



January 2013

Does Time Matter? An Examination Of Sentence Length, Time Served And Probation Outcomes

Michael P. Mcgrath

[How does access to this work benefit you? Let us know!](#)

Follow this and additional works at: <https://commons.und.edu/theses>

Recommended Citation

Mcgrath, Michael P., "Does Time Matter? An Examination Of Sentence Length, Time Served And Probation Outcomes" (2013). *Theses and Dissertations*. 1452.
<https://commons.und.edu/theses/1452>

This Dissertation is brought to you for free and open access by the Theses, Dissertations, and Senior Projects at UND Scholarly Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of UND Scholarly Commons. For more information, please contact und.common@library.und.edu.

DOES TIME MATTER? AN EXAMINATION OF SENTENCE LENGTH, TIME
SERVED AND PROBATION OUTCOMES

by

Michael P. McGrath

Bachelor of Science, Minot State University, 2001

Master of Science, Minot State University, 2003

A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

In partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Grand Forks, North Dakota

August

2013

This dissertation, submitted by Michael P. McGrath in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

Martin Gottschalk

Michael E. Meyer

Roni Mayzer

Gary Rabe

Rachel L. Navarro

This dissertation is being submitted by the appointed advisory committee as having met all of the requirements of the School of Graduate Studies at the University of North Dakota and is hereby approved.

Wayne Swisher
Dean of School of Graduate Studies

Title DOES TIME MATTER? AN EXAMINATION OF SENTENCE
LENGTH, TIME SERVED AND PROBATION OUTCOMES

Department Criminal Justice

Degree Doctor of Philosophy

In presenting this dissertation in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my dissertation work or, in his absence, by the Chairperson of the department or the dean of the Graduate School. It is understood that any copying or publication or other use of this dissertation or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my Dissertation.

Michael P. McGrath

07/17/2013

TABLE OF CONTENTS

LIST OF TABLESv

ACKNOWLEDGEMENTSviii

ABSTRACTix

CHAPTER

I. STATEMENT OF THE PROBLEM.....1

 Introduction1

 The Practice of Probation in the United States.....4

 Probation Effectiveness9

 Limits of Prior Research.....10

 Organization of the Paper.....16

II. PROBATION OUTCOMES.....19

 Probation Outcome Issues.....19

 Probation Outcomes.....24

 Factors that Affect Probation Outcomes.....32

 Offender Characteristics and Probation Outcomes.....32

 System Level Factors and Probation Outcomes.....45

III. SENTENCE LENGTH AND TIME SERVED.....55

 Introduction.....55

 Prison Sentence Length and Recidivism.....58

	Probation Sentence Length, Time served and Outcomes.....	66
	Probation Sentence Length and Outcomes.....	67
	Probation Time Served and Outcomes.....	74
IV.	PROBATION THEORY AND TIME.....	77
	Decreased Failure/Recidivism through Increased Probation.....	78
	Deterrence.....	79
	Incapacitation/Community Restraint.....	84
	Rehabilitation.....	90
	Increased Failure/Recidivism through Increased Probation.....	97
	Labeling.....	97
	Probation as Inappropriate Correctional Treatment.....	102
	Probation as Ineffective Punishment.....	107
V.	METHODS.....	114
	Sample.....	114
	Dependant Variables.....	116
	Probation Time Variables.....	121
	Control and Interaction Variables.....	125
VI.	ANALYSIS.....	135
	Bivariate Analysis.....	136
	Multivariate Analysis.....	142
VII.	SUMMARY AND CONCLUSIONS.....	164
	Does Time Matter?.....	164

Probation Theory and Time Served.....	171
Limitations of the Study.....	175
Implication for Research, Theory and Practice.....	177
APPENDIX.....	184
REFERENCES	189

LIST OF TABLES

Table	Page
1. Probation Failure, Arrest and Recidivism	120
2. Sentence length and Time served.....	125
3. Correlations for LSI-R Categories, Failure, Arrest and Recidivism.....	130
4. LSI-R Categories.....	131
5. LSI Statistics.....	131
6. Offense Type and Sentence Length.....	133
7. Correlations for Probation Arrest, Time served, Sentence length, LSI-R category and Age.....	136
8. Crosstab for Probation Arrest by Gender, Race, Offense Class, Offense Type and Split Sentence.....	137
9. Correlations for Probation Failure, Time served, Sentence Length, LSI-R Category and Age.....	138
10. Cross tab/Chi-Square for Probation Failure by Gender, Race, Offense Class, Offense Type and Split Sentence.....	139
11. Correlations for Recidivism, Time served, Sentence Length, LSI-R Category and Age.....	140
12. Cross tab/Chi-Square Recidivism by Gender, Race, Offense Class, Offense Type and Split Sentence.....	141
13. Logistic Regression for Variables Predicting Probation Arrest from Time served with Control Variables.....	145
14. Logistic Regression for Variables Predicting Probation Failure from Time served with Control Variables.....	146

15. Logistic Regression for Variables Predicting Recidivism from Time served with Control Variables.....	147
16. Logistic Regression for Variables Predicting Recidivism from Time served for Successful Probationers with Control Variables.....	149
17. Logistic Regression Predicting Recidivism from Time served for Probation Failures with Control Variables.....	150
18. Logistic Regression for Variables Predicting Probation Arrest from Time served with Control Variables for Misdemeanants.....	151
19. Logistic Regression for variables Predicting Failure from Time served with Control Variables for Misdemeanants.....	152
20. Logistic Regression for Variables Predicting Recidivism from Time served with Control Variables for Misdemeanants.....	153
21. Logistic Regression for Variables Predicting Recidivism from More or Less Probation Control Variables for Misdemeanants.....	154
22. Logistic Regression for Variables Predicting Failure from Time served with Control Variables for Felony Offender.....	156
23. Logistic Regression for Variables Predicting Recidivism from Time served with Control Variables for Felony Offender.....	157
24. Logistic Regression for Variables Predicting Recidivism from Time- served with Control Variables for Successful Felons.....	158
25. Less/More Probation for Felony Offenders and Recidivism with Control Variables.....	159
26. Logistic Regression for Variables Predicting Recidivism from Time served and LSI-R Interaction with Control Variables.....	160
27. Logistic Regression for Variables Predicting Recidivism for Low Risk from Time served with Control Variables.....	161
28. Logistic Regression for variables predicting Recidivism for High Risk Probationers with More/less Time served.....	162

29. Logistic Regression for Variables Predicting Recidivism from Age* Time Interaction with Control Variables.....	163
---	-----

Acknowledgements

This work would not be possible without the support and guidance of many people.

I want to thank my committee members for your commitment throughout this process. To my chair, Dr. Martin Gottschalk, for helping me to think deeper, organize my thoughts and communicate them in this work. Also your constant support, nudging and tireless review are appreciated. To my other committee members, Roni Mayzer, Michael Meyer, Gary Rabe, and Rachel Navarro, thank-you for your time, advice and support. Also, I would like to take the opportunity to thank the faculty at both Minot State University and the University of North Dakota for helping me to develop myself academically and personally.

To my family, your support during this process and your prodding to “just get done” is appreciated. I would especially like to thank my wife, Annette, for holding down the fort during the several years that it took me to complete my studies and to my daughters, Molly, Madison, Michaela, and Macy, for putting up with Daddy’s endless trips to the library.

A special thanks to the North Dakota Department of Corrections and Rehabilitation, and North Dakota Bureau of Criminal Investigations for providing the data for this study and your efforts to make North Dakota a leader in the correctional field and a safer place to live.

Abstract

There remains some uncertainty as to whether or not probation supervision can influence the behaviour of offenders as intended and thereby protect the public. Within the growing body of probation literature is support for a number of theoretically relevant variables and probation outcomes (Morgan, 1993; Gendreau, Little & Goggin, 1996). Some of the probation studies include a measure of time (Sims & Jones, 1997; Green & Winik, 2010), although it has never been exclusively studied in probation research. In the studies that do include a time measure, sentence length is the most frequently used and is often related to failure and recidivism (Cockerill, 1975; Renner, 1978; Roundtree, Edwards & Parker, 1984; Morgan, 1993). Sentence length, however, may not provide the best measure of time on probation since this same probation research often finds that not all probationers complete their term of supervision. Probation sentences are cut short for a variety of reasons -some are ended for good behaviour (i.e. early termination), whereas others are ended for poor behaviour as is the case with revocation. The actual time under probation supervision is directly related to some outcomes. Moreover, time has not been examined sufficiently to determine its relationship to behaviour. This study seeks to explore the influence of time served under probation on three probation outcomes: probation failure, arrest on probation and recidivism after probation is terminated. Following a sample of probationers (n=480), from a Northern Plains state the study finds that as time served on probation increases, the likelihood of probation failure and later

recidivism decrease. This relationship between probation time served and outcomes in terms of probation research, theory and practice is developed. Perhaps most importantly, we find that probation sentence length and probation time served, although related measures, do not relate to outcomes in similar ways. Subsequently, probation researchers should pay close attention to the time measures used in probation study. The implications for probation practice are also discussed including the importance of understanding probationer time served to improve supervision programs and better impact public safety.

CHAPTER I: STATEMENT OF THE PROBLEM

Introduction

The study of dose-response is of such importance in many fields that an entire journal and society is devoted to reporting and improving upon these relationships (see *Dose-Response: An International Journal*). Most are familiar with dose-response relationships as seen in the medical field. In this context, dose-response relationships are of interest to both physicians and medical researchers where a dose-response is modeled in a relationship between a drug or treatment and the body's reaction to it. The response is often a function of the dose. Medical researchers, in order to understand the dangers of specific drugs and treatments test both the type of effect produced by a drug and the dose required to produce specific effects. At times, they find small doses of treatments or substances are beneficial, whereas large doses of the same treatment result in adverse and even lethal effects. For example, nitroglycerin is used to treat heart conditions for millions of Americans; it requires small and specific doses to reach a desired effect. At large doses, however, nitroglycerin can be harmful and even lethal. Consequently, great care is taken in testing and prescribing nitroglycerin. For other drugs or treatments a dose-response is not seen, or is essentially inconsequential. Take the case of Vitamin C, a common remedy for general health and/or a cold. At many levels or doses, Vitamin C essentially produces one response, as the body excretes excess Vitamin C effectively.

The medical field has influenced corrections over the past few decades providing concepts and methods to test effectiveness of correctional interventions. An example is seen in the flood of meta-analytic reviews found in the correctional literature which was preceded by using, reporting and refining the technique in medical research (McGuire, 2006). Much of the study in corrections focuses on decisions to incarcerate or whether prison impacts re-offending (Snodgrass, 2009). More recently, researchers have considered if a dose-response relationship exists between prison lengths or time served and reoffending. In effect, because most modern punishment is measured in “time,” some chronological unit represents the “dosage.” Prison for example is a treatment; the number of years in prison represents the dosage. The effect of prison dosage on re-offending, however, finds mixed results and an unclear valence (Nagin, Cullen & Johnson, 2009). Scholars and researchers have hypothesized three general perspectives for the dose-response relationship between prison and re-offending: 1.) it reduces re-offending (albeit in a limited way) (Gottfredson, 1999; Dejong, 1997); 2.) it increases re-offending (Gendreau, Little & Goggin, 1999); or 3.) it demonstrates no effect whatsoever (Loughran, 2009).

As with the prison research, the dose-response relationship between probation time served and re-offending finds no clarity or direction of effect. The absence of clarity and limited overall knowledge in this area is not from contradictory studies; rather it is from a lack of theory and limited empirical research into the relationship. This is somewhat troubling since the majority of the correctional population in the United States

is either currently on probation or has been under probation in the recent past (Glaze, 2010).

The importance of time, in general, is not well-developed in probation theory, is usually not the object of study in probation research and as a result there is very little guidance for practice. The prison literature provides us with some direction on how a dose-response relationship in probation might be conceptualized. Probation at specific doses may 1.) reduce re-offending; 2.) increase re-offending through criminogenic processes; or 3.) have no effect on re-offending. Prison scholars also provide some rationale as to why all three of these effects should be or are found in the literature.

In the probation outcome research, time is often ignored or only superficially considered. We find time used to standardize an observation period, but only in a limited number of cases is it used as predictor of outcome (Green & Winik, 2011). There are two types of “time” measures that are used in probation studies. First, the length of probation sentence imposed can be used to explore its relationship to outcomes; this is in effect the prescribed dosage. Another measure is that of time served, or the amount of time a probationer is actually supervised in the community. This is tantamount to the actual dosage; but this amount is rarely reported in the probation research literature. The two time measures are associated because those with longer sentences are eligible for more time to serve. Time served, however, might be a more important indicator of probation’s impact on re-offending since it amounts to the actual dosage with behavior being the response. To return to our medical analogy, criminal behavior can be thought of as the infection and probation the antibiotic. The amount of medicine needed to cure the

infection is measured in milliliters, whereas to reduce criminal behavior the dosage is measured in some unit of time on probation.

The Practice of Probation in the United States

Over the past three decades, the correctional population in the United States has grown substantially (Glaze & Bonczar, 2006). Much has been said about the rise in the number of prisons which are now filled to capacity. This unprecedented growth may be a reflection of policies and practices that are intended to get tough on crime and call for locking up more offenders, and for longer periods of time to promote public safety (Morris & Tonry, 1990; Petersilia, 1998). Probation and alternatives to prison have been used increasingly to help reduce the burden on prisons. In fact, probation is the most commonly applied sentence in the United States (Petersilia, 1998). Until recently, the rate of new probationers had grown annually since the early 1980's (Marushak & Parks, 2012).

Probation is a court-ordered sentence applied to someone convicted of a crime that is placed under the control, supervision and care of a probation officer in lieu of prison (American Probation and Parole, 2013). In some cases, prison sentences are deferred or suspended for the probationer while the offender is allowed to remain in the community and prove he or she is capable of remaining crime free. It often requires the probationer to abide by specific behavioral conditions and restrictions in the community. Typically, probation supervision requires oversight of the offender; the probationer must

gain approval for many life decisions including where, and with whom, they can reside and at which occupation they can work.

In our current justice system, probation plays an important role because it offers both financial relief for the jurisdiction and elements of public safety. Not all crimes require a prison sentence to achieve public safety and probation is much less costly than prison. For example, in the United States Federal System, the cost of incarceration for an offender is nearly \$80 per day, whereas the cost for community supervision is less than \$10 per day (Administration Office of the United States Courts). Further, probation and all community supervision periods offer supervision of law violators which, in some cases, is preferred to leaving them to their own devices (Paparozzi & DeMichele, 2008). Not surprisingly, every state has a system of probation for its correctional population (American Probation and Parole Association, 2013).

Probation is a penal practice with a number of penological goals. Traditional goals for punishment include: retribution, deterrence, incapacitation and/or rehabilitation. The differences are briefly explained now, and are expanded upon in Chapter IV.

Periods of probation are said to be retributive when they involve “coerced compliance with legally mandated restrictions on liberty” (Clear & O’Leary, 1983). Retributive punishment is justified where a citizen has committed a crime that breaks the social contract with society. In response, society uses punishment to reaffirm social order and give credibility to the social contract (Clear & O’Leary, 1983). Probation often involves restrictions on movement or travel and reporting requirements; the number of, and degree to which these conditions are enforced can meet the aims of retribution.

Retributive punishments differ from the three justifications that follow in that there is no expectation of behavioral outcome, only that the offender is punished in proportion to the harm done by the offense.

Deterrent justifications assert that criminal behavior can be eliminated through threats of punishment. According to the traditional formulation of deterrence theory, because individuals are free-willed, rational and hedonistic, they will chose not to commit crime in order to avoid the punishment that is assigned to the proscribed behavior (Gray & Maxwell, 2007). In cases where law-breakers are caught and punished, the repugnant nature of the sanction is thought to provide a lasting impression upon the individual. Probation supervision uses conditions and “add-ons” to increase the harshness of the penalty to deter future crimes (Morris & Tonry, 1990). Where deterrence is used to justify a probation sentence, it is expected that the sentence will reduce re-offending.

Incapacitation as a justification for punishment relies upon a probation design that structurally or physically inhibits an offender from criminal behavior (Clear & O’Leary, 1983). A prison is designed in such a way as to remove offenders from the community thereby restricting their ability to behave criminally (Mackenzie, 2006). Likewise, probation is expected to control and constrain the offender through surveillance and monitoring using human agents and technologies like electronic monitoring devices. While not as restrictive as prison, the control and constraint of probation is nonetheless thought to have some impact on re-offending, at least in the short term.

Finally, probation can include rehabilitation as a justification. Interventions derived from this perspective are meant to illicit positive change in an offender and

thereby impact the incidence of crime. Individual offender “correction” of circumstances be it personal, social or otherwise is required to change criminal behavior. Rehabilitation assumes that correctional personnel can accurately identify the causes or factors associated with crime, can apply appropriate treatment and “fix” the problem area (MacKenzie, 2006). Current probation practice involves rehabilitative conditions of supervision, officer referral to rehabilitative programs and some direct service delivery of programs from probation officers to offenders.

Within a single sentence of probation supervision, multiple justifications for the punishment are likely served. Moreover, the sentences can be manipulated in length, content or emphasis to achieve the aims being sought. The emphasis on one justification or another has also shifted over time. Although probation supervision was highly influenced by rehabilitative ideals at its inception and throughout much of its history, the emphasis on deterrent and incapacitation justifications have risen to prominence and affected the practice of probation over the last few decades (Morris & Tonry, 1990). While some would argue that the shift toward these “get tough” policies have failed (Smith, Goggin & Gendreau, 2002) in their crime reduction efforts, they nonetheless have had an impact on the correctional population in the United States including the number of individuals on probation.

Probation populations have tripled over the past three decades and roughly 4 million persons are currently on probation; that involves approximately 1 in every 60 United States residents (Marushak & Parks, 2012). Traditionally, probation was reserved for non-violent, or at least, less violent offenders than prison (Paparozzi &

DeMichele, 2008). The types of probationers seen today differ from previous decades. Although historically used for misdemeanor or less serious crimes, half of all probationers are now sentenced for a felony offense (Glaze, 2010). Likewise, there is a steady increase in the number of violent offenders who are placed under supervision (Taxman, Shepardson & Byrne, 2004).

In practice, probation suffers from a perception that it is “soft on crime” and not capable of protecting the public (Reinventing Probation Council, 2000). In fact, about 45% of those in state prisons were on probation at the time they committed the offense that resulted in their current prison sentence (Cohen, 1995). Further, approximately 15% to 20% of probation violations result in prison sentences (Glaze & Bonczar, 2006). There is an unknown impact on local jails with probationers in large numbers being held while awaiting revocation as well as those serving jail sentences following revocation. One study estimated that of the total population in the jails operated by the Maine Department of Corrections, one-quarter were probation violators (Austin, 2002). Considering the millions of probationers in the community, it is apparent that their failures and recidivism in the community may contribute substantially to the overcrowded conditions of jails and prisons.

While probation agencies might never inspire broad public confidence, their failure to develop practices or strategies that demonstrate their importance is a self-inflicted wound. For starters, the vague purposes that are advanced on behalf of probation often result in confusing and conflicting emphases and roles among professionals (Paparozzi & DeMichele, 2008). In fact, for the last three decades,

probation has struggled to identify a professional orientation for its officers with the roles fluctuating between social or case worker and law-enforcement officer.

The activity of probation supervision and management of probationers generally involves treatment and surveillance of probationers and the enforcement of court-ordered conditions. The emphasis on one or another of these activities is likely dependent upon the agency policy and practice and the officer orientation and/or role definition. Some contend, “the failure within the probation and parole profession to come to broad agreement regarding desired outcomes and to establish evidence-based and/or theoretically-sound professional principles has created a policy lacuna” (Paparozzi & DeMichele, 2008; pg. 1). The result is inadequately funded probation departments which help to ensure their continued failure. Those who argue that probation is a viable approach to public protection find failure and recidivism rates that do not show a clear record of success.

Probation Effectiveness

The task of studying correctional systems and their effectiveness at protecting the public is left to criminologists. As more offenders are allowed to serve their sentence in the community rather than a jail or prison, the study of offender behavior in the community is increasingly important. There are questions about whether correctional systems in general can effectively protect the public by altering offender behavior since much of the current correctional population are not first time offenders, but rather persons who were previously processed without effective intervention. These same questions

surround probation and whether it is capable of protecting the public by reducing and restricting the behavior of criminals in the community.

The overall analysis of probation outcome studies leaves a great deal of uncertainty about its impact on restricting and reducing criminal behavior (Bonta, Ruggie, Scott, Bourgeon and Yessine, 2008). Rates of failure and recidivism range from 12% to 65% (Geerken & Hayes, 1993). With such variation, it is difficult to assess overall effectiveness. One area of study that finds some consistency is with respect to the individual factors that predict failures and recidivism among probationers (Morgan, 1993). The factors that are most robust include age, gender, race, prior crime and certain social circumstances (Morgan, 1993).

Some researchers have pointed to rates of failure and recidivism among probationers that appear lower than comparable rates for those sentenced to prison (Babst & Mannering, 1965; Petersilia & Turner, 1998). Probation advocates rally around such findings and the fact that probation is less costly than prison. This does not demonstrate probation effectiveness; it only implies that probation may be less criminogenic than prison. That is, prison itself may not reduce future criminal behavior, and, in fact, may increase the likelihood of criminal behavior for those who are sentenced to prison.

Limits of Prior Research

Even if probation is effective at improving offender behavior, a number of methodological problems within the literature disguise this success. One of the major problems in generalizing probation outcome studies is the definitions of failure and/or

recidivism that are found in practice and research (Maltz, 2001). It is common to find terms like outcome, violation, recidivism, arrest and failure used almost interchangeably in the literature. It is important that specificity and clarity in defining outcome variables occurs to help avoid misinterpretation or confusion (Maltz, 2001).

A number of studies examining probation failures are reported upon in the next chapter. As we will see, the operational definitions found in these studies vary (Morgan, 1993). For purpose of this project we will define probation failures as an officially recorded incident of revocation, absconding or any negative termination. This definition covers a broad range of events; revocations occur for a number of reasons. Many scholars are interested in a return to actual criminal behavior and use recidivism to define this event (Maltz, 2001) recognizing that revocations and other types of failure might be system-driven and not actual recidivism. We will also examine the incident of arrest on probation as this is representative of criminal behavior. We will report upon probation failure (in general) and probation arrest separately because we are interested in criminal behavior during probation terms and will use arrest to measure this event. We will define probation arrest as any incident of arrest that occurs while on probation.

The term recidivism will refer to officially recorded criminal events after the term of probation has ended. A number of recidivism definitions are included in the next chapter. Our operational definition of recidivism will be limited to incidents of arrest after probation completion.

There are numerous limitations in prior probation studies especially with regard to measures of time. First, sentence length is the most commonly used measure with very

little attention being paid to time served. There is an assumption that the two measures are similar (Green & Winik, 2010), however, these measures might impact outcomes differently (Sims & Jones, 1997). Second, there is a dearth of probation studies that follow probationers for long enough periods of time to determine if probation time influences behavior over the long run. An outcome design needs to follow probationers for periods beyond the maximum authorized term found in the sample and for several years beyond the termination of probation. For felony probationers this amounts to several years. For example, in this study, the maximum term of probation for a felony convicted offender is five years. So, to examine recidivism the observation period must extend beyond five-years. Typically, statutory sentence caps for misdemeanor offenders are less. With the exception of a few studies that are dated (Caldwell, 1951; Cockerill, 1967) very few studies follow probationers for a long enough period to examine recidivism after probation was completed (i.e. long term impact) and/or include relevant time measures.

Probation research, in general, has not examined the dose-response relationship in any manner similar to the prison research. An exploratory examination is warranted. All probation outcome studies typically follow an offender for a prescribed period of time, the observation period. The observation period may be based upon convenience or dependent upon the outcome of interest. For example, studies that examine general failure may use rather short periods of observation (i.e. 6 months, Ditman, 1967). Short observation periods, however, tell us very little about whether time spent on probation has an effect on behavior. In fact, sentence length or time served is not reported at all in

these types of studies and much of the probation recidivism research actually follows this design because it is rather easy to track. Among the studies that have a long enough observation period, time is often measured in terms of sentence length imposed and sometimes an association with probation failure is seen (Cockerill, 1967; Wisconsin Division of Corrections, 1972; Roundtree, Edwards and Parker, 1984; Mayzer, Gray & Maxwell, 2004); in other cases, it has no effect (Green & Winik, 2011). In many of these studies, the relationship between sentence length and failure may reflect nothing more than the fact that individuals with longer sentences simply have greater exposure to failure—they have more time to screw-up. Put simply, an offender with five years of probation has two more years to be arrested or fail than an offender who is sentenced to a three year term.

There is another complication; longer probation sentences are likely associated with failure through attributes of the offender (i.e. type of crime and prior criminal history) which are also known to influence the likelihood of failure (Sims & Jones, 1997). Both criminal history and offense type are known to influence failure and recidivism and might be even better predictors than sentence length. Both also predict the length of a sentence imposed. Put another way, those who are sentenced to shorter periods are less likely to fail or recidivate because they are less serious offenders. Subsequently, research that examines length of sentence must also consider both the type of crime and offender (Green & Winik, 2010).

Although we recognize the relationship with sentence length and failure/arrest with the expanded observation period, and the underlying “risk” factors, there are other

problems in drawing conclusions from the use of prescribed sentence length alone. Some studies rely on sentence length as a proxy to time served (Green & Winik, 2011).

However, many offenders do not complete their sentence for one reason or another and this occurrence is likely sample dependent. Moreover, any deviation from imposed sentence is likely dependent on behavior and related to outcome. Probation sentences often end early either through successful termination or through failure.

The amount of time served by probationers and its effect on outcomes is less studied in general, but seems to hold a prominent place in the prison literature. A time served in probation study would entail the actual time an offender was under some form of supervision and might actually be a better indicator of probation's impact on behavior and this study will use this measure. We will not assume that sentence length and time served impact outcomes in the same way. Moreover, there is little if any research that has examined time served on the behavior of offenders after they are released from probation and attempts to explore this are important.

Many of the probation outcome studies also use only one dependent variable. Specific predictors (i.e. time served) of failure, arrest and recidivism may be impacted by the dependent variable chosen in the design. It may be that if a different outcome were used, prediction of some factors might be found. Since our area of interest is quite exploratory, it may be of some value to use more than one dependent variable.

There is another shortcoming in the probation research, in general, and specific to time measures. In 1985, a massive study of probation was undertaken in California to test if felony probation in lieu of a prison sentence was effective enough to protect the

public (Petersilia, 1985). The findings of this study set off dozens of follow-up studies of felony probationers. In fact, most probation recidivism research is limited to felons on probation. Although felony probation has garnered much attention because of the community protection issues we described earlier, ensuring that misdemeanor offenders succeed on probation should also be of interest. About half (48%) of the overall probation population is sentenced to misdemeanor probation (Glaze & Bonczar, 2010). Moreover, the distinction between felony and misdemeanor offenders may be somewhat artificial. The fact is that many offenders commit crimes without any identifiable pattern, they do not discriminate against misdemeanor or felony offenses-these offenders are referred to as generalists (Gottfredson & Hirschi, 1990). In any correctional system, high volume offenders who also have a high likelihood of any failure or recidivism do commit misdemeanor offenses and receive probation sentences for their behavior. In fact, prior misdemeanors are one of the variables we use to predict failure and recidivism and even among our felony probationers (Gray et al., 2001; Mayzer et al., 2004).

Finally, one might also question whether time measures and especially time served finds a threshold effect where diminishing returns are seen. The prison research seems to favor such a position where serving more time actually produces undesirable results such as new arrest or failure after release (Gottfredson, 1973, Austin 1986; Smith et al., 2002). I am unable to locate studies that examine time served amounts and whether more or less amounts of probation affect recidivism. An agenda for exploring this area is outlined in the prison research; where a number of more/less models are used to explore dose-response relationships.

To address the above issues and shortcomings of prior research with respect to the influence of dosage, this study will follow probationers (n=480) for a period of seven years to test if the variation in time served impacts both the short term and long term outcomes expected by the justice system. Specific research questions to be explored include:

1. Does time predict probation outcomes? Specifically, does time served predict arrest and revocation during probation supervision and recidivism after probation completion?
2. What is the relationship between sentence length and time served?
3. Does time served predict arrest, failure and recidivism outcomes when differentiating felony and misdemeanor probationers?
4. Does time served predict later recidivism for those offenders who successfully complete probation sentences?
5. Does time served predict later recidivism for offenders who fail during probation?
6. Are there more or less amounts of time served that predict recidivism?
7. Does time served affect recidivism by risk level or age?

Organization of the Paper

Chapter II outlines the prior probation research including studies of probation effectiveness, along with factors that predict failure and recidivism. A strong set of

correlates emerge from this research and provide direction for how to apply the important dependent, predictor and control variables.

Chapter III outlines sentence length and time measures for probationers in the United States. It also examines the limited research available for probation sentence length and time served. Because of the limited amount of research for the topic, it draws heavily upon prior prison research.

Chapter IV provides an exploration of current correctional theories and the effect of time on outcome for each theory used. An introduction to theories that predict sentence length to be negatively associated with failure, arrest and recidivism including deterrence, incapacitation/ control and rehabilitation are provided. Likewise, theories to explain negligible or a positive association between sentence length and failure, arrest and recidivism will also be explored.

Chapter V will describe the methods used to test whether time matters. The dependent variables include: probation failure, arrest during probation supervision (probation arrest) and recidivism after probation is terminated (post-probation recidivism). Predictor variables initially involve both sentence length and time served under probation; however, time served is the sole predictor used in multivariate models.

Chapter VI will analyze the variables using both bivariate and multivariate models to explore if time matters. Bivariate analysis for continuous variables used Pearson Product Moment Correlation coefficients whereas categorical variables were analyzed using cross-tabs to provide percentages of probationer outcomes. In the multivariate models, logistic regression is used.

Finally, Chapter VII will revisit the research questions to explore whether time matters and under what circumstances. This chapter will further highlight important gaps in the study and thereby set an agenda for future research. The methodological, theoretical and practical implications will also be explored in some detail.

CHAPTER II: PROBATION OUTCOMES

Most of the probation outcome studies can be categorized into three broad areas:

1.) studies that examine probation effectiveness in general; including events of failure, probation arrest, and recidivism; 2.) studies that examine failure, probation arrest and recidivism along with factors associated with these events and; 3.) studies that examine only the factors associated with failure, probation arrest and recidivism (Morgan, 1994). In review of this literature, there is much more certainty about the variables that are related to those who fail/recidivate than there is regarding the overall failure rates, or effectiveness of probation. This chapter will begin by examining issues found in many correctional outcome studies including studies of probation. The issues typically involve varying definitions of the dependent variable, different follow-up periods and a failure to account for all factors that would impact the outcomes (Maltz, 2001). A general overview of the probation effectiveness research; and a summation of the factors known to impact outcomes follow.

Probation Outcome Issues

In 1937, a statistician for the United States Department of Justice, Bennet Mead, asked “Is there a measure of probation success?” He concluded his article by stating “some progress has been made, but a tremendous amount of work remains to be done before we can make any scientific evaluation of outcomes” (pg. 1). Since that time

there has been a great deal said about correctional outcome conceptualization, (see Maltz, 2001) yet there is no agreed upon dependent variable, outcome studies do not usually have a standard or agreed upon observation period and not all factors are accounted for in every study. We will begin by examining the conceptual definition of failure and/or recidivism.

Since probation is often administered as an alternative to prison and has been relied upon increasingly to ease prison overcrowding, the most common question asked of probation is whether or not it works as an alternative to prison (Petersilia, 1985). Because of this, effectiveness is viewed in terms of success/failure. Probationers succeed by completing the term of supervision without incident. A definition of success may look for longer term outcomes also and define success as the avoidance of any further run-ins with the law.

The conceptual breakdown appears to begin when probation failure outcomes are operationally described. We see definitions that include: revocation, recidivism, arrest, incarceration or absconding, among others (Morgan, 1994). Whatever the case, the probationer has failed in some way. Failure is an important measure, but not overly specific and different failure measures find different results among studies (Morgan, 1993; Maltz, 2001).

Some have argued that the most important measure for any correctional study is recidivism (Petersilia, 1998; Maltz, 2001). A return to criminal behavior or recidivism may or may not entail failure. Events like technical violations or absconding can result in failure. Technical violations involve the failure of a probationer to comply with

conditions in the community –that is, a technical violation does not involve a new offense, but a failure to report to a probation officer or moving without prior approval for example. Compounding the problem is the fact that there is no uniform process or criteria for revoking for technical violations making it difficult to generalize the results of studies that use this as the dependent variable. As a result, the differences between many studies is likely the result not of differences between probationers in term of their behavior, but rather differences in decision-making styles and behaviors of correctional system agencies and personnel. Without common procedures for making revocation decisions and untangling whether revocation was for arrest or other reasons, there will be difficulty measuring and therefore generalizing outcomes.

Recidivism is a little more specific as it generally involves some repeat or return to criminal behavior either during or at the completion of correctional system involvement (Maltz, 2001). However, probation recidivism can be measured as arrest, conviction or even prison sentence. Recidivism can be measured not only during the probation period, but also after probation terms have ended. There is some, albeit limited, research that examines the long term impact of probation through recidivism measures such as arrest, conviction or prison after probation has ended (Cockerill, 1967).

Recidivism can be operationalized in a number of ways. However, the most frequent measure uses officially recorded criminal justice events such as arrest, re-conviction and/or a prison sentence (NIJ, 2008). Self-reports have also been used to measure recidivism (Mackenzie, 2002). Like the broadly applied definition of failure in probation studies, the operational definition of recidivism in a study can impact the

results. For example, in a group of New Jersey probationers, Whitehead (1991) examined two measures of recidivism: arrest and incarceration. Not surprisingly, he found that when recidivism was defined as arrest, 35% of probationers recidivated within three-years. When recidivism was measured as incarceration, 15% of the cases had met the criteria. This simple example, using the same probation study, illustrates the difficulty in measuring recidivism and generalizing from one probation study to the next.

Finding an agreed upon recidivism measure would be useful. Maltz (2001) contends the incident of arrest, which is also the most common recidivism measure used in correctional research, is ideal because it most closely resembles the actual behavior that criminologists seek to explain. Moreover, arrest data is often more accessible than other recidivism measures (Maltz, 2001).

The use of arrest, however, is not a perfect indicator of a return to crime. On the one hand, criminologists have long known about the “dark” figure of criminal behavior where official records do not accurately capture crimes committed because many crimes are undetected (Maltz, 2001). On the other hand, using arrest only masks the possibility that police have discretionary arrest power that may result in probationers as “first or usual suspects” in unsolved crimes (Maltz, 2001). This may be especially the case for crimes similar in nature to those the probationer might have committed in the past.

The follow-up period reported in any one study is also an important consideration in aggregately drawing any conclusions about probation effectiveness from the extant research. Although most probationers who fail are likely to fail early (Sims & Jones, 1997) different follow-up periods invariably lead to different rates of recidivism. For

example, in return to the probation effectiveness study in New Jersey, Whitehead (1991) found that 36% of probationers were re-arrested within three-years. Within four years, and using the same sample, 40% of the probationers had been rearrested. Without standard time periods of measurement, all probation studies will find different outcomes and generalizing again becomes difficult. In general the relationship is as follows: with more months or years of follow-up, the failure or recidivism rates increase.

Finally, both the types of offenders and the process by which they are sentenced and/or supervised in the community differ for each probation system. In each of the studies we will report, the probationers are different as are the important system parts such as probation programs, officers, and resources. These things matter, and so, after reviewing the overall probation outcome research, we will examine both individual and system- level factors in some detail.

For now, it is clear that studies should take care in reporting the results of probation research (Allen, Eskridge, Latessa, & Vito, 1985). The measurement issues illustrated here result in probation failure and recidivism rates that have a very large range of values (Geerken & Hayes, 1993). To remedy these issues, a clear definition and understanding of the dependent variable along with standardized follow-up periods are important considerations. These are also important considerations when interpreting outcome studies. A clear definition of failure and recidivism should be stated by the correctional researcher because research can result in poor policy and ultimately have profound effects on people's lives (Maltz, 2001). The criterion of recidivism may be the

most important measurement standard for corrections and Maltz (2001) stands firmly behind the use of arrest as the most appropriate measure of this behavior.

Probation Outcomes

Probation Failures: The outcome studies that report probation failures find mixed results. National failure rates are found in Bureau of Justice Statistics (BJS) data as many states provide annual information for adults under community supervision including felony and misdemeanor probation (Glaze & Parks, 2012). This includes the rates at which probationers complete their term or were incarcerated for violating conditions of their supervision; this provides a simple success/failure comparison using incarceration during the probation term as the failure criteria. We begin with an examination of these national outcome rates.

In 1990, approximately 69% of all probationers in the United States completed their probation successfully. Ten years later, however, the success rate had dropped by 10% and continued at around this rate (Glaze, 2010). An explanation for the decline is not known. However, it is speculated that differences in the population of probationers, and/or state level policies requiring more stringent enforcement of probation conditions, might be used to explain the change (Glaze, 2010). A slight increase in success rate occurred in 2009, and accounts for a decline in the overall probation population that was observed at about this same time (Glaze, 2010).

Although the aggregate rates from reporting states are thought to provide a good indication of probation effectiveness, there are a number of problems in generalizing and

speculating from this information. First, the aggregate rates of BJS data likely mask substantial variation found when comparing states and/or agencies and their respective failure rates (Maltz, 2011). Second, the rates reported here do not differentiate between felony and misdemeanor probation (Morgan, 1993; Petersilia, 1998). Even if BJS rates were differentiated by felony/misdemeanor probationers, there would still be differences in the various groups since felony laws are different among states. A felony in Montana for a specific criminal behavior may only be classified as a misdemeanor in Florida. Finally, the overall levels of incarceration do not inform us about the recidivism of offenders as incarceration may be a result of technical violation or other failure rather than arrest or criminal behavior. In order to disentangle some of these important issues, we will need to examine probation studies from scholarly research literature.

One of the major studies of probation effectiveness was conducted by the Rand Corporation under contract by the National Institute of Justice which was interested in whether probation could serve as an alternative to prison (Petersilia, 1985). Specifically, the Rand Study examined factors associated with receipt of a prison sentence versus probation, probation outcomes and factors associated with probation failure (this included arrest). At the time of the study (early 1980's), California's probation situation was thought to resemble the circumstances in other correctional agencies around the United States, where the probation populations had increased dramatically. Felony offenders accounted for about one-third of all probationers in the state. The most important indicators of whether a person was sentenced to prison rather than probation included two

or more prior convictions, parole at the time of the offense, and/or multiple counts of conviction (Petersilia, 1985).

The study tracked a sample of these felony probationers (n=1,672) for a period of three years. They found that over the three-year period approximately 65% were re-arrested for a new crime, more than half were convicted and one-third incarcerated (Petersilia, 1985). The types of crime involved in arrest included: 24% for violent offense, 50% for property crimes, 14% for drug possession and 11% for other (mostly driving under the influence). The authors noted that the two counties employed in the study, Los Angeles and Alameda, may not be typical of all counties in California, in general, as they operated with fewer resources and had larger populations. They also warned of generalizing the results from this study to other probation departments (Petersilia, 1985).

Regardless, these findings prompted a number of follow-up studies around the United States to determine if the results would generalize. The outcome definitions of the studies that followed varied and involved revocation, arrest or conviction and/or a combination thereof. In a fairly large, multi-state examination, Langan and Cuniff (1989) tracked felons on probation from 1986-1989 from 17 different states (n=79,000). Outcomes tracked included the occurrence of a disciplinary hearing or revocation, arrest while on probation and the handing down of a prison sentence. Within that three year period, 46% had been sent to prison after revocation, arrest or absconding; and 43% had been arrested for another felony offense. Another 20% had a disciplinary or revocation hearing as a result of not following probation rule. (Langan & Cuniff, 1989).

In general, the many studies that followed the Rand results found lower rates of failure (Vito, 1986; Whitehead, 1991; McGaha, Fichter & Hirschburg, 1987; Jones 1991). Geerken and Hayes (1993) summarized a total of 17 studies of adult felony probationers and found failure rates ranging from as low as 12% to as high as 65%. Naturally, studies that had a higher threshold for failure (reconviction) had lower failure rates, as did studies with shorter follow-up periods (Geerken & Hayes, 1993).

Morgan (1993) made attempts to review probation effectiveness research, but was hampered by varying definitions of failure, different follow-up periods and a lack of control groups in the studies she reviewed. Moreover, she was limited to a narrative review approach that yields very little in the way of general conclusions because it does not objectively account for or standardize the variations in research design or effect sizes. To better synthesize this information Bonta, et al. (2008) meta-analyzed the effectiveness of community supervision including both probation and parole. At the point of their writing, they had accumulated 15 studies published between 1980 and 2006 with a total of 26 effect sizes coded. The average follow-up time in the studies was 17 months. The researchers used the phi-coefficient as the measure of effect size. It can be interpreted like the Pearson product moment coefficient and is used to measure two dichotomous variables. The average phi-coefficient was .022, suggesting the decrease in recidivism from supervision was small. They suggest “on a whole, community supervision does not work very well” (pg. 251).

Another recent examination of probation effectiveness finds that probation does little to reduce the probability of recidivism (Green & Winik, 2010). The authors of this

study defined recidivism as arrest, and the sample (n=1003) involved probationers convicted of drug-related crimes. The study examined a number of different courts within the District of Columbia over a four-year observation period and found re-arrest rates ranging from 44.4% to as high as 65.5%

Since probation is often viewed as an alternative to prison, comparing the two has always been an important area of study (Petersilia, 1985; Clear & Dammer, 1998). Probation advocates contend that probation is a safe alternative to prison since probationers seem to fare better than parolees in the community and since probation cost less than prison. We might question whether there are fundamental differences between parolees and probationers that would make the two populations non-comparable and should consider this possibility in a review of the research.

Babst and Mannering (1965) compared probationers and released prisoners in a sample of Wisconsin offenders (n= 7,164) controlling for type of offense, and number of crimes. Failure of probation or parole, the outcome measure, included a new offense or rule violation during the two-year period in the community. The violation rate for probationers was 25% and for parolees 32.9% (Babst & Mannering, 1965). However, those with more serious and lengthy criminal histories did not appear to be affected by the imposition of prison as no differences were found among the probationers and parolees with lengthy criminal histories.

Another prison/probation comparison examined burglars sentenced to probation with those imprisoned and later paroled (Wisconsin Division of Corrections, 1965). Using a similar outcome definition as the above study, the failure rates including

violation or new offense for probationers (23%) were significantly lower than for parolees (34%).

A California study in 1969 (California Department of Justice) compared failure rates of three groups: split sentenced probationers (i.e. those with a jail sentence followed by probation), straight probation for one-year, and jail only. The groups were followed for one-year in the community and measured for arrest. The probation group experienced the most success where 64.7% succeeded. For those sentenced to jail then probation (split sentence), 50% succeeded; of those who violated 18% were described as major violations. For those sentenced to jail only, less than half (46%) succeeded and almost a quarter of those who did fail had a major violation (California Department of Justice, 1969)

One of the arguments that developed for the continued use of probation was that, although the rates of probation might appear unacceptably high, the parole failure rates are higher yet (Petersilia, 1998). This conclusion may be fundamentally flawed however since there might be basic differences between probationers and parolees that would affect the failure rates. To compare outcomes between probationers and parolees, Petersilia and Turner (1986) used a quasi-experimental design that incorporated matching statistical controls. They followed samples of probationers and parolees (n=511) matched for: court location, prior record, conviction crime, age and other variables thought to influence recidivism. In the two-year follow-up period, ex-prisoners (72%) were re-arrested more often than probationers (63%). There was no difference in the type of crime, in terms of seriousness, committed by probationers or prisoners, nor the

time to re-offense. They suggested that the prison experience itself might have a negative impact on offenders when they return to the community (Petersilia & Turner, 1990).

Post-probation Recidivism: In general, studies that follow probation cohorts long enough to determine post-probation recidivism is few. In this context, recidivism refers to a return to criminal offending after release from probation. These studies require follow-up periods that would extend beyond the possible maximum probation term and should continue for at least a couple of years beyond release. This takes considerable effort because it requires recidivism measures that many correctional agencies simply do not possess. The few available studies are provided.

Caldwell studied 403 federal probationers whose probation terms had ended between July 1, 1937, and December 31, 1942. Of the sample, 66 were convicted of crimes following probation release. Of those arrests, 58 were deemed minor arrests.

In another early study, England (1955) followed federal probationers (n=490) from the Eastern District of Pennsylvania who were successfully discharged from probation between 1939 and 1944, to determine what factors were responsible for satisfactory post-probation outcomes. His observation period for each case was at least six years beyond the termination of probation. From the sample he found that only 17.7% (n=87) of the offenders had been convicted of a felony or misdemeanor offense after release.

About twenty years later, Cockerill (1975) tracked a probation cohort (N=2,726) in Alberta, Canada, whose cases were opened between 1967 and 1971. About three-quarters of the sample successfully completed their probation terms (75.6%) without any

arrest or failure. Recidivism was measured as any new conviction after release from probation. Approximately one-quarter (24.8%) were reconvicted within a year after probation termination.

The Missouri Department of Corrections (1976) followed a sample of 5,082 probationers on supervision from July 1, 1968 to June 30, 1970. From this sample, a subsample of 216 probationers who successfully completed probation were followed anywhere from 6 months to 7 years after probation termination. The study found that 30% of the cases resulted in re-arrest after release from probation. Only one of these offenders was arrested for a crime similar to his or her original conviction offense.

Rogers (1981) analyzed a group of 1,104 male and female probationers in an attempt to find factors associated with failure. Measures of recidivism included re-conviction during probation, and reconviction between the date that the probation order was issued and 24 months following probation termination. She found that one in every five probationers was convicted while on probation. This number increased to one in three probationers when the two-year follow-up period was included. Overall, 60% of the convictions, for both during and at conclusion of probation, resulted in a prison term.

In a recent four-year observation of probationers and recidivism in the District of Columbia, Green and Winik (2010) find re-arrest rates for drug-convicted probationers (n=1003) ranging from 44.4% to as high as 65.5%, and this study is reported here because the researchers tracked offenders for a period of four years. This would extend beyond the end of a probation term for some, but not all offenders. Unfortunately, the

study does not disentangle the incident of arrest after probation termination from arrest while on probation.

In summary, even at this juncture, the relative effectiveness of probation supervision is difficult to assess. This is in part due to the measurement issues we discussed earlier including varying definitions of failure, follow-up periods and lack of control groups (Morgan, 1993). In addition, the local policy and administration of probation would affect the types of probationers sentenced and the experience that probationers are provided, both of which would affect the outcome. Most states now complete independent reviews of their probation programs and recognize the results are likely to be particular to their own circumstances, should be used to make improvements to their supervision programs and are not necessarily a comment on whether probation, overall, is effective or not.

Factors that Affect Probation Outcomes

Offender Characteristics and Probation Outcomes

Probationer characteristics have been found to impact failure, probation arrest and recidivism (Morgan, 1993). In fact, one of the reasons studies find differences in outcomes is because of the differences in the offenders themselves (Petersilia, 1998). These individual factors are robust, and, in practice are used to predict a variety of probation outcomes (Gendreau, 1996; Zamble & Quinsey, 2007). Correctional agencies make use of this large body of research through the practice of risk assessment (Andrews & Bonta, 2011).

An extensive summary of the probation literature is found in the work of Morgan (1993). She examined 24 published studies conducted prior to 1990, and found that a number of factors are consistently found to be associated with and predictive of a number of outcomes (failure, probation arrest and recidivism). A total of eight factors were described in her review including: (1) gender; (2) age; (3) marriage; (4) education; (5) race; (6) employment; (7) history of criminal behavior; (7) violent offense and; (8) length of probation sentence. Subsequent research has supported all eight predictors (Morgan 1994; Sims & Jones, 1997; Minor et al., 2003; Mayzer et al., 2004; Benedict & Huff Corzine, 1997). With the exception of factor #8 which will be explored in some detail in the next chapter, an examination of individual factors and their relationship to probation failure, probation arrest and recidivism is provided.

Probation Failure

In most of the outcome research probation success or failure was the outcome measure of choice. Success was generally defined as completing the term of probation supervision without an arrest or revocation. Conversely, failures are defined in a number of ways including: revocation of probation, arrest while on probation, conviction from the arrest, incarceration during the probation term, absconding from probation, technical violation and other. Although we went to some length to define probation failure in Chapter I, suggesting that probation failures would include incidents of revocation, absconding and termination, whereas probation arrest is treated as another failure type, we are not able to completely disentangle probation failures in general from the incident of probation arrest or revocation from arrest in the studies of others. I can only report

upon the outcomes as written, but recognize in some instances, failures are a result of revocation and/or arrest. These are reported as they appear.

Gender is a well-known predictor of crime in general (Wolfgang, 1983), and important in predicting probation failure (Sims & Jones, 1997; Mayzer, et al., 2004). In fact, “being male” commonly predicted a number of different failure types including revocation, technical violation, and absconding. Morgan (1994) examined a sample of Tennessee felony probationers finding that higher percentages (35%) of males were revoked than compared to females (20%). Sims and Jones (1997) used both gender and race as an interaction variable and found that being “male” and “black” was a significant predictor of technical violation. The authors suggested that perhaps gender was “driving the prediction” in this case. In terms of failure by absconding, Mayzer et al. (2004) found gender (being male) among the most predictive variables.

In several studies, age has demonstrated an inverse relationship with outcome where older offenders are less likely to fail (Irish, 1989; Clarke et al., 1988). For North Carolina felony probationers, Sims and Jones (1997) found that as age increased the probability of technical violation decreased.

Other studies have examined age groups (i.e. old versus young) and specific failure types. In one example using a sample of Michigan offenders (n=1,157) sentenced to probation between February and March of 1996, Mayzer et al. (2004) found that those probationers who were revoked during probation were typically younger (28.3) than those able to complete the term (30.5). Although, there is no known age at which success becomes more probable. Minor, Wells and Sims (2003) attempted to explore some age

threshold with a sample of federal probationers from the Eastern District of Kentucky (N=200). The study examined the amount and type of sentence violations, including the incident of revocation, over a minimum follow-up period of 24 months for each probationer. This involved cases opened between January 1996 and June 1999. The sample was grouped into an old/young dichotomy with 40 years of age the threshold as this was the reported median age of the sample at the time of sentencing. The study found that those under 40 years of age were .96 times less likely to violate their sentence during their term of supervision than those over 40 years of age.

Marriage has been described as an important factor in understanding why offenders desist from criminal behavior (Sampson & Laub, 1993); its association with probation outcome is also clear as it predicts a number of failure types (Morgan, 1994; Landis et al., 1969; Sims and Jones, 1997; Mayzer et al., 2004; Caldwell, 1951). Sims and Jones (1997) examined felony probationers from North Carolina (n=2850). This involved probationers removed from supervision during a four month period in 1993. The study found that the odds of failure decreased almost 40% for those married. Only 18% of the probationers in this study were married (Sims & Jones, 1997). Likewise, others studies have found similar results where marriage seems to protect probationers from failures (Morgan, 1994) or revocation (Mayzer et al., 2004).

Education attainment appears to be an important factor in distinguishing those who fail on probation from those who succeed (Sims & Jones, 1997; Gray et al., 2001). Using logistic regression models, Sims and Jones (1997) found that having a high school diploma decreased the odds of failure 20% for felony probationers in North Carolina. In

the sample about half (51%) had at least a high school diploma. Gray et al. (2001) found that probationers with less education were more likely to have a technical violation, but educational level did not predict new crime while on probation. The odds ratio for technical violation decreases 30% for those offenders who have a high school diploma. In the sample about half (51%) had at least a high school diploma. The authors warn, however, that since educational attainment is often a probation condition, technical violations may result from failing to comply with this condition.

Although Morgan (1993) initially identified race in her narrative review of probation studies, her own follow-up study (Morgan, 1994) did not find any racial differences in revocation. Clarke et al. (1988), Whitehead (1991) and Irish (1989), all found probation failures related to race where white probationers completed the probation term more often than other races. Gray et al. (2001) found that race did not predict new crimes, but was a significant predictor of technical violation in their Michigan probation sample. The odds of committing a violation while under probation supervision increase 50% for non-white probationers. A little less than half (46.1%) of the sample were non-white. Mayzer et al. (2004) found that race was among the most predictive variables for revocation and absconding behavior in a Michigan sample.

Unstable employment is an important factor in predicting failure (Mayzer et al. 2004; Morgan, 1994; Sims & Jones, 1997). Unstable employment is often defined as the number of jobs held during the probation term. Morgan (1994) found that unstable employment was a significant predictor of revocation for a sample of Tennessee probationers. Mayzer et al. (2004) found that having employment predicted successful

completion of probation. Sims and Jones (1997) in a sample of North Carolina probationers found that having stable employment reduced the likelihood of probation failure by a factor of .6346. Of the sample, 61% reported having a stable work history.

The narrative review of Morgan (1993) found that probation failure is predicted well by a prior criminal record. It may be that common factors underlie both initial criminal behavior and failures. Zamble and Quinsey (2001) suggest that, in general, the factors useful in predicting failure and recidivism among offenders are very similar to those that are correlated to initial criminal behavior. In her follow-up study, Morgan (1994) found a positive correlation in the expected direction between criminal history, in general, and revocations in a sample of Tennessee probationers. In a similar study, any prior arrest and number of prior arrests predicted failure for a group of Louisiana probationers (n=2,419) (Roundtree et al., 1984). Of this sample, 41% overall had a prior criminal record. However, of those revoked, 87% had a prior criminal record. Subsequently, a prior criminal record was used to distinguish between those who were revoked and those who were successful. More misdemeanor offenses also predict absconding (Mayzer et al., 2004) and failure in general (Gray et al., 2001). For North Carolina felony probationers with prior convictions, including both felony and misdemeanor, the odds of probation failure increase slightly (odds ratio of 1.148). Of this sample (n=2850), the mean number of convictions was 1.87 (Sims & Jones, 1997).

Offense type is a factor that can be used to predict failure. Offenses are typically distinguished as violent, property, drug and other. When examining the type of offense the probationer committed, it is important to note that an offense involving violent

behavior may be a determinant in the type of sentence (probation versus prison) imposed (Petersilia, 1985). Violent offenders sentenced to probation may also be exposed to a different amount or type of probation supervision. Regardless, whether an offense involves violence is an important factor in distinguishing probation failures (Morgan, 2004; Gray et al., 2001).

Gray et al. (2001) found that probationers with a violent offense are more likely to violate technically or commit a new crime while on probation. The study followed a sample of Michigan probationers for, on average, 30 months. Only 17% of the sample had committed an assaultive offense that resulted in their current probation sentence, and this predicted time to violation and arrest. For those on probation for assaultive behavior, the likelihood of violation increases 1.4 times as do the odds of any new crime which increases 1.60 times. These findings may, however, reflect greater agency attention on offenders who are on probation for violence, rather than the actual behavior of the offenders. In many probation agencies, violent offenders might be subjected to more intense periods of supervision that involve more monitoring, reporting and less tolerance for rule violations.

A number of other factors are found to predict failure and include: offense classification (felony or misdemeanor) (Petersilia, 1998); residential stability (Sims & Jones, 1994); age at first arrest (Sims & Jones, 1994); and substance abuse history (Sims & Jones 1994; Mayzer et al., 2004; Gray et al., 2001). With regard to the last variable, several studies demonstrate a greater likelihood of probation failure for those with drug-related convictions, lengthy substance use histories or for those who use substances while

on probation (Sims & Jones, 1997, Benedict & Huff-Corzine, 1997). However, it is important to recognize, as Gray et al. (2001) suggest, offenders with substance abuse histories may be exposed to different probation conditions which can lead to increased likelihood of technical violation and thereby increased rates of failure. Other offense types might also be used to predict certain types of failure. Property offense, in general, (Holland et al., 1982; Cuniff, 1986) and specifically burglary (Bartell and Thomas, 1977) and robbery (Bork, 1995) convictions were associated with failure of probationers in some samples.

Probation Arrest

There are common predictors of failure in general and failure by probation arrest. Again, it is important to recognize, that in some of the studies reported in the previous section, the failure or revocation might result from arrests. It is important to distinguish between arrest on probation from general or other failure types because of the perceived greater seriousness of this behavior. Where able, I distinguished arrest from other failure types (i.e. technical violation or absconding). This section will report findings where an arrest for a new offense occurred while on probation. Factors that predict probation arrest include: age; criminal history; employment; violence; marital status, and time of most recent conviction.

Both Morgan (1994) and Cockerill (1967) find an association between marriage status and re-arrest where being unmarried increased the likelihood of an arrest for a new offense while on probation. Criminal history also predicts arrest. Specifically, probationers with any prior record of criminal offense (Morgan, 1994); with

misdemeanor a conviction (Gray et al., 2001), or with a violent conviction (Morgan, 1994; Gray, 2001) are more likely to be re-arrested during a probation term.

Both employment and education also predict arrest during probation. Those probationers who were unemployed (Gray et al., (2001), and where employment is less stable, are more likely to be arrested (Morgan, 1994). Cockerill (1967) found that both poor occupation status and unemployment predicted arrest.

Morgan (1994) found younger offenders more likely to be arrested during the probation term. One study, however, does not support her findings. Benedict and Huff-Corzine (1997) found that within the group of property offenders, older, black probationers were more likely to be re-arrested than younger, black probationers. They described this finding as “surprising,” suggesting that attention to interaction effects, especially those considering race, is of import in probation outcome study. Sims and Jones (1997) reported an interaction effect between the predictors of race and gender, finding that black males were more likely to be arrested during the term of probation than white males.

Post-Probation Recidivism

Findings from studies that examine factors that predict recidivism after probation termination are consistent with the findings regarding failure and probation arrest, although these studies are fewer. These studies followed probation samples anywhere from 22 months to 12 years (Morgan, 1993). Age, prior criminal record, employment, race, family circumstances and education are all related to long term outcomes. Age was an important factor in predicting post-probation re-arrest (England 1955; Green & Winik,

2010). England (1955) followed a sample of 500 federal offenders for a period between 6 and 12 years after probation ended, and found “youthfulness” as an important distinguishing factor among recidivists. Green and Winik (2010) find age as one of the few predictors of re-arrest in a sample of District of Columbia, drug-convicted probationers. England (1951) also found that the presence of a criminal record for probationers was a significant factor in the explanation of arrest following probation. Caldwell (1951) found that high occupational skills, full employment and being married with children were also related to success for offenders once they have been released from probation. Cockerill (1968) finds that race predicted recidivism in a sample of Alberta probationers where non-white probationers were more likely to recidivate.

Summation of Offender Characteristics and Outcome

Although Morgan (1993) provides a fairly comprehensive review and finds support for many of the above factors and for various outcomes, not one study would have supported all of the factors listed and few studies had multiple outcome measures. In fact, some of the studies found no effects for some of the predictors discussed above with respect to probation failure, arrest or recidivism. Some studies, as noted, even found contradictory findings. Each individual research study had unique methodological qualities and/or employed different measures for the dependent variable. The narrative review approach that Morgan (1994) used did not account for these issues when she made her generalizations.

Gendreau, Little and Goggin (1996) attempted to synthesize the major predictors of adult recidivism for a number of different correctional populations including

probationers. This included both static predictors (age, gender) that do not change, or change very little, and what are referred to as dynamic predictors, those characteristics that can change and more rapidly (substance use, peers). Their project used meta-analytic techniques and compiled more than 131 separate studies that yielded 1,141 correlations to predict adult offender recidivism (Gendreau et al., 1996). The studies that were used in the meta-analysis were published between 1970 and 1994, required the use of a control group and a measure of recidivism. In general recidivism was defined rather broadly as: arrest, conviction, incarceration, supervision violations, or some combination. The results of this meta-analysis suggested strong prediction of outcomes in adult offender populations for both static and dynamic predictors. Among the most predictive static predictors were criminal history with a correlation of (.17); followed by family rearing practices (.14); and race (.17). Strongly correlated dynamic predictors included companions (.21); social achievement (i.e. education/employment) (.13); and antisocial personality (.18).

The above study was also undertaken to identify the most useful actuarial assessment measures (Gendreau et al., 2006) and found that these risk scale scores produced the highest correlation with recidivism (.30) in the meta-analysis. This is not surprising since the risk scale measures incorporate many of the same predictors they were actually testing. These predictor variables are used extensively in probation practice by way of actuarial risk assessment.

For the greater part of the past century, correctional policy and decision-making has relied upon the ability to predict and classify offenders, and this is often done using

actuarial methods. Prediction is based upon a relationship between a previously observed set of predictors and outcome (failure/recidivism) variables. Based upon the presence or absence of predictor variables, individuals are placed into groups (classified) and likelihoods of failure, arrest on probation and recidivism for the group are posited (Gottfredson & Tonry, 1987). In essence, the persons in each group are similar to one another through the factors identified in the previous section and different from those found in other groups (Gottfredson & Tonry, 1987). Using an actuarial approach that involved many of the above described risk factors, Burgess (1923) was among the first criminologists to develop a system to predict failure among parolees and advocated for the use of this scientific approach.

The practice of risk assessment has become more sophisticated since its early developments and was aided by the work of the above study. Numerous instruments are employed in the probation field today (Clear & O'Leary, 1983; Andrews & Bonta, 2011). Perhaps the most notable among these instruments is the Level of Service Inventory-Revised (LSI-R) (Gendreau et al., 2006; Smith et al., 2009).

The LSI-R, not unlike other risk assessment instruments, is a quantitative survey that assesses predictors of offenders that are related to criminal behavior. This is an actuarial risk assessment that includes both static and dynamic predictors of recidivism. In all, 54 items are used that represent broader predictor domains (i.e. criminal history, substance use). LSI-R scores accord with categories of risk such as low, moderate and high and this information can be used to allocate resources, make probation and placement decisions and assess treatment progress among other uses.

In dozens of validation studies, the LSI-R has demonstrated strong predictive ability for a number of probation outcome measures. A 2009 study of federal probationers (Flores et al., 2006) found the LSI-R was a valid and robust predictor of incarceration. A study of Iowa offenders (Lowenkamp and Bechtel, 2007; Vose, 2008) finds “that the total LSI-R score is significantly related to the prediction of future criminal behavior. The higher the total risk score, the more likely that the client would reoffend. Both the bivariate and receiver operating characteristic (ROC) analyses showed that the LSI-R was a valid predictor of reoffending for probationers.” The LSI-R was described as the “most useful actuarial method” in that it seemed to incorporate most of the strongest factors identified in the literature (Gendreau et al., 1996, pg. 1).

In sum, the factors described above are robust and seem to predict fairly well regardless of the correctional population (probation, parole, imprisonment) or outcome variable (arrest, technical violation, recidivism, etc.). Further, factors associated with initial criminal behavior and those associated with failure, probation arrest and recidivism are often shared (Zamble & Quinsey, 2001). These predictors often include both empirical factors (those derived from research and instrument validation), and theoretical factors (robust correlates of crime in general, often used in theory testing) (Andrews & Bonta, 2011). Risk assessment was born from the need to predict outcomes for correctional populations and is constructed using factors associated with probation failure, arrest and recidivism. These instruments are employed in probation settings in the United States and around the world.

System Level Factors and Probation Outcomes

Failure and recidivism of probationers are also affected by system level factors. Within any probation agency or correctional system are numerous process, policies and factors that may affect the outcome. Events like technical violations or absconding can result in failure and both might be influenced by the agency practices or policies. For example, studies demonstrate that officer orientations and attitude, special supervision programs and specialized caseloads might all influence failure and recidivism. The type and amount of these factors would vary as would the procedures and policy for revocation. Since there is no uniform process or criteria to revoke for technical violation around the country, it is difficult to generalize the results of studies that use this as the dependent variable. In many probation studies, it is likely that probation revocations are less a result of probationer's returning to criminal behavior and more likely indicative of the decision-making styles and behaviors of correctional system personnel around these conditions. These are system level factors that impact the outcome, but only little is known about these factors.

Recent reviews of probation effectiveness have attempted to uncover some of the practices or characteristics that would account for this variation in outcome. Unfortunately, these studies are preciously few (Bonta et al., 2008; Green & Winik, 2010). With the exception of the Intensive Supervision Probation (ISP) programs, there has been much more speculation about agency-level influences than there has been actual research. In particular, the available long term recidivism study is exceptionally scarce.

System Level Factors and Probation Failures

Two system level factors influencing failure that are commonly examined in the probation literature are ISP and caseload size. The two are linked, as intensive probation caseloads often involve fewer probationers (Petersilia, 1998). In fact, early versions of ISP were attempts to find an ideal caseload size to increase effectiveness (Petersilia & Turner, 1990). Early ISP programs were developed to enhance the probation “case work,” where a lower caseload would afford the officer time to better individualize services and attend to rehabilitation efforts (Pappozzi & Gendreau, 2005). The practice of ISP changed dramatically in the early 1980's when the opportunity for “turning up the heat” on probationers was seized (Erwin, 1986). In these versions of ISP, intense controls were applied and meant to mirror or near the control experienced in a prison. Likewise, the punishment of ISP was thought to reduce re-offending through deterrent like mechanisms, albeit without the cost of imprisonment (Pappozzi & Gendreau, 2005). In general, these ISP's were designed to increase contact and surveillance of offenders, provide more stringent rules with less tolerance and harsher sanction for violation. This activity is made possible through smaller caseloads. Many ISP's during this era incorporated probation “add-ons” such as boot camps, shock incarceration or electronic monitoring. In almost every state, an ISP program emerged (Petersilia & Turner, 1993).

The National Institute of Justice tested fourteen ISP programs in several states to evaluate its effectiveness (Petersilia & Turner, 1993). The evaluation included random assignment of more than 2000 offenders to ISP and regular probation caseloads with

failures measured in terms of new criminal arrest and the occurrence of technical violations. After the first year, there was little difference between ISP and control groups in terms of arrest as 37% of those in the ISP were arrested and 33% in the control group. In contrast, the probationers with ISP experienced 27% more technical violations than offenders on regular probation (Petersilia & Turner, 1993).

Two meta-analyses provide more on the apparent ineffectiveness of ISP's. Gendreau, Goggin, Cullen and Andrews (2000) collected 47 program reviews of ISP to determine the impact on recidivism. This involved more than 20,000 offenders. They found that ISP had no effect on recidivism, and potentially increased recidivism by as much as 6% when compared to the regular probation group.

Smith et al. (2002) asked the question of whether "punishing harder" reduces recidivism and in this project compared regular probation to probation with intermediate sanctions. ISP was the most commonly applied intermediate sanction of the studies collected. This meta-analytic review that included 74 published studies found that probation with intermediate sanctions (i.e. ISP) resulted in a 1% reduction in failures. The definition of failure in this and in many meta-analytic reviews is usually all encompassing and includes incidents of failure, arrest, reconviction and prison among others.

Other similar supervision programs such as "specialized" caseloads based upon offense type (sex offender, violent offender, unemployed) have been examined. This practice of specialized caseloads began in the 1980's. According to Burrell (2005), the officers "assigned to these caseloads began to develop experience and gained specialized

expertise through training. As the knowledge about these caseloads grew, the nature and type of supervision changed.” In these programs, the number of offenders on a caseload is typically reduced to accommodate the special nature of the offender. The empirical support for specialized caseloads is a little more promising, finding reductions in failure when these programs are applied for substance abusing offenders (Torres, 1997) and domestic violence offenders (Klein, Wilson, Crowe, and DeMichele, 2008). In the latter case, offenders in the domestic violence unit of the Rhode Island Department of Corrections had more contact with their probation officers as a result of being in this specialized unit (Klein et al., 2005). The increased effectiveness is likely a result of the officer having a greater understanding of the type of offender he/she is working with.

Certain policies may also prove to be related to outcomes, although study in this area is scarce. Clark-Miller & Stevens (2011) examined probation officer turnover and continuity of supervision with its relationship to failure. They found that those probationers who were supervised by fewer officers were more likely to complete probation. In fact, the chances of successful completion of probation terms increase by as much as 58% when an offender remained with one officer during the entire supervision period (Clark-Miller & Stevens, 2011).

Even where special programs or caseloads exist, the individual characteristics of an officer might also influence failure. The daily activity of an officer and the manner in which he/she carries that activity out is likely affected by his/her orientation and attitude (Katz, 1982; O’Leary, 1983; Papparozi, 1994; Payne & DiMichelle, 2009). There is less information about the impact of these factors around case management decision-making

(Dembo, 1972). Katz (1982) suggests officer attitudes may impact decisions for revocation which is a direct measure of probation failure.

We do know that attitudes and orientation may impact how a probation officer understands his/her role and purpose and this may impact failure (Papparozi, 1994). In a study of New Jersey community supervision that involved intensive supervision programming and a control group of “regular” offenders, those probationers supervised by officers with what was described as a “balanced” orientation had lower failure than officers who ascribed to either “social work” or “law enforcement” orientations (Papparozi, 1994). The balanced approach is conceptualized as a combination of both social work and law enforcement techniques employed by a probation officer in the course of dealing with an offender. In essence, the orientation of the officer directly impacted his/her understanding of role, work behavior, and ultimately the behavior of offenders.

The issue of case load size has also been examined fairly extensively to determine whether smaller caseloads improve probation outcomes (Taxman, 2002; Burrell, 2006; Jalbert et al., 2011). Obviously, outcomes depend more upon the activity or content of probation supervision rather than simply having fewer offenders and operating in the same way (Taxman, 2002; Burrell, 2006; American Probation and Parole Association, 2012). Unfortunately, reduced caseloads do not improve effectiveness unless probation officers improve their supervision techniques. This was recently examined in a multi-site evaluation using a randomized control design (Jalbert et al., 2011). The researchers found that caseload size may impact outcomes with application

of “evidence-based supervision practices.” Using community supervision agencies in Iowa, Colorado and Oklahoma and using a randomized controlled trial experimental design, officers were randomly assigned to a control or experimental group. Both were provided training in evidence based supervision practices, however, the experimental group of probation officers was able to supervise fewer cases following the training. In general, officers in the experimental group were better able to assess offenders, spent more time with them and allocated resources more effectively for them. Smaller caseloads reduced the likelihood of probation arrest by as much as 26% in the experimental group and these probationers generally “survived” longer in the community (Jalbert et al., 2011). The study found in one location (Iowa) intensive evidence-based supervision with a “small caseload reduced the likelihood of criminal recidivism by 26% percent ($p=.037$) for all offenses, 39% ($p=.037$) for drugs, property and violent offenses, and 45% ($p=.023$) for property and violent offenses (drug offenses excluded). For longer periods of time, recidivism was reduced significantly for property and violent crimes, 37% at eighteen months and 30 months respectively” (pg. 2).

System Level Factors and Recidivism

As was the case with agency level factors and probation failure, because every probation agency operates independently, it is difficult to determine which factors are common and which might influence recidivism. To better understand the impact of agency-level factors on recidivism, Gendreau and Andrews (1996) developed the Correctional Program Assessment Inventory (CPAI) based upon their theory of

rehabilitation. The CPAI involves broad inventory areas outlined in Gendreau et al (2006) and include: A.) Organizational Culture; B.) Program Implementation/Maintenance; C.) Management/Staff; D.) Client Risk/Need Practices; E.) Program Characteristics; F.) Use of Core Correctional Practice (e.g. relationship and skill factors (see Dowden & Andrews, 2004)); G.) Inter-Agency Communication, and; H.) Evaluation.

Although Gendreau et al. (2006) suggest the characteristics described above can be generally applied to any correctional agency, including probation; one cannot help but wonder if probation agencies differ or possess unique agency factors or combinations of factors when compared to other correctional agencies. For example, it might be that brokerage and advocacy practices (inventory area G) are more important for probation agencies than for prisons. This area of research has not been examined sufficiently (Latessa in person).

Two tests of the CPAI have been undertaken to link these inventories with outcomes of recidivism and incarceration. Using the CPAI, Nesovic (2003) conducted a meta-analytic review of correctional agencies exploring the “quality” of programs and impact on arrest. The CPAI scores correlated well with outcome ($r = .46$) where the higher the score on the CPAI the less likely an offender was to recidivate. Programs with higher scores are said to possess more “quality” and these programs demonstrated larger mean effects sizes with arrest than programs whose quality was poorer (i.e. lower scores on the CPAI) (Nesovic, 2003).

In a similar project, Lowenkamp (2004) used an abbreviated version of the CPAI to evaluate the quality of 38 correctional programs involving 3,237 offenders in Ohio. The experimental group involved offenders who were sentenced to the correctional programs while under community supervision. Offenders terminated from these programs were matched with offenders under community supervision not involved in the programs. The study found significant correlations between scores on the CPAI and outcome measures of new offense ($r=.35$), technical violation ($r=.44$) and re-incarceration ($r=.42$).

Building upon these efforts, Ed Latessa and colleagues from the University of Cincinnati developed the Correctional Program Checklist (CPC), which links many of the above-described inventory areas to recidivism. The CPC examines two broad areas, the capacity of the agency to reduce re-offending and the content of their programming. In all, more than 550 agencies around the United States have been evaluated using the CPC with empirical support demonstrating higher scores are associated with lower rates of recidivism (Smith in person). Much of their project is unpublished. Moreover, norm information for probation agencies has not been extracted from the overall data.

Officer training has also come to be of recent interest for probation scholars. Very little is known about the content and quality of probation officer training. In fact, only recently has the practice of probation supervision been examined for its “qualitative” nature (Bonta et al., 2008). The study was an attempt to examine exactly what probation officers do in the course of their duties and is often referred to as the “black box” of probation study. This study included examinations of basic case management techniques including case planning and meeting with clients. Part of the analysis involved recording

the conversation of probation officers (n=62) through audio-tapings of routine contacts with offenders. Bonta et al. (2010) find that officers are not well-trained in some of the most basic therapeutic techniques showing “relatively poor adherence” to skills such as pro-social modeling, and differential reinforcement that could influence behavior change in offenders. Probation officers rarely discussed salient criminogenic drivers, other than substance abuse and family/marital problems. Other criminogenic need areas such pro-criminal attitudes were discussed in only 3% of cases (Bonta et al., 2010). Driven by the results of the “black box” discovery of probation work, Bonta et al (2010) devised a community supervision training regimen (Supervision Techniques in Community Supervision; STICS) to improve officer skills-sets. The study found that trained officers had lower rates of recidivism than officers untrained in these skills. Others (Trotter, 1996 and 1999; Robinson et al., 2011) have examined specific elements of CCP, and found support for the training and development of officer skills in enhancing probation effectiveness.

We reported upon a number of system level influences that seem to affect both failure and recidivism. This includes persons, agencies generally, and programs and policy. Disentangling officer effects from the other system level influences on outcome is not easily done. Organizational culture, structure, policy and other factors influence officers in terms of their training and performance of their duties (Papparozzi & Gendreau, 2005). At the same time, there is recognition that each officer maintains unique qualities and beliefs regarding their roles, and the manner in which these duties are to be performed (Whetzel, Paporozzi, Alexander, & Lowenkamp, 2011). No study

has examined the two independently. In general, the literature around system level factors is scarce, and even fewer that examine long-term recidivism.

CHAPTER III: SENTENCE LENGTH AND TIME SERVED

Introduction

As described in Chapter II, a number of factors are able to predict both failure and recidivism. Probation time measures are among these factors (Morgan, 1993). Two types of time measures usually appear in the research: sentence length imposed and the amount of time actually served of that sentence. The amount of time imposed or sentence length can be thought of as the prescribed dosage of probation. It is essentially the sentence that the judge orders for a probationer. Overall, sentence length is found much more frequently in the available probation outcome studies because it is used methodologically to standardize observation periods.

Another time measure, time served on probation, refers to the amount of time probationers are actually under some form of probation supervision. It is the actual dosage. Sentence length and time served may have some relationship, although few studies examine the relationship between the two. Time served may be associated with sentence length because those with more time imposed at sentencing would obviously be eligible for more time served. This relationship, although seemingly straightforward, is not quite this simple. Probation sentences often end early through either successful termination or through failure. The occurrence of early terminations through success or failure is likely sample dependent. Recall, Geerken and Hayes (1993) indicate that probationer failure rates have a large range of values, anywhere from 12% to 63%, in the

studies they reviewed. Within many probation departments is also the ability to terminate probationers successfully for good behavior. In fact, the majority of state probation departments have the ability to terminate probationers early for stable and good behaviors (<http://www.interstatecompact.org>).

Some researchers rely on sentence length as a “similar” measure to time served (Green & Winik, 2011). In reality, no study gives either measure much attention. Subsequently, I am not certain that sentence length and time served can be relied upon as similar predictors of outcome. I reference a sample of felony probationers in North Carolina, where Sims & Jones (1997) find “as sentence length increased, so did the likelihood of failure, whereas the opposite was true of number of months that elapsed before supervision ended (pg. 324).” The number of months elapsed is analogous to time served in this study. This statement suggests that length of sentence imposed can predict failures and we have previously described the reasons for this relationship. It may be a result of an expanded observation period, and/or the fact that those who are more “risky” are given longer probation sentences and are more likely to mess up while under supervision. Sentence length imposed does not become a particularly useful measure in explaining failures/recidivism in this regard.

When Sims and Jones (1997) include time served, or “number of months elapsed,” they find a completely opposite effect. As time on probation elapsed it was negatively correlated with failure. They explain “felons with more serious offenses or multiple past convictions were more likely to fail on probation. Some offenders, however, settle into the routine of probation as time went on” (Sims & Jones, 1997, pg.

324). This provides one of the few studies that examined time elapsed on probation or time served and finds an interesting relationship with the outcome, with less time on probation related to failure.

Because few studies consider this relationship between prescribed and actual dosage, very little is known about the independent effect of probation time measures on failures. None have examined the impact of time served on probation and recidivism after probation expiration. Likewise, very little theoretical attention has been given to either time measure. In general, probation theories do not outline the length of time needed to achieve the ends used to justify the sentence (e.g. deterrence/ rehabilitation), and probation studies have never focused exclusively on time-measures and the effect on probationer behavior. However, there has been a great deal of attention devoted to understanding the effect of prison sentence lengths or time served and its effect on offender behavior; therefore it may be necessary to draw upon decades of research and theory development in this area. Overall, this research is not conclusive, but it suggests that increasing the length of incarceration does not appear to decrease recidivism of prisoners (Tompkins, 1972; Austin, 1986; Gendreau et al., 1999; Gendreau et al 2000; Smith et al., 2001; Spohn & Holleran, 2002). However, there are some interesting exceptions found among the studies (Dejong, 1997; Girth & Martin, 1989).

This chapter will begin by exploring the prison “time” research to develop insight into time under correctional intervention and impact on behavior. From this information, I will explore probation sentence length and time served measures. In general, there is limited examination of “time” measures in the probation outcome research. The studies

that are available mostly use measures of sentence length imposed (prescribed dosage) and its impact on behavior is not well-examined either.

Prison Sentence Length and Recidivism

Prison is one of the most commonly applied sanctions of the United States criminal justice system with more than 1.6 million offenders currently incarcerated in prisons (Guerino et al., 2011). Jail populations fluctuate more than prison populations. On any given day more than 700,000 inmates will be housed in jail (Minton, 2012). Regardless, the dose-response relationship for jail and subsequent behavior is not studied as well since the time periods fluctuate so rapidly among the jailed.

Although the number of offenders sentenced to prison has increased substantially over the past two decades, it appears that the average sentence length has fluctuated somewhat (Durose & Langan, 2001). In 1992, the average prison sentence for felons in state courts was about 72 months. By 2006, the average sentence had dropped to about 59 months (Durose et al., 2009). Although the prison sentences appeared to decrease, prisoners were likely to serve a greater proportion of that sentence before paroled; in effect, the prisoners had proportionally more time served (Durose & Langan, 2001). Not surprisingly, the type of offense committed influenced the amount or length of sentence imposed: violent offenders (murder, sexual assault, robbery) were sentenced to more prison (average of 96 months), whereas, property (47 months) and drug offenders (50 months) received less prison time (Durose et al., 2009).

Rates of recidivism of former prisoners are high, and in fact, higher than those found among probationers (Beck & Shipley, 1989; Langan & Levin, 2002). Most of the studies that examine the impact of prison on behavior do not directly examine the relationship of sentence or confinement length and recidivism. Rather, the general question of whether prison works and for whom is explored. Prison time measures are a very important area of study for both public policy and for science (Nagin, Cullen & Jonson, 2009). The average yearly cost of imprisonment for an offender is around \$30,000 (Nagin, Piquero, Scott & Stenberg, 2006). It is also of importance to test theories that hypothesize about the relationship between correctional intervention and outcome (e.g. deterrence or labeling) in general. In short, the dose-response relationship between prison and offender behavior is of great consequence and interest.

Although most studies do not directly examine the dose-response relationship, many report upon periods of sentence length or time served before parole. One of the larger studies that included relevant time measures was conducted by the Bureau of Justice Statistics who tracked the rearrests, reconviction and re-incarceration of former prisoners released in 1994 (Langan & Levin, 2002). The follow-up period was three years after release from prison and included 272,111 prisoners from 15 different states. The study found that 67.5% of prisoners were rearrested for a new crime; 36.9% were reconvicted and 25.4% returned to prison. The average prison sentence in the study was 58.9 months, and the average time served for prisoners was 20.3 months. Prisoners served as little of one-third (35.2%) of the sentence imposed prior to release or parole.

To test the impact of different time doses, the study grouped offenders by several different time served intervals (e.g. group one: 0-6 months; group two: 7-13 months) (Langan & Levin, 2002). Re-arrest rates generally did not differ significantly among the groups, with the exception of those who served the longest time (61 months or more). The re-arrest rate for this group was significantly lower than for every other group (54.2%). Further, both groups who served 31 to 36 months (62.6%) and those who served 37 to 60 months (63.2%) had a significantly lower re-arrest rate than those who served 25 to 30 months (68.3%). With regard to time served in prison, “no evidence was found that spending more time in prison raises the recidivism rate. The evidence was mixed regarding the question of whether spending more time in prison reduces recidivism rate” (pg. 11). This statement left the door open for the possibility that certain doses of prison may hold promise in changing offender behavior.

There are some problems in drawing conclusions from this study however. First, the aggregate rates of the reporting states will vary. The study did not provide the rates of recidivism for each state, rather pooled the 14 reporting states into one sample. Prior research tells us that there is variation in state prisoner recidivism rates just as there is in state probation recidivism (Geerken & Hayes, 1993). Within each state are different offenders and policy or practice that can influence recidivism. Further, none of the predictors of recidivism were controlled in this study that might distinguish the differences between states in terms of their prisoner population. For example, some state prison population may have “higher risk” offenders in the prison sample, because the laws are different in that state or the prison is simply full and only imprisons this offender

type. Moreover, the risk of offender was not controlled and the differences (or lack thereof) might be a product of their individual propensity to commit crime. Perhaps most importantly, this study, although rather large in its sample, represents just one study, and other prison studies find different results.

One of the stronger positions in the field is supported by Gendreau and others who demonstrate that increased prison time does not reduce future criminal behavior (Gendreau et al., 2000; Gendreau, et al., 2005; and; Smith, Gendreau & Goggin, 2001). If anything, their reviews suggest that more prison time increases the incidence of failure and/or recidivism.

In one study, Smith, et al. (2001) examined 26 prison studies with more than 100,000 prisoners. Using quantitative meta-analytic techniques, they explored whether more time served in prison affected prisoner behavior in the community. The minimum follow-up time for the studies included in the analysis was six months. A total of 202 effect sizes were coded and the researchers found no appreciable reduction in re-offending from more (mean of 31 months) rather than less (13 months) prison.

To further and more comprehensively examine the effects of prison sentence on recidivism, Gendreau, Little and Cullen (2005) collected fifty studies dating back to 1958 and involved 336,052 offenders. This produced 325 effect sizes between recidivism and length of time in prison and recidivism. The study used the outcome of recidivism, but it was defined very broadly as failure, arrest or return to prison. Essentially the outcome measure was any undesirable outcome, but the majority of studies used in the analysis used parole violation. The data was analyzed using meta-analysis to explore whether

prison reduced criminal behavior. More importantly, it explored the impact of time on behavior more extensively, used a number of designs and controlled for what they thought were important predictors of criminal behavior.

The first test of the relationship between prison time and recidivism used studies in the meta-analysis that resulted in 222 separate comparisons using 68, 248 offenders. The analysis dichotomized prisoners by more or less prison sentence with the more group receiving an average prison sentence of 30 months. The less group averaged 12.9 months. The more group had a 3% higher rate of recidivism upon release (29% vs 26% respectively). When the risk to reoffend was controlled within each group, those who spent more time in prison had a higher recidivism rate (3%) than did those who spent less. When the groups were examined independently for within group relationships, the analysis found that whether in the more or less group, the more prison time served within the group, the higher recidivism rates ($r=.29$ for high risk group, and $r=.17$ for the low risk group after weighting the groups by sample size). Put another way, even among the low risk group, where offenders in this group served more rather than less time, the more time served the worse the outcomes.

To further distinguish any potential threshold effects of incarceration, three subgroups were developed: less than one year, between one and two years and more than two years. However, in this analysis, there were no differences in groups when differentiated by time amounts and recidivism (time one=28.2%; time two-26.8%; and time three-24.1%). The authors concluded that there was no evidence in any of their

study that that prison sentences reduce recidivism. In fact, the study suggests a criminogenic effect is found from more rather than less prison.

There is a lack of experimental studies in the prison outcome research and this is noted by many of the researchers in this area and those who conduct meta-analysis. One of the few examinations of prison sentence length that involved a quasi-experimental design found what was believed to be a naturally occurring random assignment of defendants (n=1003) charged with drug-related offenses in the District of Columbia (Green & Winik, 2010). Working under the assumption that defendants in some jurisdictions are randomly assigned to a judge, they explored whether the variation from this process results in random sentence lengths that might produce detectable differences in re-arrest. The authors of this study used sentence length imposed rather than time served in their analysis. They contend that the randomization process decreased the possibility that unobserved attributes of offenders that may affect the sentence could be used to explain recidivism. The study found “incarceration seems to have little net effect on the likelihood of subsequent re-arrest (Green & Winik; 2010, pg 30).

At this point, it appears that prison itself may not produce crime reducing effects on behavior and no clear dose-response relationship exists. If anything it seems that more prison, in general, does not decrease criminal behavior. However, it may also be argued that examining the effect of prison time on behavior is not as simple an undertaking as the researchers believed. Determining dose response relationship requires adjusting doses commensurate with offender characteristics. Put another way, aspirin can relieve pain in patients; however, the amount of aspirin needed to reduce pain might be

moderated by age, body weight and other criteria. Individual factors (offense or offender types) are crucially important in explaining differential reaction to prison (Mirth & Gartin, 1989; Dejong, 1997) and these factors have not been tested sufficiently within the context of dose-response. The extant techniques and study designs may also be insufficient to this end. The use of meta-analysis, for example, might not uncover the subtleties of offender characteristics that may be important to finding a dose response relationship.

The importance of individual attributes on outcome was demonstrated by Gendreau et al. (2005) and described above where different risk levels appeared to respond differently to time-measures. In this case, low risk offenders had worse outcomes than what would be expected from their risk level alone. Subsequently, one could argue that the specific offense or offender characteristics of prisoners are not studied sufficiently to suggest that prison does or does not impact behavior. Some limited support for this position is provided.

Gottfredson, Neithercutt, Nuffield and O'Leary (1973) examined more than 100,000 male prisoners from 14 different states who were paroled from 1965-70. Overall, and controlling for offense type, criminal history, and age, the study found that those with more time served in prison had higher rates of recidivism. There was an exception, however, among armed robbers and drug offenders where longer sentences appeared to reduce recidivism for these groups (Gottfredson, et al., 1973).

Similarly, Mirth and Gartin (1989) when examining offenders convicted of domestic violence crimes in Ontario, Canada, found that length of prison did appear to

effect recidivism. Specifically, those offenders who received a prison sentence between 1-3 months were more likely to be re-convicted than offenders who were sentenced between 6 -12 months.

A more recent study found that for male arrestees in New York City (n=4505) with weak social ties to the community, longer periods of confinement appeared to reduce criminal behavior whereas the same was not true of offenders with strong social ties (Dejong, 1997). Overall, Dejong (1997) found that offenders who were imprisoned for longer periods had a delayed return to crime (i.e. survive longer) than those sentenced to shorter periods of time. The effects of prison seemed to be moderated by social ties of offenders. Specifically, for those offenders with strong social ties or for first-time arrestees, any period of incarceration increases the probability of re-arrest, or put another way, negatively influences their behavior. However, for arrestees with weak social ties and/or experienced offenders, longer periods of incarceration increased their survival time in the community. In effect, longer periods of incarceration did influence behavior by delaying its recurrence. This study was limited by the absence of serious criminal offenders, and the length of incarceration served was actually unknown, rather a proxy using about one-third of the time sentenced was used (Dejong, 1997).

Perhaps importantly, these studies seem to suggest that certain doses of incarceration may be effective at influencing the behavior of some prisoners. Both of the studies reported above (Mirth & Gartin., 1989; Dejong, 1997) use rather short time periods of prison. In fact, both were under one year of prison. For some offenders, less than one-year of prison may affect future criminal behavior. Unfortunately, the sentence

lengths for more serious matters and in most United States courts far exceed these amounts (Durose et al., 2009) and this might impede any efforts to find a dose-response relationship.

Probation Sentence Length, Time Served and Outcomes

While there is little known about the relationship between failure or recidivism and time served in prison, less is known about probation as a criminal justice sanction in general and this includes the impact of probation sentence lengths or time served on failure and recidivism. The probation sentence lengths imposed in state courts, like prison sentence lengths, have changed over the past two decades (Durose & Langan, 2001). In 1992, the average probation sentence for a felony convicted offender was 48 months. In 2000, the average probation sentence dropped to 38 months (Durose & Langan, 2001). A slight increase is seen by 2006, where the average probation sentence was 44 months (Durose et al., 2009) and it remains at about this level.

In contrast to the relationships between offense type and prison sentence length described earlier, probationer offense type does not affect probation sentence length in the same way. Recall, for those sentenced to prison in 2006, violent offenders received nearly double (97) the number of months as property (47) and drug offenders (50) (Durose et al., 2009). In contrast, in 2006, the average probation sentence length in months was essentially the same for all crimes. The average sentence length for violent and property crime was 38 months and the average sentence for drug crime was 37 months (Durose et al., 2009). It should be noted, however, that only 20% of felony

offenders in any state court who committed a violent crime were sentenced to probation as most were sent to prison (Durose et al., 2009).

Probation sentence length is, however, affected by the criminal history of the offender. There appears a moderate difference in probation sentence lengths for those convicted of one felony (37 month average) versus those convicted of two or more felonies (43 months) (Durose et al., 2009). Generally speaking, those with more extensive criminal histories receive more months on probation (Petersilia & Turner, 1986).

Probation Sentence Length and Outcomes

Probation Failure

Studies that include probation sentence length imposed or prescribed dosage do find a relationship to failure (Wisconsin Department of Corrections, 1973; Renner, 1978; Roundtree, Edwards & Parker, 1984; Sims and Jones, 1997). An early example is found with the Wisconsin Department of Corrections (1973) who examined factors predictive of probation success or failure under supervision. They found that long periods of supervision were highly correlated with failure, but the study did not provide enough information regarding their analysis used, specifically their control measures. Their findings might be explained away by a variable such as risk scale scores, for example.

A fairly comprehensive and unique study was undertaken by Renner (1978) who profiled 1905 probationers in Ontario and found that longer periods of probation were related to failure. The data collection procedure involved surveys of probation officers regarding their clients. Of the respondents, the study found that most (59.2%) of the

probation sentences imposed were less than one year in length. The longest probation sentence imposed was two years. The study found that those with longer and more intense probation orders failed more frequently. About 70% of the probationers with lengthier and more intense probation were rated as failures by the probation officers, whereas only 7.8% of those with shorter and less intensive supervision periods were rated as failures.

Roundtree et al (1984) explored probation sentence lengths among other factors that predict failure in a cohort of Louisiana probationers. A positive correlation with sentence length and failure was found. Drawing from cases closed (n=100) from 1975-78, they grouped probationers by the length of sentence imposed including less (>24 months' probation) or more (25 to 60 months). Most (80%) of the probationers were contained in the less group. However; they determined that offenders in the "more" group had greater likelihood of revocation.

Sims and Jones (1997) examined factors associated with success or failure on probation for North Carolina felony probationers (n=2850) who were terminated from supervision between July 1, and October 31, 1993. The mean sentence imposed for probationers was 48 months. More than half of the probationers (57%) failed during the term of supervision. The study used logistic regression models and found that sentence length was a statistically significant predictor of failure; however, the increase in odds of failure was described by them as rather slight. The findings in general are not surprising as Gray et al. (2001) point out:

Research has also shown probation success to be significantly related to sentence length. Logically, the longer the period of supervision, the more time there is for a probationer to violate and for these violations to be detected (pg. 541)

Probationers sentenced to lengthier periods of supervision have greater observation periods than those with shorter periods. It would be expected that those with longer periods would have more revocations, arrest and other failure types simply because of the time exposed to failure. It is important to further consider that “judges tend to impose longer probationary sentences to those individuals who are less likely to be good candidates for probation because of greater prior criminal involvement or unstable lifestyle” (Roundtree et al., 1984, p. 61). In this case and in other studies, the probationer more likely to fail would also be the one sentenced and exposed to probation supervision for the longest period.

One study seems to circumvent both the increased observation and criminal history hypotheses described above. In what was described as “surprising,” Benedict & Huff-Corzine (1997) find that those who were sentenced to shorter periods of probation were more likely to be re-arrested while on probation. As they suggest, this contradicted prior research that suggested increased probation length is associated with failure since “those who are sentenced to longer probation terms have usually committed more serious crimes, have a longer history of criminal behavior, and/or have a lengthier time under probation supervision” (Benedict & Huff-Corzine, 1997, pg. 245).

There are other probation studies that have examined sentence length and specific offender types and/or programs. Ditman et al., (1967) examined the effectiveness of an alcohol rehabilitation program for chronic alcohol using probationers (n=2,713). An observation period of six-months of probation with three treatment conditions involved: a psychiatric community alcohol program, alcoholics anonymous or no treatment. No significant group differences in failure were discovered. Moreover, this experiment used only one length of probation or observation period; therefore, no variation in programming and probation length could be detected.

More recently, in an attempt to test the interaction effect of probation length and sex offender treatment, Lindsey and Smith (2006) tracked a group of Australian sex offenders with intellectual impairment (n=14). The treatment periods considered were either one or two years of probation where both the treatment and control groups were exposed to rigorous rehabilitative programming along with probation supervision. Offenders with two-year probation terms had significantly lower scores on standardized assessments that measured attitudes toward re-offending than those under similar circumstances, but only supervised for a year. Although not analyzed statistically, the authors also reported that the one-year probation group had reported incidents of sexual recidivism, whereas none were reported in the two-year probation group. The authors contend that two-years of probation, over a one-year period, would be recommended to impact the behavior of this offender type (Lindsey & Smith, 2006).

To sum, the relationship between prescribed dosage and failure on probation, at least in some of these studies reviewed, might be an obvious one. Longer probation

sentences increase the potential for failures through an increased observation period. Put simply, an offender with five years of probation has two more years to be arrested while on probation or fail in other ways than an offender who is sentenced to a three year term. Also, those with longer probation sentences are more likely to fail because of attributes (e.g. prior criminal history) which are known to impact the outcomes (Sims & Jones, 1997). Both criminal history and offense type are known to impact failures and recidivism. Criminal history does impact probation sentence length (Petersilia & Turner, 1990) and therefore may have an influence on failure through increased sentence length. Finally, certain imposed probation sentences may be more useful for certain offender types (i.e. sex offenders), but this area remains much undeveloped.

Probation Sentence Length and Recidivism

The impact of prescribed dosage or sentence length on later recidivism can overcome the expanded observation period hypothesis. Since we are examining recidivism after the probation term is ended and in hindsight, recidivism cannot increase simply because of the expanded time periods on probation. However, studies that examine recidivism (post probation) and include time measures are few. The available studies do find that probation sentence length or prescribed dosage can predict later recidivism (Cockerill, 1975; Department of Justice, Government of Canada, 2001).

One of the early recidivism studies used a sample of Alberta, Canada, probationers (Cockerill, 1975). The study followed probationers for one-year after probation termination. Three quarters (75.2%) of the sample were successful after

probation (i.e. without arrest). Of those who were arrested, Cockerill (1968) found that the longer the probation sentence imposed, the more likely the offender was to be convicted of a new crime. This may simply be explained by our probationer attribute hypothesis. That is, probationers who are at greater risk to recidivate because of their personal attributes (reflected in their lengthier criminal histories) may also have longer imposed sentences. Whether time under probation negatively impacted the behavior of probationers, or, whether the attributes are responsible for the studies results are not clear.

Varying probation sentence lengths may also have differential effects on certain offender types with regard to recidivism. This appears to be the case in an Ontario, Canada study where researchers tracked a group (n=1000) of domestic violence offenders (Department of Justice, Government of Canada, 2001). The study grouped the offenders by “more” (<2 years) or “less” (6 to 12 months) probation with approximately one-third of the probationers sentenced to more probation. Within the “more” group, probationers were nearly twice as likely to recidivate as offenders whose probation sentence was less (33% versus 19% respectively). The differences, however, were not statistically significant. It is important to note that this study examined only domestic violence convicted offenders and this offense type may have a relationship to both the type and amount of sentence imposed, as well as recidivism. Further, the sentence imposed appears to be lesser than those which would be given for violent offenses in the United States where the average probation sentence was 40 months for violent offense types (Durose et al., 2009).

The impact of varying probation sentence lengths on recidivism was recently tested by Green and Winik (2010). The study used what was described as a “natural experiment” wherein random assignment of cases to various judges in the District of Columbia was purported to account for the differences in sentence length. Working under the assumption that defendants in some jurisdictions are randomly assigned to a judge, and different judges were assumed to hand down differing sentences to similar cases, they explored whether the variation in sentence length from this process produced detectable differences in re-arrest. The study tracked, for a period of four years, 1,003 defendants charged with drug-related offenses who were randomly assigned to nine different judicial districts. About half (n=584) were on probation or given a split sentence. The remaining offenders were given a prison sentence. Recidivism was defined as re-arrest and the observation period began at probation onset and continued beyond the imposed probation sentences. Judges meted out sentences that varied substantially in terms of probation time, although most of these probationers (n=253) were sentenced to a period of probation between one and two years.

The study concluded that probation length does not alter the probability of recidivism. In fact, using a model to estimate the “local-average treatment effect” of probation, they suggest that an average probation sentence in the sample, a term of almost two years, may increase recidivism by 7.2% (Green & Winik, 2010). This estimate, however, did not reach statistical significance.

Unfortunately, this study did not account for other failure types that might censor the sample and result in an offender not actually serving the prescribed dosage of

probation. For example, a probationer who is jailed for failure other than arrest may not be able to be re-arrested. More importantly, the authors write “we recorded the sentences as imposed, not as actually served, although the two in practice are similar (pg. 361)” I am not certain that sentences as imposed and as actually served do impact outcomes in the same manner as this study suggests.

Probation Time Served and Outcomes

The studies that include actual time served under probation and outcomes are scarce. Sims and Jones (1997) examined factors that predicted failure among North Carolina felony probationers. The study found that as the “number of months elapsed” increase, the likelihood of failing probation by revocation decreased. The mean probation sentence in the sample was 48 months, and the mean number of months elapsed before supervision ended was 29.96 months. More than half of the probationers (57%) in the sample failed. The procedure for “early terminating” successful probationers was not described in the study and it is not certain if or even how this would impact the findings. I am unable to locate any studies that examine time served and post-probation recidivism.

To summarize the chapter, there are many limitations of prior probation research especially as it relates to measures of time. First, sentence length is the most often used measure and very little attention is paid to time served. There is an assumption that the two measures are similar (Green & Winik, 2010). However, they might not be and, moreover, they might impact the behavior of probationers differently (Sims & Jones,

1997). Second, the dearth of probation studies that follow probationers for a long enough period of time to explore the impact of subsequent offending after probation termination is glaring. An outcome study would need to follow probationers for periods beyond the maximum term found in the sample and for at least a couple of years beyond probation ending. For felony probationers this can be several years depending upon the agency or state laws. For example, if time served is equal to five years, then the observation period would need to expand beyond this period.

Although we may find different measures used in some large studies (Petersilia & Turner, 1986), very few use more than one outcome to test the prediction of specific factors. Those studies that examine a set of factors typically use only one dependent variable (revocation or arrest). A predictor like sentence length may be impacted by the dependent variable. For example, time served may be related to failure by way of good behavior on probation (early termination) or by way of bad behavior (revocation). In general, probation research does not clearly define the circumstances under which predictors (e.g. alcohol use) would predict one outcome measure (failure) or another (recidivism).

There is another shortcoming in the probation research, both generally and specific to time measures. I reported mostly upon felony probation studies since this is what is found and is likely the result of a massive effort to study probation after the California experience (Petersilia, 1985). These findings set off dozens of follow-up studies of felony probation. In fact, most probation recidivism research is limited to felons on probation. Although felony probation has garnered much attention because of

the community protection issues we described earlier, ensuring that misdemeanor offenders succeed on probation should also be of interest. About half (48%) of the overall probation population is sentenced to misdemeanor probation (Glaze & Bonczar, 2010). Moreover, the distinction between felony and misdemeanor offenders may be somewhat artificial. The fact is that offenders with high likelihood of failure commit misdemeanor offenses and receive probation sentences. Chronic offenders, for example, commit both felony and misdemeanor crimes with some frequency (Wolfgang, 1972). Certain features of one's criminal history, including the incident of misdemeanors, are one of the variables that can be used to predict failure and recidivism and even among felony probationers (Gray et al., 2001; Mayzer. et al., 2004).

Finally, with regard to measures of time, one might also question whether time measures and especially time served can have adverse effects on probation outcomes. The prison research seems to favor such a position, where serving too much time can actually produce undesirable results such as new arrest or failure (Gottfredson, 1973, Austin 1986; Smith et al., 2006). I am unable to locate studies that examine time served amounts and whether more or less amounts of time served on probation affect recidivism in this way.

CHAPTER IV: PROBATION THEORY AND TIME

A theoretical understanding of probation sentence length and time served is important since our empirical insights are limited. Unfortunately, correctional theories do not define or specify with any degree of clarity how time is conceptualized in explaining offender behavior. Yet, with the emergence of prison and probation as the primary sanctions in modern punishment systems, each of the theories that will be presented in this chapter has incorporated time as a component to understand and establish the impact of that correctional intervention.

In describing the types of theories available in criminology, Sutherland (1960) once referenced theories of law-making, law-breaking and reaction to law-breaking. The latter two branches will be of interest in exploring the effect of criminal justice intervention, and specifically probation time and its impact on the failure/recidivism of probationers. In theory, criminal justice interventions, like probation, can either have no effect, decrease criminal behavior or increase criminal behavior. These are the proposed dose-response relationships.

Societal response theorists examine the purposes, methods and styles of criminal justice response to crime. One of the primary justifications for reacting to law-breaking is to control crime or reduce future law-breaking. Although not exhaustive, justice systems use one of three approaches to reduce criminal behavior: 1.) Deterrence; 2.) Incapacitation; and 3.) Rehabilitation (Clear & O'Leary, 1983). Regardless of the

purpose or justification used to explain or justify a given sentence, the length of that sentence, whether prison or probation, is an important consideration to achieving that reduction.

Some of the prison research that examines imprisonment length finds limited or even iatrogenic effects in terms of reducing future criminal behavior (Gottfredson, 1973, Austin 1986). That is, interaction with the prison system, thought to reduce crime, results in increased criminal behavior. A series of explanations have been developed to account for these findings. In many of these theories, the length of the correctional intervention is an important factor. Three theories that can be used to explain the relationship between sentence length and no reduction or possibly increased levels of re-offending are labeling theory, probation as inappropriate treatment, and probation as ineffective punishment. We will begin with a discussion of punishment theory as it relates to probation's intended crime-reducing function.

Decreased Failure/Recidivism through Increased Probation Length

A number of societal reaction theories provide justifications and frameworks for imposing interventions that require the manipulation of time in such a way that decreases in failure/recidivism will occur. These theories include deterrence, incapacitation and rehabilitation. These justifications are often used by the courts or correctional systems with respect to both the type and/or amount of sanction imposed (Clear & O'Leary, 1983). Rarely are sentences imposed under a single justification;

rather court systems rely upon multiple purposes when justifying a sentence and its length.

Deterrence

Deterrent justifications for criminal justice intervention purport that criminal behavior is eliminated through threats of punishment (Gray & Maxwell, 2007).

Classical theorists constructed a framework for justice system intervention to reduce failure/recidivism that asserted individuals were rational beings with a desire to avoid pain and the perceived threat of punishment. In cases where law-breakers are caught and punished, the pain of this experience is thought to provide a lasting impression upon the individual. To avoid future pain, individuals would choose not to commit future crime and thereby avoid the punishment that would follow. The process of punishment, however, must be perceived by the offender as swift, severe, and certain (Beccaria, 1983 [1775]; Gray & Maxwell, 2007).

This simple framework is much more complicated than early criminologists thought as understanding deterrence requires an understanding of economic models of human behavior that consider reward/cost (MacKenzie, 2006). The reward of criminal behavior is often in the form of money, power, or other gratification. Conversely, criminal sanctions, including prison or probation, represent the cost associated with criminal behavior. The costs associated with criminal behavior are thought to increase with increases in the certainty, severity and swiftness of punishment (Gray & Maxwell, 2007). In concept, probation supervision would deter offenders during the period of

supervision because of the perception of increased costs through the certainty and increases in the severity of punishment that would follow violation.

Probation reporting requirements and surveillance would seem to increase the likelihood or certainty of being detected for undesirable behavior and presumably decrease the likelihood of such behavior (Pogarsky, 2007). This might impact behavior where offenders would be more likely to comply with conditions and refrain from crime. Likewise, certainty of punishment is increased when probationers are sentenced with deferred or suspended imposition of a prison sentence. Failures of probation result in almost certain punishment. The threat of the suspended prison sentence might be sufficient in its certainty and severity to deter future failure through criminal behavior (Pogarsky, 2007). During the course of supervision, there is an increased certainty of detection and punishment. The longer one is exposed to these conditions, the more likely one is to fail or be arrested during the probation term.

Benedict & Huff- Corzine (1997) tested deterrence of imposed probation sentence lengths and found that offenders with less probation time, rather than more, re-offend at greater rates. They suggested that short probation terms may not provide enough cost to deter and offer two specific circumstances: 1.) the probation period was not long or harsh enough to be seen as punishment for the low-risk offenders who would have received a shorter probation term, and/ or, 2.) probationers sentenced to less probation believed they could “opt-out” of supervision altogether and serve an even shorter prison term by failing. In effect, the shorter term of prison was perceived as less “costly” than the full term of probation. Although the latter explanation may not align

with common notions of probation (i.e. being less punitive than prison), Petersilia (1994) found that among a sample of Minnesota inmates, community-based sanctions such as probation had a “prison equivalency.” Inmates suggested that one year in prison was the equivalent of three years of intensive probation. She suggested that at some intensity and length, probation might be the more “dreaded” penalty (Petersilia, 1994).

Although much of the deterrence research has focused on aggregate level factors such as laws and policies, the use of self-reports might better capture the individual-level perceptions (i.e perception of certainty) that deterrence actually presumes. Testing the perceptions of probationers, Mackenzie and De Li (2002), examined a group of northern Virginia probationers through self-reported criminal and high risk behaviors. The self-report data was collected at multiple periods. Probationers were first asked to self-report behaviors that occurred up to one-year prior to their arrest for which they would eventually receive probation. They were also asked to self-report behavior between the time of arrest and sentencing and during an eight-month period of probation. The study found a decrease in self-reported risk and criminal behavior resulting from criminal justice intervention, specifically:

the most significant changes occurred among the group of variables measuring criminal activity....the proportion of months during which offenders reported committing theft, forgery, robbery, assault or drug dealing all declined significantly.....these results suggest that formal sanctions including arrest and probation, substantially reduced involvement in criminal behavior.

Two issues are important to note from this study. First, the researchers did not find an independent deterrent effect from probation; rather they examined probation as part of a criminal justice experience including the arrest and the sentencing period. This deterrent effect of criminal justice intervention is demonstrated first at arrest and continues through probation. To strengthen the deterrent prospects of probation itself, another decrease in self-report and/or criminal behavior at the onset of probation would need to be found. It is also important to recognize that the effect researchers demonstrate might also be explained by other theories such as incapacitation/restraint. Since the researcher described the effect as “deterrent” this study is reported here.

Other self-report research efforts looking at deterrence and probation have examined specific components of certainty and severity of sanctions and perceptions of offenders (Pogarsky, 2007). To test the perception of severity, Pogarsky (2007) studied a sample of New Jersey Intensive Supervision Probationers (ISP) to determine whether the threat of prison was associated with program completion. Probationers were asked to rate the severity (length of prison sentence they thought to receive for violation) on a scale ranging from zero to one-hundred. The certainty of punishment was measured by an estimate of the likelihood of prison in the event a probationer was detected for drug use (again using a scale of 0-100). The authors found that those who perceived the certainty and severity of punishment, as rated in the scales as high, were more likely to complete the program.

To impact recidivism after probation has ended, the experience of probation would need to be painful enough to have a lasting impression. The length of probation

time is particularly important in this regard. The costs of crime are variable in severity and depend upon sanction length as it “exacts a variable price; it is more costly to the extent that the sentence assigned is longer rather than shorter” (Nagin et al., 2009, p 124). Increased periods of probation increase costs of punishment associated with criminal behavior enough to offset the reward of crime and this effect might last even after the probation term has ended. Unfortunately, long term, perceptual research is not available and deterrence studies for probation are restricted to aggregate level analysis at this time.

The long term impact of probation sentence length on recidivism was recently tested by Green and Winik (2010) who examined the deterrent effects of both probation and prison on drug offenders. They concluded that probation length does not alter the probability of recidivism and even suggest that an average probation sentence in the sample, a term of almost two years, may increase recidivism by 7.2% (Green & Winik, 2010). This estimate, however, did not reach statistical significance. They concluded that varying probation terms to increase the severity or cost associated with criminal behavior would not appreciably reduce re-offending. However, the research assumes that probation supervision incorporated the elements of certainty and severity we described above and required of deterrence theory.

In sum, the empirical support for a deterrent effect of probation and more specifically by varying lengths of probation sentences is unclear; however, a conceptual design consistent with deterrence theory was developed. A short-term deterrent effect might be conceptualized where probation supervision is thought to increase the cost

associated with certainty of detection and punishment. Probation includes increased surveillance and monitoring thought to increase detection, and often includes suspended prison sentences which threat increases the certainty of punishment. In terms of the long-term impact of probation, the severity of punishment would need to be sufficient to serve as a reminder of punishment for future behaviors. Longer periods of probation for drug offenders did not appear to impact re-offending (Green & Winik, 2011).

Incapacitation/Community Restraint

Probation supervision has always incorporated some form of control over offenders in the community. The emphasis upon this control or mechanisms by which control is delivered in probation has varied (Clear & O'Leary, 1983). The control orientation is typically contrasted with a treatment orientation associated with rehabilitation justifications for punishment. Recently the method by which control of offenders on probation is implemented is thought to resemble prison incapacitation which has also been used to justify and explain how criminal justice intervention can reduce re-offending. The mechanisms that define incapacitation are much simpler to understand than deterrence. In describing incapacitation, Zimring and Hawkins (1995) note "it is incontrovertible that an offender cannot commit crimes in the general community while he or she is incarcerated" (pg. 44). Crime is reduced because offenders in prison are physically restrained from committing further crimes.

In contrast to the free-will and rationality assumed under the deterrent perspective, incapacitation (and rehabilitation) rely upon deterministic assumptions where crime is explained by a complex interplay of social, psychological and other

factors (Mackenzie, 2006). The factors that were described in Chapter II (i.e. education level, age, criminal history) are often used to explain the individual variation in criminal behavior (Andrews & Bonta, 2011). The length of a criminal justice sentence is important in conceptualizing punishment under an incapacitation framework as offenders would be incapacitated for longer periods based upon the seriousness of offense and/or the frequency at which they commit crimes (Zimring & Hawkins, 1995). Much of the controversy regarding incapacitation centers on offender types, that is, which offenders should be incarcerated for long periods (Mackenzie, 2006).

Testing incapacitation effectiveness in controlling crime is mostly limited to prison studies that estimate the number of crimes prevented by incapacitation laws and sentencing policies (Mackenzie, 2006). This challenging line of research requires one to account for the frequency of criminal activity, criminal career length and incapacitation length. Some studies show a small, but negative effect on crime rates by increasing rates of prison populations, or put another way, more people in prison may reduce crime in the community (Mackenzie, 2006).

As the control of offenders is an important goal for correctional systems, these principles have made their way into probation practice. Since its initial conception as a criminal justice intervention, probation supervision has always assumed some level of control over an offender in the community (Mackenzie, 2006). The emphasis upon, and methods by which, control is incorporated by probation has changed throughout its history.

An emphasis on the use of control approaches was one response to the overcrowded prisons of the 1980's and the disenfranchisement with rehabilitation (Morris & Tonry, 1990). Probation reconfigured itself as a form of "de-institutional incapacitation" (Rush, 1987). A number of probation departments developed control/restraint strategies that stressed prediction and classification schemes, reliance on court-conditions and surveillance/monitoring of offenders. Morris and Tonry (1990) document the use of "intermediate sanctions" that provide punishment, but also control offenders in the community.

For probation programs to operate under this framework, prediction and classification methods became important features. Bonn (1978) described a proposed model of supervision for New York probationers which emphasized the use of actuarial prediction of risk. Offenders would be screened into levels of supervision based upon their risk to re-offend; supervision for high risk offenders would "involve a severe restriction on movement of behavior, as well as certain behaviors which must be performed" (pg. 5).

Also central to this strategy was monitoring offender compliance with court-ordered conditions that were imposed to control an offender. In Barkdull's (1976) description:

Community control conditions must be realistic, tailored to the individual and enforced. Successful control, successful enforcement, depends, in part at least on the ability of the probation departments to prescribe appropriate conditions, provide needed resources and then impose such supervision as to know whether

the probationer-the prisoner in the community-is indeed living up to the terms of the sentence. (pg. 6)

Modern versions of probation supervision maintain many aspects of the control framework described above. Mackenzie (2006) uses the term “community restraint” to describe the process by which supervision attempts to control offenders. Current control processes and technologies involve increased surveillance of offenders including ISP, home confinement and urinalysis among others. From our earlier description of ISP’s, we demonstrated that these programs do generally increase surveillance of offenders in the community in terms of direct contact, increased reporting and urinalysis, but seem to have little effect on recidivism (Petersilia & Turner, 1993). Many home confinement programs that purported to control offenders were found to involve low risk offenders, and therefore find low rates of arrest and technical violation (Baumer & Mendelsohn, 1991; Austin & Hardyman, 1991). This is likely not the type of control programs envisioned by policy makers.

In concept, increasing the length of probation should keep an offender under surveillance/control for a longer period of time and less involved in crime during that period. It is important to recognize that probation itself is historically viewed as a sentence reserved for low-risk offenders, a “second chance.” Research however suggests that lower risk and misdemeanor offenders often succeed on probation even without substantial control or supervision (Clear & Braga, 1995). Increased levels of surveillance and control proposed under an incapacitation framework might be intended

for chronic, dangerous offender types who would need more control; the amount of control and time under control should correspond to offender risk (Mackenzie, 2006).

Demonstrating what we might describe as control/restraint, Mackenzie, Browning, Skroban, and Smith (1999) gathered probationer self-reports to determine the impact of probation supervision on future criminal activity. The authors compared self-reported criminal behavior during periods: prior to arrest, after arrest and during probation. Probationers self-reported fewer crimes after arrest and this effect continued throughout the probation period. In fact, of the twenty offenders who reported committing thefts before arrest, only two continued this behavior while on probation (Mackenzie et al., 1999). For those who did report criminal behavior, the frequency at which they offended appeared to decrease. Probationers reported committing 43 thefts the year before arrest and sentencing and only approximately 10 thefts per year while on probation (Mackenzie et al., 1999).

Mackenzie et al. (2006) later found that of those who self-report criminal activity while on probation, many will report more incidences of technical violations as well. It may be that technical violations of probation might serve as an indicator of continued criminal behavior (Mackenzie et al., 2006). From this perspective, technical violations, rather than merely representing a failure might be useful in the process of correctly identifying and controlling offenders. Offenders violated and jailed for technical violation, although increasing the number of failures, might decrease the overall recidivism rate.

Although all probation supervision is intended to exert varying levels of control over offenders on community supervision, the impact of these controls is not fully conceptualized or incorporated into practice. Incapacitation strategies are meant to isolate offenders from the community and in particular chronic offenders. In probation, control is meant to provide environmental barriers for offenders and any criminal behavior they are contemplating. Probation was generally and initially conceptualized as an intervention for low-risk offenders, a second chance and opportunity to remain in the community. Modern versions of probation that involve high levels of control may not be well-suited for low-risk types of offenders since research suggests high levels of supervision do more harm than good. In fact, probation scholars have even questioned the utility of putting low risk offenders on supervision at all because they do not need control (Petersilia, 1998). At the same time, one might question whether the types of control(s) that are utilized in the community even for high risk offenders are effective at all since these strategies cannot isolate offenders completely, and high risk offenders fail often and sooner rather than later. These high risk offenders are the types of offenders and offenses that would be targeted by this type of strategy. Mackenzie (2006) points out that violations of probation may actually be considered part of the incapacitation/control process meant to identify and manage the behavior of chronic offenders and leads to their removal from the community. However, simply sentencing an offender to probation, awaiting the violation, then revoking an offender to prison is not likely the type of control envisioned by policy makers (Morris & Tonry, 1990). In

effect, probation becomes a “waiting room” for an eventual prison sentence and its utility in managing behavior can rightly be questioned in this case.

At the same time, Mackenzie’s findings might hold promise for probation both theoretically and in practice. In fact, the identification of offenders actively involved or contemplating criminal behavior has important implications for probation control and correction (Zamble & Quinsey, 1997; Brown et al., 2009). Mackenzie et al.’s (2006) research also demonstrates that criminal justice intervention including arrest and probation may possess some inherent controlling ability that suppresses or at least limits the frequency of criminal behavior that may not be accounted for in other theories. Longer periods of probation would limit this activity for longer periods. This control, however, can only be conceptualized as an immediate effect. Once probation expires, a long-term effect would not be expected. This may not be so troubling since correctional agencies often combine incapacitative with rehabilitative strategies to impact recidivism in the long-term. In general, probation supervision attempts to control an offender in the community and structure activity to rehabilitate for long term success.

Rehabilitation

A third societal response theory purported to control crime through criminal justice intervention is rehabilitation. Like incapacitation, rehabilitation uses individual differences among offenders to explain initial and repeated involvement in criminal behavior (MacKenzie, 2006). Interventions derived from this perspective are designed to illicit positive change in an offender and thereby impact the incidence of crime.

Individual offender “correction” of circumstances, be it personal, social or otherwise, is required to change criminal behavior.

Rehabilitation further assumes that correctional personnel can accurately identify the causes or factors associated with crime, can apply appropriate treatment and “fix” the problem area (MacKenzie, 2006). Criminologists are meant to be particularly useful in this endeavor. Once the problem is ameliorated, it is expected that criminal behavior will be extinguished for good. Although deterrence-driven interventions also suggest that offenders can reduce re-offending, the mechanisms at work for rehabilitation differ from those for deterrence. Worrall and Hoy (2005) explain the distinction where rehabilitation requires:

bringing about fundamental changes to the personality, attitudes, and behavior of offenders, so that they no longer commit offenses, not because they fear the possible consequences, but because they appreciate that crime is wrong (pg. 10).

Rehabilitation was an important feature of the United States justice system for the greater part of the twentieth century (Palmer, 1992). It fell into some disfavor during the latter 1970's after Martinson famously claimed that “with few and isolated exceptions, the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism” (1974: pg. 25). A “nothing works” era of justice followed. Martinson’s conclusions were later critiqued because his findings failed to account for the quality of programs and research design (Palmer, 1975). Perhaps more importantly, an interpretation and conclusion that nothing worked was inaccurate since some programs did indeed demonstrate effectiveness. A concerted effort to find studies

that were able to demonstrate a rehabilitation effect was undertaken. These early efforts eventually resulted in a larger body of literature for the use and application of rehabilitative services in corrections (Ross & Gendreau, 1980). The use of meta-analysis has been particularly helpful in demonstrating that effectively applied rehabilitative programs can effectively change offender behavior (Gendreau & Cullen 1990; Andrews & Bonta, 2011). In fact, some assert that providing service to offenders can reduce recidivism by ten percent, or more (Andrews & Dowden, 2005; Lipsey, 1995; Losel, 1995). Within this literature, certain features of rehabilitative programs have been identified as the most efficacious.

Among the most important features is support for and utilization of specific principles to guide program delivery: risk, need, responsivity (RNR). In short, these principles suggest that the amount of rehabilitative programming should be commensurate with the risk of failure/recidivism an offender poses (Bonta, 2006). In addition, the programs should target known crime producing areas that are able to be changed through rehabilitative service. Effective correctional programs often target the factors described in Chapter II that are empirically associated with recidivism. Support for education attainment (Wilson et al., 1999), employment (Wilson & Gallagher, 2006) and substance-use programs (Wilson et al., 2007) are associated with reduced re-offending. Finally, rehabilitation programs should employ specific modalities (Andrews & Bonta, 2011). In general, cognitive-behavioral methods of program delivery are associated with larger effect sizes (Andrews et al., 1990; Lipsey, 1992).

Andrews and Dowden (2006) contend that adherence to any of the three RNR principles enhances the effectiveness of correctional programs to reduce re-offending, however, programs that incorporate all three considerably increase the potential for reduced re-offending. Another important finding from this study was that treatment effects are maximized by programs administered in the community rather than in an institution/prison. For example, programs that incorporated all three principles, and were residential/institutional had a mean treatment effect of .17 (reduction in recidivism), whereas programs that adhered to all three principles and were “community-based” found a mean effect size of .35. This finding bodes well for the use of rehabilitative programming in the community.

A number of other studies support the idea that rehabilitation within community supervision may positively impact failure and recidivism. The ISP literature demonstrates that probation supervision which includes rehabilitative programming within community supervision is more effective in reducing recidivism than standard ISP (Petersilia & Turner, 1989; Byrne & Kelly, 1989; Papazozzi & Gendreau, 2005).

Probation supervision can be prescribed as a rehabilitative treatment with dosage moderated through sentence length. In this way, probation can reduce the incidence of failure and recidivism. Unfortunately, very little is known about the amount or dosage of rehabilitative programming needed to impact recidivism whether in prison or on probation. In one examination of the risk principle in a “real world” prison setting, Bourgeon and Armstrong (2005) examined a group of 620 offenders in a Canadian prison. Four groups of offenders were compared: those who received no treatment or

those who received varying doses (100, 200 and 300 hours) over the course of 5, 10 and 15 weeks of prison. Results demonstrate that overall those who completed treatment had lower re-offending rates than those who did not (31% and 41% respectively). Further, effectiveness was related to dosage through two elements of time: number of hours of programming and length of stay at the prison. For example, for the group found to be a high risk to re-offend, 300 hours of programming over the course of 15 weeks reduced recidivism by 20% compared to the control group. However, a lower dosage (100 hours) for high risk offenders, and with shorter stays, had no impact. This dosage (100 hours) over the course of ten weeks, however, appeared sufficient for moderate risk offenders (Bourgeon & Armstrong, 2005).

Rehabilitation program dosage for community supervision has limited examination (Ditman et al., 1967; Lindsey & Smith, 2006; Kroner & Takahashi, 2012). One recent study found that increased sessions of programming received while offenders were on community supervision reduced recidivism (Kroner & Takahashi, 2012). Controlling for risk to re-offend using an actuarial risk assessment tool (SIR-R1), prior programs completed and using a sample of program “dropouts” who did not complete the correctional rehabilitative program, the study found that the more programming hours an offender received, the less likely he/she was to recidivate. This was regardless of whether or not the offender completed the program in its entirety. The authors concluded that “every session counts” (Kroner and Takahashi, 2012). However, the authors of this study did not consider the length of probation supervision imposed or served.

Few studies have examined the effect of rehabilitative programming and whether specific lengths of probation are needed to reduce recidivism or failures. Ditman et al. (1967) examined the effectiveness of an alcohol rehabilitation program for chronic alcohol-using probationers (n=2713). An observation period of six months of probation with three treatment conditions was involved: a psychiatric community alcohol program, alcoholics anonymous and no treatment. No significant group differences in recidivism were discovered. Moreover, this study used only one length of probation or observation period, therefore, no variation in programming and probation length could be detected.

More recently, in an attempt to test the interaction effect of probation length and sex offender treatment, Lindsey and Smith (2006) tracked a group of Australian sex offenders with intellectual impairment (n=14). The treatment periods considered were either one or two years of probation where both the treatment and control groups were exposed to rigorous rehabilitative programming along with probation supervision. Offenders with two year probation terms had significantly lower scores on standardized assessments that measured attitudes toward re-offending than those under similar circumstances, but only supervised for a year. The lower scores on the standardized assessment would suggest a desired change in attitude toward behaviors that lead to sexual recidivism. Although not analyzed statistically, the authors also reported that the one-year probationer group had reported incidents of sexual recidivism, whereas none were reported in the two-year probation group. The authors contend that two-years of probation, rather than one-year, would be recommended to impact the behavior of this offender type (Lindsey & Smith, 2006).

For the most part probation studies that have examined rehabilitative programming and probation length are limited to those that involve a discrete program brokered within the context of probation supervision. Probation casework including the use of core correctional practice is also an approach that may be beneficial in reducing re-offending through rehabilitative processes (Andrews & Dowden, 2004). At minimum, the one-on-one casework with probationers supports or complements other discrete programming brokered during the probation term. This “overall” treatment effect of both discrete programming and officer support and interaction has yet to be examined. At best, the probation officer-offender interaction provides an independent rehabilitative program capable of changing offender behavior to reduce failure and later recidivism.

Evidence suggests that probation officers who discuss rehabilitative topics and apply specific behavioral techniques in their casework are able to reduce revocations and re-arrest during probation (Bonta et al., 2010; Trotter, 1996, Robinson et al., 2011). The amount of time needed to make use of this “probation rehabilitation” program has not been examined extensively however. It is conceivable that, like other doses of programming described above, the amount of time officers engage in therapeutic dialogue with offenders has an effect on failure and recidivism.

There is one example that considers the amount of time an officer engages in rehabilitative dialogue and its impact on behavior (Bonta et al., 2008). An examination of probation officers in Manitoba, Canada, found that officers using the above described principles (i.e. RNR) in their practice had less overall probation failures (Bonta et al., 2008). The amount of time the officer spent engaging in this type of dialogue was

important. In fact, the more time that an officer spent discussing rehabilitative topics with an offender, and where the officer attended to other RNR principles, the more likely the offender was to succeed (Bonta et al., 2008). It follows that offenders exposed to this form of rehabilitative programming more frequently and for a longer period (by virtue of a longer probation period) may be less likely to fail or recidivate.

To sum, there is some rehabilitation assumed in most probation intervention. Rehabilitation is administered through either probation brokered programs and/or through direct service delivery by the probation officer. Certain doses of brokered programs are important; likewise the exposure to rehabilitation through probation contacts is promising. In concept, the length of probation term would expose an offender to various dosages of either form of rehabilitative programming.

Increased Failure/Recidivism through Increased Probation

Labeling

Both the traditional labeling perspective and its modern offshoot, defiance theory, suggest that experience in the criminal justice system qualitatively changes the offender; however, in an unanticipated direction (Lemert, 1951; Sherman, 1993; Chiricos & Barrick, 2007). In general, the labeling perspective posits the correctional experience unintentionally affects offenders, both intrinsically and extrinsically, to increase failure and recidivism. The label of felon, probationer or ex-con not only has a detrimental effect on the psychological construction of self, but also strips offenders of certain rights in the community and inhibits their access to pro-social resources.

A traditional labeling perspective posits that some probationers might adopt a criminal “self-concept” as a result of negative social experiences and disruption of social bonds when processed through the criminal justice system (Lemert, 1951). Those officially labeled can, in fact, change their identity from a person who was primarily non-deviant to one who is deviant. Becoming labeled as a criminal when behavior is scrutinized and registered with the criminal justice system is considered the primary labeling effect (Lemert, 1951). In this process, the criminal justice system in concert with the community publicly denounces and defines the behavior of the offender as deviant or immoral. Throughout the correctional process, the immoral character of the offender is highlighted, and outsiders view the person as deviant. Subsequently, their deviant self-concept becomes more embedded and deviant behavior follows; this secondary label explains the continued criminal behavior of offenders (Lemert, 1961). In concept, the labeling process begins externally, but moves inward to a “self-stigmatization.”

The probation experience involves being processed through the criminal justice system. Labels such as probationer or felon result. Probation supervision also requires activity that can be stigmatizing (i.e. undergoing urinalysis, reporting to the probation office, and completing community service in the public eye). At times, there is “uneasiness” between the stigmatized offenders and others in social interaction, to the point where the probationer may start to avoid the “normal” social interaction in favor of associating with deviant peers (Goffman, 1963). Further, in the course of probation supervision, much activity and many facets of the offender’s lives would require him/her

to identify themselves as probationers. For example, each time the offender completes an employment application or applies for loans, his/her criminal and probation status is at issue. The more the probationer identifies with this label, the more likely it is that he or she would consider him or herself as deviant and more likely to fail or recidivate.

To test whether probationer labels affect self-identity, Schneider and McKim (2003) used a sample of rural, west Texas probationers and asked about the stigmatizing experiences of probation. The study found that labeling occurred from employers, law enforcement and the community. Probationers indicated feeling no stigmatization effect from family and friends. The authors suggest that this reflects the “general scheme in the stigmatization process: the closer the personal ties to a person and the more knowledge we have about a person, the less likely will an event stigmatize the person” (Schneider & McKim, 2003, pg. 13). In fact, the authors suggest that the stigmatization process might even illicit additional support from the individual’s social network to ward off the label.

The effect of a specific “felony probation” label was examined by Chiricos and Barrick (2007) with felony probationers in Florida (n=95,919). As part of the Florida sentencing practice, some of the probationers were not adjudicated guilty, rather they were placed on probation without the “felony” label, whereas others were adjudicated guilty then placed on probation. A two year follow-up found probationers adjudicated guilty of a felony and placed on probation had greater likelihood of re-conviction. The felony label seemed to be more harmful to offenders who were female, white and older (Chiricos & Barrick, 2007). Oddly, these appear to be factors that would ordinarily

protect offenders from failure/recidivism; it may be that the felony label erodes upon areas that would normally protect offenders from failure/ recidivism.

The length of probation sentence may be an important element in the labeling process. The lengthier probation periods expose offenders to labels for greater duration and more deeply embed the individual, both intentionally, and unintentionally into deviant groups and restrict access to non-deviant groups. We might suggest that the longer an individual remains on probation, the more likely he or she is to move from primary deviance to secondary deviance.

A more specific and recent development of the labeling perspective is defiance theory that predicts circumstances under which criminal sanctions may increase criminal behavior (Sherman, 1993). Drawing from the work of Braithwaite (1989) and the labeling tradition, Sherman (1993) suggests that a criminogenic effect results from criminal justice intervention when three conditions exist: (1) the offender perceives the sanction as illegitimate; (2) there are weak social bonds; and (3) the offender experiences anger, pride and defiance rather than shame for the sanction (Bouffard & Piquero, 2010). Not all probationers or probation terms would be expected to meet the necessary conditions of defiance theory, however, for some offenders and under some circumstances probationers may defy the criminal justice sanctions and fail/recidivate.

Working under the first condition, there is no shortage of criminal offenders who see the law as illegitimate and believe the system itself, and their situation, is unfair. Sykes and Matza (1957) first introduced neutralizations such as “condemnation of the condemners” that describe a belief that criminal justice sanctioning agents are

illegitimate. If not present at the onset of probation, Barnes et al. (2010) described probation experiences that may foster this belief:

There are great frustrations in traveling to the office from the far reaches of the big city, and of enduring often-long waits in crowded conditions. Offenders could quite easily become angry at the event of the prospect of going downtown, let alone when returning to their homes after what they may see as a humiliating day of forced submission to an authority. To the extent that such reactions may occur after each and every probation visit, this may erode their moral intuitions that this is a fair and reasonable punishment.” (pg. 164)

Longer periods of “forced submission” to authority increase the likelihood that a probationer would develop or continue an attitude that a sanction is illegitimate (Barnes et al., 2010).

Under the second condition, weak social bonds are a factor associated with both initial criminal and recidivist behavior (see Chapter II). In fact, with respect to weak social bonds, prior studies find the “predictive validity of risk assessments in the domains of home, school, work and leisure are impressive” (Andrews & Bonta, 2010, pg. 272). If these conditions were not present at the onset of probation, we have already discussed in the previous section how probation requirements may do much to harm external social bonds of the probationer, where those with potentially weak bonds find the bonds deteriorating even further.

Finally, under the third condition, “pride” rather than shame at a criminal conviction must be present for defiance theory to explain failure/recidivism. For some,

probation might become a “rite of passage” consistent with the “code of the street” as developed by Anderson (1999). In fact, criminal pride in delinquency is not completely different from other anti-social attitudes/values. A Pride in Delinquency Scale (1991) was developed to assess criminal attitudes and values, specifically, the relative comfort or pride an offender associates with criminal behavior (Shields & Whitehall, 1991). Research suggests that it is a valid and reliable measure of anti-social attitudes (Simourd, 1997), was significantly related to criminal behavior, and could predict recidivism among non-violent offenders (Simourd & Van de Ven, 1999).

To sum, regular probation may provide the experience for all three conditions of defiance theory with little else necessary from the criminal sanction or system. The length of probation may be an important element in explaining how probation exacerbates, or creates, these conditions in some offenders. As explained above, probation terms can expose offenders to anti-social and law-defying definitions, weaken social bonds and reinforce the pride they might have in delinquency and/or being on probation. It is posited that lengthier exposures to these conditions increases the likelihood that the offenders will defy the criminal justice sanction and re-offend.

Probation as Inappropriate Correctional Treatment

Building upon an argument first outlined by Nagin et al. (2009), that explored the use of prison as inappropriate treatment, an explanation for probation as inappropriate treatment is developed. The argument involves two dimensions. First, at a broader sentencing level, probation may simply not be a good intervention to curb the criminal behavior of offenders. Although we can demonstrate that probation is less criminogenic

than prison, it does not necessarily suggest it is effective and we sometimes treat probation as if it is effective for anyone. Since criminal justice systems have multiple ways of intervening with an offender to reduce re-offending, the amenability of certain offenders to certain interventions might be better examined and put into practice.

This is not done on any routine basis because there really is not enough information to guide practice. For example, probation agencies seem committed to providing some sort of supervision to low-risk offenders; we might question the efficacy of putting low risk offenders on supervision at all. Evidence supports a negative effect of imprisonment on offenders based upon their risk level where low-risk offenders are seemingly made worse by the prison experience (Smith, 2006). The same line of reasoning may apply to probation as a correctional treatment. At the same time, higher risk offenders are most likely to benefit from probation, but seem to fail on probation and do so rather early (Sims & Jones, 1997). In short, since probation itself is a criminal justice intervention, like prison, it must be made more clear who is best suited for probation and why. In the end, probation supervision itself may not be a viable method to reduce failure/recidivism and longer periods may do nothing or produce more harm than good.

Nagin (2009) builds his argument by describing some of the practices and experiences in jail that culminate in an experience that is detrimental to the offender. When we delve deeper into the actual practice of probation and rehabilitative programming seen in many correctional agencies, like in prison, it may be that much is left to be desired. Even if correctional systems could determine which offenders are best

suitable for probation and the mechanisms by which these offenders can reduce their failures and recidivism, probation agencies may not be capable of implementing the types of programming needed.

First, any correctional interventions, including probation programs that do not emphasize rehabilitation likely do not reduce failure/recidivism (Andrews et al., 1990; Pappalardo & Gendreau, 1995; Gendreau, et al., 1999; Gendreau, et al., 2006; Mackenzie, 2006). Simple control and deterrence based approaches of probation (i.e. boot camps, ISP) have demonstrated little to no effect on recidivism (Pappalardo & Gendreau, 1995; Smith et al., 2002). This may include both programs that offenders participate in (i.e. treatment), and the experience they have with probation officers. Nonetheless, in a number of probation agencies around the United States, a rehabilitation agenda is simply not favored.

Even where a probation department adopts a rehabilitative orientation, those probation agencies that do not incorporate specific rehabilitative principles (i.e. risk, need, responsivity) within the context of supervision are not likely to affect failure/recidivism. In fact, an evaluation of correctional programming in general found that programming including probation programs that do not incorporate these principles actually increased recidivism (Andrews & Bonta, 2006). Put another way, agencies may provide programming to offenders, however, existence of a rehabilitative agenda and programming alone does not always guarantee decreases in failure and recidivism. The programs must be well-implemented and executed. In fact, despite good intentions, inappropriate types or amounts of programming can actually have iatrogenic effects.

One of the key elements of rehabilitative programming is prescribing the right amount or dosage to a probationer, with low risked offenders theoretically receiving lower amounts and higher risked offenders more (Andrews, Bonta & Hoge, 1990). High risk offenders may be more likely to rehabilitate where appropriate treatment dosage is applied (Bonta et al., 2000). Unfortunately there is little direction regarding the amount of programming that would be needed to reduce re-offending for offenders and would be a rare case where offenders actually receive appropriate amounts (Bourgeon & Armstrong, 2005).

Even if probation programs bought into a rehabilitative framework, and provided treatment to high risk offenders at appropriate doses, programs that target non-crime producing areas can also have unexpected effects (Gendreau et al., 2002). In a meta-analytic review of correctional programs, Gendreau et al. (2002) found that those programs that do not sufficiently target criminogenic needs in the content of their program do not reduce re-offending. In fact, those programs that targeted one to three or more non-criminogenic over criminogenic needs actually increased re-offending (effect size .001). Put another way, correctional programs that do not focus on the risk factors we described in Chapter II may not reduce risks to re-offend because they are focused on less important and/or ineffective treatment targets. In general, correctional programs as evidenced by the above study do not always focus on crime-producing areas in their rehabilitative efforts.

Few programs around the country, including those in community supervision, provide effective rehabilitative programming at all, or at correct amounts and/or to

specific targets. The result is no treatment effect, or at worst, a detrimental effect. In fact, ongoing evaluation of correctional programs around the United States through a University of Cincinnati group has found that 80% of the programs assessed are classified as ineffective or need improvement (Smith in person). Many of these programs are discrete programs whose services are brokered to probationers in the course of community supervision.

Even if a probation department adopted a rehabilitative agenda, and provided quality and accurately targeted services to probationers at appropriate amounts, the interaction between a probationer and officer also needs to be supportive of this process. The impact of an officer-probationer interaction cannot be overstated. Supervision that does not attend to rehabilitative processes and criminogenic need may do nothing to reduce, or even, increase re-offending. So, even if the brokered program were effective at reducing failure/recidivism, the efforts of the probation officers must align and support the rehabilitation process. Bonta et al. (2008), in a “snapshot” of current probation practices, found that “major criminogenic needs such as antisocial attitudes and social supports for crime were largely ignored and probation officers evidenced few of the skills (e.g. pro-social modeling, differential reinforcement) that could influence behavior change” (pg. 1). This community supervision demonstration project (Bonta et al., 2008) also underscores the importance of the third RNR principle, responsivity, where officers not engaged in effective rehabilitative techniques do little to reduce, or may even increase, re-offending. It is not far-fetched to suggest that many and perhaps most probation offices do not have staff adequately trained in the RNR model, or possess basic

behavioral and interaction skills and attitudes that have been demonstrated to reduce failure/recidivism.

To sum, there may be reason to question whether probation, as a large correctional enterprise, is capable of reducing re-offending, just as one may question whether prison can reduce re-offending. We also provided a number of scenarios in which probation programming in practice can be ineffective. This included both brokered programs and casework examples. Although there is support for the idea that rehabilitation can reduce failure/recidivism, the difficulty in systematically putting these processes into practice is daunting (Andrews & Bonta, 2011). In fact, it appears as though the “stars must align” for correctional programs to be effective. Unfortunately, many probation programs simply may not have the ingredients or organizational willpower to effectively reduce re-offending and for those offenders processed through that probation system, it would not reduce failure/recidivism. Exposure to these ineffective programs and at longer lengths might do more harm than good.

Probation as Ineffective Punishment

The use of punishment to deter re-offending was outlined in a previous section. However, there may be unexpected and even harmful effects of punishment that can counter the intended deterrent effects. We will provide two different theories that describe the “side effects” of punishment which can result in no effect from justice intervention or even increased failure/ recidivism.

Probation that Lacks Punitive Concentration: To develop probation as ineffective

pain or punishment, I use an adaptation of an argument advanced by Graeme Newman (1995). First, it should be made clear that Newman does not argue for utilitarian justifications to punish, in fact, he argues for a pure retributive sentencing system. His argument does not necessarily align with the theories I have presented in this chapter. However, in arguing for the “moral superiority of retribution,” Newman discusses the ineffective types of punishment used in our modern punishment system. He suggests most of our correctional intervention, and especially prison, is insufficient to reduce re-offending because of the qualitative nature of the pain involved. Newman (1995) describes the use of prison and probation in ever increasing doses as ineffective because the pain is chronic rather than acute.

In differentiating between acute and chronic pain, Newman (1995) writes: “Acute pain is the kind one feels when one cuts a finger, bang’s one’s head. Chronic pain is the type that continues for long periods, sometimes a lifetime; such is felt by arthritis victims.” Probation, like prison is not “acutely” painful because it is drawn out over a long period of time, or is chronic in nature. Since most probation terms span between three to four years (Durose & Langan, 2001; Durose et al., 2009), the pain felt may be qualitatively chronic in nature. In fact Newman (1995) argues that probation may not be considered “painful” enough to deter at all. In describing the pain associated with probation, he writes:

One may have a mild ache in the back that one lives with for many years, however, one learns easily to put up with mild pain, even if it is chronic.....yet some even argue that having been found guilty in a court of law is enough of a

punishment in itself, so that it does not matter whether probation is truly painful.

Perhaps this might have been true some years ago when the criminal justice system was viewed with less cynicism. But today, it is hard to believe that the finding of guilt is sufficiently stigmatizing to be considered a punishment (pg. 23)

In addition to the quality of pain associated with probation (chronic), it may be posited that because the punishment is drawn out for months and years, it may not be symbolically linked to the criminal behavior. The longer the probation sentence, the more chronic the punishment, and, consequently, the more tenuous is the connection between crime and punishment. This association between crime and punishment is a fundamental tenet of specific deterrence. In fact, probationers may even develop attitudes of defiance as described above or resistance to punishment since the punishment no longer associates with the crime (Piquero, Langton & Gomez-Smith, 2004).

Modern versions of probation are meant to span over long periods of time, months or years, and therefore will never be acute in nature. In effect, shortening probation terms would defeat the purpose of inflicting pains upon the probationer. To make probation more painful, terms are adjusted upward in length which makes them quantitatively more painful, but perhaps qualitatively more chronic in nature. This chronic type of pain is not likely to change the behavior of a probationer. In short, because probation terms span over long periods, they are not likely to be punishing enough to reduce failure/recidivism. Further, deterrence relies on swift punishment to link the crime to the punishment, and the chronic nature of probation in practice does not conceptualize well with deterrence

principles. Where the punishment is not linked to the crime, deterrence would not decrease failure/recidivism.

Probation Pains that Negate Rehabilitation/Deterrence: Another explanation for probation as ineffective punishment is built upon the “pains of probation.” Durnescu (2011) argues that probation involves certain pains for probationers that can actually have unintended consequences, especially effecting the rehabilitative efforts that may be occurring under probation supervision; frustrations and deprivations of offenders may undermine rehabilitative intentions. The pains that accumulate over time on probation may have an unintended effect on behavior, and longer periods may increase the pains enough to either offset the gains of rehabilitation or even worse be criminogenic.

This general idea was first developed by Gresham Sykes (1958) who examined pains of prison culture in his book *Society of Captives*. In a case study, he examined prisoners at a New Jersey maximum security prison and attempted to explain the psychological effects of prisons and the social order of inmates. He uses the term “pains of imprisonment” to classify the types of deprivations an inmate experienced during imprisonment that erode a “prisoner’s being.” He categorized the pains of prison as deprivations of liberty, goods and service, relationships, autonomy and security. These pains of prison life create a subculture of prison characterized by the prisonization process. This process unfortunately has a lasting effect on inmate behavior even after release.

For example, while in prison inmates are often deprived of rights and liberties afforded to those outside the prison walls. An inmate is not able to make choices for

himself because the prison itself and guards have considerable authority over him/her and prisoners are often reduced to a state of helplessness. Upon release into the community, inmates are not confident in making decisions for themselves in normal social situations because of the loss of autonomy in prison. It is a lasting effect from prison exposure. Increased prison terms are more damaging and perhaps enduring as the more exposure to these pains; the more impactful it is on behavior.

This line of reasoning to other types of punishment is seen in other case study research on other types of punishment. For example, Payne and Gainey (1998) interviewed 24 electronically monitored offenders to examine the qualitative pains of probation with this particular sanction. Most offenders viewed the experience as less painful than prison, but still punitive in nature. The researchers specifically examined some of Sykes' pains of prison within the experiences of probationers with electronic monitoring. The probationer's described among their pains the loss of liberty and autonomy, and pains that were unique to the electronic monitoring experience. For example, electronically monitored offenders described painful experiences including paying fees for the monitoring device, watching others around them do things they are unable to do, the embarrassment of the bracelet, and conflict in the family from always being at home (Payne & Gainey, 1998).

The pains of probation are more extensively developed by Durnescu (2011) who interviewed 43 probationers in Eastern Europe. He found deprivations from probation to include: autonomy and time, financial costs, stigmatization, life under a tremendous threat and forced return to the offense.

The deprivation of autonomy and time were the most commonly reported pains of probation (Durnescu, 2011). In most probation practice are standard requirement that include, appointments and other activity, and constantly informing the probation officer of changes in life circumstances. These requirements may threaten an offender's sense of autonomy and counteract rehabilitation efforts, and present a significant burden of time. In fact, probationers suggested "their professional life was put in danger because they were required to come to the probation service so frequently" (Durnescu, 2011, pg. 534).

In this study, probationers further detailed the process of reorganizing their daily routine around the probation requirements including: reporting, travel and other restrictions. This disruption to one's daily routine had to be planned around carefully in advance. The longer the duration, the more frustrated one might become. The deprivation of time needed to meet probation requirements was cited by many probationers as painful. This was particularly so for those who had to: 1.) travel great distances to meet probation requirements, and; 2.) missed time at work (Durnescu, 2011).

The experiences of the probationers in this study are likely not unique. Although increased probation time should be painful enough to deter, these pains may counteract other desired effects (i.e. rehabilitation, self-management). The frustrations around probation processes and deprivations from "social capital" reduce the intended effects of rehabilitation (Farrall, 2002). Longer exposure to these conditions of unnecessary pain, by virtue of longer periods of probation, may have an undesired effect of increasing failure/recidivism. For example, the longer one's daily routine is hampered by probation requirements, the more likely it is to lose opportunity for work and cause great

frustrations for the offender. This would increase the likelihood of failure and recidivism. One could also argue that the longer one is exposed to these conditions, the larger the impact it may have on the person and subsequent behavior.

To sum, it is clear the length of probation sentence is an important element to consider theoretically when we seek to reduce probation failure/recidivism. Three theories are often used to explain how the use of criminal justice intervention such as prison and probation can control crime: deterrence, incapacitation and rehabilitation. With the exception of rehabilitation, none are well-supported empirically although there remains important study to be done. In all theories, however, time was a conceptually important factor in maximizing the crime-reducing effect. In correctional practice, the sentence lengths imposed may be affected by one or all of these justifications.

Theories that explain iatrogenic effects were provided and suggest that increased exposure or dosage of probation may reduce the effects of punishment and/or rehabilitation. The pains and frustrations may eventually become counterproductive to rehabilitation efforts (Durnescu, 2011). Likewise, probation labels and processes may do more to embed an offender in a criminal lifestyle, than to reduce unwanted behavior. The element of time was useful in explaining the processes by which probation can negate or counter the intended effects of intervention. Once, again the matters of time are not well developed in literature for this series of theories.

CHAPTER V: METHODS

To better understand the effect of time on probation failure and recidivism, a specific research design is needed. First, as I demonstrated earlier, it was important to follow offenders for a sufficient period of time to explore the long-term effects of time served. The observation period must expand beyond the ceiling of the probation terms. The observation period in the present study will follow probationers for seven years ensuring ample time to observe recidivism after the longest possible probation term. Next, the amount or lengths of the probation periods need to vary. The methods used to collect the sample used are detailed below.

Sample

The data used in this study was collected by the primary researcher through permissions granted by the North Dakota Department of Corrections and Rehabilitation (NDDOCR) and the North Dakota Bureau of Criminal Investigation (NDBCI).

The initial sampling frame consisted of more than 10,000 cases opened from January 1, through December 31, 2005. Many of the probationers, however, had multiple cases of probation supervision within this initial frame. That is, many of the probationers from the NDDOCR had multiple cases or counts of conviction that resulted in a probation sentence. For example, an offender might be convicted on one count of possession of drug paraphernalia and one count of possession of a controlled substance. Although this would often involve one arrest or incident, each count was treated

separately at sentencing and resulted in a distinct probation term. At times, the sentence length was the same for all counts (i.e. two-years for each count to run concurrent); otherwise, the counts involved different sentence lengths (i.e. two years for count-one and one year for count two, to run concurrent).

To ensure a simple random sample, it was necessary that each individual have an equal opportunity of being selected in the sample. In cases where individuals had multiple periods of probation, the likelihood of being selected in the sample was not equal. To reduce the counts into a single case, the offense or count that resulted in the longest term of probation for that offender was used. Using the longest period of probation of the entire sentence is not believed to bias the results.

From this reduced sampling frame of individual probationers (n=2375), a simple random sample was drawn since resource and time constraints would not allow criminal background checks to be conducted for all probationers. To generate the random sample of probationers for analysis, each probationer in the sampling frame was randomly assigned a number between one and four. The probationers assigned the number one (1) were selected for the sample (n=503). In a few cases the probationer either died during the seven-year time frame (n=4), or outcome data was not available (n=4). Probationers that were transferred in from another state were also eliminated (n=10). With regard to the latter, it is not unreasonable to assume these probationers were exposed to a different probation experience than those who started and finished probation with NDDOCR. Accounting for all or part of the early portions of their probation term was not possible. Also removed from the initial sampling frame were individuals whose terms extended

beyond five years. Some of these appeared to be data entry errors. Other cases were unique sex offenders on probation and some with terms that exceeded ten years. Due to the seven-year observation period used, these cases would not allow for full examination of time on probation. In the end, the sample for analysis consisted of 480 probationers.

Dependent Variables

The outcome measures used to evaluate probation effectiveness were discussed in previous chapters. One of the most common measures was revocation and/or probation failure (Morgan, 1994). Probation failures including revocation for the sample were provided by NDDOCR. In addition, recidivism was tracked over the course of the seven-year period through incidents of arrest. To simplify, we will refer to probation failure as being the incident of any revocation or other failure. This is similar to the way in which we described probation failures in Chapter II. Probation arrest involved any arrest that occurred during the term of supervised probation. Post-probation recidivism refers to any arrest following the conclusion of probation. The following variables were created.

Probation Failure: NDDOCR provided information specific to the circumstances for termination of the probation term. Probationers were terminated either with failure or success. Successful terminations included: expiration of the probation sentence, termination positive, and dismissal of charges. Offenders who are terminated under positive circumstances are determined by the North Dakota Century Code (NDCC) (12.1-32-07.1.) where:

A person has been placed on probation and in the judgment of the court that person has satisfactorily met the conditions of probation, the court shall cause to be issued to the person a final discharge from further supervision.

Early termination from probation is also possible when “the ends of justice will be served, and when reformation of the probationer warrants” (NDCC, 12.1-32-07). In general, probationers can be terminated early from their prescribed term of probation when they have met certain behavioral requirements including keeping a job, staying crime-free and following and/or satisfying their court-ordered conditions.

Probation failures include: revocation, absconding and being terminated negative. Within the probationer sample, 42.1% of the probationers were revoked (n=202). The policy related to revocation for NDDOCR is as follow:

The court may continue or modify probation conditions or revoke probation for a violation of probation conditions occurring before the expiration or termination of the period of probation notwithstanding that the order of the court is imposed after the expiration or termination has occurred. The petition for revocation must be issued within sixty days of the expiration or termination of probation. NDCC, 12.1-32-07

The number of cases where an offender absconding or was terminated negatively was rather small. To simplify, a failure variable was created as a binary, categorical variable where the incident of any failure (revocation, absconding, terminating negative) was given a value of one. In the case of absconding behavior, offenders may not have been physically located to be revoked. The NDCC (12.1.-32-07.3.) defines absconding

as a situation where “a probationer is considered an escapee and a fugitive from justice if the probationer leaves the jurisdiction before the expiration of the probationary period without permission of the court or the department of corrections and rehabilitation.” Within the sample, 2.3% (n=11) of probationers had absconding violations. The other failure type was terminated negative. In some of these cases, an offender might be involved with the criminal justice system again, perhaps through another arrest, and the revocation proceedings are forgone since the offender may be in prison or facing punishment for other crimes. Again, like the failure by revocation there would be some overlap with arrest during the probation term. In other cases of failure, offenders were terminated under negative circumstances. For example, an offender may not have complied with court-ordered conditions, but the behaviors were not enough to warrant a full revocation. In these cases, probation might be terminated under negative circumstances. The sample found only a few of these cases (n=24) where offenders were either terminated for absconding or terminated negatively. Again all failures types will be included within this variable.

The measurement issues associated with using only probation failures, such as revocation, are outlined in Chapter II. In short, revocation may or may not include incidents of arrest, conviction or a prison sentence; therefore it is uncertain if all revocations are actually recidivism. By using only revocation information, as do many probation studies, the outcome variable may depend equally upon the system and behaviors of correctional personnel as it would the behavior of the offender. Recidivism is thought to be the most important correctional outcome measure (Petersilia, 1998) and

generally involves some return to new criminal behavior (Maltz, 2001). Perhaps the most appropriate way to measure recidivism is through arrest as it is most closely resembles the behavior that criminologists seek to explain (Maltz, 2001).

Recidivism in this study will be measured through the incident of arrest. Arrest information was gathered from criminal record checks completed by the North Dakota State Bureau of Criminal Investigation (NDBCI). Each case in the sample had a unique State Identification (SID) number used to query law enforcement databases in North Dakota. By North Dakota law, only the NDBCI can access criminal record information from the state database for use in research (Volk in person). Otherwise arrest information is typically restricted to law enforcement personnel. Subsequently, a number of security and confidentiality provisions were required. These provisions were agreed upon in a Confidentiality and Research Agreement. Table 1 shows the statistics for failures and arrest both during the probation term and after probation. It is important to understand that probation outcomes may fit into more than one category. For example, a probationer may get arrested during probation, revoked for that behavior and eventually be arrested after the probation term has ended unsuccessful.

Table 1. Probation Failure, Arrest and Recidivism (n=480).

		Outcome	Frequency	Percent
Failure	<i>Any Failure</i>	Yes	226	47.1%
		No	254	52.9%
	<i>Revocation</i>	Yes	202	42.1%
		No	278	57.9%
Probation Arrest	<i>Arrested</i>	Yes	166	34.6%
		No	314	65.5%
	<i>Felony</i>	Yes	117	24.4%
		No	363	75.6%
Recidivism	<i>Arrested</i>	Yes	201	41.9%
		No	279	58.1%
	<i>Felony</i>	Yes	130	27.1%
		No	350	72.9%

The following outcome variables were created from the criminal background checks:

Probation Arrest: A binary, categorical variable will be used that takes the value one (1) for any arrest during probation; the absence of arrest is coded as zero (0). Arrests include both felony and misdemeanor arrests for any type of offense. Just over one-third (34.6%) of the probationers were arrested while on probation. Almost one-quarter (24.4%) of the offenders in the sample were arrested for a felony while on probation.

Post-probation recidivism: This variable codes the incident of arrest after probation. This variable is categorical and binary where the incident of arrest was coded as one (1) and no arrest is coded as zero (0). Nearly 42% (n=201) of probationers were arrested after their term of probation ended. Again, some offenders were arrested multiple

times following probation termination. The maximum arrest count following probation termination was 12 (n=1). Just over one-quarter (27.1%) were arrested for a new felony.

Probation Time Variables

There are two possible “time” measures that can be examined. First, the length of probation sentence imposed, or prescribed dosage, can be used to explore its relationship to outcomes. Much of the prior research has used probation sentence length as the observation period. This can only really influence the dependent variables that are measured during the probation term (i.e. failure, probation arrest). In previous chapters, I described how longer sentences of probation expand the observation period for outcomes and therefore are often related to the outcome. Another measure that can be used besides sentence length is the actual time served under probation, or actual dosage. It is also important to understand that the length of sentence imposed would be related to the actual time served on probation since those with shorter periods imposed would be ineligible for more time served on probation. Both measures are discussed.

Probation Sentence Length: We have discussed, in prior chapters, factors that may affect probation sentence length. These may vary somewhat among states or correctional agencies. The guidelines for determining both the type and length of a sentence for our sample are outlined in the NDCC (12.1-32-04):

1. The defendant's criminal conduct neither caused nor threatened serious harm to another person or his property.
2. The defendant did not plan or expect that his criminal conduct would cause or

- threaten serious harm to another person or his property.
3. The defendant acted under strong provocation.
 4. There were substantial grounds which, though insufficient to establish a legal defense, tend to excuse or justify the defendant's conduct.
 5. The victim of the defendant's conduct induced or facilitated its commission.
 6. The defendant has made or will make restitution or reparation to the victim of his conduct for the damage or injury which was sustained.
 7. The defendant has no history of prior delinquency or criminal activity, or has led a law-abiding life for a substantial period of time before the commission of the present offense.
 8. The defendant's conduct was the result of circumstances unlikely to recur.
 9. The character, history, and attitudes of the defendant indicate that he is unlikely to commit another crime.
 10. The defendant is particularly likely to respond affirmatively to probationary treatment.
 11. The imprisonment of the defendant would entail undue hardship to himself or his dependents.
 12. The defendant is elderly or in poor health.
 13. The defendant did not abuse a public position of responsibility or trust.
 14. The defendant cooperated with law enforcement authorities by bringing other offenders to justice, or otherwise cooperated.

These guidelines generally appear to capture the broad sentencing objectives outlined in Chapter IV (i.e. deterrence, incapacitation/control and rehabilitation). Once a decision to impose a sentence of probation is decided upon there is further guidance for prescribing sentence length of probation. NDCC (12.1-32-06.1) stipulates that probation sentences cannot extend beyond five years for a felony and two years for a misdemeanor or infraction.

For sentence lengths imposed for the sample, there was a minimum value of 6 months and a maximum of 60 months' probation (Table 2). The mean probation sentence imposed was 28.4 months (SD=13.8). Almost half (49.1%) of the offenders received a sentence between 13 and 24 months. The mode was 24 months, where 37% of the sentences were sentenced to exactly this probation length. Less than 15% (13.8%) were sentenced to "more" probation with lengths of probation between 48 and 60 months (n=66). Likewise, less than 15% received probation sentences of less than 12 months; a total of 14.6% received between a year or less of probation (n=71).

The length of sentence imposed is one measure of time. However, for a variety of reasons, probationers do not usually complete the entire term. Some offenders are terminated early for failures and yet others may be terminated early for successful or positive behavior. Subsequently, the amount of "time served" on probation rather than sentence length imposed by a judge might be an important measure to examine.

Time Served on Probation

The time served on probation amounts to the actual dosage that the probationer experiences, and is different than the prescribed dosage (sentence length imposed). Time served on probation might be affected by unsuccessful terminations such as arrest or revocation or successful terminations such as dismissal.

From the probation sample, the minimum value for time served was one-day to a maximum value of 60 months (Table 2). The mean time served was 20.5 months (SD=13.14). This mean time served includes values for those who would have completed the probation term under successful circumstances and/or through expiration, as well as those who were arrested, revoked or terminated negatively. The minimum value of time served was zero months (likely numbered in days) to the full 60 months. The median value in months was 18, and the mode 24.

Table 2. Sentence Length and Time Served.

	Sentence Length (Months)	Time Served (Months)
<i>Sample</i>		
N	480	480
Mean	28.4	20.5
Median	24	18
Mode	24	24
Std.Deviation	13.8	13.1
Minimum	6	0
Maximum	60	60
<i>Felony</i>		
N	290	290
Mean	32.8	27.5
Std. Deviation	14.3	14.6
<i>Misdemeanor</i>		
N	190	190
Mean	21.7	17.42
Std. Deviation	9.3	9.6

Control and Interaction Variables

A number of factors that were outlined in Chapter II have been found to influence probation failures and recidivism (Morgan, 1994). Some of these variables may impact both the predictor (length of sentence) and the dependent variable (recidivism, failure). Subsequently, these factors must be used in the analysis to isolate the independent effect of the predictor.

Gender: Maleness is important in predicting probation outcomes (Morgan, 1994; Sims & Jones, 1997; Mayzer et al., 2004). NDDOCR data included a variable titled sex (referring to the gender of the probationer). Almost three-quarters (72.9%) of the

probation sample was male with the remaining female (27.1%). For gender, a binary categorical variable with the value one (1) for males will be used.

Race: Morgan (1993) found race predicted a number of outcomes where white probationers often experienced less failure or recidivism than non-white (Clarke et al., 1988, Whitehead, 1991; and Irish, 1989). Some question whether race differences are system driven (Gray, et al., 2001). Regardless, it may not be appropriate to use race in policy making decisions (Mayzer et al., 2004). NDDOCR provided information about race for each probationer. In our sample, 75% of the offenders were white followed by Native American (16.7%), Hispanic (4.6%), Asian (4%) and Black (16%). This categorical variable will be dichotomized where one (1) will represent the one-quarter offenders who are non-white. This dichotomy is often operationalized in this way in the probation literature.

Sentence Classification: Petersilia (1998) previously demonstrated important differences in failure/recidivism rates for felony and misdemeanor probationers. In the current sample, 60.5% of the probationers were sentenced for a felony offense (N=290). The classification of a felony offense is important in our analysis because the probation sentence length would be affected by whether or not the offender was a felony or misdemeanor probationer. In Section 12.1-32-06.1 of the North Dakota Criminal Code it indicates probation sentences cannot extend beyond five years for a felony and two years for a misdemeanor or infraction. This variable was dichotomized where one (1) will represent a felony.

Age: In several probation studies, age has demonstrated an inverse relationship with probation failure where older offenders are less likely to fail or recidivate (Irish, 1989; Morgan, 1994; Clarke et al., 1988; Mayzer, 2004). NDDOCR provided a birth date for each case. The age at which probationers began their probation was also provided (sentence start date). To determine the age of the offender at the start of their probation supervision term, the number of years between the birth date and sentence start date was determined. This was rounded to two decimal places.

The mean age of the probation sample at the onset of probation was 30.33 years (SD=9.836). The youngest probationer was 17 and the oldest 67. Although the mean age of the probationers was just over thirty years, most offenders were well below this age. The mean age may be influenced by both the absence of juvenile offenders (i.e. those under age 18) and some older than usual probationers (i.e. 67 year-old). To get a better sense of the sample age, quartiles were run and found half of the case values were under age 27 and three-quarters under the age of 37. This variable will remain continuous; however, age groupings (i.e. old/young) in some models may be explored for their relationship to time and outcome.

Level of Service Inventory-Revised (LSI-R): The LSI-R has demonstrated strong predictive ability for a variety of probation outcomes for both males and females (Gendreau, Little & Goggin 2006; Lowenkamp et al., 2009; Smith, 2009). It has been described as the “most useful actuarial measure” in that it incorporated most of the strongest factors identified in the literature (Gendreau et al., 1996). More importantly, it is used in the NDDOCR to classify offenders. It is also important to recognize that the

LSI-R incorporates many of the factors associated with probation failure/recidivism including age, criminal history, substance use history and others (Andrews & Bonta, 2011). This makes the LSI-R score a useful control variable, however since the LSI-R does incorporate some important control variables we must also be wary of multi-collinearity issues. Collinearity diagnostics for regular regression were run in SPSS to determine the relationship among predictors. These results indicated that none of the predictors produced strong linear combinations with others.

The LSI-R is scored continuously from 0-47. Scores are used to classify offenders into the following categories separated by different likelihoods of revocation, arrest or other outcome: Low, Low/Moderate, Moderate, Moderate/High and High. Unfortunately, in our sample a large number of the cases did not have an LSI-R scores (n=55). T-tests comparing the time served for offenders without LSI-R scores against the larger group were run to determine if the missing scores might impact the analysis. The results found statistically significant differences in the group means for time served ($t(54) = 11.05, p < .000$), such that those with LSI-R scores ($M = 21.11; SD = 13.3$) served longer periods of probation than those without ($M = 15.34, SD = 10.3$). Since this was an important component of the analysis and the number of cases was rather large, the cases were further investigated.

It was learned through further inquiry with the NDDOCR that in many cases, an LSI-R screener is used and cases with very low scores on the screener would not require a full LSI-R. This was the case for the missing scores. The LSI-R screening version has demonstrated predictive ability in probation outcomes (Lowenkamp et al., 2009). Since

the absence of these cases might impact our results and we knew the cases were low risk, two approaches to produce LSI-R scores were explored.

First, imputed values for the missing scores were created (Gmel, 2001; McKnight, McKnight, Sidani & Figueredo 2007). In median imputation, a missing value is replaced with the median value of all available scores of the LSI-R low risk category. The median value of the low risk group (scores between 0-13) is 6.5. This value was imputed into the cases with missing LSI-R scores. This produced continuous level data for all of our values.

A second approach using ordinal level grouping variables was tested. Since LSI-R scores are produced to classify probationers, the classification schemes provide ordinal level rankings of the groups (i.e. the difference between a 1 and 5 is meaningful in terms of arrest, revocation or other). The LSI-R distinguishes offenders in five categories with low to high likelihoods of revocation/arrest associated with a specific group. The groups were coded as follows: Low (1), Low/Moderate (2), Moderate (3), Moderate//High (4) and High (5).

A series of correlations were run involving both imputed LSI-R scores and the ordinal groups with the dependent variables of probation arrest, failure, and recidivism (Table 3). First, and not surprisingly, the LSI-R groups and the LSI-R scores with imputed values were strongly correlated, $r(480) = .956, p < .001$. The correlations with the dependent variables found in Table 3, that were produced by the ordinal groups (LSI-R Classification) were similar to those using the continuous raw score (LSI-R imputed). Subsequently, a decision to use the ordinal level, LSI-R group categories

rather than imputing raw and unknown scores was decided upon. The reason for using this approach was the actual value for the missing values of the cases was known; the risk level (1) was a known value for each case with a missing value. Although we may lose some of the variability in using raw continuous scores, using the group categories allowed us to accurately portray the cases rather than imputing unknown values.

Table 3. Correlations for LSI-R Categories, Failure, Arrest and Recidivism (n=480).

	Imputed LSI	Probation Arrest	Recidivism	Probation fail	LSI Categories
Imputed LSI	1	.117*	.201**	.248**	.956**
Probation Arrest	.117*	1	.200**	.341**	.141**
Recidivism	.201**	.200**	1	.248**	.199**
Probation fail	.248**	.341**	.248**	1	.278**
LSI Categories	.956**	.141**	.199**	.278**	1

* $p < .05$. ** $p < .001$.

The groups that resulted from this procedure are found in Table 4. Overall, very few probationers were classified in the high risk group (n=10). Approximately three-quarters are found in the low/moderate to moderate/high range.

Table 4. LSI-R Categories (n=480).

	Frequency	Percent	Valid Percent	Cumulative Percent
Low	99	20.6	20.6	20.6
Low/Mod	150	31.3	31.3	51.9
Moderate	149	31.0	31.0	82.9
Mod/High	72	15.0	15.0	97.9
High	10	2.1	2.1	100.0
Total	480	100.0	100.0	

To get a better sense of the LSI-R scores, descriptive statistics using the scores with actual values were generated. Again, the descriptive statistics will somewhat over represent the entire sample (i.e. mean) since a number of known low risk scores are missing. The LSI-R scores (n=425) had a mean of 25.10 (Table 5). This mean score would be found in the low/moderate category. The minimum LSI-R score produced was one (1) and maximum value was 46.

Table 5. LSI Statistics (n=425).

LSI Total		
N	Valid	425
	Missing	55
Mean		25.10
Median		25.00
Mode		22
Std. Dev		8.672
Minimum		1
Maximum		46

Offense Type: The type of offense that results in a probation sentence for NDDOCR probationers is important for two reasons. First, the type of offense may

affect whether probation was given in the first place and also the length of sentence prescribed. The type of offense may also affect offense classification under North Dakota law (felony/misdemeanor) and therefore influence the prescribed length of probation sentence indirectly.

Although one might generally assume that violent offenses are considered more serious and longer periods of probation would be seen for these offense types, this is not always the case. The aggregate probation sentence data found nationally do not find large differences in sentence length based upon offense type (Durose et al., 2009). There is much more variation in prison sentences (Durose et al., 2009). Again, this may be a reflection of less serious violent offenses resulting in probation, and more serious drug, property and other offenses resulting in similarly devised probation sentences.

Regardless, the type of offense may be associated with outcomes. Previous probation studies have found violent offenses associated with probation outcomes (Morgan, 1994; Bork, 1995). Property offense in general (Holland et al., 1982; Cuniff, 1986), and more specifically, burglary (Bartell & Thomas, 1977) convictions, were associated with failure of probationers. Drug offense types are also of import for many policy makers (Sherman & Berk, 1984).

Data provided by NDDOCR included offense types that were coded using the National Crime Information Center (NCIC) classification system rather than actual conviction or statute. The coding of offenses is done in this way for compliance with national reporting requirements. In short, the process requires data to be entered into pre-described categories rather than categories defined by NDDOCR. It is not

unreasonable to assume that all NDDOCR convictions did not fit discretely into the NCIC groups and that states have different offense types that may result in different classification for similar offenses.

Based upon the findings of previous probation studies, it may be useful to examine violent, property, drug and other offenders separately. A variable with four different offense types was created 1.) Violent offenses included incidents of assault, sex offense and abuse/neglect; 2.) Drug offenses involved both the possession, and distribution of illegal narcotics, and included possession of paraphernalia; 3.) Property offenses included conviction for burglary, theft and other property offenses; and 4.) Other offenses was created to capture system generated offenses (bail jumping), and major traffic violation (i.e. driving under the influence) among others.

Table 6. Offense Type and Sentence Length (Years) (n=480).

	Mean	N	Std. Deviation
Violent	2.570	86	1.2009
Drug	2.277	203	1.1108
Property	2.454	135	1.2059
Other	2.202	56	.9696
Total	2.370	480	1.1433

Similar to the aggregate level BJS data, there do not appear to be differences in sentence length based upon the offense category. The mean length for each group is found in Table 6. Violent offense types have the longest probation sentence and other and drug the lowest mean sentence length.

Split Sentence: In a number of cases, the probationers were given a split sentence that included a jail or prison term followed by a period of probation. Although NDOCCR does allow parole for those sent to prison, not everyone is paroled. Probation supervision following a term of prison is used to ensure some form of community supervision for offenders when they do not parole. Only 11% of the sample (n=53) had a split sentence. This variable was dichotomized where one (1) will represent those probationers who had a split sentence.

CHAPTER VI: ANALYSIS

Both bivariate and multivariate analyses were used to explore the relationship of predictor (time), control and outcome variables. Bivariate analysis for continuous variables used Pearson Product Moment Correlation coefficients to explore relationships between control and prediction variables and three separate outcome measures-probation arrest, probation failure and recidivism. Categorical variables were analyzed using cross-tabs to provide percentages of probationer outcomes. A chi-square tested whether differences in percentages of outcomes were due to chance.

A number of multivariate models were used to predict the effect of time served (actual dosage) on outcomes while controlling for other variables. First, a series of logistic regression models using the entire sample were run to test whether time was a significant predictor of outcome controlling for LSI-R score, age, gender, split-sentence, offense class and race. Separate models for felons, misdemeanor, successful probationers and probation failures were also run. Other models included comparisons of more or less time groups, and other interaction models. The interaction models include control variables; however, the prediction variables are constructed in order to explore the combined effects of LSI-R risk classification and/or age and time served on recidivism.

Bivariate Analysis: Predictor, Control and Outcome Variable Relationships.

Probation Arrest: A correlation table for arrest and all predictor variables presented in Table 7. Probation arrest was positively correlated with LSI-R score. There were non-significant correlations between probation arrest and time served, sentence length and age

Table 7. Correlations for Probation Arrest, Time served, Sentence length, LSI-R category and Age (n=480).

	Probation Arrest	Time Served	Sentence Length	Age
Probation Arrest	-	-	-	-
Time served	-.079	-	-	-
Sentence Length	.036	.653**	-	-
LSI-R Category	.141**	-.016	.164**	-
Age	.026	-.062	.060	-.081

* $p < .05$. ** $p < .001$.

To examine the relationship between categorical variables and the incident of probation arrest, crosstabs were used. The differences in probation arrest percentages for gender, race, offense class, offense type and split sentence are found in Table 8. The percentage of probationers that were arrested during the probation term differed only by gender, where males were more likely to experience an arrest on probation. Neither race, offense classification, offense type nor split sentence found differences in the percentage of arrest during probation.

Table 8. Crosstab for Probation Arrest by Gender, Race, Offense Class, Offense Type and Split Sentence.

	Arrest				Total	χ^2	<i>P</i>
	Yes	%	No	%			
<i>Gender</i>							
Male	131	37.4%	219	62.6%	350	4.624*	.032
Female	35	26.9%	95	73.1%	130		
<i>Race</i>							
White	117	67.5%	243	32.5%	360	2.763	.096
Non-White	49	40.8%	71	59.2%	120		
<i>Offense Class</i>							
Felony	96	36.8%	194	63.2%	290	.709	.400
Misd.	70	33.1%	120	66.9%	190		
<i>Offense Type</i>							
Violent	24	27.9%	62	72.1%	86	2.150	.542
Property	49	36.3%	86	63.7%	135		
Drug	72	35.5%	131	64.5%	203		
Other	21	37.5%	35	62.5%	56		
<i>Split Sentence</i>							
Prison	20	37.7%	33	62.3%	53	.263	.609
No Prison	281	34.2%	146	65.8%	427		

* $p < .05$. ** $p < .001$.

Probation Failure: The next dependent variable, probation failure was significantly correlated with time served, LSI-R and age (see Table 9). Time served provided a strong negative correlation, whereas LSI-R score and age were positively correlated with probation failure. There was a non-significant correlation between failure and sentence length

Table 9. Correlations for Probation Failure, Time served, Sentence Length, LSI-R Category and Age.

	Negative Termination	Time served	Sentence Length	LSI-R Category	Age
Negative Termination	-	-	-	-	-
Time served	-.344**	-	-	-	-
Sentence Length	.047	.653**	-	-	-
LSI-R Category	.278**	-.016	.164**	-	-
Age	.149**	-.062	.060	-.081	-

* $p < .05$. ** $p < .001$.

Crosstabs exploring the relationships between gender, race, offense class, offense type and split sentence with probation failure are found in Table 10. Again the percentage of probationers that failed during probation differed by gender with males more often failing on probation. White probationers and those who were sentenced to prison prior to their probation terms were more likely to fail. Neither offense classification (felony or misdemeanor) nor offense type appeared to find differences in failure rates for the probationers.

Table 10: Cross tab/Chi-Square for Probation Failure by Gender, Race, Offense Class, Offense Type and Split Sentence (n=480)

	Probation Failure				Total	χ^2	<i>P</i>
	Yes	%	No	%			
Gender							
Male	176	50.3%	174	49.7%	350	5.319**	.021
Female	50	38.5%	80	61.5%	130		
Race							
White	152	42.2%	208	57.8%	360	13.65**	.000
Non	46	38.3%	74	61.7%	120		
Offense Class							
Felony	144	49.7%	146	50.3%	290	.194	.163
Misd	82	43.2%	108	56.8%	190		
Offense Type							
Violent	41	47.7%	45	52.3%	86	1.242	.743
Property	68	50.4%	67	49.6%	135		
Drug	90	44.3%	113	55.7%	203		
Other	27	48.2%	29	51.8%	56		
Split Sentence							
Prison	32	60.4%	21	39.6%	53	4.226*	.040
No Prison	233	45.4%	194	54.6%	427		

* $p < .05$. ** $p < .001$.

Post-Probation Recidivism: Using post-probation recidivism as the dependent Variable, correlations that mirrored those found with probation failure are observed (see Table 11). Again, time served was negatively correlated with probationer recidivism. Both LSI-R score and age showed positive significant correlations. There was a non-significant correlation between recidivism and sentence length.

Table 11. Correlations for Recidivism, Time served, Sentence Length, LSI-R Category and Age (n=480).

	Recidivism	Time served	Sentence Length	LSI-R Category	Age
Recidivism	-	-	-	-	-
Time served	-.217**	-	-	-	-
Sentence	.046	.653**	-	-	-
LSI-R Category	.199**	-.016	.164**	-	-
Age	.127**	-.062	.060	-.081	-

* $p < .05$. ** $p < .001$.

Crosstabs exploring the percentages of recidivists by gender, race, offense class, offense type and split sentence are found in Table 12. Again the percentage of probationers that recidivated differed by gender with males more likely to be recidivists. Probationers who had prison terms as part of their sentence also recidivated at higher rates and this association was significant. Probationers did not differ in the percentage of failures for offense classification or offense type.

In all of the bivariate models we ran, offense type did not appear to be related to our outcome. Subsequently, this predictor was removed from the multi-variate analysis. To ensure that one of the important offense types (i.e. violence) was not hastily disregarded, I ran cross-tabs with chi-square tests for each offense type itself against the rest of the group (i.e., violent offense compared to drug, property and other combined).

None of these comparisons found statistically significant differences for arrest and recidivism among the groups.

Table 12. Cross tab/Chi-Square Recidivism by Gender, Race, Offense Class, Offense Type and Split Sentence (N=480)

	Recidivism				Total	χ^2	P
	Yes	%	No	%			
Gender							
Male	157	44.9%	193	55.1%	350	4.772*	.030
Female	44	33.8%	86	66.2%	130		
Race							
White	137	38.1%	223	61.9%	360	8.631**	.003
Non-white	64	53.3%	56	46.7%	120		
Offense Class							
Felony	128	44.1%	162	55.9%	290	1.541	.214
Misd	73	38.4%	117	61.6%	190		
Offense Type							
Violent	36	41.9%	50	58.1%	86	2.706	.439
Property	64	47.4%	71	52.6%	135		
Drug	78	38.4%	125	61.6%	203		
Other	23	41.1%	33	58.9%	56		
Split Sentence							
Prison	30	56.6%	23	43.4%	53	5.310*	.021
No Prison	171	40.0%	256	60.0%	427		

* $p < .05$. ** $p < .001$.

In sum, the bivariate analysis reveals little of interest with regard to arrest on probation. Only risk category and sex are found to be significantly related to this outcome. Of greatest concern to the present study are the two time measures, neither of which shows any significant relationship to arrest while on probation. However, for both failures on probation and later recidivism, the same set of variables are found to be significant; sex, race, the use of a split sentence, risk, age and time served on probation. Given the focus of this study, this last finding is, of course, of greatest interest. Most

noteworthy here is the difference between time served and sentence length with respect to their relationships to probation failure and recidivism, with only time served being significantly related to these two outcomes.

This last finding is of considerable methodological interest as much of the existing literature on probation effectiveness uses sentence length in analyses in which time is included. Based on the current findings, the use of actual time served might have an important influence on evaluations of probation's effectiveness. Of greatest concern for present purposes, the multivariate models that follow will only use actual time served in them, with sentence length being dropped from analysis. This is done for two reasons. First, as we have just seen, sentence length is largely unrelated to the outcome measures that are used in this study. Second, and more importantly, time served most accurately represents the actual dosage of probation that offenders receive – to understand how the amount of time on probation might influence offender behavior this measure is clearly the most appropriate.

Multivariate Analysis

The three dependent variables described earlier each involve only two possible values for the outcome. In the case of probation failure, the outcomes are either fail or no fail. This is similar to the outcomes for probation arrest (arrest or no arrest) and recidivism (recidivism or no recidivism). In cases where restrictions exist for values of the dependent variable, logistic regression can be used (Ryan, 1997; Pampel, 2000; Menard, 2001). In this study, a number of independent variables including time

variables will be used to predict whether probationers fail, are arrested on probation or recidivate.

A number of models will be developed using logistic regression. The typical methods for assessing the value of regression models cannot be relied upon when using logistic regression. There is no equivalent to the R-squared (R^2) value in linear regression models (Ryan, 1997). The model estimates used to assess the models are maximum likelihood estimates and are not calculated to minimize variance as is the case with ordinary least squares in the case of linear regression. In short, an R^2 value does not exist for logistic regression. Instead, a number of “pseudo” R^2 values were developed (Cox & Snell, 1989; Nagelkerke, 1991). R^2 values in the case of regular regression are important as these provide the percentage of variability in the dependent variable that is explained by the model. We interpret R^2 values that are nearer to one (1) as having stronger explained variance, whereas values closer to zero (0) indicate lesser explained variance. Importantly, these pseudo R^2 values cannot be interpreted in the same manner in which an R^2 , derived from the linear regression models, are and generally cannot be compared with other pseudo R^2 using other data sets (http://www.ats.ucla.edu/stat/mult_pkg/faq/general/Psuedo_RSquareds.htm). Although the values would range on a similar scale to the R^2 values of linear regression (i.e. 0 through 1), these pseudo R^2 values often have much smaller values than those found in linear regression. Two pseudo R^2 measures are provided, but should be interpreted with caution and will appear rather low.

Likewise, logistic regression *B* values are not similar to those found in linear regression. Instead, these *B* values take the form of log-odds units: these values estimate the relationship between independent and dependent variables where the dependent variable is on the logit scale. This again makes these values difficult to interpret. Subsequently, these are converted to and reported as an increase or decrease in the odds (odds ratio) of failure, probation arrest or recidivism for each predictor in the model (Ryan, 1997).

The first series of models makes use of the entire sample to make predictions about our outcome variables. In the first model, logistic regression analysis was used to test if time served predicted probation arrest while controlling for race, gender, LSI-R category, age, felony conviction (versus misdemeanor) and split sentence. The results can be seen in Table 12. The model found pseudo R^2 values of .038 (Cox and Snell) and .052 (Naglekerke). In the analysis this model is tested against a constant only model which uses the most frequently observed outcome found in the sample, which is no arrest. In essence, the model attempts to find whether our variables provide better prediction than simply choosing the most commonly found outcome as the prediction. The model found statistically significant contribution from the predictors in distinguishing arrestees from non-arrestees ($\chi^2(6) = 18.56, p = .005$).

An examination of the individual predictors finds that time served was not a significant predictor in this model. Very few other variables in the model significantly predict probation arrest either, the lone exception being the LSI-R variable. An increase in LSI-R score that would move a probationer from the current level to a higher risk

level (e.g. a move from low to low/moderate) would increase the odds of arrest for the higher group 1.31 times.

Table 13. Logistic Regression for Variables Predicting Probation Arrest from Time served with Control Variables (n=480).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
Time Served	-.011	.008	1.788	.181	.990
Race	.275	.224	1.514	.219	1.317
Gender	.431	.232	3.452	.063	1.538
LSI Category	.272**	.098	7.749	.005	1.313
Age	.000	.010	.001	.976	1.000
Felony	-.212	.210	1.020	.313	.809
Split-sent	-.031	.328	.009	.925	.969
Constant	-1.363**	.484	7.926	.005	.256

* $p < .05$. ** $p < .01$.

Logistic regression analysis was then used to test if time served predicted probation failure using the same control variables (Table 14). Recall that failure includes revocation, absconding and terminating negatively. The explanatory value of this model appears stronger than the previous model with pseudo R^2 values of .230 (Cox & Snell) and .312 (Naglekerke). As a whole, the predictors in this model provide statistically significant contribution in distinguishing probation failures from non-failures ($\chi^2(6) = 127.981, p = .000$).

When we examine the predictors individually, we find that time served was a significant predictor of probation failure. For every one-month increase in amount of time served on probation, the odds of failure are .928 times the odds for those serving

one less month. This odds ratio suggests a substantial decrease in the odds of failure over the course of a year. Once again LSI-R scores provide a significant prediction of failure. A move from one level of LSI-R to a higher category (i.e. low to low-moderate) increases the odds of failure by a multiplicative factor of 1.721. Being a non-white probationer nearly doubled the likelihood of failure. Offense classification and age were also statistically significant predictors. Having a felony conviction that resulted in the current probation term increased the odds of failure by one and half times. For every year increase in age at the commencement of probation, the odds of failure are .976 times those for an offender one year younger.

Table 14. Logistic Regression for Variables Predicting Probation Failure from Time served with Control Variables (n=480).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
Time Served	-.074**	.010	52.81	.000	.928
Race	-.677**	.246	7.59	.006	1.968
Gender	.338	.241	1.97	.161	1.402
LSI Category	.543**	.109	24.92	.000	1.721
Age	-.025*	.011	5.07	.024	.976
Felony	.468*	.223	4.38	.036	1.597
Split-sent	.461	.394	1.37	.242	1.586
Constant	.032	.497	.004	.948	1.033

* $p < .05$. ** $p < .01$.

Logistic regression analysis was used to test if time served predicted post-probation recidivism while controlling for other variables. The model produced pseudo R^2 values of .118 (Cox & Snell) and .159 (Naglekerke). A test of the model against a

constant only model found statistically significant contribution from the predictors (χ^2 (6) =60.203, p =.000). This suggests the inclusion of our predictors better helps to distinguish recidivists from non-recidivists after probation termination.

Within this model (Table 15), time served was a significant predictor of recidivism where every one-month served decreased the odds of recidivism by a factor of .961 times. For every year served on probation, the odds of recidivism are nearly cut in half. Race, LSI-R category and age also provide significant contributions. For those classified as non-white, there was an increase in the odds of arrest after probation termination. Once again, increases in LSI-R category increase the odds of arrest after probation termination by about a third. Finally, the odds of recidivism decrease the older one is when he/she begins probation; for every year increase in age, a small reduction in odds is observed.

Table 15. Logistic Regression for Variables Predicting Recidivism from Time served with Control Variables (n=480)

Predictor	<i>B</i>	SE	Wald χ^2	P	Odds Ratio
Time Served	-.040**	.009	22.288	.000**	.961
Race	-.466*	.226	4.240	.039*	1.594
Gender	.329	.229	2.066	.151	1.390
LSI Category	.312**	.099	9.979	.002**	1.366
Age	-.022*	.010	4.235	.040*	.979
Felony	.271	.211	1.652	.199	1.312
Prison	.496	.343	2.093	.148	1.643
Constant	-.228	.476	.250	.617	.788

* $p < .05$ ** $p < .01$.

Probationers Terminated Successfully

The next model examined only those probationers who successfully completed their probation term (n=254) and recidivism is the only logical outcome to predict from this group since few would have experienced arrest during probation and none were terminated negatively. Table 15 provides the results of time served on recidivism for this group while controlling for race, gender, LSI-R category, age, felony conviction and split sentence. Compared to previous models, the explanatory value of this model appears limited with R² values of .091 (Cox & Snell) and .128 (Naglekerke). As a whole, the predictors used in this model provide statistically significant contribution in distinguishing recidivists from non-recidivists ($\chi^2 (6) = 24.122$ p=.001).

Once again, the amount of time served for probationers, and in this case those who succeeded on probation, was a significant predictor of recidivism. For every one-month increase in the amount of time served, and inverting the odds ratio, the odds of recidivism decreased .039 times (Table 16). Putting this figure in yearly terms of time served, it suggests the odds of recidivism are nearly cut in half. Not surprisingly, LSI-R category seems to be a very consistent predictor of outcomes and was the only other statistically significant predictor in the model. An increase in LSI-R score that would move a probationer to a higher risk level would increase the odds of recidivism by 1.7 times.

Table 16 Logistic Regression for Variables Predicting Recidivism from Time served for Successful Probationers with Control Variables (n=254)

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
Time Served	-.040**	.013	8.684	.003	.961
Race	.520	.358	2.107	.147	1.682
Gender	.354	.325	1.189	.276	1.425
LSI Category	.535**	.170	9.848	.002	1.707
Age	.007	.014	.257	.612	1.007
Felony	.168	.313	.289	.591	1.183
Split-sent	.745	.547	1.856	.173	2.107
Constant	-1.835	.677	.7.347	..007	.160

* $p < .05$. ** $p < .01$.

Probation Failures

The next model examined those who failed to complete probation (n=226), their time served and its relationship to post-probation recidivism. These variables along with control variables for race, gender, LSI-R category, age, split sentence and felony conviction are found in Table 16. Pseudo R^2 values to explain the model found smaller values of .098 (Cox & Snell) and .131 (Naglekerke). The predictors in the model significantly distinguish recidivists from non-recidivists ($\chi^2 (7) = 23.243$, $p = .002$).

Again, time served is a significant predictor of recidivism and this time even for those who fail on probation. In our group of failures, for every month they are able to remain on probation, the odds of recidivism decrease by a factor of .963. Probation age was the only other statistically significant predictor in the model. For every year older a

probationer is when they begin their probation term, the odds of recidivism decrease slightly.

Table 17. Logistic Regression Predicting Recidivism from Time served for Probation Failures with Control Variables (n=226).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
Time Served	-.038*	.013	7.776	.005	.963
Race	-.273	.304	.807	.369	1.314
Gender	.156	.342	.209	.648	1.169
LSI Category	.106	.132	.642	.423	1.111
Age	-.052*	.016	10.026	.002	.950
Felony	.199	.304	.431	.511	1.221
Prior Prison	.418	.448	.869	.351	1.518
Constant	1.588	.737	4.647	.031	4.893

* $p < .05$. ** $p < .001$.

Misdemeanant Probationers

The next series of models examined the effects of time served for misdemeanor offenders (n=190) for all three dependent variables. The results for probation arrest are found in Table 17, for probation failure in Table 18, and for recidivism in Table 19. In the first model, logistic regression was used to test if time served predicted arrest during probation while controlling for race, gender, LSI-R category and age. In this model, the split sentence variable (prison) was removed from the analysis because of the low frequency (n=3) in this group. This model provides limited pseudo R^2 values of .075 (Cox & Snell) and .103 (Nagelkerke). The predictors in this model are able to

significantly distinguish arrestees from non-arrestees for misdemeanor probationers (χ^2 (6) =14.862 p=.02).

For misdemeanants, time served was not a significant predictor of arrest during probation. LSI-R category, a consistent predictor in the previous models, was the only statistically significant predictor in the model where an increase in risk level increases the odds of recidivism one and a half times.

Table 18. Logistic Regression for Variables Predicting Probation Arrest from Time served with Control Variables for Misdemeanants (n=190).

Predictor	<i>B</i>	SE	Wald χ^2	P	Odds Ratio
Time Served	.007	.016	.213	.644	1.007
Race	.694	.369	3.54	.060	2.001
Gender	.511	.367	1.94	.164	1.667
LSI Category	.447**	.159	7.874	.005	1.564
Age	.010	.015	.409	.522	1.010
Constant	-2.544	.766	11.021	.001	

* $p < .05$. ** $p < .01$.

The next model examined the effects of time served on probation failure for misdemeanor offenders (n=190). Logistic regression analysis was used to test if time served predicted probation failure controlling for race, gender, LSI-R category and age (Table 18). The explanatory value of the model is stronger with pseudo R^2 values of .214 (Cox & Snell) and .287 (Nagelkerke). A test of the model against a constant only model found statistically significant contribution from the predictors in distinguishing failures from non-failures (χ^2 (6) =45.65 p=.00).

Within this model, time served provided a statistically significant contribution. For every month served the odds of failure decrease; every one month served finds the odds of failure .921 times the odds of those who served one less month. Race and LSI-R category are also statistically significant predictors in the model. LSI-R score increases from one category to a one higher level more than double the odds of being in the failure group with an odds ratio of 2.054. For those classified as non-white misdemeanants, a rather substantial increase in the odds of being in the failure group is observed, an increase of almost three times.

Table 19. Logistic Regression for variables predicting failure from Time served with Control Variables for Misdemeanants (n=190).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
Time Served	-.082**	.022	13.920	.000	.921
Race	-1.002*	.399	6.291	.012	2.723
Gender	.231	.380	.369	.544	1.259
LSI Category	.720**	.177	16.604	.000	2.054
Age	-.007	.016	.199	.655	.993
Constant	.759	.779	.950	.330	.468

* $p < .05$. ** $p < .01$.

Another model examined the effects of time served on recidivism for misdemeanor offenders (n=190). Logistic regression analysis was used to test if time served predicted recidivism when controlling for other known predictors. The overall explanatory value of the model was limited with pseudo R^2 values of .100 (Cox & Snell) and .136 (Nagelkerke). Compared to the constant only model that assumes all

probationers succeed, there is an improvement in using our predictors to distinguish recidivists from non-recidivists ($\chi^2 (5) = 19.937$ $p = .001$).

For misdemeanants, time served on probation was a significant predictor of recidivism (Table 20). As time served increases, the odds of recidivism decrease. Specifically, for every one month served, the odds of being a recidivist are .965 times those that did not serve the extra month. Consistent with previous models, the LSI-R category was a statistically significant predictor. An increase in LSI-R score that would move a probationer to a higher risk level would increase the odds of being a recidivist 1.598 times.

Table 20. Logistic Regression for Variables Predicting Recidivism from Time served with Control Variables for Misdemeanants (n=190).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
Time Served	.036*	.018	3.998	.046	.965
Race	.455	.373	1.487	.223	1.576
Gender	.669	.373	3.226	.072	1.952
LSI Category	.469**	.160	8.567	.003	1.598
Age	.009	.015	.349	.555	1.009
Constant	-1.834	.760	3.053	.081	.160

* $p < .05$. ** $p < .01$.

Misdemeanant with More/less Time Predictors

To explore whether more or less time impacted recidivism for misdemeanor offenders, those with more than one-year of time served were compared with those with less than one-year. A dummy-coded variable, with a value of one (1) assigned to those cases with more than one year of probation time served, was created. Logistic

regression analysis was used to test if more time served predicted recidivism for this group when controlling for other known predictors. The explanatory value of the model included pseudo R² values of .112 (Cox & Snell) and .152 (Nagelkerke). A test of the model against a constant only model found statistically significant contribution from the predictors in distinguishing recidivists from non-recidivists ($\chi^2 (5) = 22.546, p = .001$).

For misdemeanants, more time served (i.e., more than one-year) was not a significant predictor for recidivism. Interestingly, however, there was a substantial decrease in the odds ratio for this variable (Table 21). LSI-R category was the only statistically significant predictor in the model. Moving from one risk level to the next higher level elevates the odds of recidivism 1.5 times.

Table 21. Logistic Regression for Variables Predicting Recidivism from More or Less Probation Control Variables for Misdemeanants (n=190).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
More/less	-.548	.328	2799	.094	.578
Race	.379	.83	.978	.323	1.461
Gender	.629	.375	2.812	.094	1.875
LSI Category	.405*	.169	5.765	.016	1.499
Age	-.010	.015	.398	.528	1.01
Failure	.571	.340	2.817	.093	1.770
Constant	-2.208	.735	9.019	.003	.110

p < .05. ***p* < .001.

Felony Probationers

The effect of time served on probation for all outcomes for felony probationers (n=290) was explored. The first model used logistic regression to explore if time served

predicted arrest during probation for felons. In this model, split-sentence was returned (n=50) since felons were the most likely to have this component as part of their sentence. Overall, this model did not predict probation arrest significantly better than the constant only model that would have assumed no probationers were arrested ($\chi^2(6) = 9.55$, $p = .145$). In short, rather than using the model, we would find better prediction by just assuming that none of the felony probationers were arrested during the term of probation. Because of this, the analysis for felons and failure did not continue.

For the next outcome, a model to test whether time served predicted probation failure for felony probationers was run. Overall, the model testing time served and probation failure did distinguish failures from non-failures better than the constant only model ($\chi^2(6) = 85.216$, $p = .000$). The R^2 values of .255 (Cox & Snell), and .339 (Nagelkerke) provide what would appear as moderate to strong explanatory value.

Within this model, time served significantly predicted probation failure (Table 22). As time increases, the odds of failure decrease. For every month increase in time served, the odds of failure are .931 times the odds for those that served one month less. Again, LSI-R category and age are statistically significant predictors in the model. LSI-R score increases from one category to a higher category increase the odds of failure 1.532 times. For every year older an offender is at the start of probation, the odds of failure decrease slightly.

Table 22. Logistic Regression for Variables Predicting Failure from Time served with Control Variables for Felony Offender (n=290).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
Time Served	-.072**	.012	38.884	.000	.931
Race	-.473	.316	2.231	.135	1.604
Gender	.449	.317	2.011	.156	1.567
LSI Category	.427*	.139	9.371	.002	1.532
Age	-.041*	.015	7.193	.007	.960
Split-sent	.459	.409	1.254	.263	1.582
Constant	1.201	.674	3.179	.075	3.323

* $p < .05$. ** $p < .001$.

The long term effects of time served on probation for felons were tested. Once again known control variables were introduced into the model including split sentence. The explanatory value of the model was moderate with pseudo R^2 values of .155 (Cox & Snell) and .207 (Nagelkerke). A test of the model against a constant only model found statistically significant contribution from the predictors in distinguishing recidivists from non-recidivists ($\chi^2 (5) = 48.671$ $p = .000$).

Within this model, time served provided statistically significant prediction of recidivism (Table 23). For every month increase in time served, the odds of being in the recidivist group are .960 times those who did not serve the additional month. LSI-R category was not predictive in this model, however, age of the probationer was. For every year older a probationer is at the start of probation, the odds of recidivism decreased .951 times.

Table 23. Logistic Regression for Variables Predicting Recidivism from Time served with Control Variables for Felony Offender (n=290).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
Time Served	-.041**	.010	17.838	.000	.960
Race	-.497	.391	2.907	.088	.608
Gender	.149	.300	.246	.620	1.161
LSI Category	.195	.127	2.356	.125	1.215
Age	-.050**	.015	10.902	.001	.951
Split-sent	-.576	.366	2.479	.115	.562
Constant	2.398**	.824	8.465	.004	

* $p < .05$. ** $p < .001$.

Another model was created to test whether time served effected the recidivism of felony probationers who were successfully terminated (n= 146) from their probation term. The explained variance of the model was tested and found pseudo R^2 values of .111 (Cox & Snell) and .156 (Nagelkerke). When the model was compared to a constant only model using non-recidivism as its prediction, the model predictors were statistically significant in distinguishing recidivists from non-recidivists ($\chi^2 (6) = 17.213$ $p = .009$).

Time served did predict recidivism for this group (Table 24). The odds of recidivism are .958 times as compared to those who did not serve the additional month. In fact, this is the only variable that predicts recidivism in the model.

Table 24. Logistic Regression for Variables Predicting Recidivism from Time- served with Control Variables for Successful Felons (n=146).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
Time Served	-.043*	.016	7.275	.007	.958
Race	.859	.458	3.518	.061	2.362
Gender	.176	.433	.164	.685	1.192
LSI Category	.389	.225	3.008	.083	1.476
Age	-.015	.020	.518	.472	.985
Prison	-.730	.590	1.531	.216	2.075
Constant	-.478	.934	.262	.609	.620

* $p < .05$. ** $p < .001$.

Another separate model was used to examine more/less time for felony offenders, where the less group included probationers whose time on probation was less than 30 months. The more group (dummy-coded as 1) included offenders whose time served was equal to or exceeded 30-months. Overall, the model did distinguish recidivists from non-recidivist better than the constant only model ($\chi^2 (6) = 42.178$, $p = .000$). The R^2 values of .135 (Cox & Snell), and .81 (Nagelkerke), suggest better explanatory value than the constant only model.

Within this model the more/less variable is a significant predictor of recidivism. In fact, as probationers move from the less than 30 months of probation time served to the more than 30 months group, their odds of recidivism are nearly cut in half (Table 25). Interestingly, this model also includes probation failure which was a significant predictor of recidivism itself, where probation failure nearly doubles the odds of later

recidivism (1.8). Age is also a significant predictor in the model, where every year older at the start of probation reduces the odds of recidivism by .045 times.

Table 25. Less/More Probation for Felony Offenders and Recidivism with Control Variables (N=290).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
More/less	-.678**	.311	4.471	.029	.508
Race	.468	.289	2.619	.106	1.597
Gender	.102	.298	.116	.773	1.107
Age	-.046**	.015	9.239	.002	.955
Failure	.618*	.271	5.208	.022	1.856
Split-sent	.493	.360	1.880	.170	1.637
LSI-R	.172	.128	1.813	.178	1.187
Constant	.263	.625	.177	.674	1.301

p < .05. ***p* < .001.

Interaction Models: Risk and Age by Time served

An interaction term was created to test whether time served interacted with LSI-R risk categories. The overall model included all five risk categories, low to high (n=480) and used logistic regression to test if time served interacted with LSI-R to predict recidivism while controlling for other variables. The explanatory value of the model appears limited with pseudo R^2 values of .094 (Cox & Snell) and .126 (Nagelkerke). A test of the model against a constant only model found statistically significant contribution from the predictors in distinguishing recidivists from non-recidivists (χ^2 (7) =47.248 p=.000).

Time served did not interact with risk level. However, race, age, and probation failure were statistically significant (Table 26). The odds of recidivism increase one and one-half times if an offender was classified as non-white. The odds of being a recidivist decreased slightly for every year older an offender was when probation commenced. Those who experienced some type of failure while on probation were more than twice as likely to have been arrested after the term expired.

Table 26. Logistic Regression for Variables Predicting Recidivism from Time served and LSI-R Interaction with Control Variables (n=480).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
LSI*Time	-.005	.003	3.169	.075	.995
Race	.444*	.224	3.864	.048	1.559
Gender	.316	.227	1.872	.171	1.363
Age	-.021*	.010	4.005	.046	.980
Split Sentence	.604	.318	3.600	.094	1.726
Failure	.809**	.201	16.231	.000	2.245
Constant	-.131	.405	.105	.746	.148

* $p < .05$., ** $p < .01$.

To further examine the effects of time and risk level, the time served for low risk offenders (LSI-R categories one and two) (n=249) and recidivism was examined. Again, we used logistic regression to test if time served predicted recidivism for this group when controlling for other known predictors. Pseudo R^2 values of .072 (Cox & Snell) and .101(Nagelkerke) represent the explained variance of the model. A test of the

model against a constant only model found statistically significant contribution from the predictors in distinguishing recidivists from non-recidivists ($\chi^2 (5) = 26.585, p = .000$).

For low risk offenders, time served on probation was a significant predictor of recidivism. As time served increased, recidivism decreased. Specifically, with every one-month increase of probation time served, the odds of being in the recidivist group are .967 times those with one less month (Table 27). Probation age was also a statistically significant predictor, where the odds of recidivism decrease .970 times for every one year age of increase at the time probation commences.

Table 27. Logistic Regression for Variables Predicting Recidivism for Low Risk from Time served with Control Variables (n=249).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
Time Served	-.033**	.013	6.552	.010	.967
Race	.348	.342	1.037	.309	1.417
Gender	6.23	.322	3.749	.053	1.865
Age	.030*	.014	4.399	.036	.970
Felony	.403	.291	2.62	.106	1.062
Constant	.089	.558	.026	.873	1.094

* $p < .05$. , ** $p < .01$.

At the opposite spectrum of risk categories is the high risk group. To test whether time impacted the behavior of this group differently than others groups, a more and less model was constructed. Higher risked offenders were defined as levels four and five on the LSI-R (n=82). The more/less predictor was created with a cut-off of 30 months on probation. The more group (dummy-coded as 1) included probationers who served more

than 30 months. Logistic regression analysis was used to test if more probation predicted recidivism for high risk offenders. The control variables in the model included age, gender, race, and split sentence. The explanatory value of the model was low to moderate with pseudo R² values of .130 (Cox and Snell) and .175 (Nagelkerke). A test of the model against a constant only model did find statistically significant contribution from the predictors in distinguishing recidivists from non-recidivists ($\chi^2 (5) = 11.403$, $p = .044$).

For high risk offenders, more time served on probation substantially impacts recidivism. Again more time served finds lower odds of recidivism when offenders serve more than 30 months of probation (Table 28). At this point, this is the only significant predictor in the model.

Table 28. Logistic Regression for variables predicting Recidivism for High Risk Probationers with More/less Time served (n=82).

Predictor	<i>B</i>	SE	Wald χ^2	p	Odds Ratio
More/less	-.1.934*	.729	7.037	.008	.145
Race	.592	.522	1.289	.3256	1.808
Gender	.368	.644	.326	.568	1.444
Age	.001	.029	.001	.981	1.001
Split-sent	.633	.602	1.107	.293	1.883
Constant	.192	.895	.046	.830	1.751

* $p < .05$. ** $p < .001$.

To test for interaction between age and time served, an interaction term (age*time served) was created for the entire sample. Logistic regression analysis was

used to test if time and age interacted to predict recidivism when controlling for other known predictors. The explanatory value of the model included pseudo R² values of .117 (Cox & Snell) and .157 (Nagelkerke). A test of the model against a constant only model found statistically significant contribution from the predictors in distinguishing recidivists from non-recidivists ($\chi^2(5) = 59.699, p = .000$).

Within this model, age and time did interact to predict recidivism (Table 29). Specifically, how these two interact would need to be explored in additional tests. Other significant predictors included probation failure and LSI-R. The odds of recidivism increase 1.6 times when probationers have failed during the probation term. Likewise, an upward move in LSI-R category increases the odds of failure by a multiplicative factor of 1.3.

Table 29. Logistic Regression for Variables Predicting Recidivism from Age* Time Interaction with Control Variables (n=249).

Predictor	B	SE	Wald χ^2	p	Odds Ratio
Age*Time	-.001**	.000	13.180	.000	.999
Race	.409	.227	3.261	.071	1.505
Gender	.284	.229	1.541	.214	1.329
Split Sentence	.533	.337	2.5	.114	1.704
Probation failure	-.528*	.215	6.002	.014	1.695
LSI-R	.263*	.100	6.854	.009	1.301
Constant	-1.074	.349	9.459	.002	.342

* $p < .05$., ** $p < .01$.

CHAPTER VII: SUMMARY AND CONCLUSIONS

This study set out to explore the relationship that time on probation has to various outcomes expected of probation. This chapter summarizes and discusses the findings with attention to the initial exploratory research questions. The limitations of the study as well as directions for future research and practice are also outlined.

Does Time Matter?

The first and primary research question posed in this study is ‘Does time matter?’ Specifically, can probation time served predict whether or not probationers fail or are arrested during the term of probation and/or, even more importantly, after its conclusion? This study drew upon the records of probationers covering a seven-year period to address this very question. Time served rather than sentence length imposed was used as the primary predictor in multivariate models because many probationers simply did not serve the fully imposed sentence. The former, therefore, more accurately represents the actual dosage of probation that offenders received. While both time measures (i.e. time served and sentence length) are highly correlated ($r(480) = .653$, $p < .001$), the difference that does exist between the two is extremely important as the bivariate results from the current study show.

Many probation studies examine factors that are thought to be associated with probation failure and recidivism (Morgan, 1993). In many probation studies, prescribed dosage or sentence length has been positively associated with failure

(Wisconsin Department of Corrections, 1973; Renner, 1978; Roundtree, Edwards & Parker, 1984; Sims & Jones, 1997), and this is in part due to an expanded observation period (Sims & Jones, 1997). If we observe subjects for longer periods, we are more likely to observe the behavior of interest. In effect, the relationship between sentence length and outcome is not overly informative. Even more, if studies are attempting to examine the impact of probation on the behavior of offenders, then the actual dosage and not prescribed dosage becomes a more useful measure. Unfortunately, the amount of time served on probation has not really been examined in any great detail

As we saw in the examination of the prior literature, when researchers examine the prescribed dosage of probation they find that failures increase as sentence length increases. In the current study no relationship is found between sentence length and any of the outcome measures used. In contrast, to both the present study (where no relationship between sentence length and any outcome is found), and the prior literature, the current study shows that as actual dosage increases failures decrease. We only examined actual dosage in this study. It did find that as time served increases, the incident of probation failure, arrest and recidivism generally decrease.

From the bivariate correlations and using the entire sample, we first learned of a negative correlation between time served and probation failure. The more time served on probation, the less likely a probationer is to fail. Time served was also negatively correlated with recidivism ($r(480) = -.217, p < .001$); suggesting that more time on probation decreases the likelihood of later behavioral problems. The mean time served for the sample was 20.5 months of probation. When time served is used rather than

sentence length, the relationship contrasts with the expanded observation hypothesis that posits that more time on probation actually increases the occurrence of failure and arrest on probation.

In the multivariate models, time served does not predict arrest during the probation term but does predict probation failure. Again, however, this finding is not entirely surprising since one would expect that those who fail would have less time on probation by virtue of their probation ending with their failure. Within the model using the entire sample, an odds ratio saw the odds of failure decrease .930 times for every month of probation served. To put this ratio into perspective, it suggests that over the course of a year, the odds of failure would decrease by more than three-quarters. Post-probation recidivism for the entire sample was significantly predicted by time served as well; where the more probation time that is served successfully, the lower the odds of recidivism. On a yearly percentage basis, we find that for every year served on probation, the likelihood of later recidivism is almost cut in half.

We recognized that probationers who fail and those who succeed would have different periods of time served by virtue of their failure or success. Those who fail, *ceteris paribus*, would usually have shorter periods on probation. Consequently, these two groups were analyzed independently. Examining only those who successfully completed probation would allow us to explore if variation in probation dosage affected long term outcomes since the necessarily shorter terms that accompany subjects who failed would be removed from this analysis. Within this model, time served did significantly predict later recidivism; for each year of time served without failure, the odds of later recidivism

are cut in half. This suggests that those who successfully complete longer terms on probation may benefit from this experience after their release.

This leads to another important question; does time matter to the post release experience for those who fail? Recall, almost half of the sample failed (47%). Our analysis finds that even for those who failed, increased exposure or time served impacted long term outcomes of recidivism. This is similar to the conclusion reached by Kroner and Takashi (2011) that “every session counts,” although, that particular study examined probation supervision and treatment dosage only for those who dropped out of treatment. In the present model, we essentially explored whether every probation dose counts even for those who fail. For every month of probation that an offender completes, the odds of being a recidivist decrease by .04 times for each extra month. Again to put this into perspective, for every year of probation completed prior to failure, the odds of later recidivism are nearly cut in half.

While all of the models run in the present study controlled for whether a subject was convicted of a felony or a misdemeanor, because of the different statutory limits placed on these two groups, subgroup analysis was conducted. This is particularly important given the differing outcomes between these two groups that have been identified in the literature (Petersilia, 1998).

The average time served for the 190 misdemeanor offenders included in the current study was approximately 17 months. While time served did not predict probation arrest, it did predict failure and later recidivism. For every one-year increase of probation time served a decrease in the odds of failure and recidivism is observed. When time

served was dichotomized into a “more/less” model, misdemeanor offenders who served more than one year were not found to differ from those who served less than a year in a statistically significant way. Felony probationers (n=290) were also examined independently. Recall, this group was eligible for probation for up to five years. The mean time served for this group was 27.5 months; a full 10 months longer than the misdemeanor group. Time served predicted probation failure and recidivism for felony probationers and in both cases the more time served, the odds of failure are decreased yearly by three-quarters and one-half, respectively. A subgroup analysis was also conducted on those felons who succeeded on probation (n=146). Once again, time served did predict recidivism with every additional year of probation time served cuts the likelihood of recidivism in half.

So far these findings seem to suggest the benefit of serving at least a year of probation. However, at some point diminishing returns from more probation supervision might be expected. Our theories described in Chapter IV posit such a relationship where, among other possible effects, more time might entrench a label (Lemert, 1961), encourage defiance (Sherman, 1993), diminish the effect of punishment (Newman, 1995), or expose offenders to a clinically inappropriate treatment for longer periods of time (Bonta et al., 2000). Future research should look for this hypothesized point of diminishing returns. For now, however, the felony group was examined using a “more/less” model with the median statutory term being used as the break point for dichotomizing time served on probation. Those offenders with 30 months or more time served were placed in the “more” group. This model provided one of the strongest

effects found in the current study, with the likelihood of falling in the recidivist group cut substantially as one moved from serving less than 30 months to more than 30 months. It is important to remember that probation failure was controlled in this model.

Finally, the general correctional literature suggests that offenders react differently to probation based upon their level of risk (Andrews & Bonta, 2011). In the current study, the LSI-R was among the most consistently significant predictors in the models run. While the mean LSI-R score was 25.10, which would place the group mean in a low/moderate category, those with lower LSI-R scores are consistently found to have more desirable outcomes than those with relatively higher risk scores.

Given the interest in offenders who pose a higher risk of reoffending, a subgroup analysis was conducted on this portion of the sample. Because of the relatively small number of truly high risk offenders in the current sample, moderate risk offenders were pooled with the high risk offenders. This model found that for every year increase in time served for this group, the decrease in the likelihood of being in the recidivist group is nearly half. A “more/less” model, using a cut-off of 30 months and controlling for misdemeanor or felony status, was also developed for this group, and found that serving 30 or more months on probation decreased the odds of recidivism substantially.

A great deal of effort was spent explaining how time on probation is related to outcomes. Identified in prior chapters were two different measures of time: length of probation sentence and time served of that sentence. As discussed, the two are related (and the current study revealed a high correlation between the two), but they differ in ways that are vitally important for the current study. Of greatest import is the fact that

the most common way for time served to diverge from the actual sentence is through a revocation – that is, through failure. Here, one of the most common measures of probation outcome is operationally entangled with our measure of time. This accounts for how the current study diverges from the prior literature with respect to the relationship between probation time and outcomes. Much of the prior literature shows a positive relationship between probation time and failure – however, much of that literature uses sentence length as a measure of time. The use of time served in the present study reverses this relationship with failure, and for a straight forward reason – failure is just a shortening of time on probation (i.e. one is removed from probation supervision through revocation).

Further complicating the interpretation of results in the current study is the use of multiple outcome measures – probation failure, probation arrest and post-probation recidivism. Arrest on probation was unrelated to any measure of time. As identified above, time served is directly related to probation failure; in essence, failure is a mechanism by which probation time is cut short. In contrast, recidivism after release from probation may be a better gauge of the influence of probation time on behavior – in this case, the possible effect of variable probation supervision lengths can be examined. Here, in contrast to the prior literature, more time served on probation was found to decrease the likelihood of future offending. The different results produced by the two different measures of probation time (i.e. prescribed dosage and actual dosage), and the two different outcome measures (i.e. failure and post release recidivism) have important methodological implications for current and future research into the effects of probation.

The finding that time served on probation seems to effect the likelihood of recidivism after termination from probation has important theoretical implications to which we will now turn.

Probation Theory and Time served

As just mentioned, in several of the multivariate models, time served appeared to be negatively associated with failure and later recidivism. We also constructed a number of models to examine specific groups (e.g. felons versus misdemeanor). In all of the models where time served reached statistical significance, more time served, and/or moving to more rather than less probation, decreased the likelihood of undesirable outcomes. These findings, specifically with respect to recidivism, do bode well for the social response theories we outlined in Chapter IV, in particular the theories of deterrence, incapacitation and rehabilitation.

Deterrence theory argues that increases in probation time served should increase both the perceived severity of punishment as well as possibly increasing the extent to which an offender might have ingrained in them the perception that any future deviations from the law will be detected and punished – that is, their perceived certainty of punishment will go up. In effect, a deterrence theorist might argue that under probation supervision, the careful monitoring of offenders and enforcement of conduct violations would result in an increased weighting of an offender's perception of the certainty of punishment. Of course, actual perceptions of probationers were not examined in the current study, but the findings are consistent with this interpretation. More time under

probation might also increase the perceived severity of punishment, with more time suffering the pains of probation having an increased individual deterrent effect. To my knowledge, these findings are unique in the probation research literature.

In comparison, some recent efforts to find an individual deterrent effect of probation were unsuccessful for drug using probationers (Green & Winik, 2010). Of course, it might be that drug-involved offenders respond to justice interventions differently than less specialized caseloads. Or, perhaps, the observation period of our study is long enough to detect an effect, whereas the Green and Winik (2010) observation period was shorter. Most importantly for present purposes, the findings from the Green and Winik study (2010) might be a result of their use of sentence length rather than time served under the assumption that the two are equal. As the present study suggests, such an approach might be misleading because the two measures are not the same, and may have different relationships to the outcome variable. In fact, we might call into question any probation study of deterrence that uses prescribed dosage (i.e. sentence length) as a predictor without accounting for failure and/or early termination. Both of these would impact the actual dosage and as we have demonstrated, the prescribed and actual dosages have different relationships to probation outcomes.

The current findings are also consistent with the possible rehabilitation of probationers, where probation time served at sufficient doses is able to change offender behavior. Although we did not examine the rehabilitation practices with the probation sample covered here, it is not unreasonable to assume that the probationers studied did receive some type and amount of programming in the course of their probation

experience. There is support for the idea that probation treatment programs administered at certain lengths can impact outcomes (Vermont Department of Corrections, Lindsey & Smith, 2011).

In previous chapters we identified two sources of rehabilitation: discrete treatment programs to which offenders are referred, and rehabilitative-focused case management. Neither of which were accounted for in this study. There is limited information about the amount or expected effect from increased exposure to rehabilitative case-management. Current research suggests that, at present, officers spend very little time in direct contact with probationers, often seeing probationers less than twice per month (Latessa, 1987; Bonta et al., 2008). A typical interaction spans about 22 minutes (Bonta et al., 2008). Nonetheless, it is conceivable that there is a relationship between different amounts of time spent with probationers and case outcome. With respect to dosages of discrete programming among probationers, virtually nothing is known. Moreover, how dosages of discrete programming interact with rehabilitative case management, and provide an “overall” treatment effect is unexamined and, as such, nothing is known about such an effect

The use of incapacitation to control offenders in the community is another theoretical justification for probation and longer periods would theoretically be reserved for more dangerous types of offenders. Again, we did not directly test the effect of probation control in the community (i.e. intensive supervision or surveillance), but all probation supervision entails some degree of control. In fact, the use of the LSI-R is meant to classify offenders based upon their likelihood of re-offending, and the intensity

of supervision is heavily influenced by this score. The logic of this is quite thoroughly incapacitative. However, incapacitation is really only relevant to the findings regarding failure – there is no incapacitative effect once one is released from supervision. When offenders misbehave on supervision, incapacitation theorists would expect them to get revoked and placed under more restrictive controls. Here, we see probation working as incapacitation requires. Moreover, that more risky offenders fail at higher rates also squares with probation as an incapacitative device.

In sum, the findings from the current study are consistent with a number of punishment theories – the failures on probation and their patterning are reflective of incapacitation; the lower likelihood of recidivism among those offenders who have more time served on probation (whether they succeed or not) is consistent with both deterrence and rehabilitation. However, whether we are truly seeing either or both of these latter effects is unknown. What we really have here is a “black box” through which this sample of probationers is being processed. All that can be said is that spending more time in this black box is related to lower rates of recidivism. Future research needs to examine how the practices being performed within the black box for various amounts of time are related to offender behavior.

Finally, it is possible that the results found in this study have nothing to do with the probation experience itself. That is, probation itself may have had very little impact on offender behavior. Offenders who manage to negotiate their way through probation without failure or arrest, and also remain crime-free upon release, may have an underlying trait such as self-control that can be used to explain the results. In other

words, the negative relationship that was found in this study between time served and recidivism might be spurious. While some indicators of such possible underlying individual characteristics were controlled for in this study (i.e. risk level and offense type), it is possible that some such hypothetical trait might exist and was unaccounted for in the current study and future research would be needed to clarify this hypothesis.

Limitations of the Study

There are a number of other limitations of the current study that deserve mention. First, there were a limited number of high risk offenders to draw from in order to properly examine the interaction of risk and time served. In our models we essentially pooled the high and moderate level offenders. This is unfortunate since we might expect that high risk offenders would require more time under supervision when compared to other groups (Bonta et al., 2001), and the effect of more or less time would be interesting to observe for this group. In general, it is important that future efforts be made and experiments designed to examine the effect of time served for all levels of risk. Such a study would follow a group of high risk offenders matched for important characteristics, but sentenced to specific doses (e.g. one-year; two-years, etc.). The same design and procedures might be applied to low and moderate risk level offenders.

As outlined in Chapter V, many of the offenders had multiple counts of conviction for which they received simultaneous periods of probation. This factor was not included in the analysis, although it is difficult to imagine how this might affect probation outcomes.

Another important limitation regarding the recidivism findings involved the failure to control for the amount of time after release from probation. The data for the sample covered a total of seven years – all subjects included in the study came on the probation caseload in 2005 and had follow up data available until 2012. So, one subject might have completed their probation successfully in 2007 with five years of post-release follow up data. Another probationer might have successfully completed their probation term in 2010, leaving them with two years of post-release follow up. The former case would have more years in which to recidivate. If such a pattern is widespread within the data then this might account for the negative relationship between time served and recidivism. However, the extent to which this type of thing occurred within the data is unknown.

Moreover, among those who fail, we don't know how their incarceration time might be influencing the current findings. Those who are incarcerated are, obviously, unable to recidivate during the period of their incarceration.

Finally, as described above, we cannot be certain about other factors relevant to probation practices that might lay claim to some of the effects we see. The quality of time spent on probation was not measured. There was no control for probation practices, including number of contacts, quality of contacts, attitudes of officers and staff, training and/or education of officers among other variables. Nor did we tabulate the number of hours offenders were involved in programming (e.g. substance abuse), and or supervision related activity. Because of this, we can only begin to make very general statements about the effect of time on outcome for probationers.

Implications for Research, Theory and Practice

The implications for theory, future research and practice are now examined. In terms of theorizing and researching in the area of probation, one recommendation is clear. Theorists and researchers should pay closer attention to matters of punishment's duration, and use more specificity when theorizing and researching. The very complex theories and tests of things like deterrence, incapacitation, and rehabilitation do very little of this. Although it is nice to speculate and compare the differential impacts of these justifications to punish, one should consider how the duration of a punishment affects any particular outcome. Of course the time considerations prescribed would differ and depend upon the theory being developed or used. Perhaps the incorporation of time measures into correctional theory might evolve inductively; however, this relies upon increased frequency in testing and consistency, and specificity in defining practices and measures.

For those testing and researching probation programs, it is also important to consider and report upon time, and distinguish between time served and sentence length. As the current study shows, there may be differences in the results if one or the other predictor is used. Moreover, the relationship between time served and outcome will depend upon the number of failures in the sample.

Of the probation programs that seem to find some uniformity and consistency of application are ISP programs. To help better gauge the effect of time, a meta-analysis might pool all available ISP studies that report time-measures for re-examination, with closer attention to actual doses of ISP rather than just using sentence length to control the

observation period. Testing time served in this way would help control for some of the inconsistencies in probation practice I reported earlier, that is, it begins to measure quality of time in addition to quantity.

In practice, it is important that law-makers, judges and correctional personnel who expect deliverables from probation programs consider how they use time to achieve these ends. The process by which a judge decides how to prescribe time and expect outcomes should be examined. In practice, judges likely consider “how much time” to give a probationer by virtue of what he/she deserves; that is, they may be focusing on retributive considerations as well as tradition. There is likely little deliberation on exactly how time is to be used in achieving more consequentialist outcomes. Rather, it may be supposed that the time deserved will simply be enough to achieve whatever the desired end. Sentencing practice can be improved upon with more insight into how and why probationers desist and the amount of time this usually requires. This is the first step in that long process and clearly, more examination is required.

For now, we can use our findings to begin to inform probation practice. It seems apparent that efforts should be made to assist offenders in serving a reasonable and more specific period of time under supervision. This is even the case for those who eventually fail; the longer they can remain on probation, the better. In general, our models suggest that making it through probation altogether is ideal and at increased lengths finds improvement in long term outcomes. Making it through at least one-year of supervision increased the likelihood of future success anywhere substantially, at times cutting the odds of recidivism in half or more. The impact of time served should be considered in

the same context as other programs and/or factors that are routinely examined in probation study.

Unfortunately, this recommendation does not ease caseload sizes or correctional populations. However, what appears to be occurring in the sample, and perhaps unknowingly in other probation studies, is that some offenders, likely regardless of time-imposed complete their probation terms without failure. These persons also do not recidivate. Because the analytic method used in the present study did not allow for it, we did not find a “point in time,” where diminishing returns are experienced for this group; nonetheless, future research and theorizing should examine this. “Time is money,” and although probation is less costly than prison, it still costs money. Moreover, there has been a great deal of concern over rising probation caseloads and the ability of probation officers to manage these expanding caseloads. A particular point where probationers are likely to succeed on probation and not reoffend in the future should be examined empirically.

We could consider this point in time as a “signal,” that the offender has made behavioral changes. This particular approach to managing offenders is becoming important for the very reasons described above. Correctional agencies around the United States are overpopulated and there are calls for these agencies to work more efficiently. It is inefficient to supervise offenders who will not fail or recidivate, but knowing the difference between those who will fail and those who will succeed is not easily ascertained. Must an agency wait until probation has ended to determine failure or not? Risk assessments and other variables are often used to predict those who fail/recidivate.

They have proven very effective, yet not all offenders do fail, even those with considerable risk factors. There is Type II error or false positives in risk assessment. In addition, some offenders who were likely to fail by virtue of their classification underwent programming or desisted for other reasons and most offenders, even those with “high risk” profiles eventually desist from crime (Maruna, 2001). In either case, the false positives and “desisters” continue to be supervised and sometimes at great lengths. This seems somewhat inefficient. I propose two methods in which time can be used to help inform probation practice: 1.) probation time served as a desistance signal; and 2.) probation time served as a factor in risk assessment.

The emergence of the “desistance signaling” perspective in recent correctional theorizing may be important in helping the system develop more efficiency (Bushway & Apel, 2012). The signaling perspective suggests that correctional personnel should look for “signs” that an offender has desisted and consequently may not be in need of further probation supervision. Offender desistance is a latent, unobservable trait signifying that an offender will not reoffend or fail; it is difficult to decide which offenders need less supervision because we do not always know who has changed or not. Observable signs or traits that represent an unobservable trait such as desistance might be used to identify offender desistance. Brennan (2012) described a signal as:

Observable, changeable, able to be influenced or manipulated by the offender, linked to the underlying variable of interest (e.g. desistance) and imposing or requiring different levels by the offenders to achieve the signal status (pg. 66).

Signals of crime desistance or offender change have been explored for employment program completion (Bushway & Apel, 2012). All things being equal, offenders who complete an employment program have different rates of failure than those who do not (Bushway & Apel, 2012). Offender program completion in this context is said to signal desistance. This line of reasoning does not suggest that probation be imposed in any amount, for purposes of a signal. It does, however, suggest that correctional personnel can use information about time to make more informed decisions. Perhaps time served on probation can be used in much the same way as employment program completion (Bushway & Apel, 2012). Although more conceptualization and research is needed, it may be that serving a certain amount of time on probation without failure “signals” that an offender has desisted. In effect, this period of successful probation completion is an observable characteristic of an offender that can vary. Time served on probation without failure is an offender behavior that may flag an unobservable trait (desistance).

Another and very similar way in which time served information could be used in practice is through the use of risk assessment. Survival analysis methods are commonly used in risk assessment construction and validation and of interest is the “time to some event.” This practice often uses a set of predictors (i.e. risk scores) to explore how rapidly offenders fail or recidivate over a set period of time. The rates at which offenders fail vary for different groups; typically offenders with many of the risk factors we described in prior chapters who are “high risk” fail more rapidly (Allison, 1995). In

general, however, offenders who fail, often do so early (for example see Johnson et al., 2011).

There is another informative and underappreciated side to risk assessment and in particular hazard analysis, however, where offenders who survive over time, even in groups where high likelihood of failure or recidivism was expected, might be identified through their time served or survival (Kroner in person). For example, after a specific amount of time served on probation without failure, the likelihood of failure for even a moderate or high risk offender approaches rates similar to those of a low risk offender. In effect, the more time one serves without failure, the more likely this person is to be in the non-failure group. For example, offenders who survive (e.g. one-year) are more likely to be in the success rather than the failure group. Although this is not necessarily “influenced or manipulated” by the probationer, a ’la signaling, it is useful information to help gauge whether or not an offender will succeed (rather than fail). Where an offender serves time to a certain threshold, it may be inefficient to continue to supervise them. Again, further conceptualization, examination, and testing for time served to be used in this manner is required. In sum, I have suggested how we might continue to explore time served on probation and some possible methods by which this information could be used to make probation more effective.

Conclusions

This research set out to explore an overlooked, but perhaps critical part of correctional intervention and public safety: the effect of time on probation. We find that

time served did predict favorable outcomes. Although our findings give an initial shot in the arm to probation and the practices it embodies, we are not certain if these findings would replicate elsewhere. Time must continue to be examined because it represents perhaps as important an element in the effort to positively impact correctional populations as anything. There are numerous testable combinations of offender types and characteristics with varying sentence lengths. Clarifying specific doses for certain offenders may take decades to unfold. For now, we merely explored whether time matters and under what circumstances this was more or less likely.

We know that time matters. It matters in terms of theory, although little attention is given to the subject. This is unfortunate because it makes the theories that we use to support practice less clear. Time matters in practice, however, judges or sentencing authorities rarely consider how or why it matters and with what effect. In fact, policy makers and probation leaders who wish to reshape, reorganize or reform probation (see Clear & Braga, 1995; Tonry & Lynch, 1996) should pay attention to time because it may be one of the easiest elements to fix within our complex system. In fact, the above suggestions should be tested with this intent. The study also found the time matters empirically. Researchers in corrections should account for the effect of time served and how it differs from sentence length.

Appendix 1

RECIDIVISM STUDY RESEARCH AND CONFIDENTIALITY AGREEMENT

This Agreement is made by and through the North Dakota Attorney General's Bureau of Criminal Investigation (hereinafter "BCI") 4205 State Street, PO Box 1054, Bismarck, North Dakota, 58502-1054, the North Dakota Department of Corrections and Rehabilitation, 3100 Railroad Avenue, Bismarck, ND 58501 ("DOCR") and Michael McGrath, 2704 7th Avenue Northwest, Minot, 58701 and members of his dissertation committee.

BCI, DOCR and Michael McGrath agree for the disclosure of criminal history record information by BCI and the DOCR to Michael McGrath for research and statistical purposes as follows:

1. BCI shall supply criminal history record information for a list of persons provided by Michael McGrath for use in a Recidivism Study for the North Dakota Department of Corrections and Rehabilitation's ("DOCR").
2. Technical direction and oversight of the Recidivism Study Research project shall be under the direction of Michael McGrath, as the principal researcher and Michael McGrath shall:
 - a. Obtain written approval from the University of North Dakota Institutional Review Board to conduct research using criminal history record information for a Recidivism Study for the DOCR.
 - b. Before receiving any criminal history record information from BCI or the DOCR, provide BCI and the DOCR with an abstract of the proposed Recidivism Study explaining the purpose of the study, the research methods and procedures that will be utilized, identification of the study subjects, the security procedures that will be utilized to protect the confidentiality of the criminal history record information, including physical security and code procedures to provide safeguards to prevent the disclosure of identifying information about the subjects of the Recidivism Study, and any impact on the subjects of the Recidivism Study.

c. Use criminal history record information obtained from BCI only for research, evaluative or statistical purposes and for no other purposes.

d. Limit access to criminal history record information to Michael McGrath and those on his dissertation committee if their responsibilities cannot be accomplished without access to criminal history record information obtained from BCI and who has been advised of and who has agreed in writing to comply with the provisions and requirements of this Recidivism Study Research and Confidentiality Agreement.

e. Store all criminal history record information received pursuant to this Agreement for the Recidivism Study in a secure location and shall limit access to criminal history record information to those individuals on the dissertation committee who have agreed in writing to comply with the provisions and requirements of this Recidivism Study Research and Confidentiality Agreement.

f. To the extent possible, replace the name and address of any criminal history record information subject with an alpha-numeric or other appropriate code.

g. Immediately notify BCI and the DOCR in writing of any proposed material changes in the purposes or objectives of its research, or in the manner in which said information will be stored.

3. Michael McGrath shall not:

a. Disclose any criminal history record information in a form identifying an individual record subject to any person outside of BCI, or the DOCR. Michael McGrath shall not use any criminal history record information for any purpose other than the Recidivism Study for the DOCR. Disclosure of criminal history record information to the public may only be in statistical, aggregate, and anonymous form that does not disclose the identity of any record subjects.

b. Copy any criminal history record information, except when necessary to accomplish research for the Recidivism Study. To the extent reasonably possible, copies shall not be made of criminal history record information, but only information derived from criminal history record information, which is not identifiable to specific individuals, shall be used for research tasks. When this is not possible, every reasonable effort shall be made to utilize coded identification data as an alternative to names

when producing copies of criminal history record information for research purposes.

c. Utilize any criminal history record information for purposes or objectives in a manner subject to the requirement for notice set forth in Paragraph 2(g) of this Agreement until BCI and the DOCR has provided specific written authorization.

4. Michael McGrath may not disclose criminal history record information to a subcontractor.
5. Michael McGrath further agrees that:
 - a. BCI shall have the right, at any time, to monitor, audit, and review the activities and policies of Michael McGrath for the Recidivism Study to assure compliance with this Agreement.
 - b. Upon completion, termination, or suspension of the Recidivism Study, Michael McGrath shall return all criminal history record information and any copies made by Michael McGrath to BCI or the DOCR, unless BCI or the DOCR gives written consent to the destruction, obliteration, or other alternative disposition of the criminal history record information.
 - c. Use of criminal history record information for research and statistics is subject to the requirements of North Dakota Administrative Code Chapter 10-13-10, which is made a part of this Agreement by reference.
6. In the event Michael McGrath fails to comply with any of the terms of this Agreement, BCI or the DOCR may take such action deemed appropriate, including termination of this Agreement. If BCI or the DOCR terminates this Agreement, Michael McGrath shall immediately return all criminal history record information, and any copies, to BCI or the DOCR, or make such alternative disposition as BCI or the DOCR directs. The exercise of any remedies under this paragraph shall be in addition to any remedies and sanctions provided by law, and all legal remedies available to any person injured by an unauthorized disclosure of criminal history record information.
7. Michael McGrath shall comply with all state laws relating to confidentiality and privacy that are applicable to disclosure and use of confidential or private criminal history record information.

8. BCI, the DOCR, and Michael McGrath each agrees to assume its own liability for any and all claims of any nature including all costs, expenses and attorneys' fees which may in any manner result from or arise out of this Agreement.
9. Michael McGrath shall comply with all applicable federal, state, and local laws, rules, and ordinances at all times in the performance of the Agreement, and conduct its activities so as not to endanger any person or property.
10. This Agreement may not be waived, altered, modified, supplemented, or amended, in any manner, except by written agreement signed by all parties.
11. This Agreement constitutes the entire agreement between the parties. There are no understandings, agreements, or representations, oral or written, not specified within.
12. The disclosure of data may not include personal identifiers, and any study, published or unpublished, may not disclose the identity of any record subjects

Approved and Accepted

BY: _____
 Director
 North Dakota Attorney General's
 Bureau of Criminal Investigation

DATE:

BY: _____
 Director
 North Dakota Department of
 Corrections and Rehabilitation

DATE:

I have read, understand and agree to be bound by the terms and conditions of this agreement.

Michael McGrath

DATE:

I (dissertation committee member) acknowledge familiarity with the terms, conditions, and requirements of the **RECIDIVISM STUDY RESEARCH AND CONFIDENTIALITY AGREEMENT** with the North Dakota Attorney General's Bureau of Criminal Investigation and the Department of Corrections and Rehabilitation and agree to comply with all the terms, conditions and requirement of the agreement.

Name

DATE:

Name

DATE:

REFERENCES

- Administration office of the United States Courts, website, <http://www.uscourts.gov/FederalCourts/UnderstandingtheFederalCourts/AdministrativeOffice.asp>(Accessed May 2, 2013).
- Alaska Department of Health and Social Services (1976) Misdemeanant Probation Project, Juneau, Alaska, Division of Corrections.
- Allen, Harry E., Chris Eskridge, Edward J. Latessa & Gennaro F. Vito, (1985). *Probation and Parole in America*. New York: The Free Press.
- Allison, P. D. (1995). *Survival analysis using the SAS system*. Cary, NC: SAS Institute, Inc.
- American Probation and Parole Association, <http://www.appa-net.org/eweb/>, (accessed May 1, 2013).
- Anderson, E. (2000). *Code of the Street: Decency, Violence, and the Moral Life of the Inner City*. W. W. Norton & Company
- Andrews, D.A. & Dowden, C. (2004) The Importance of Staff Practice in Delivering Correctional Treatment: A Meta-analytic Review of Core Correctional Practice. *International Journal of Offender Therapy*, 48; 203
- Andrews, D. A., & Dowden, C. (2005). Managing correctional treatment for reduced recidivism: A meta-analytic review of programme integrity. *Legal and Criminological Psychology*, 10, 173–187.
- Andrews, D. A. (2006). Enhancing adherence to Risk-Need-Responsivity: Making quality a matter of policy. *Criminology and Public Policy*, 5, 595–602.
- Andrews, D. A. & Bonta, J. (2011). *The Psychology of Criminal Conduct* (6th ed.). Newark, NJ: LexisNexis=Mathew Bender.
- Andrews, D. A., Bonta, J., & Hoge, R. D. (1990). Classification for effective rehabilitation: Rediscovering psychology. *Criminal Justice and Behavior*, 17, 19–52.

Andrews, D. A., Zinger, I., Hoge, R. D., Bonta, J., Gendreau, P., & Cullen, F. T. (1990). Does Correctional Treatment Work? A clinically-relevant and psychologically-informed meta-analysis. *Criminology*, 28, 369-404.

Andrews, D. A., & Bonta, J., (2010). Rehabilitative criminal justice policy and practice. *Psychology, Public Policy, and Law*, 16, 39-55.

Austin, J. (1986). "Using Early Release to Relieve Prison Crowding: A Dilemma for Public Policy." *Crime & Delinquency*. 32(4): pp. 404-502.

Austin, J. and P. Hardyman. (1991) "The Use of Early Parole With Electronic Monitoring to Control Prison Crowding: Evaluation of the Oklahoma Department of Corrections Pre-Parole Supervised Release With Electronic Monitoring." Unpublished report to the National Institute of Justice, U.S. Department of Justice (USDOJ).

Babst, D. and J. Mannering, (1965) Probation versus Imprisonment for Similar Types of Offenders: A Comparison by Subsequent Violations. *Journal of Research in Crime and Delinquency*. 2: 60-71.

Baird, C. (1983). Report on Intensive Supervision Programs in Probation and Parole. Washington, DC: National Institute of Corrections.

Barkdull, W. (1976). Probation: Call it Control and Mean It. *Federal Probation*, 53(2), 49-60

Bartell, T., and L. Thomas (1977). Recidivists Impacts of Differential Sentencing Practices for Burglary Offenders. *Criminology*, Volume 15, Issue 3, November 1977, Pages: 387-396

Barnes, G., Ahlman, L., Gill., C., Sherman, L. Hurtz, E., and R. Malvestuto (2010). Low-intensity community supervision for low-risk offenders: a randomized, controlled trial, *Journal of Experimental Criminology*. June 2010, Volume 6, Issue 2, pp 159-189

Baumer, T. L., and R. I. Mendelsohn. 1991. "Comparing Methods of Monitoring Home Detention: The Results of a Field Experiment." Paper presented at the annual meeting of the American Society of Criminology, San Francisco, Calif., Nov. 21-24.

Beccaria, Cesare. (1983) [1775]. *An Essay on Crimes and Punishment*. Brookline Village, MA: Branden Press.

Beck, A. J., and B. E. Shipley (1989). Recidivism of Prisoners Released in 1983. U.S. Department of Justice, Bureau of Justice Statistics. Washington, DC.

Benedict, W. R., & Huff-Corzine, L. (1997). Return to the scene of the punishment: recidivism of adult male property offenders on felony probation, 1986-1989. *Journal of Research In Crime and Delinquency*, 34, 237-252.

Bonczar, T. (1997) Characteristics of Adults on Probation, 1995, USDOJ, Office of Justice programs

Bonczar, T. P., & Glaze, L. E. (1999). Probation and parole in the U.S., 1998. (BJS Publication No. NCJ-178234). Washington, DC: U.S. Government Printing Office.

Bonn, J.P. (1976). A Proposed Model for Probation Supervision. New York State Division of Probation.

Bonta, J., S. Wallace-Capretta, and J. Rooney., (2000). A Quasi-Experimental Evaluation of an Intensive Rehabilitation Supervision Program. *Criminal Justice and Behavior*, 27, 312-329.

Bonta, J., Rugge, T., and Coles, R., (2004). Case-management in Manitoba Probation. Manitoba, Canada: Public Safety and Emergency Preparedness of Canada.

Bonta, J., Rugge, T., Scott, T., Bourgeon, G., and A Yessine (2008). Exploring the Black Box of Community Supervision. *Journal of Offender Rehabilitation*, Vol 47(3),248-270

Bonta, J., et al., (2010). The strategic training initiative in community supervision: risk, need, responsivity in the real world. Ottawa: Public Safety Canada.

Bork, M. V. (1995). Five Year Review of United States Probation Data, 1990-94," *Federal Probation*, Vol. 59, No. 4: 27-33

Bouffard, L.A., & Piquero, N.L. (2010). Defiance Theory and Life Course Explanations of Persistent Offending. *Crime & Delinquency*, 56(2), 227-252

Bourgon, G., & Armstrong, B. (2005). Transferring the principles of effective treatment into a "real world" prison setting. *Criminal Justice & Behavior*, 32, 3-25.

Braithwaite, J. (1989). *Crime, Shame and Reintegration*. New York, NY.

Brennan, T. (2012). Signaling and meta-analytic evaluations in the presence of latent offender groups: The importance of coherent target group specification. *Criminology & Public Policy*.

Brown, S., St. Amand., M., and Zamble, E (2009). The Dynamic Prediction of Criminal Recidivism: A Three-wave Prospective Study, *Law and Human Behavior*, Volume 33, Issue 1 , 25-45

Byrne, J & K., Kelly (1989). Evaluation of the Implementation and Impact of the Massachusetts Intensive Probation Supervision Project, 1984-1985. United States Department of Justice. Office of Justice Programs. National Institute of Justice

Burrell, William D. (2005). "Trends in Probation and Parole in the States." Council of State Governments, *The Book of the States*, 595-600.

Bushway, S. D. and R.Apel. (2012). A signaling perspective on employment-based reentry programming: Training completion as a desistance signal. *Criminology and Public Policy*, 11, 21-50.

Burrell, W., (2006), Caseload Standards for Probation and Parole http://www.appa-net.org/eweb/docs/APPA/stances/ip_CSPP.pdf

Caldwell, M. G. (1951). Review of a new type of probation study made in Alabama. *Federal Probation*, 15 (2), 3-11.

California Department of Justice (1969). Superior Court Probation and/or Jail Sample: One Year Follow-up for Selected' Counties. Sacramento, California: Division of Law Enforcement, Bureau of Criminal Statistics, 1969.

Carlson, E.W. and Parks, E.C., (1979). Critical issues in adult probation. Washington, DC: National Institute of Law Enforcement and Criminal Justice.

Chen, M. K., & Shapiro, J. M. (2007). Do harsher prison conditions reduce recidivism? A discontinuity-based approach. *American Law and Economic Review*, 9, 1-29.

Clarke, S. H., Y. W. Lin, and W. L. Wallace (1988). *Probationer Recidivism in North Carolina: Measurement and Classification of Risk*. Chapel Hill: University of North Carolina, Institute of Government.

Clark-Miller, J., & Stevens, K. D. (2011). Effective supervision strategies: Do frequent changes of supervision officers affect probationer outcomes. *Federal Probation*, 75(3), 11-18.

Clear., T. and V. O'Leary (1983). *Controlling the Offender in the Community-Reform of Community Supervision*, Lexington Publishing Co., Lexington, MA.

Clear, T. and A. Braga, (1995). "Community Corrections," in James Q. Wilson and Joan Petersilia, eds., *Crime*, Washington, DC: Institute for Contemporary Studies.

- Clear., T and H. Dammer, (2003, 2000). *The Offender in the Community* Belmont, CA: Wadsworth; (first and second editions).
- Chiricos, T., Barrick, K., and W. Bales. (2007). The Labeling of Convicted Felons and Its Consequences for Recidivism; *Criminology*, 45(3),547-581
- Cockerill, R.W. (1975) Probation Effectiveness in Alberta. *Canadian Journal of Criminology and Corrections*, Montreal, Canada.
- Cox, D.R. and Snell, E.J. (1989). *The Analysis of Binary Data*. London, Chapman Hall.
- Cohen, R. L. (1995) probation and Parole violators in state prison, 1991, Bureau of Justice Statistics Special Report. Washington, DC: United States Department of Justice, Bureau of Justice Statistics.
- Cullen, F. T., and J. B. Cullen. (1978). *Toward a Paradigm of Labeling Theory*. Lincoln: University of Nebraska Studies.
- Cullen, F.T. (2002). "Rehabilitation and Treatment Programs." In *Crime: Public Policies for Crime Control*, edited by James Q. Wilson and Joan Petersilia. Oakland, CA: ICS Press.
- Cullen, Francis T., and John B. Cullen. (1978). *Toward a Paradigm of Labeling Theory*. Lincoln: University of Nebraska Studies.
- Cunniff, M., (1989) U.S. Dept. of Justice, Bureau of Justice Statistics. Recidivism of Felons on Proabtion, 1986-1989, <http://www.bjs.gov/index.cfm?ty=pbdetail&iid=3694>
- DeJong, C. (1997). Survival analysis and specific deterrence: Integrating theoretical and empirical models of recidivism. *Criminology*, 35, 561-575.
- Reinventing Probation Council, "Broken Windows Probation: The Next Step in Fighting Crime," Civic Report 7 (New York: Center for Civic Innovation at the Manhattan Reinventing Probation Council, "Transforming Probation through Leadership: The 'Broken Windows' Model" (New York: Center for Civic Innovation at the Manhattan Institute, July 2000).
- DeMichele, M., & Paparozzi, M. (2008). Probation and Parole: Overworked, Misunderstood, and Underappreciated. *The Howard Journal of Criminal Justice*, 47(3), 275-296.

DeMichele, M., & Payne, B. K. (2012). Measuring community corrections' officials perceptions of goals, strategies, and workload from a systems perspective: Differences between directors and nondirectors. *Prison journal*, 92(3), 388-410.

Department of Justice, Offender Profile and Recidivism among Domestic Violence Offenders in Ontario, Government of Canada. http://www.justice.gc.ca/eng/rp-pr/csjsjc/crime/rr06_fv3-rr06_vf3/p6.html. Accessed January 3, 2013.

Ditman, K.S., Crawford, G.; Forgy, E., Moskowitz, H., & C. MacAndrew (1967); A Controlled Experiment on the Use of Court Probation for Drunk Arrests, *American Journal of Psychiatry*, 124,160-163.

Durnescu, Ioan (2011); Pains of Probation: Effective Practice and Human Rights; *International Journal of Offender Therapy and Comparative Criminology*, 55(4) 530-545

Durose, M., & Langan, P (2000) Felony Sentences in State Courts, Bureau of Justice Statistic, United States Department of Justice

Durose, M. R., D. J. Farole, Jr, & S. P. Rosenmerkel. (2009). "Felony Sentences in State Courts, 2006 - Statistical Tables." Washington, D.C.: Bureau of Justice Statistics. Retrieved April 2012 from: <http://www.bjs.gov/content/pub/pdf/fssc06st.pdf>.

Erwin, B. (1986). Turning up the Heat on Probationers in Georgia. *Federal Probation*, 50, 109-116.

England, R. (1955). A study of post probation recidivism among five hundred federal offenders. *Federal Probation*, 19, 10-16.

Farrall, S. (2002). *Rethinking what works with Offenders: Probation, Social Context and Desistance from Crime*. Cullompton: Willan Publishing

Fisher, G. A., & Erickson, M. L. (1973). An assessment of the effects of official reactions to juvenile delinquency. *Journal of Research in Crime and Delinquency*, 10, 177-94.

Flores, A. W.; Lowenkamp, C. T.; Holsinger, A.M.; and Latessa, E.J. (2006).Predicting Outcome with the Level of Service Inventory-Revised: The Importance of Implementation Integrity. *Journal of Criminal Justice*, 34 (5), 523-529.

Fulton, B., Latessa, E.J., Stichman, A., & Travis, L.F. (1997). The state of ISP: Research and Policy Implications. *Federal Probation v. 61 (4)*, 65-75

Geerken, M., & H. Hayes (1993). Probation and Parole: Public Risk and the Future of Incarceration., *Criminology*. Volume 31(4), 549-564.

Gendreau, P., Cullen, F. T.;Bonta, J., (1994); Intensive rehabilitation supervision: The next generation in community corrections? *Federal Probation*. 58(1), 72-78.

Gendreau, Paul, Tracy Little, and Claire Goggin. (1996). "A Meta-analysis of the Predictors of Adult Offender Recidivism: What Works!" *Criminology*. 34(4), 575–607.

Gendreau, P. and Andrews, D. (1996), *Correctional Program Assessment Inventory (CPAI)*, 6th edn, St John, New Brunswick: University of New Brunswick

Gendreau, P., C.Goggin, and F. T. Cullen. (1999). *The Effects of Prison Sentences on Recidivism*. Ottawa: Solicitor General Canada

Gendreau, P., Goggin, C., & Smith, P. (2000). Generating rational correctional policies: An introduction to advances in cumulating knowledge. *Corrections Management Quarterly*, 4, 52-60.

Gendreau, P., Goggin, C., & Smith, P. (2001). Implementation guidelines for correctional programs in the "real world". In G. A. Bernfeld, D. P. Farrington, & A. W. Leschied (Eds.). *Offender Rehabilitation in Practice*, (247-268). Chichester, UK: John Wiley & Sons, Ltd.

Gendreau, P. and Andrews, D. (2001), *The Correctional Program Assessment Inventory – 2000*, St John, New Brunswick: University of New Brunswick

Gendreau, P., Goggin, C., Cullen, F. T., & Andrews, D. A. (2001). The effects of community sanctions and incarceration on recidivism. In *Compendium of Effective Correctional Programs* (volume 1, chapter 4). Ottawa, Ontario: Correctional Service of Canada, Solicitor General of Canada.

Gendreau, P., French, S.A., and A.Taylor (2002). *What Works (What Doesn't Work) Revised 2002*. Invited Submission to the International Community Corrections Association Monograph Series Project

Gendreau, P., French, S.A., and A.Taylor (2002). *What Works (What Doesn't Work) Revised 2002*. Invited Submission to the International Community Corrections Association Monograph Series Project

Gendreau, P., P. Smith, and S. A. French. (2006). "The Theory of Effective Correctional Intervention: Empirical Status and Future Directions." In *Taking Stock: The Status of Criminological Theory*. *Advances in Criminological Theory*, vol. 15, edited by Francis T. Cullen, John Paul Wright, and Kristie R. Blevins. New Brunswick, NJ: Transaction.

- Glaze, L. E. & Palla, S. (2005). Probation and parole in the United States, 2004. Bureau of Justice Statistics Bulletin, November, U.S. Department of Justice.
- Glaze, L. E. and T.P. Bonzcar, "Probation and Parole in the United States, 2006," *Bureau of Justice Statistics Bulletin*, Washington, DC: DOJ/OJP/BJA, Revised July 2008.
<http://bjs.ojp.usdoj.gov/content/pub/pdf/ppus08.pdf>
- Glaze, L., (2010). Correctional Populations in the United States, 2009. Washington, DC: US Department of Justice, Office of Justice Programs, Bureau of Justice Statistics.
- Gmel, G. (2001). Imputation of missing values in the case of a multiple item instrument measuring alcohol consumption. *Statistics in Medicine*. 20 (15), 2369-2381.
- Gottfredson, D.M., Neithercutt, M.G., Nuffield, J. and O'Leary, V. (1973). "Four Thousand Lifetimes: A Study of Time Served and Parole Outcomes." National Council on Crime and Delinquency, Davis, CA.
- Gottfredson, D.M., Gottfredson, M.R. and Garofalo, J. (1977). "Time Served in Prison and Parole Outcomes Among Parolee Risk Categories." *Journal of Criminal Justice*. 5, 1-12.
- Gottfredson, D.M. and Tonry (ed) (1987) *Prediction and Classification; Criminal Justice Decision Making*, The University of Chicago Press.
- Gottfredson, D.M., and Hirschi, T. (1990). *A General Theory of Crime*. Stanford University Press, California.
- Gray, M. K., Fields, M., & Maxwell, S. R. (2001). Examining probation violations: Who, what, and when. *Crime & Delinquency*, 47, 537-557.
- Green, D. and Winik, D., (2010). Using random judge assignments to estimate the effects of incarceration and probation on recidivism among drug offenders. *Criminology*. 48 (2), 357-387.
- Guerino, Paul, Page M. Harrison, and William J. Sablo, (2011). "Prisoners 2010". Bureau of Justice Statistics, U.S. Department of Justice, Office of Justice Programs. Available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/p10.pdf>
- Holland, T., Holt, N. & Beckett, G. (1982). Prediction of violent versus nonviolent recidivism from prior violent and nonviolent criminality. *Journal of Abnormal Psychology*, 91, 178-182.

Holland, S, Pointon, K & Ross, S. (2007). Who returns to prison? Patterns of recidivism among prisoners released from custody in Victoria in 2002-03, Corrections Research Paper Seriesno, Department of Justice, Victoria, Melbourne.

Jalbert, S.K., Rhodes, W., Kane, M., Clawson, E., Bogue, B., Flygare, C., Kling, R., & Guevara, M. (2011). A Multi-Site Evaluation of Reduced Probation Caseload Size in an Evidence-Based Practice Setting. Washington D.C.: U.S. Department of Justice.

Johnson, J., Lowenkamp, C., Vanbenschotten, S., and C. Robinson (2012). The Construction and Validation of the Post-Conviction Risk Assessment (PCRA). *Federal Probation*, Volume 75 (2).

Klein, A.; Crowe, A. H.; Wilson, D.; and DeMichele, M. (2005). "Evaluation of the Rhode Island Probation Specialized Domestic Violence Supervision Unit." National Institute of Justice, Office of Justice Programs.

Kroner, D. (personal communication, 2011)

Kroner D., and M Takahashi (2012) Every session counts: The differential impact of previous programmes and current programme dosage on offender recidivism. *Legal and Criminological Psychology*. Volume 17, (1), 136–150

Lagan, P. and M.A. Cunniff. (1992). *Recidivism of Felons on Probation, 1986-1989*. Washington, D.C.: U.S. Department of Justice, Bureau of Justice Statistics.

Allen, H., Eskridge, C., Latessa, E., & Vito, G. (1990). *Probation and Parole in America*. New York: The Free Press.

Landenberger, N.A., and M. Lipsey, (2005). "The Positive Effects of Cognitive-behavioral Programs for Offenders: A Meta-analysis of Factors Associated with Effective Treatment," *Journal of Experimental Criminology*, (1) 451-476

Landis, J. R., Mercer, J. D., & Wolff, C. E. (1969). Success and failure of adult probationers in California. *Journal of Research in Crime and Delinquency*, 6, 34-40.

Latessa, E. J. (1987). The effectiveness of intensive supervision with high risk probationers. In B. R. McCarthy (Ed.), *Intermediate punishments: Intensive supervision, home confinement and electronic surveillance* (99–112). Monsey, NY: Willow Tree.

Latessa, E. J., & Allen, H. E. (1999). *Corrections in the community*. Cincinnati, OH: Anderson.

Latessa, Ed (personal telephone communication, 2011)

Laub, J.H. and R J. Sampson. (1993) Turning Points in the Life Course: Why Change Matters to the Study of Crime. *Criminology*. 31:301-325.

Lemert, E.M. (1951). *Social pathology: Systematic approaches to the study of sociopathic behavior*. New York: McGraw-Hill.

Lipsey, M. W. (1995). What do we learn from 400 research studies on the effectiveness of treatment with juvenile delinquency. In J. McGuire(Ed.) *What works: Reducing reoffending* (pp. 63–78). Chichester, UK:Wiley.

Lipton, D., Martinson, R., & Wilks, J. (1975). *The effectiveness of correctional treatment: A survey of treatment evaluation studies*. New York:Praeger.

Lindsay, W.R., and Smith, A.H. (1998); Responses to treatment for sex offenders with intellectual disability: a comparison of men with 1- and 2-year probation sentences; *Journal of Intellectual Disability Research*, Volume 42 (5).

Losel, F. (1995). The efficacy of correctional treatment: A review andSynthesis of meta-evaluations. In J. McGuire (Ed.), *What works: Reducing reoffending* (79–111). Chichester, UK: Wiley.

Lowenkamp, C. T. (2004), 'Correctional Program Integrity and Treatment Effectiveness: A Multi-Site, Program-Level Analysis', unpublished PhD thesis, University of Cincinnati

Lowenkamp, C.T.; Lovins, B.; and Latessa, E.J. (2009). Validating the Level of Service Inventory-Revised and the Level of Service Inventory: Screening Version with a Sample of Probationers. *The Prison Journal*, 89 (2), 192-204.

Lowenkamp, C.T., and Bechtel, K. (2007). Predictive Validity of the LSI-R on a Sample of Offenders Drawn from the Records of the Iowa Department of Corrections Data Management System. *Federal Probation*, 71 (3), 25-29.

Lowenkamp, C.r T.; Holsinger, A.M.; and Latessa, E.J. (2001). Risk/Need Assessment, Offender Classification, and the Role of Childhood Abuse. *Criminal Justice and Behavior*, 28(5) (2001): 543-563.

Lowenkamp, C. T., Latessa, E. J, and Holsinger, A. M. (2004). Empirical Evidence on the Importance of Training and Experience in Using the Level of Service Inventory-Revised. *Topics in Community Corrections*
<http://www.nicic.org/pubs/2004/period274.pdf>.

- Loughran, T., Mulvey, E., Schubert, C., Fagan, J., Piquero, A, and S Losoya, (2009), Estimating a dose-response relationship between length of stay and future recidivism in serious juvenile offenders. *Criminology*, Volume 47, Wiley Online Library
- Maguire, K., and A. L. Patore, eds. (1995). *Sourcebook for Criminal Justice Statistics, 1994*. Washington, D.C.: U.S. Department of Justice, Bureau of Justice Statistics.
- MacKenzie, D.L., K. Browning, S.Skroban and D. Smith. (1999). The impact of probation on the criminal activities of offenders. *Journal of Research in Crime and Delinquency*. 36(4): 423-453.
- MacKenzie, D.L. (1997). *Criminal justice and crime prevention*. In *Preventing Crime: What Works, What Doesn't, What's Promising*, edited by L.W. Sherman, D. Gottfredson, D.
- Mackenzie, D., (2002). "Reducing the Criminal Activities of Known Offenders and Delinquents: Crime Prevention in the Courts and Corrections." In *Evidence-Based Crime Prevention*, edited by Lawrence W. Sherman, David P. Farrington, Brandon C. Welsh, and Doris Layton MacKenzie. London: Routledge.
- MacKenzie, D.L. and S. De Li. (2002). The impact of formal and informal social controls on the criminal activities of probationers. *Journal of Research in Crime and Delinquency*, 39(3):243-276.
- MacKenzie, J. Eck, P. Reuter, and S. Bushway. Report to the U.S. Congress. Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.
- Mackenzie, D. (2006). *What Works in Corrections: Reducing the Criminal Activities of Offenders and Delinquents*. New York: Cambridge University Press.
- Maltz, M. D. ([1984] 2001). *Recidivism*. Originally published by Academic Press, Inc., Orlando, Florida. Internet edition available at <http://www.uic.edu/depts/lib/forr/pdf/crimjust/recidivism.pdf>
- Marasuk, L.M., & Parks, E., (2012), *Probation and Parole in the United States 2011*. U.S. Department of Justice, Bureau of Justice Statistics.
- Martinson, R. (1974). "What Works? - Questions and Answers about Prison Reform," *The Public Interest*, 22-54.
- Maruna, S. (2012). Elements of Successful Desistance Signaling . *Criminology & Public Policy*. 11, 73-83.

- Mayzer, R., Gray K., and Maxwell, S. (2004). Probation Absconders: A Unique Risk Group? *Journal of Criminal Justice* .Volume 32, March/April, 137-150.
- McGuire, J., (2006). *What Works, Reducing Reoffending: Guidelines from Research and Practice*, Wiley Publishing.
- McGaha, J., Fichter, M., & Hirschburg, P. (1987). Felony probation: A re-examination of public risk. *American Journal of Criminal Justice*, 11, 1-9.
- Mead, Bennet (1937). Is there a Measure of Probation Success? *Federal Probation*
- Menard, S. (2001). *Applied Logistic Regression Analysis*. Sage University Papers Series on Quantitative Applications in the Social Sciences, Thousand Oaks, CA: Sage Publications.
- Minor, K., Wells, J., & Sims, C. (2003, June). Recidivism Among Federal Probationers--Predicting Sentence Violations. *Federal Probation*, 67(1), 31.
- Minton, T. (2012). Prison and Jail Inmates. Bureau of Justice Statistics, Annual Survey of Jails, <http://www.bjs.gov/index.cfm?ty=pbdetail&iid=4235>
- Missouri Division on Probation and Parole (1976). Probation in Missouri, July 1 1968-June 30, 1970: Characteristics, performance and criminal re-involvement. Jefferson County, MO: Division of Probation and Parole.
- Morgan, K. D. (1993). "Factors Influencing Probation Outcome: A Review of the Literature," *Federal Probation*, 57 (2): 23-39.
- Morgan, K. D. (1994). Factors associated with probation outcome. *Journal of Criminal Justice*, 22, 341-353.
- Morris, N., and Tonry, M. (1990). *Between Prison and Probation: Intermediate Punishments in a rational Sentencing System*, Oxford University Press.
- McKnight, P., K. McKnight, S. Sidani & A.J. Figueredo (2007). *Missing Data: A Gentle Introduction*, Guilford Publishing Inc., New York
- Nagin, D., Piquero, A., Scott, E., and Steinberg, L. (2006). Public preferences for rehabilitation versus incarceration of juvenile offenders: Evidence from a contingent valuation survey. *Crime and Public Policy*, 5, 301-326. (PDF)

Nagin, D.S., Cullen F.T, Lero-Jonson C. (2009). Imprisonment and Re-offending. In: Tonry Michael H., editor. *Crime and Justice: An Annual Review of Research*. vol. 38. Chicago, IL: University of Chicago Press

National Institute of Justice (2010). *Recidivism*,
<http://www.nij.gov/nij/topics/corrections/recidivism/welcome>

Negelkerke, N.J.D. (1991). A note on the general definition of the coefficient of determination. *Biometrika*, 78, 691-692.

Newman, G. (1985). *Just and Painful: A Case for Corporal Punishment of Criminals*, Macmillan Publishing Company.

Orsagh, T. and Chen, J.R. (1988). "The Effect of Time Served on Recidivism: An Interdisciplinary Theory." *Journal of Quantitative Criminology*. 4(2): pp. 155-171.

Palmer, T. (1975). Martinson revisited. *Journal of Research in Crime and Delinquency*. 12(2):133-152

Palmer, T. (1992). *The Reemergence of Correctional Intervention*, Sage Publications, Inc.

Paternoster, R., & A. R. Piquero. (1995). Reconceptualizing Deterrence: An Empirical Test of Personal and Vicarious Experiences. *Journal of Research in Crime and Delinquency* 32(3):251-86.

Pampel, F.C.; (2000). *Logistic Regression: A primer*. Sage University Papers Series on Quantitative Applications in the Social Sciences, 07-132. Thousand Oaks, CA: Sage Publications.

Paparozzi, Mario & DeMichele, Matthew, T. (2007). Probation and Parole: Overworked, Misunderstood, and Under-Appreciated: But Why? *The Howard Journal of Criminal Justice*, Vol. 47 (3), 275-296.

Paparozzi, M. & P. Gendreau. (2005). An Intensive Supervision Program That Worked: Service Delivery, Professional Orientation, and Organizational Supportiveness. *The Prison Journal*. 85(4):445-466.

Paternoster, R. and Iiovanni, L. (1989). The labeling perspective and delinquency: An elaboration of the theory and an assessment of the evidence. *Justice Quarterly*, 6, 359-394.

Payne, B. & Gainey, R. (1998). A qualitative assessment of the pains experienced on electronic monitoring. In *International Journal of Offender Therapy*. Vol 42 (2). Sage Publications: England.

Petersilia, Joan (1994). What Punishes? Inmates Rank the Severity of Prison vs. Intermediate Sanctions. *Federal Probation*, 58(1), 3-8.

Petersilia, Joan. 2002. "Community Corrections." In *Crime: Public Policy for Crime Control*, edited by James Q. Wilson and Joan Petersilia. Oakland, CA: ICS Press.

Petersilia, J., (1985) Summarizing RAND's Study of Adult Felony Probation. Santa Monica, CA: RAND Corporation, 1985.

Petersilia, J.& Susan T. (1986). Prison versus Probation in California: Implications for Crime and Offender Recidivism, R-3323-NIJ, The RAND Corporation.

Petersilia, J.& Susan T. (1989). "Reducing Prison Admissions: The Potential of Intermediate Sanctions," *The Journal of State Government*, Vol. 62, (2), 65-69.

Petersilia, J., & S. Turner (1990) Comparing Intensive Regular Supervision for High Risk Probationers: Early Results from an Experimentation California, *Crime & Delinquency*. Volume 36 (1), 87-111.

Petersilia, J. & Susan T. (1993). Evaluating Intensive Supervision Probation/ Parole: Results of a Nationwide Experiment. Research in Brief. Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.

Petersilia, J., (1998). Probation in the United States, Part I, *Perspectives*, Spring 1998.

Petersilia, J. (1998). Probation in the United States, Part II, *Perspectives*, Summer 1998.

Petersilia, J. (1997). Probation in the United States. *Crime and Justice*, 22, 149-200.

Piquero, A.R., Gomez-Smith, Z., & Langton, L. (2004). Discerning Unfairness Where Others May Not: Low Self-Control and Unfair Sanction Perceptions. *Criminology*. 42 (3): 699-734.

Piquero, A. R., and R. Paternoster. 1998. "An Application of Stafford and Warr's Reconceptualization of Deterrence to Drinking and Driving." *Journal of Research in Crime and Delinquency* 35(1):3-39.

- Pogarsky, G., and A. Piquero. (2003). "Can Punishment Encourage Offending? Investigating the 'Resetting Effect.'" *Journal of Research in Crime and Delinquency* 40(1): 95–120.
- Pogarsky, G. (2007). Deterrence and individual differences among convicted offenders. *Journal of Quantitative Criminology*. 23:59-74.
- Prendergast, M. L., M. D. Anglin, and J. Wellisch. (1995). "Treatment for Drug-Abusing Offenders under Community Supervision." *Federal Probation* Volume 59, Issue 4.
- Renner, J. (1978). *The Adult Probationer in Ontario, Canada*. Ontario Ministry of Correctional Services.
- Rhodes W. (1986). A survival model with dependent competing events and right-hand censoring: Probation and parole as illustration. *Journal of Quantitative Criminology*. 2: 113-137.
- Robinson, C, Lowenkamp, C, Holsinger, A; VanBenschoten, S, Alexander, M and J.C. Oleson, (2012); A random study of Staff Training Aimed at Reducing Re-arrest(STARR): Using Core Correctional practices in Probation Interactions. *Journal of Crime and Justice*. 1–22,
- Rogers, S. (1981). *Factors related to recidivism among adult probationers in Ontario*. Toronto, Ontario: Ontario Ministry of Correctional Services
- Ross, R., and Gendreau, P (1987). "Revivification of Rehabilitation: Evidence from the 1980s," *Justice Quarterly, Academy of Criminal Justice Sciences*, Vol. 4.
- Roundtree, G. A., Edwards, D. W., & Parker, J. B. (1984). A study of the personal characteristics of probationers as related to recidivism. *Journal of Offender Counseling, Services and Rehabilitation*, 8, 53-61.
- Rothman, D.J. (1980). *Conscience and Convenience: The Asylum and its Alternatives in Progressive America*. Boston: Little, Brown.
- Rush, F. L. (1987) " Deinstitutional Incapacitation: Home Detention in Pre-Trial and Post-Conviction Contexts." *Northern Kentucky Law Review*. 13(3): 375-408.
- Ryan, T. (1997). *Modern Regression Methods, Wiley Series in Probability and Statistics*, John Wiley and Sons Inc., New York.
- Schneider, A. and W. McKim. (2003). "Stigmatization Among Probationers." *Journal of Offender Rehabilitation*. 38: 19-31.

- Sherman, L. (1993). Defiance, deterrence, and irrelevance: A theory of the criminal sanction. *Journal of research in crime and delinquency*, 30, 445-473.
- Shields, I. W., & Whitehall, G. C. (1991). *The Pride in Delinquency Scale*. Paper presented at the eastern Ontario correctional psychologists' winter conference, Burritts Rapids, Canada.
- Simourd, D. J. (1997). The Criminal Sentiments Scale – Modified and Pride in Delinquency Scale: Psychometric properties and construct validity of two measures of criminal attitudes. *Criminal Justice and Behavior*, 24, 52-70.
- Simourd, D. J., & Van de Ven, J. (1999). Assessment of criminal attitudes: Criterion-related validity of the Criminal Sentiments Scale – Modified and Pride in Delinquency Scale. *Criminal Justice and Behavior*, 26, 90-106.
- Sims, B., & Jones, M. (1997). Predicting success or failure on probation: Factors associated with felony probation outcomes. *Crime and Delinquency*, 43, 314-327.
- Sieh, E.W. (1993). From Augustus to the progressives: A study of probation's formative years. *Federal Probation*, 57, 67-72.
- Smith, P., C. Goggin, and P. Gendreau (2002). The Effects of Prison Sentences and Intermediate Sanctions on Recidivism: General Effects and Individual Differences. Solicitor General Canada. <http://www.sgc.gc.ca>.
- Smith, P. (2006). "The Effects of Incarceration on Recidivism: A Longitudinal Examination of Program Participation and Institutional Adjustment in Federally Sentenced Adult Male Offenders." PhD dissertation, University of New Brunswick, Department of Psychology.
- Smith, P; Cullen, F. T.; and Latessa, E. J. (2009). Can 14, 737 Women Be Wrong? A Meta-Analysis of the LSI-R and Recidivism for Female Offenders? *Criminology & Public Policy*, 8(1), 183-208.
- Smith, Paula (personal communication, 2011)
- Snodgrass, M., Blokland, A., Haviland, A., Nieuwbeerta, P., and D Nagin, (2011), Does the Time Cause the Crime? An Examination of the Relationship between Time Served and Reoffending in the Netherlands. *Criminology*, Volume 49, Issue 4, pages 1149-1194.
- Spivak, A. L. and K.R. Damphousse. (2006). "Who Returns to Prison? A Survival Analysis of Recidivism Among Adult Offenders Released in Oklahoma, 1985-2004." *Justice Research and Policy*. 8: 57-88.

- Spohn, C. and D. Holleran. (2002) The Effect of Imprisonment on Recidivism Rates of Felony Offenders: A Focus on Drug Offenders. *Criminology*. 40: 329-357.
- Sutherland, E., & Cressey, D., (1960). *Principles of Criminology* , 6th ed., Philadelphia: Lippencott, page 3.
- Sykes, G. and Matza, D.. (1957). *Techniques of Neutralization: A Theory of Delinquency*. American Sociological Review. 22(6). 664-670
- Sykes, G. M. (1958). *The society of captives*. Princeton, NJ: Princeton University Press.
- Taxman, F. S. (2002). Supervision-Exploring the dimensions of Effectiveness. *Federal Probation*, September, 14-27
- Taxman, F. S., Shepardson, E. S., and Byrne, J.M. (2004). Tools of the Trade: A Guide to Incorporating Science into Practice. Washington, D.C.: U.S. Dept. of Justice, National Institute of Corrections. <http://www.nicic.org/Library/020095>
- Tonry, M., and M. J. Lynch (1995). Intermediate sanctions. In Michael Tonry (ed.), *Crime and Justice: A Review of Research*, Vol. 20. Chicago, Ill.: University of Chicago Press.
- Torres, S. (1997). "An Effective Supervision Strategy for Substance-Abusing Offenders." *Federal Probation*, 61(2), 38-44.
- Trotter, C., (1996) The impact of different supervision practices in community supervision: cause for optimism. *The Australian and New Zealand Journal of Criminology*, 29 (1), 29–46.
- Trotter, C., (1999) .*Working with involuntary clients: a guide to practice*. London: Sage.
- Turner, S., and Petersilia, J. (1992). Focusing on high-risk parolees: An experiment to reduce commitments to the Texas Department of Corrections. *The Journal of Research in Crime and Delinquency*. 29(1):34-61.
- Vito, G. F. (1986). Felony probation and recidivism: Replication and response. *Federal Probation*, 50, 17-25.
- Volk, Judy (personal communication, 2012).
- Vose, B., (2008). Assessing the Predictive Validity of the Level of Service Inventory-Revised: Recidivism among Iowa Parolees and Probationers. Doctoral dissertation, University of Cincinnati.

What are pseudo R-squared? UCLA: Statistical Consulting Group. from http://www.ats.ucla.edu/stat/mult_pkg/faq/general/Psuedo_RSquareds.htm (accessed May 31, 2013).

Whitehead, J. T. (1991). The effectiveness of felony probation: Results from an eastern state. *Justice Quarterly*, 8, 525-543.

Wolfgang, M. E. (1983). Delinquency in two birth cohorts. *American Behavioral Scientist*, 27 (1), 75-86.

Wolfgang, M. E., Figlio, R. M., & Sellin, T. (1972). *Delinquency in a birth cohort*. Chicago: University of Chicago Press.

Worrall, A., & Hoy, C. (2005). *Punishment in the Community. Managing offenders, making choices*. Cullompton: Willan.

Wisconsin Department of Corrections (1965) A comparison of the Effects of Using Probation versus Incarceration for Burglars with no previous felony convictions. Madison, WI, Division of Corrections.

Wilson, D, Gallagher, C.A., Coggeshall, M.B. (1999). A quantitative review and description of corrections-based education, vocation, and work programs. *Corrections Management Quarterly*, 3 (1).

Wilson, D., Mitchell, O., & MacKenzie, D. (2006). A systematic review of drug court effects on recidivism. *Journal of Experimental Criminology*, 2(4), 459-487.

Zamble, E, and V. Quinsey. (2001). *The Criminal Recidivism Process*. Cambridge, U.K.: Cambridge Univ. Press.

Zimring, F. and G Hawkins (1995) *Incapacitation: Penal Confinement and the Restraint of Crime*, New York: Oxford University Press