09</td>
</tr>
</tbody>
</table>

*p<.001*

As seen above, there are many important findings with regard to reoffending. First, males, regardless of race and age, had a higher probability of reoffending than females. At the same time, black males had the highest probability of reoffending. With respect to age, the older an individual got, the lower their probability for reoffending. This pattern was consistent among both males and females, as well as black and white individuals.

One interesting finding to note was that black females who received an average sentence and who were under the age of 28 years, had the same probability of reoffending as a white male with the same sentence length and age. Also, black males under the age of 28 and with an average sentence length were 1.5 times more likely to reoffend than white males with the same age and sentence length (.24/.16). Research has discussed the
implications that race can have on recidivism, and these findings are consistent with that research. Similarly, black females younger than 28 years of age and with an average sentence were 1.45 times more likely to reoffend when compared to white females with similar age and sentence length (.16/.11).

When looking at the length of one's sentence, the probabilities show that a longer sentence for their 1994 imprisonment led to a lower probability for reoffending once released. This pattern was consistent among all individuals in this regression, regardless of age, race and sex. One pattern that was consistent among both white and black males and females were the probabilities of reoffending at the moderate and high sentence lengths. Although the probabilities differed within these groups based on race and sex, the probabilities were quite similar at the moderate and high sentence length. For example, white males under the age of 28 years of age had a 16% probability of reoffending when receiving an average sentence length for their 1994 imprisonment. However, white males had a 15% probability rate of reoffending for both a moderate sentence length and a high sentence length. Although the probability of reoffending decreased with a longer sentence, the effect of the sentence seemed to diminish after the moderate sentence length. Again, this pattern was consistent for both males and females, regardless of age and race.

Another important pattern to note from this table is the importance age has on individuals reoffending. The pattern for aging out of crime is consistent among both black and white individuals as well as males and females. For example, a black male who received an average sentence length and is less than 28 years of age had a 24%
probability of reoffending while a black individual with the same sentence length who was greater than 28 years of age had only a 16% probability of reoffending.

To summarize, these probabilities showed that an increase in sentence length did lower the probabilities of reoffending once released, but the effect of a longer sentence seemed to stop after an individual received a moderate sentence. A high sentence did not show lower probabilities for reoffending, which seems to support a portion of the hypothesis that a shorter sentence can have similar recidivism rates. Again, a moderate sentence length demonstrated lower probabilities of reoffending compared to average sentence lengths, and this supports the idea of longer sentences for reduced recidivism. At the same time, if the effect of lowering probabilities wears off after the moderate sentence length, can we say a moderate sentence length is just as effective as a high sentence for reducing recidivism? The next analyses attempted to answer this question better by looking at the effect sentence length has on recidivism while comparing violent and non-violent offenders. Also, a logistic regression including variables that involve an individual's previous criminal behavior and recidivism was assessed as well as the impact that interventions and infractions had on recidivism rates for the 1994 imprisonment sample.

Sociologically, this regression analysis supports several aspects of society. Race has implications on recidivism rates, as well as sex. Also, an increased, or harsher, sentence length seems to reduce recidivism initially, but that effect seems to minimize after a modest sentence length. Findings like this could support a push for altering sentencing practices. The financial aspects of a correctional institution are a consistent issue, and holding individuals for extended periods of time has always been an area of
concern. If these longer, and financially expensive, sentences are having few effects on reducing the probability of reoffending, one might assume that correctional institutions can be just as effective with rehabilitation at shorter sentence lengths.
Chapter 6

The Affect of Violent Offenses on Recidivism Risk

6.1 Survival Analysis

One of the most effective ways to isolate the effects of sentence length is to control for other outside factors. The previous logistic regression controlled for basic demographic variables, and the following survival analysis controlled for the type of crime an individual committed. Specifically, using the dichotomous variable of crime type, violent or non-violent (see figure 6-1), I ran a survival analysis based on an individual's type of crime and length of their sentence for the 1994 imprisonment in years. Essentially, survival time is measured in years since release and an event. The event measured is the dichotomous variable of whether an individual reoffended once released. Whenever an offender returns to the system, it projects a probability for the remainder of offenders by adjusting for that occurrence. The probability at release is calculated as 100%. As time increases without reoffending, the probability of return declines.
Figure 6-1: Survival Analysis of Sentence Length, Type of Crime and Recidivism
Figure 6-1 reveals several clear differences between the probability of reoffending for violent and non-violent offenders. In the shorter sentence lengths (less than 3 years) it may be difficult to view, but each time the line moves represents an individual who reoffended. The line for non-violent offenders (Greeb) showed a quick improvement in the probabilities of reoffending in the shorter to average sentence lengths. Specifically, non-violent offenders with a 2.5 year sentence length had a 60% probability of reoffending. Those who served a 5 year sentence length only had roughly a 35% probability of reoffending. Again, this supports the traditional view of correctional sentencing that a harsher sentence will be more effective for improving recidivism rates.

When looking at non-violent offenders, it is important to note that the pattern presented in the logistic regression from the previous chapter is consistent with this survival analysis. After a moderate sentence length, (roughly 10 years), the effects of a longer sentence on reducing recidivism do not seem to be as effective as the initial sentencing effects. This would support the notion that individuals who get a longer sentence are more susceptible to becoming institutionalized, which is leading to little improvements in reducing recidivism rates after a certain length of time (such as 10 years) in a correctional institution.

By comparing violent offenders with non-violent offenders, this survival analysis shows that violent offenders generally have a higher probability of reoffending than non-violent offenders, regardless of sentence length. For example, a non-violent offender who received a 15 year sentence length had roughly an 18% probability of reoffending while a violent offender with the same sentence length for their 1994 imprisonment had roughly a 55% probability of reoffending. Although this analysis does not control for
any other variables, it does demonstrate significant differences between violent and non-violent offenders in terms of recidivism.

Also, at roughly the 25 year sentence length, the probability for reoffending for non-violent offenders disappears. At that same sentence length, the probability remains at roughly 25% for violent offenders. Sociologically, this could be due to several factors. One could assume that individuals who commit non-violent crimes are not very likely to even receive a sentence of that length while violent offenders are more likely to receive that type of a sentence. One could also argue that violent criminals are more likely to take a criminal career approach whereas violent offenders are not, and this may lead to higher probabilities of reoffending for those who commit violent acts. Opportunistic individuals are less likely to take a pre-meditated approach, which means they only engage in a criminal act when the opportunity is upon them. With that being said, it is likely that this will naturally reduce the rate of reoffending for these individuals, since their crime was likely committed as a random act and is not a representation of an individual's personality (like a violent offender). Again, this is a hypothetical explanation, and it is difficult to accurately infer this from the analysis.

6.2 Logistic Regression

Using the same dichotomous variables, as well as the dichotomous variables for sentence lengths, the following regression (Table 6.1.) displays the probabilities of individuals reoffending based on both the type of crime (violent or non-violent) and race and sex. By combining all of these dichotomous variables and while controlling for other societal factors, the effects of sentence length on recidivism rates can be easily seen.
Table 6.1: The table below displays the probabilities of reoffending based on sex, race, type of crime and sentence length

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th></th>
<th>Black</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td><strong>Violent</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (3 years)</td>
<td>0.14</td>
<td>0.08</td>
<td>0.24</td>
<td>0.14</td>
</tr>
<tr>
<td>Moderate (4-10 years)</td>
<td>0.13</td>
<td>0.07</td>
<td>0.22</td>
<td>0.12</td>
</tr>
<tr>
<td>High (11-25 years)</td>
<td>0.13</td>
<td>0.07</td>
<td>0.22</td>
<td>0.12</td>
</tr>
<tr>
<td><strong>Non-Violent</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (3 years)</td>
<td>0.24</td>
<td>0.13</td>
<td>0.41</td>
<td>0.23</td>
</tr>
<tr>
<td>Moderate (4-10 years)</td>
<td>0.22</td>
<td>0.12</td>
<td>0.37</td>
<td>0.21</td>
</tr>
<tr>
<td>High (11-25 years)</td>
<td>0.22</td>
<td>0.12</td>
<td>0.37</td>
<td>0.21</td>
</tr>
</tbody>
</table>

We can see that controlling for several variables besides simply the type of crime an individual committed had implications on the probability of reoffending. All of the demographic patterns discussed in the previous chapter are similar to this regression, regardless of the type of crime. When controlling for race and sex, non-violent offenders in general had higher probabilities of reoffending than violent offenders. This differs from the survival analysis, and this demonstrates the effect that race and sex have on reoffending, as discussed in previous literature. The difference between the probability of reoffending among white and black individuals are much more drastic among non-violent offenders when compared to violent offenders. For example, black, violent offenders had a 24% probability of reoffending compared to white, violent offenders, who had a 14% probability. Among non-violent offenders, black individuals had a 41% probability of reoffending whereas White offenders had only a 24% probability.
Although controlling for demographic variables did change probability of reoffending for violent and non-violent offenders, it did not change the pattern that was consistent in the previous chapter regarding longer than moderate sentence lengths. The probabilities for reoffending decreased for all individuals of various sex, race and type of crime when the sentence length increased from an average to a moderate length. However, the effects were essentially eliminated for all individuals when the sentence length increased from a moderate length to a high length. Again, even when controlling for basic demographics and the type of crime, an individual's probability of reoffending only seems to improve up to a moderate sentence length. Anything after this length seems to have no effect on an individual reoffending once released.
Chapter 7

History of Criminal Behaviors on Recidivism Risk

7.1 Logistic Regression Analysis

Another approach to isolating the effects that sentence length has on recidivism is by analyzing an individual's history of criminal behavior. Specifically, by analyzing whether an individual has ever been arrested or ever been to prison (or both) before their 1994 imprisonment with recidivism rates, the probabilities will show the effect that this criminal history will have on reoffending.

To do this, I used dichotomous variables that denoted whether an individual has ever been to prison and whether an individual has ever been arrested prior to the 1994 imprisonment. In the logistic regression, these variables both are coded with “1” meaning the individual has never been to prison or never had any prior arrests. This logistic regression also contains the basic demographic variables (sex and race) that have been used in previous analyses. The same dichotomous variable for recidivism that has been used in previous chapters was again used as the dependent variable for this logistic regression (See Table 7.1.).
Table 7.1: The table below displays the probabilities of reoffending based on sex, race and criminal history

**Recidivism Regressed on Sex, Race and Criminal History**

<table>
<thead>
<tr>
<th>Criminal History</th>
<th>White</th>
<th>Black</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Never Arrested</td>
<td>0.16</td>
<td>0.11</td>
<td>0.27</td>
<td>0.18</td>
</tr>
<tr>
<td>Never Been to Prison</td>
<td>0.18</td>
<td>0.12</td>
<td>0.30</td>
<td>0.20</td>
</tr>
<tr>
<td>Neither</td>
<td>0.10</td>
<td>0.07</td>
<td>0.17</td>
<td>0.11</td>
</tr>
</tbody>
</table>

*p < .001*

This analysis reveals interesting patterns regarding an individual’s criminal past and their probability of reoffending. To begin, in all three areas of criminal history, black individuals were more likely to reoffend when compared to white individuals. Again, males were more likely to reoffend than females and specifically black females more so than White females.

In terms of analyzing the effects of criminal history on the probability of reoffending, a history of arrests prior to the 1994 imprisonment seemed to have a greater effect on the probability than whether an individual had ever been to prison before. For example, a black male who had never been arrested before had a 27% probability of reoffending once released, while a black male who had never been to prison before had a 30% probability of reoffending once released. Generally speaking, it may take multiple arrests to end up in prison, so having no prior arrests would likely mean the individual has stayed out of trouble. Obviously, there are exceptions to this interpretation, such as murders who only offend one time, so this is nothing more than an attempt to explain criminal history and recidivism probabilities.
In order to truly isolate first-time offenders in this regression, the probabilities were calculated for individuals who had both never been to prison before and never been arrested before their 1994 imprisonment. Although an individual cannot end up in prison without being arrested, it is highly likely an individual could have been arrested without ever being in prison before, so the row, "neither," includes individuals who receive a 1 for both criminal history variables. These probabilities show that first time offenders have much lower probabilities of reoffending when compared to individuals with previous criminal history. For example, White males who have never been arrested or to prison before their 1994 imprisonment had a 10% probability of reoffending while White males that had never been to prison but with previous arrests had an 18% probability of reoffending.

Within this regression, it is important to note that roughly 33% of the sample (32.6%) falls within that risky age of crime, which is less than 28 years of age. It is important to point this out because these individuals may have experienced arrests and previous prison terms at the juvenile level, and this data is not included in the analysis. This sample of 1994 offenders only includes adult correctional facilities, and the juvenile records of these individuals may reveal that this 1994 imprisonment was not their first arrest or experience with incarceration.

7.2 Recidivism Regressed on Type of Crime, Criminal History and Sentence Length

The main hypothesis of this study was: A first-time, non-violent offender who receives a shorter sentence will be less likely to reoffend. So far, the previous regressions and analyses have shown that sentence length is reducing the probabilities of reoffending
up to a moderate sentence length, but not beyond that length of time. Also, demographic variables, such as age, race and sex, are showing effects on reoffending that have been supported by past research, and these demographic variables seem to be having more of a significant effect on recidivism than the type of crime a person commits. All of these previous regressions and analyses have touched on some aspect of this main hypothesis, and the following regression attempts to isolate sentence length in every aspect of the main hypothesis. Specifically, table 7.2 displays the probabilities of reoffending for individuals based on the type of crime, criminal history and length of sentence.

This logistic regression used the same dichotomous variables that have been used in previous regressions. The sentence length variables were similar to those in previous chapters, where “1” indicated an individual received that particular sentence. A “1” was also used to indicate violent offenders as well as whether an individual has ever been to prison, ever been arrested, or neither.
Table 7.2: The table below displays the probabilities of reoffending based on type of crime, criminal history and sentence length

**Recidivism Regressed on Type of Crime, Criminal History and Sentence Length**

<table>
<thead>
<tr>
<th></th>
<th>Violent</th>
<th>Non-Violent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Never Arrested</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (3 years)</td>
<td>0.160</td>
<td>0.243</td>
</tr>
<tr>
<td>Moderate (4-10 years)</td>
<td>0.141</td>
<td>0.215</td>
</tr>
<tr>
<td>High (11-25 years)</td>
<td>0.146</td>
<td>0.222</td>
</tr>
<tr>
<td><strong>Never Been to Prison</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (3 years)</td>
<td>0.166</td>
<td>0.294</td>
</tr>
<tr>
<td>Moderate (4-10 years)</td>
<td>0.147</td>
<td>0.222</td>
</tr>
<tr>
<td>High (11-25 years)</td>
<td>0.151</td>
<td>0.230</td>
</tr>
<tr>
<td><strong>Neither</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (3 years)</td>
<td>0.099</td>
<td>0.151</td>
</tr>
<tr>
<td>Moderate (4-10 years)</td>
<td>0.088</td>
<td>0.133</td>
</tr>
<tr>
<td>High (11-25 years)</td>
<td>0.091</td>
<td>0.138</td>
</tr>
</tbody>
</table>

*p<.05

The table above shows similarities to previous regressions in both the effects from the type of crime and the length of one's sentence. Since we are not controlling for race and sex, we can see that non-violent offenders had higher probabilities of reoffending when compared to violent offenders, and this is consistent among all of the sentence lengths as well as the criminal history. Also, the categories for one's length of sentence show similar patterns that have been previously discussed, and that is the notion that the probability of reoffending decreased for a moderate sentence when compared to an average one, but then actually increased when comparing moderate to high sentence lengths. For example, a violent offender who had never been arrested before this 1994 incarceration and received a moderate sentence length had a 21.5% probability of reoffending once released. An individual with the same criteria who received a high
sentence length had a 22.2% probability of reoffending, meaning they were more likely to reoffend even with a longer sentence. The pattern of probabilities decreasing after the average sentence length and then increasing after the moderate sentence length is consistent with the other regression analyses.

"True" first-time offenders, meaning they received a "1" for both never being arrested and in prison before the 1994 imprisonment, demonstrated the lowest probabilities for reoffending among all of the groups. Just like in the previous chapters with violent and non-violent offenders in the regression, violent offenders showed lower probabilities of reoffending when compared to "true," first-time, non-violent offenders. Again, this could be due to social opportunities for crime, or the fact that violent offenders are likely receiving longer sentences to begin with, which alters their first-time experience in a correctional institution. The next logistic regression (Table 7.3) is similar to the previous one, expect it includes the demographic variables of race and sex in the analysis.
Table 7.3: The table below displays the probabilities of reoffending based on sex, race, type of crime, criminal history and sentence length

<table>
<thead>
<tr>
<th>Recidivism Regressed on Sex, Race, Type of Crime, Criminal History and Sentence Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violent</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Never Arrested</td>
</tr>
<tr>
<td>Average (3 years)</td>
</tr>
<tr>
<td>Moderate (4-10 years)</td>
</tr>
<tr>
<td>High (11-25 years)</td>
</tr>
<tr>
<td>Never Been to Prison</td>
</tr>
<tr>
<td>Average (3 years)</td>
</tr>
<tr>
<td>Moderate (4-10 years)</td>
</tr>
<tr>
<td>High (11-25 years)</td>
</tr>
<tr>
<td>Neither</td>
</tr>
<tr>
<td>Average (3 years)</td>
</tr>
<tr>
<td>Moderate (4-10 years)</td>
</tr>
<tr>
<td>High (11-25 years)</td>
</tr>
</tbody>
</table>

While controlling for demographic variables, there are still consistencies with previous regressions in table 7.3. Again, non-violent offenders demonstrated higher probabilities of reoffending compared to violent offenders, and this is consistent across all of the factors in the table. Focusing on race, black individuals had higher probabilities of reoffending compared to white individuals. It is interesting to note that although males typically commit more crimes than females, black females had higher probabilities of reoffending at every sentence length and type of crime compared to white males, regardless of previous criminal history. Race and incarceration is a heavily researched area, and the implication of racism in arrests and convictions has been documented (Bellair and Kowaliski 2011). With black individuals being arrested and convicted more
often than white individuals, these probabilities support previous literature. Finally, the pattern for decreasing probabilities based on recidivism has remained consistent, even in this regression analysis. Taking all of these control variables into account, the probabilities for reoffending continue to decrease after an average sentence, but the change is essentially eliminated for anything over a moderate sentence length. Other than black females with no prior arrests and prior prison experience, this pattern was true across all of the regressions.

7.3 Logistic Regression Analysis with Interventions and Infractions

The final logistic regression for this study involved the dummy variables for education programs, vocational programs, drug and alcohol rehabilitation programs, and infractions in the correctional institution for the 1994 imprisonment. Each of these dummy variables were coded with a "1" if the individual did participate in that particular program or receive infractions. Again, the recidivism dummy variable was used as the independent variable for this regression. These program participation variables demonstrate how seeking help and resources in an institution will influence recidivism once released. Unfortunately, it is important to note that although there were individuals who participated in these programs and reoffended, there were no significant probabilities among any of the programs or interventions besides the infractions so only that will be discussed here. This variable was included to control for inmate behavior patterns. Infractions inside of a correctional institution may show that an individual will find trouble even in a prison, and that will likely mean that individual will reoffend once
released. Table 7.4. displays the probabilities of individuals reoffending based on infractions.

Table 7.4: The table below displays the probabilities of reoffending based on sex, race and infractions

<table>
<thead>
<tr>
<th>Infractions</th>
<th>White</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>0.27</td>
<td>0.13</td>
<td>0.45</td>
</tr>
</tbody>
</table>

From this regression analysis, we can see that males who received infractions had a higher probability of reoffending compared to females, regardless of race. When analyzing race, black males who received infractions were 1.67 times more likely to reoffend compared to white males who received infractions (.45/.13). Black females who received infractions were 1.62 times more likely to reoffend compared to white females (.21/.13). One can assume that these individuals who received infraction had higher probabilities to reoffend since these infractions are a representation of an individual misbehaving inside the correctional institution. If individuals are getting in trouble inside of the institution, it is likely they will break rules and reoffend once they are released.
Chapter 8

Conclusion

8.1 Summary of Findings

The effect of sentence length on reoffending was analyzed from several different angles within this study. Cross-tabulations were used as both descriptive statistics for the data, as well as show significant associations between the analyzed variables and reoffending. Through these cross-tabulations, significant associations were demonstrated in the type of crime (violent or non-violent crime) and recidivism. Specifically, there were more non-violent offenders returning to prison once released compared to violent offenders. Also, an increase in the amount of time served consistently reduced the frequencies of reoffending up to the 36-60 month sentence length range. The decreasing pattern continued after this length.

Program participation and infractions within the prison was another area heavily researched in this study. Within the education and vocational program participation, more individuals who participated in these programs did not reoffend once released, which supports involvement in these types of programs. Participation in drug and alcohol treatment programs also demonstrated similar frequencies as the education and vocational programs, though the cross-tabulation with drug treatment was not significant. Finally,
the majority of individuals who received infractions during their 1994 imprisonment did not reoffend once released, which also supports correctional systems in the way they are handling discipline within the prison.

Although the cross-tabulations were valuable at describing the data more in-depth, the regression and survival analyses provided more in terms of interpreting probabilities of individuals reoffending based on their sentence length and prison experience. First, all of the logistic regressions showed that black males had the highest probability of reoffending, which is consistent with past literature on race and sex. It is important to point out that black females were displaying higher probabilities of reoffending in the regressions when compared to white males. Age was also an important demographic variable to control for, because individuals who were less than 28 years of age had higher probabilities of reoffending compared to individuals older than 28 years.

The survival analysis was the first of several analyses that looked at the effects of the type of crime and sentence length on recidivism. Non-violent offenders had lower odds of reoffending throughout the curve, and the shorter sentences seemed to have the most significant impact on reducing the odds of reoffending. After a 15 year sentence, the odds were much more stable for non-violent offenders than they were in the shorter sentence lengths. This means that a longer sentence was not having as great of an impact on reducing recidivism. Violent offenders demonstrated much more of a linear curve. Their probability of reoffending was much more consistent as the length of time incarcerated increased. This makes sense, since we can assume violent offenders will be more likely to receive longer sentences compared to non-violent offenders.
Throughout all of the regressions, the probabilities for reoffending decreased between an average sentence length and a moderate sentence length. This would support the traditional perspective on correctional sentencing. However, the probabilities for reoffending leveled out from a moderate sentence length to a high sentence length, meaning individuals receiving either of these sentences had the same odds of reoffending once released. This was not only consistent when controlling for race, age and sex; it was also displayed in regressions when controlling for the type of crime. In fact, when controlling for the type of crime, criminal history, and sentence length, the probability of reoffending actually increased for all categories in this regression when the sentence length increased from a moderate to a high length of time.

8.2 Discussion

This study confirmed past research, displayed interesting findings and created opportunities for future research. Although the effects of sentence length on reducing recidivism did demonstrate very similar odds at the moderate and high length, we cannot fully accept the original hypothesis that shorter sentences will decrease recidivism. Odds of reoffending consistently decreased for individuals up to a certain point, and it is difficult to confirm why that occurred. At the same time, it is important to point out the significant findings that occurred between a moderate and high sentence length. Even when controlling for the type of crime, the probability of reoffending was no different between these two sentences; it even increased for the higher sentences in the regression involving type of crime and criminal history. So, although the hypothesis was not fully supported from this study, there was evidence that shorter sentences can be just as
effective at reducing recidivism as longer sentences. This appears especially true when
the offender has a shorter history of criminal behavior (such as a first time offender or
one with fewer previous arrests) and when we consider property versus violent crime.

8.3 Theoretical Considerations of the Findings

The question still remains as to why longer sentences (specifically, sentences past
that moderate length of 4-10 years) did not demonstrate improved probabilities for
reducing recidivism. Theoretically, Mead’s (1934) theoretical perspective was used as a
framework for arguing that the impact of the struggles an individual will have when
coming to a correctional institution for the first time will include those associated with
social isolation and/or assimilation. Having to learn a new set of symbols and social
structure can be challenging for anyone, and I believe this would have been the case for
first-time prisoners. So, a shorter sentence would have closed that window of
opportunity for individuals to learn any of the necessary behaviors to be involved in their
new surroundings, which would make them not want to reoffend once released.
Essentially, if an individual were to get comfortable in the institution with a longer
sentence, they may not have had as much concern for reoffending.

Based on the findings, it was quite clear that a longer sentence did in fact reduce
the probability of reoffending, which did not support my initial theoretical argument.
The survival analysis (Figure 6.1.) showed this phenomenon in a clear fashion. The odds
of reoffending continued to decrease as one's sentence length increased, and this was
constant in both the violent and non-violent offenders. Again, although these specific
findings do not support the initial hypothesis, they do demonstrate the positive aspects of the current structure of sentencing individuals with a goal of reducing recidivism.

Mead's (1934) theoretical perspective was used to argue individuals coming into a correctional institution and being released rather quickly, while Sutherland, Cressey and Luckenbill's (1992) theory of differential association was more geared towards what could happen if an individual does end up staying in a correctional institution for an extended period of time. Specifically, a longer sentence gives the individual more time to learn criminal behavior given that the majority of individuals within a correctional institution have all engaged in some aspect of criminal acts. I believe this could explain why both moderate and high sentence lengths for all of the regression analyses were showing similar probabilities for reoffending. In other words, the significant effect of increasing the sentence length in order to reduce the probability of reoffending no longer existed after the moderate sentence length. In fact, one of the regression analyses (Table 7.2) showed an increase in the odds of reoffending for those who received a high sentence length. Could it be that these individuals, after serving roughly 10 years, may have learned so much about criminal behavior that it was enough to make them believe they could engage in more criminal acts once released without getting rearrested?

There is also an aspect of randomness in society and symbolic interactionism, and this too may influence the way individuals react differently to sentence lengths. It is difficult to find the length of time in a correctional institution that will lose its ability to reduce recidivism rates that is applicable to everyone, and this is because some individuals may react differently. A short sentence may be effective to some individuals while a longer sentence may be needed for others. This study did add to this discussion

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by finding a consistent pattern in the moderate to high sentence length and the stable probabilities of reoffending.

Referring back to Goffman (1961), I believe this study contributed to this theoretical approach by looking at the function of time with regard to total institutions. By looking at the amount of time an individual serves in a total institution (a prison in this case), one can analyze how more time may or may not contribute to an individual’s choice of either accepting or rejecting the culture within a correctional institution. Goffman (1961) focused on the struggles an individual faces when experiencing a total institution, and this study attempted to uncover the effect that time will have on that struggle. Specifically, how much time does an individual need to serve in a total institution before they make a choice of either accepting or rejecting the culture? Also, does more time lead to more adaptation in a total institution? While the findings did not reveal an optimal time for incarceration to be effective, they did suggest that longer periods of time do increase the probability of recidivism. Given this, it is likely that Goffman’s theory of the total institution is correct; individuals make choices on whether to adapt or self-isolate within the system. However, their choice is not necessarily dichotomous. In other words, the longer time spent incarcerated might lead to a shift from isolation to adaptation. This would be better tested with a qualitative study that would allow to understand the adaptation process and the factors that influence the choices made.

The regression analyses displayed stable probabilities of reoffending for individuals who served moderate and high sentence lengths, meaning the probability of reoffending was the same beyond this length of time. Could this be the time frame for
where an individual decides to adapt to the culture of a total institution instead of rejecting the culture and remaining isolated? Goffman’s (1961) concept of total institutions was quite applicable in terms of the theoretical perspective behind this study. It seems that the aspect of time can provide even more of an understanding of what actually occurs in for individuals in these institutions.

8.4 Psychological Considerations

Another aspect of this study that may help explain the findings has to do with the criminals themselves. In other words, does the type of crime an individual commits say anything about the individual and their personality, and could this explain the differences in recidivism rates? Crimes can be committed simply as acts of passion, and that may not be an accurate reflection on the individual as a career criminal. Someone could commit a violent crime out of emotion, but does this make that person a career criminal? Also, I believe there is such thing as a "one and done," or a, "crime of passion," offender where they commit a crime based on emotions and irrational actions (such as losing control in a fight and killing ones opponent), and it is difficult to interpret how a longer sentence will influence this type of offender in terms of reducing their rate for reoffending. It seems possible to believe that there are individuals who have committed one criminal act and will never reoffend again, regardless of the type of sanction they receive. Although it is impossible to sort these types of criminals from the analysis, it is something to consider when thinking about an explanation for the recidivism rates. Also, this is not an argument for supporting shorter sentences for individuals who are seen as the "one and
done" type criminals. Whatever the explanation for an individual's crime may be, they are still accountable for their actions.

In terms of non-violent offenders and recidivism, I believe this could be attributed to the possibility that non-violent crimes may be more likely crimes of opportunity, and not attributed as much to the pre-meditated aspect of criminal behavior. I believe these types of crimes could have been predominately committed during an immediate opportunity, which left little room for rational thought. Considering these factors, I also believe this may be the reason non-violent offenders have higher probabilities of reoffending when controlling for several influencing variables. If I am correct that many non-violent crimes are opportunistic, then this might indicate an underlying personality problem for the individual and he or she may struggle with self-control. If that is the case, then the prison system may not be able to rehabilitate that individual as the focus is on controlling and punishing the offender, rather than teaching them self-control.

When looking at the results, and seeing both the trend of reducing the probabilities of reoffending from average to moderate sentence lengths, and then the stable (or increasing) probabilities of reoffending from a moderate to high sentence length, I believe there may be a psychological component of this pattern. I believe the average to moderate sentence lengths demonstrated a reduction in the probability for reoffending because the offender may still find hope in the possibility of being released eventually. I believe an average to moderate sentence length might have the effect of making the offender realize they were going to have to serve a long time in a correctional institution, but they will eventually get released back to society. Considering this, I believe the sentences closer to the moderate length gave the offender the perfect amount
of time to both learn from their previous mistakes and maintain a level of hope to improve their behavior for when they are released.

I also believe the combination of punitive time and the “light at the end of the tunnel” effect of a chorister sentence for those who received an average-to-moderate sentence length may helped in allowing the individual to resist any opportunity to learn criminal behavior or to socialize into the inmate’s version of the prison society. If an individual is focused on improving their life (via a program) when they are released, I believe they will be more likely to resist learning how to interact in their current prison society (symbolic interactionism), and they will also be more likely to resist the possibility to learn any criminal behavior from the surrounding individuals (differential association).

Since the probabilities between a moderate and a high sentence showed no improvement in reducing the probability of reoffending once released, I believe this could indicate that longer sentences cause an offender to lose hope in ever having the opportunity for life outside of a correctional institution. If an individual is faced with the reality of having to spend the next 10+ years in a correctional institution, I believe they will be more likely to take the attitude of making the best of their current situation instead of focusing on what will come of them once they are released. This would make it imperative to integrate into the offender culture to combat the social isolation and self-rejection that accompanies the total institution. This could be why the probabilities seemed to level out at this point. Individuals who received sentences beyond that length of time may have taken the mentality that I have to get used to where I currently am, and this may have influenced their rate of reoffending once they were released.
One of the key distinctions made in this study was the use of time served compared to sentence length. The aim of this study was to look at the implications of sentence length in a correctional institution, specifically the amount of time spent in an institution, and the effects on recidivism. It is likely that the amount of time an individual was sentenced to and the amount of time they actually served was different, and that also may have influenced the recidivism rates. For future research, it may be interesting to analyze the difference in recidivism rates among individuals who are paroled (or serve less than the amount of time they were sentenced) compared to those who actually serve their full sentence. It could be likely that those who do get paroled had spent more of their time in the correctional institution focusing on improving their behavior for when they are released, and this may have earned them a shorter amount of time served. This could also mean that these individuals were less likely to reoffend once released since they were focused on improving their behavior. Those individuals who served their full sentence may not even have had the opportunity for parole, which could have limited the amount of hope or focus on improving their behavior. Also, if the individual did have the opportunity for parole but was never granted the chance to leave the institution early, it may mean the individual continued to engage in negative behavior inside of the institution, and this too may have influenced the recidivism rates.

The aspect of parole could have extremely important psychological effects on both an individual's behavior and their recidivism rate once released. By giving an individual the possibility to terminate their sentence early, motivation to improve their behavior and maintain that focus on being released could be increased and this could lead to a reduction in recidivism. Individuals who are sentenced without any possibility for
parole will likely have little focus on getting out, and may direct their attention towards making their time in the institution as easy as possible. I believe the way to make their time easier may be by engaging with the rest of the prison society, and this could in turn lead to the theoretical possibilities of becoming comfortable with the environment of a correctional institution, and learning more criminal behaviors that may cause the individual to reoffend once released.

8.5 **Criminal Justice System Implications (Policy)**

Research in the area of correctional institutions, sentences, and recidivism seems to have the ability to influence future approaches to the criminal justice system. I have discussed possible implications of different motives and attitudes that individuals may have for the crime they committed and the sentence they received, and considering these factors may lead to a more effective approach to reducing recidivism. It is possible that a shorter sentence for one individual may be just as effective at rehabilitating them as it would be for someone else, regardless of the crime. Considering the psychological aspects of an individual prior to sentencing can improve the effectiveness of the system as a whole. This could also lead to a more cost-effective approach to dealing with those individuals who have demonstrated criminal behavior. If the criminal justice system is applying shorter sentences with results just as effective for rehabilitation and reducing recidivism, the costs for housing an individual in a correctional institution will decrease. Again, it is important to consider the hypothetical implications with this approach, as basing punitive measures on the individual can be difficult compared to following sentencing guidelines and regulations.
This consideration for the psychological aspects of recidivism also can help in looking at the transition from a correctional institution back to society from the perspective of the individual. What does this individual need so they will not be as likely to reoffend once release them? If some individuals are displaying behavior that shows they will return to their previous lifestyle of crime and deviance, maybe more focus on relocating this individual and finding stable employment is a crucial goal. In general, society places a negative label on released offenders, and this automatically limits their opportunities once released. It is much more difficult for an individual to find work once they are labeled a convicted criminal, and this can make the transition back to society that much more difficult. I believe it is quite possible that an individual can come out of a correctional institution a better person than when they entered, but their label as a convicted criminal can hinder those positive changes. Specifically, the best approach would be to have better reintegration policies that deal with the individual needs that help someone avoid returning back to a life of crime. It can be difficult to apply sentences on an individual basis, but focusing on individual needs for returning to society might have the best long term effects on reducing recidivism.

8.6 Future Research

This study has demonstrated the importance of analyzing the experience in a correctional institution, specifically the time served in the institution, and how that affects recidivism. This study has also opened many doors for future studies that could help us understand this relationship more fully. First, since the psychological aspects that should be considered in an individual could affect the probability for reoffending, I believe a
qualitative approach to this area of study would be quite applicable. Although this study dealt with quantitative variables, such as sentence length and recidivism rates, the psychological aspects of recidivism would be much better understood through a qualitative approach combined with a quantitative one. Understanding what individuals are thinking prior to being released would allow researchers to look for psychological signs that may reflect the individual's likelihood of reoffending. Furthermore, allowing the reoffender to explain their motivations for reoffending would help us to understand why a prison sentence is ineffective, overall, as a rehabilitative measure. It is impossible to build effective reintegration programs without an understanding of the needs and motivations of their target audience.

I also believe it would be useful to implicate this study design comparing the recidivism rates of different states. This would allow researchers to see which states seem to have the most effect approach to reducing recidivism. For example, would recidivism rates differ between states like Michigan and Ohio or Kentucky and Ohio? Ohio, at least on the surface, has a more punitive approach to violent crime since it is a death penalty state. However, Ohio does not have a habitual offender law (mandatory twenty five year sentences for repeat felons) while both Michigan and Kentucky do. Would differences in state laws, like these, increase the probability of reoffending for non-violent crimes in some states and for violent crimes in others? Also, this would create a more universal approach to controlling recidivism because it could reveal which approaches to recidivism are the most effective, and the states that are demonstrating higher rates of recidivism could adopt more effective methods.
8.7 Limitations

One of the major limitations of this study was the fact that the data were from 1994 - 1997. It is likely that correctional practices have changed over the last 15 years, so these findings may not be consistent if this study was done with more recent data. Also, missing data, specifically for program involvement, made it difficult to analyze the effects of rehabilitative programs on reducing recidivism.

Since recidivism was one of the main focal points of this study, the 3 year window of opportunity for data collection was also a limitation. Again, the data only followed individuals who were released in 1994 for three years before their recidivism rates were collected. A bigger window, such as 6-10 years, may yield different recidivism rates and better reflect who actually reoffends once released, and not just those who reoffend within the first three years of release (Case 2008).

To conclude, research involving sentence length and recidivism rates can always be an effective tool for analyzing policies and practices within correctional institutions. If future research continues to focus on the appropriate length of time in an institution and its implications on recidivism, the rehabilitative, financial and social benefits can be endless. No social institution is perfect, and the correctional system is no exception, but consistent analysis and research like this study will continue to challenge this institution to improve both its practices, and improve society as a whole.
References


