

ABSTRACT

Title of Thesis: THE IMPACT OF A CORRECTIONAL BOOT CAMP ON SOCIAL BONDS: A RANDOMIZED COMPARISON OF A TRADITIONAL PRISON AND A THERAPEUTIC BOOT CAMP

Michael Ansel Rocque, Master of Arts, 2007

Thesis directed by: Dr. Doris L. MacKenzie
Department of Criminology and Criminal Justice

This paper examines the relationship between a correctional program and social bonds. Research in the field of criminology has demonstrated the importance of adult social bonds with regard to reductions in criminal behavior. However it is unclear if correctional policies can influence social bonds. This study conducts an evaluation of a correctional boot camp (CBC) in relation to its effect on commitment and attachment of incarcerated offenders, using data from the on-going Randomized Study of a Maryland boot camp. The findings show that the particular CBC studied has a weak effect on the measured social bonds. An age interaction is examined to determine if there is a greater treatment effect for older offenders. Results indicate a weak age interaction for one of the measured bonds. Overall correctional boot camps do not appear to help form or enhance social bonds. Implications and directions for future research are discussed in the conclusion.

THE IMPACT OF A CORRECTIONAL BOOT CAMP ON SOCIAL BONDS: A
RANDOMIZED COMPARISON OF A TRADITIONAL PRISON AND
THERAPEUTIC BOOT CAMP

By

Michael Ansel Rocque

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Master of Arts
2007

Advisory Committee:
Professor Doris L. MacKenzie, Chair
Professor Raymond Paternoster
Professor Denise C. Gottfredson

©Copyright by

Michael Ansel Rocque

2007

ACKNOWLEDGMENTS

As is the case for any research endeavor, the present work could not have taken place without the concerted efforts of multiple individuals. Thanks must go to my patient advisor, Dr. Doris L. MacKenzie, for providing support, guidance and a great dataset. Dr. Denise Gottfredson's careful assessment and advice also helped to better the final product in a way that would not have otherwise been possible. Thanks must also go to Dr. Ray Paternoster, without whom I'm sure, this work would still be "in progress". He became, perhaps unwittingly, a mentor for me along the way. I also cannot forget the countless reviewers from the ranks of the graduate student world, who helped focus my words so that they eventually became coherent. Finally, I cannot thank my fiancée, Andrea, enough for sticking with me through a process that required hard work from the both of us.

TABLE OF CONTENTS

ACKNOWLEDGMENTS.....	ii
LIST OF ABBREVIATIONS.....	vi
CHAPTER I.....	1
~Introduction.....	1
A. Starting Points.....	1
B. What Lies Ahead.....	6
CHAPTER II.....	9
~Theoretical Orientation.....	9
A. The Fusion of Social Control and Rational Choice.....	9
B. Stake in Conformity: Attachment and Commitment.....	11
CHAPTER III.....	18
~Literature Review.....	18
A. Social Bonds and the Criminal Justice System.....	18
B. Can We Influence Social Bonds?.....	26
C. Boot Camps: Attitudes and Cognitive Change.....	31
D. Age in the Context of Social Bonds/Corrections.....	39
E. Research Questions and Hypotheses.....	42
CHAPTER IV.....	47
~Current Study.....	47
A. Methodology/Data.....	47
B. Treatment Conditions.....	59
C. Measures.....	60
D. Analytic Strategy.....	73
CHAPTER V.....	75
~Analysis.....	75
A. Models.....	75
B. Results.....	77
C. Age and Condition Interaction.....	82
Chapter VI.....	87
~Making Sense of It All: Discussion and Implications.....	87
A. Study Limitations.....	90
B. Theoretical Implications.....	92
C. Policy Implications.....	95
D. Research Implications.....	97
E. Conclusions.....	99
REFERENCE MATTER.....	101
APPENDIX A. Attachment Scales.....	101
APPENDIX B. Commitment Scale.....	103
REFERENCES CITED.....	104

LIST OF TABLES

Table 1. Breakdown of Initial Assignment and Attrition..... 49

Table 2. Equivalence Analysis of Treatment and Control at T1 52

Table 3. Logistic Regression Summary 57

Table 4. Commitment Factor Loadings: All Proposed Items..... 67

Table 5. Commitment Factor Loadings: Retained Items (Forced to One)..... 68

Table 6. Orthogonal Factor Loadings: All Proposed Attachment Items..... 69

Table 7. Supportive Attachment Retained Item Loadings. 70

Table 8. Facilitated Attachment Retained Item Factor Loadings..... 71

Table 9. OLS Regression Results for the Effect of the TBC on Commitment to
Conventionality 79

Table 10. OLS Regression Results for the Effect of the TBC on Supportive Attachment
..... 80

Table 11. OLS Regression Results for the Effect of the TBC on Facilitated Attachment
..... 81

Table 12. Split Case Regression: Commitment to Conventionality Regressed on TBC
(Older v. Younger)..... 83

Table 13. Split Case Regression: Supportive Attachment Regressed on TBC (Older v.
Younger)..... 84

Table 14. Split Case Regression: Facilitative Attachment Regressed on TBC (Older v.
Younger)..... 84

LIST OF FIGURES

Figure 1. Hypothesized Relationship Between Social Bonds and Condition.....44

Figure 2. Hypothesized Causal Scheme.....44

LIST OF ABBREVIATIONS

CBC=Correctional boot camp

SIC=Stake in Conformity

GED=General Education Diploma

FA=Factor Analysis

SRS=Self Report Survey

CHAPTER I

~Introduction

A. Starting Points

Little is known about how well particular theories relate to correctional policies. Some researchers argue that all correctional policies are at least partially informed by theory (Paternoster and Bachman, 2001; Wilcox et al., 2003). Yet few have attempted to measure the effect of correctional policies on variables other than recidivism. If theory is purported to be the guiding force behind particular policies, it is important to understand programmatic influences bearing on these theories. Evaluations as well as comprehension of correctional programs would benefit from an examination of the influence of those programs on theoretical variables that are empirically associated with recidivism.

One theory that appears particularly ripe for an examination within an adult correctional context is that of social bond theory (Akers, 1989; Hirschi, 1969; Sampson and Laub, 1993). Social bonds are defined as a relationship to an aspect of conventional society that promotes conformity (see Hirschi, 1969). Research during the last half century has shown that individuals with bonds to conventional society are less involved in offending. Much of this literature focuses on youthful offenders and explores how the formation of social bonds before the adolescent years is negatively associated with criminal behavior (Hirschi, 1969; Nye, 1958). Recent work (Horney et al., 1995; Laub and Sampson, 1993; 2003; Sampson and Laub, 1990; 1992; 1993) has applied the study of social bonds to adults. Empirical scholarship has demonstrated that commitment to conventional lines of behavior and attachment to others can be altered *after* transition into adulthood. For example, being involved in a good marriage or stable employment can

explain why offenders desist from crime. Thus, an interesting question emerges as to whether certain correctional programs can reduce recidivism by facilitating the formation or enhancement of such bonds in adult offenders.

Correctional Boot Camps (CBCs) represent a context within which to test the programmatic effect on a theory such as social control. Research has generally found that CBCs, as compared to traditional prisons do not differentially impact recidivism rates (MacKenzie et al., 1995). Some research has shown, however, that such camps can positively affect offenders' attitudes (MacKenzie et al., 2001a, Wright and Mays, 1998). Therefore it may be that thought processes are impacted—information policy-makers could take advantage of in order to reduce subsequent re-offending. This line of inquiry leads to the question of whether or not correctional policies relate to social bonds. Evaluations involving such an integration of theory (social bonds) and correctional policies (CBCs) have not received much attention in terms of research. Thus the purpose of this paper is to fill this literature gap by examining a particular correctional program in relation to its effect on social bonds in offenders.

Stake in Conformity

Toby's (1957) concept of "Stake in Conformity" (SIC) provides the theoretical framework for this investigation. This paper will consider social bonds such as commitment and attachment as comprising a form of social investment which increases the "stake" an individual has in society. Therefore, the discussion and investigation below refers mostly to "bonds" instead of SIC. The terminology and notion of social bonds is derived from Hirschi (1969) and others (Toby, 1957; Briar and Piliavin, 1965). For the purposes of the present study, attachment refers to an individual's relationship to another

person which influences lines of behavior. Attachments generally encourage conformity (Hirschi, 1969; Sampson and Laub, 1990; 1993) but some argue that attachments formed toward deviant others may increase antisocial behavior (Akers and Lee 1999; McCarthy and Hagan, 1995). In fact, McCarthy and Hagan write of “criminal capital” derived from *bonds* to deviant others (p. 66). Thus, some feel it is important to distinguish attachments to conventional and unconventional people. Following the logic of Hirschi (1969), this paper will not make a distinction between attachments to delinquents or conformists, considering instead that it is the influence of the attachment itself, not necessarily the “attachee” that affects criminal behavior. The concept of commitment comes directly from the work of Hirschi (1969), as well as from Becker (1960) and Stebbins (1970). Commitment involves one’s devotion to a particular conventional role or relationship to a societal institution. The general idea is that individuals who are committed to a particular lawful role or to conventional society as a whole will be less likely to engage in illegal acts for fear of risking the loss of the benefits derived from the coveted role. In this way, both commitment and attachment comprise one’s SIC.

Dataset and Research Rationale

This research will utilize data compiled as part of the Randomized Study of the Maryland Correctional boot camp to test the thesis that CBCs change levels of commitment or attachment in offenders. The data comes from the first truly experimental study completed in the context of adult CBCs (MacKenzie et al., 2003), thus provide a unique opportunity to examine the actual effect of such incarcerative conditions. Past studies have found little or no effect of such facilities, but the research in this realm is rife with a number of limitations. In a comprehensive analysis of boot camps in eight states MacKenzie et al. (1995) found marked differences between CBCs in guard-prisoner in-

teraction styles, and programmatic focus on rehabilitation. Many studies do not recognize program differences, which make sweeping generalizations about boot camps inappropriate. For example, failure to separate facilities that stress discipline instead of rehabilitation may be one reason that past studies have found no differences between CBCs and traditional prisons.

In addition, the extant literature includes only non-experimental or quasi-experimental designs that may not fully account for differences between the control and experimental groups, which could therefore result in erroneous conclusions in terms of selection bias. Due to the randomized design of the study from which the present data set is derived, differences between the control and experimental group are minimized, which allows for a more accurate examination of the effect of CBCs as compared to traditional prisons.

In light of the established connection between social bonds and crime or problem behaviors (see Horney et al., 1995; Hirschi, 1969; Lackey and Williams, 1995; Sampson and Laub, 1990), it is notable that few empirical studies have been conducted to examine the impact of CBCs on attachment or commitment. The reason for this is likely the consistent finding that CBCs do not lower recidivism; researchers note that boot camps do not impact future crime, thus perhaps logically conclude that bonds have not been affected¹. Stated differently, failure to find any discernable difference in recidivism rates, or evidence of a worsening effect of new correctional policies may be taken as a tacit in-

¹ Stinchcomb and Terry (2001) note that “recidivism is a commonly used measure of rehabilitative effectiveness” (p. 222). The research on CBCs is no exception; the majority of empirical studies examine the recidivism rates of offenders assigned to a Boot camp. Because of the disappointing findings in this regard, the general consensus is that Boot camps are ineffective. This paper starts from the assumption that Boot camps may influence some adult offenders in ways not yet identified by research. For this reason, research restricted to the examination of recidivism may not suffice as a measuring stick of the effectiveness of such facilities.

dication that these policies do not affect social bonds, given the nature of the relation of bonds to crime. However, due to the limitations of past research, this may be a flawed approach. A close examination of therapeutic facilities that stress rehabilitation instead of militarism may reveal a positive effect that past studies missed.

In addition to the limitations of past research, there are other reasons why studies that have failed to find a positive effect of boot camps are not proof positive that such facilities do not influence bonds. For instance, it is possible that social bonds are influenced by CBCs, but offenders need a lengthy period of adjustment to begin the process of desistance. That is, it could be that bonds are positively impacted by CBCs (i.e., an offender is MORE committed to conventional lines of action), but the individual cannot translate that commitment into attaining such things as employment or schooling immediately. Perhaps because of a difficulty in achieving a job or a steady relationship (and not because of a lack of commitment or attachment), illegal behavior may still persist *in the short-term* upon release². Thus, a study focusing only on recidivism would conclude that the CBC had no positive influence when it actually did. Short-term follow-ups of graduates from such camps would potentially miss an influence on commitment or attachment, because they do not measure such bonds directly and have not provided sufficient time for positive results to manifest³. Consequently, the extant literature regarding recidivism should not be taken as a measure of CBCs failure to facilitate or at least maintain important bonds to society.

² Stinchcomb and Terry (2001) and Osler (1991) note that releasing Boot camp graduates into communities without guidance or “aftercare” is not enough. That is, we cannot “shock” offenders and then offer nothing to ameliorate that effect after release. This follows the logic of my argument that if indeed commitment and attachment are increased, we need to facilitate these bonds to allow them to “stick” (i.e. through job programs, etc.).

³ Another explanation is that social bonds represent opportunities for offenders to turn their lives around. Whether they do so is a matter of choice and/or opportunity (Giordano et al., 2002; Laub and Sampson, 2003).

While it seems established that traditional incarceration negatively affects later social bonds (Huebner, 2005; 2007; Sampson and Laub, 1993; Western et al., 2001) an idea most researchers have overlooked is the possibility that certain forms of incarceration (e.g., therapeutic, educational) have a more positive influence than others. Moreover, such programs may only work for particular individuals or groups. Benda et al. (2003) pointed to this issue as a reason for the “failure” of such facilities. It could be that particular offenders are more amenable to correctional strategies than others. The present study will test for this prospect, with emphasis on age (see for example, Uggen, 2000). It is expected that older offenders, because of, perhaps greater levels of maturity, are able to benefit from any form of treatment (such as that offered by a therapeutic boot camp).

Internal controls, which social bonds or SIC foster, are a key part of desistance. Correctional policies that enhance such controls will likely elicit more positive offender outcomes. As Braithwaite (1989) put it, “within the family, punishment shifts from external to internal control. To the extent that punishment [formal, state sanctions] can be made to work by continuing to catalyze internal controls, it will be more effective...” (p. 319). Thus, examinations of behavioral as well as cognitive effects of programs are necessary to make correctional programs more effective.

B. What Lies Ahead

In the next chapters, a further explication of the theoretical basis for the paper and review of the literature is presented. Chapter II opens with a general overview of the theoretical orientation of the present study and then gives a background of ‘Stake in Conformity’ and social bonds. This is to explain the concepts discussed and measured later in the paper. In Chapter III, a discussion of the extant research on social bonds and adult

offenders is presented. This literature mostly pertains to the significance of social bonds in discriminating between offenders who have come in contact with the police and who subsequently re-offend. Multiple studies have shown that of those arrested, offenders with larger “stakes” in conventional society (i.e. marriage) are less likely to recidivate.

Chapter III continues with an examination of the literature on social bonds in relation to correctional contexts. The intent of this chapter is to show that social bonds, in particular, attachment to non-deviant significant others and commitment to conventional activities, are key factors in desistance from criminal activity for those who have been incarcerated, or served time on probation. These bonds represent a form of “social investment” in which the offender develops a “stake” in society such that he/she does not want to risk forfeiture of the benefits (real or perceived) from that investment. This section illustrates that bonds *are* vital for the successful adjustment of the adult offending population.

The third section of Chapter III reviews the relevant literature on CBCs. Whereas there have been no empirical studies conducted to test the impact of adult correctional boot camps on an offender’s level of social bonds, the review is limited to general research on CBCs, with particular focus on literature that investigates cognitive and attitudinal change. To conclude the literature review, several studies that have followed-up on graduates of boot camps are examined, illustrating the import of such bonds for successful adjustment to the community. The implications of such findings are that some CBCs may actually be more influential than current research (i.e. Stinchcomb and Terry, 2001) suggests. It may be that policy-makers are simply unaware of the beneficial aspects of such facilities, which has led to the disappointing results as regards re-offending.

It will be demonstrated in the following pages that while CBCs have not proven to be effective when compared with other incarcerative conditions (i.e. traditional prison/probation) with respect to recidivism, some internal factors *have* been shown to be affected by placement in a military-style structure. This is particularly true for CBCs that emphasize rehabilitation, education and treatment. Therefore, it may be possible that CBC's influence internal factors that do not translate immediately to reduced recidivism.

Chapter IV will follow the literature review with a discussion of the study methodology, exploring the measures as well as the sample used for analyses. Chapter V presents the results of the data analyses. This is the crux of the paper, investigating whether or not there is a difference between two relatively equal groups: one assigned to a CBC, one assigned to a traditional prison. If boot camps can be shown to increase commitment or attachment (social bonds or investment) of offenders, a significant contribution to the literature and understanding of certain types of these facilities will be made. The paper concludes with a chapter detailing policy implications and an attempt to make sense of the findings from the preceding chapter.

CHAPTER II

~Theoretical Orientation

The discussion and literature reviewed in this chapter revolves around the concepts that serve as the foundation for the present study for the purposes of introduction and explication. The concepts discussed are those that I used to test for differences between offenders who were in a boot camp and those in a prison in order to determine the relationship between theory and corrections. These include the social bonds such as attachment and commitment which make up “stake in conformity” (Toby, 1957). The chapter is organized as follows: First I present the theoretical orientation of the present research. Then I review the historical literature responsible for introducing the concepts relevant for this paper into the criminological lexicon.

A. The Fusion of Social Control and Rational Choice

Most studies, including the present, embedded in a framework of social control either explicitly or implicitly assume natural motivation to self-interested acts. Therefore, no special motivation is required for crime, which is by and large an act taken in the pur-

suit of some form of gratification (Hirschi, 1969; cf. Bernard and Snipes, 1996⁴; Agnew, 1993). Hence, the point of interest for such theoretical endeavors is to explain the mechanism that prevents individuals who want to commit crimes from doing so. This is a purely “Hobbesian” approach. Classical social control models have been misinterpreted to suggest that individuals are corporally restrained from crime, through “repression” (Gottfredson and Hirschi, 1990:99-100). These critiques, though, miss the important aspect of human agency involved in social control (see Laub and Sampson, 2003). Effective control is exerted when individuals are led to *want* to avoid crime and conform to conventional society. In this sense, social control theories are not so different from rational choice models (e.g., Clarke and Cornish, 1985; Cornish and Clarke, 1986) offered from the deterrence camp. Hirschi (1986) has argued that these two perspectives are in fact complimentary⁵.

Social control, then, is comprised of *both* constraint and choice. While agreeing with the position that social bonds result in interlocking dependencies and social capital (Sampson and Laub, 1993) which can at once restrain and be called upon to solve problems (thus providing an alternative to crime), this paper also assumes that attachments (relationships) and commitments (mental loyalties to a certain role) are rational investments in society which by themselves offer incentives to remain crime free. Just as one

⁴ Bernard and Snipes, in discussing the appropriateness of theoretical integration, show that there are, in fact, several unique interpretations of so-called “control” theories. Some tie the weakening of control to social structure, while others point to individual factors.

⁵ Hirschi argues that social control theory can provide an explanation for what he calls “criminality”, or the propensity to commit criminal acts. Once this propensity is established, rational choice theory can explicate the process of actually moving to embark on a particular criminal event. This is a point of divergence in the present work. I do not make such a distinction, and instead consider the two philosophies (social control and rational choice) as pieces of the same puzzle that fit together in leading one away from crime. Thus, a specific criminal act may be avoided *both* because of the constraints of attachments and commitments as well as a decision that “it simply is not worth it”. So the motivation to crime (propensity) in this view is not determined by external factors, but is considered as constant.

with a sizable bank account does not wish to make rash gambles with his savings, a person with investments in relationships and commitments does not wish to “gamble” with crime; especially if the consequences are the possible forfeiture of those investments. So instead of traditional conceptions of social control as restrictive of human actions, this analysis brings forth the notion of human agency—offenders’ choices in this sense are a vital aspect in the process of crime.

B. Stake in Conformity: Attachment and Commitment

For the present work, attachment and commitment are considered the foundation for one’s Stake in Conformity. The decision to limit the examination of social bonds (of the four types identified by Hirschi (1969)) to attachment and commitment is made for several reasons. First, Hirschi’s concept of involvement in conventional activities, aside from being the least highly correlated of his four social bonds to crime (p. 190), is impossible to measure within the context of the data for this research. The study participants had not been released into the community at the time of data collection, and therefore could not have had any substantial involvement in activities such as employment. Any ‘involvement’ in conventional activities is likely to have been required as part of the incarcerative stipulations⁶. Second, attachment and commitment are the two social bonds for which researchers most “frequently find support” (Vold et al., 2002: 187; see for example, Lackey and Williams, 1995). While it is true that attachment to conventional others is generally inversely related to crime while attachment to deviant others is positively

⁶ In a thorough review of empirical work regarding Hirschi’s specification of control theory, Kimberly Kempf (1993) found that involvement was the least tested “social bond” in the literature. Many researchers seem to consider it non-essential. Costello and Vowell (1999), in a critique of Matsueda’s (1988) test of differential association theory vs. social control theory, do not view his failure to include involvement as “important” (p. 819). The consensus appears reached that involvement is not essential for an adequate test of Hirschi’s thesis. Therefore, I do not believe this decision a mistaken strategy.

related to crime (see Hindelang, 1973), it is not possible to differentiate attachment in this study. Finally, whereas this study uses as its foundation the concept of “stake” in conventional society, or social investment, the social bond of belief does not seem relevant. An individual’s “stake” is something tangible that may be forfeited upon arrest. One does not stand to lose “beliefs” in the same way as he does relationships or goals. Thus commitment and attachment are suitable components of SIC.

Theoretical Literature

Jackson Toby’s landmark article in 1957 introduced the concept of “stake in conformity” (SIC). Briefly defined, Toby argued that SIC involves what individuals (in his case, “youngsters”) had invested in society. This can range from future plans, to social status, to interpersonal relationships. “Stake” is not established solely by social class however:

To determine the stake which a youngster has in conformity it is necessary to know more than the level which the family occupies in the economic system. His own victories and defeats in interpersonal relations can be predicted only roughly from family income or father’s occupation (p. 16).

Thus, one’s position in the social landscape, and logically along the life-course, does not affect the ability to acquire a “stake”.

Other criminologists had previously identified the import of inner and outer (social) controls leading to conformity to conventional society. Albert R. Riess, in a paper published in 1951, argued that a combined measure of “personal controls”, such as mature ego and internalization of laws and norms on the one hand, and social institutions such as the family, school and economy are integral in leading youths from delinquency. Specifically, in his analysis of 1,110 males aged 11-17, he found that weak internal controls in conjunction with an inadequate amount of social controls (a process he described

as a failure to submit to the control of social groups) is a greater predictor of delinquency than social controls alone. However, the somewhat unsophisticated statistical methodology, along with poorly specified constructs (weak ego is not well defined, and difficult to accurately measure, and Hirschi (1969) has criticized this work as tautological (p. 19)), render these findings more useful as a launching point for more recent research concerning social controls, which some have come to label “social bonds”⁷.

In one of the most well-known formulations of social control or bond theory, Travis Hirschi, in *Causes of Delinquency* (1969), tested four aspects of social bonds: 1.) Attachment; 2.) Commitment; 3.) Involvement; and 4.) Belief with a cohort of 4,000 youths from one county in California. He found evidence that these factors lead individuals away from the universal tendency to commit acts that are self-serving. In this Hobbesian approach, human beings are naturally self-interested and will pursue pathways perceived to benefit them unless social factors block this trajectory. The two strongest factors leading individuals away from crime were found to be attachment and commitment. Attachment indicated one’s strength of relationship with significant others, namely parents. If a juvenile feels strongly about his/her parents, he/she will not want to disappoint them by committing acts that they disapprove of. External controls lead to internal controls, whereby youths are guided by the thought of parental castigation. Clearly, this concept is distinct from the form of attachment examined for the purposes of studies with adult populations, where attachment often represents a positive relationship to significant others such as intimate partners and children.

⁷ For the remainder of this paper, I will refer to social control mechanisms as social bonds. The assumption is that informal social control and social bonds are conceptually indistinguishable.

Commitment, according to Hirschi, is the part of the social bonding process that deals with aspirations and goals—the type of person one wishes to be. It is analogous to SIC because it represents what the individual has invested, tangible and otherwise, in society (p. 178). The person must have “motivation to strive for conventional goals [or else] he is to that extent free to commit deviant acts”, and thus “aspirations are viewed as constraints on delinquency” (p. 162). For Hirschi, whose research concerned juveniles, the concept of commitment pertained to specific factors associated with that demographic, namely toward school, teachers and future plans. However, Hirschi did not consider if social bonds could be formed in adulthood, something he later came to argue was a moot point because propensity to commit crime was relatively “fixed” after early childhood thus social factors should not have a direct effect on the commission of crime (Gottfredson and Hirschi, 1990, especially chapter seven).

In 1960, Howard S. Becker provided a cogent description of commitment. Stebbins (1970) later expounded on this concept by introducing new (and to him) distinct components of commitment. Becker’s “side-bets” illustration described commitment as entailing certain interrelated aspects of one’s current behavior which constrained him or her into a role. Because of other interests that would be lost if that role is rejected, individuals remain situated in that role for extended periods of time. In his words:

Commitment is... “consistent behavior”. The commitment has been achieved by making a *side-bet*. The committed person has acted in such a way as to involve other interests of his, originally extraneous to the action he is engaged in, directly in that action. By his own actions prior to the final bargaining session he has staked something of value to him, something originally unrelated to his present line of behavior. The consequences of inconsistency will be so expensive that inconsistency in his bargaining stance is no longer a feasible alternative (Becker, 1960: 33; 35. Emphasis, his).

Thus, as is the working definition for this research, commitment is a part of SIC because it is a form of *investment* in society. By virtue of being committed to a conventional role in society, offenders can build up a stake; things they would lose (aspirations) if they deviated from that role. Theoretically, this should lead to reduced or a cessation of crime. Stebbins (1970) demarcated the concept of commitment into two parts: Value and Continuance. Value commitment, which is a more appropriate measure for this research, indicates how strongly one feels about the perceived rewards of a particular role which serve as an incentive to conform to the said role/identity. Continuance commitment is evidenced by the maintenance of one role or social position for an extended period of time for fear of the costs of giving up the role. In the context of incarcerated offenders, only value commitment seems applicable, though as Ritzer and Trice (1970) argued there seems to be little of import in these distinctions, and one could make the argument that they are simply different sides of the same coin. For example, one may stay in a certain job because they like the rewards; thus giving up the job would mean incurring a *cost* of losing those rewards. However, Stebbins work is important in describing commitment as delineated by Becker as constraining in nature. He recognized that commitment could also represent a mental loyalty to a role. For the purposes of this paper, mental loyalty and a rational choice to conform (see chapter one) are key theoretic concepts.

Scott Briar and Irving Piliavin extended commitment to criminal activities, combining commitment and situational factors to describe when delinquency is most likely. They argued that commitment to conformity influences a youth's choice of friends and sensitivity to adult commands. The general idea they introduce is similar to, but elaborative of, Toby's concept of stake in conformity (SIC). All adolescents experience "in-

duancements” to deviance, such as eyeing an abandoned toy for example. Yet, the desire to maintain one’s status as a role-abiding citizen, as well as to avoid risking personal investments (relationships, future goals, etc.) prevent certain of the youth from committing delinquencies (p. 39). Key for our purposes however, is their idea that “acquiring or losing stakes in conformity does not take place only through a sudden or cataclysmic event, nor is it an *irreversible* process” (Briar and Piliavin, 1965:41, Emphasis mine). This seems to suggest that even if youths do not develop commitment in childhood, the process is dynamic, meaning it is ongoing into adulthood. Indeed, Briar and Piliavin go on: “...many of those whose stakes in conformity have been low may encounter experiences which serve to increase their stakes, leading them in turn to more conventional behavior” (p. 41). Therefore, it is conceivable that events (or experiences) such as incarceration in a CBC may serve to initiate such change in course.

To sum, this paper uses SIC as the overall theoretical perspective. SIC, however, involves several components, including so-called social bonds, as well as a flavor of the rational choice perspective. It is argued that a person’s SIC prevents him or her from committing crimes by initiating an internal process whereby “risky” actions are viewed as detrimental to one’s interests, and is thus a protective factor.

CHAPTER III

~Literature Review

Having formed a foundation for the theoretical basis of this paper, I now turn to the empirical literature of interest. This chapter reviews the relation of social bonds to offenders in the criminal justice system (i.e. arrestees or parolees), followed by an inquiry into the question of how researchers have explained (or, as is largely the case failed to explain) the creation of social bonds. The final sections examine the boot camp literature relevant to social bonds. Generally speaking, this research has been limited to determining if social bonds are important in the process of desistance for boot camp graduates. Only one study was found that tested the effect of boot camps on offenders, but this was done for juveniles, not adults.

A. Social Bonds and the Criminal Justice System

Commitment and attachment components have been studied within the context of police responses and offender adjustment to society upon release from the criminal justice system (Hepburn and Griffin, 2004; MacKenzie and De Li, 2002; Sherman and Berk, 1984; Piquero, 2003; Wooldredge and Thistlewaite, 2002). Much of this literature serves to show that the possession of social bonds distinguish between those who are responsive to sanctions, and those who may not be, as illustrated in differential recidivism rates.

Bonds and Police Responses

In one of the most well-known studies in this literature, Dr. Lawrence Sherman and colleagues applied the concept of SIC to criminal justice policies in his work on domestic violence responses. In his initial study with Richard Beck (Sherman and Beck, 1984), it was discovered that of three possible police responses a.) mediation; b.) separation or c.) arrest, those who were arrested had subsequently less evidence of recidivism

upon a follow-up. However, due to limitations of the study (low participation rate, lack of random sample, and possible interaction effects of the study city), these results were not replicated in other studies. Of the 330 cases the authors examined, it was found that almost 28 percent came from three officers, illustrating that not all officers equally participated in the experiment. However, an interesting finding that manifested itself in replications was that arrest appeared to be more effective for those offenders with a “stake” in society.

Sherman et al. (1992) examined the results of a replication study in Milwaukee, to test to see whether sanctions increase illegal behavior (labeling theory) or reduce it (deterrence theory). The sample included 1,200 cases, which occurred between April 7, 1987 and August 8, 1988. Three theories were assessed: 1.) Conditional hypothesis-suggests that sanctions only deter those with ties to society; 2.) Replacement hypothesis-sanctions are only efficient when informal controls are insufficient; and 3.) Additive hypothesis-Both informal and formal sanctions deter, the more of either, the more deterrence (Sherman et al., 1992:681-682). This study is viewed as one of the best examinations of the impact of social bonds on correctional responses. In the past, corrections were mainly evaluated globally, and such variables as attachment of offender were largely ignored.

Sherman et al.’s results indicated that the conditional hypothesis was supported. That is, those with a greater SIC recidivate less upon criminal justice punishment than those with lower SIC. These results were highly significant, with a chi-square score of 7.04 ($p=.03$). However, conclusions drawn from this study are somewhat untenable because of simplistic measures of an offenders’ “stake”. SIC was measured by solely indicating whether one was employed and/or married. The researchers did not examine

strength or the quality of these bonds, and how this measure relates to desistance. To the extent that Sampson and Laub's (1993) Age-Graded Theory of Informal Social Controls is correct, one would not expect the mere occurrence of events (having a job or being married) to be adequate evidence for the existence of social bonds.

A similar study by John Wooldredge and Amy Thistlewaite studied the effect of SIC on domestic violence offenders. They contribute to the literature on deterrence and social investment by taking neighborhood variables into account, specifically the "proportion of higher stake residents" in the area in which the offender was placed while on probation (Wooldredge and Thistlewaite, 2002:45). These researchers posited that "informal social controls may interact with legal sanctions to provide 'dosage' effects on recidivism whereby informal controls only become effective for offenders when supplemented with formal controls" (p. 49). Using a sample of 3,310 individuals arrested for a domestic violence offense in one county in Ohio, Wooldredge and Thistlewaite combined community and individual level data to determine an interaction effect. They did not use a random design for selection of disposition group however. Stake, or social investment was measured using social mobility, educational attainment, employment and public assistance variables.

Wooldredge and Thistlewaite employed Hierarchical Linear Modeling for their analysis. Results indicated that SIC measures were significant predictors of re-arrest, with somewhat different interaction effects emerging between an offender's case disposition and level of stake as well as community stake level and case disposition. That is, an offender's recidivism was affected not only by SIC but residential factors and placement in a counseling program. Level of "stake" of a neighborhood did not appear to be a particu-

larly important influence on the effect of “court dispositions” (p. 66). The researchers mentioned in passing that their measure of commitment is not direct, because antecedent factors (things that happened in the past) do not necessarily represent a current state of commitment.

Social Bonds and Corrections

An offender’s “stake in conformity” or social investment is often a distinguishing characteristic between recidivists and non-recidivists with respect to those arrested by the police. There seems to be some mechanism that leads to desistance upon being “caught” for criminal behavior. This is viewed as the controlling aspects of an invested lifestyle. The effects of social investments of commitment and attachments have also been studied within the context of correctional responses⁸ (i.e. probation, parole, etc.). For the purposes of this research, the study of bonds with regard to individuals in a correctional setting is of particular interest. That is, whereas the present study seeks to determine how well a correctional policy influences social bonds (commitment and attachment), it is to the extant literature regarding offenders in correctional contexts and social bonds that we now turn.

The research involving social bonds and corrections typically does not measure whether correctional strategies increase or decrease social bonds such as commitment or attachment, but rather if those bonds predict those offenders who are able to “make it” in society after incarceration (see, e.g., Hepburn and Griffin, 2004; Piquero, 2003; but see Rex, 1999). In this, it is similar to the above literature, illustrating the effectiveness of

⁸ This is viewed as important because of the positions of some (e.g. Wooldredge and Thistlewaite, 2002) that the “threat” of sanctions is effective for high stake offenders, but not for low stake offenders and the opposite is true for actual sanctions. For example, “Perhaps more severe court sanctions administered to offenders with lower stakes in employment might be more effective for reducing re-arrest relative to the same dispositions administered to offenders with high stakes in employment” (p. 62).

social bonds as regards desistance at different levels of the criminal justice system. Relatedly, researchers have also explored whether “local life-circumstances” (current employment, marital status, etc.) affect one’s criminality after incarceration (MacKenzie and De Li, 2002; Horney et al., 1995). This section of the literature review serves to further illustrate the importance of social investments in leading offenders away from criminal behavior for those sanctioned by the correctional system.

Recently, Nicole L. Piquero explored the effectiveness of probation in the context of two types of conditions in Maryland. Piquero compared the outcomes of probationers using a random sample of 500 offenders under “Hotspot⁹” probation, matched with an equal number of “pre-Hotspots” offenders. In both “Hotspots” probation and normal probation, one significant finding she found revolved around an offender’s SIC. The more one had invested in society, the less likely he/she was to recidivate. This indicates that for those under correctional supervision, SIC is a key factor leading to differential rates of recidivism. The coefficients in the Weibull split-population models for SIC measures were .12 and .67 for arrest and technical violations respectively (Piquero, 2003: 301). That is, a positive association was found, indicating that the more “stake”, the greater the time until re-offending. This finding proved significant for technical violations (Piquero, 2003:302).

Once again however, the measure of SIC seems to be an inadequate assessment of investment in conventional society. Offenders were simply asked if they were married, had a job and their educational attainment. It is highly likely that an individual may have a relationship, or have graduated from high school, yet not developed the type of bond

⁹ This is a Maryland initiative designed to combat crime with a new approach. It is community-oriented, and includes numerous programs “that in the past proved effective” (Piquero, 2003: 297).

important for a lasting commitment to conventional society. In this and the Sherman et al. study, the dichotomous variables may just be discriminating between those for whom sanctions are effective in the short term, rather than those, by virtue of ties to society, who are on a trajectory of desistance. Following the logic of Sampson and Laub (1993), one would not expect merely having a job or a spouse to result in the resources needed to stop offending. Measures which captured the extent to which offenders are attached to spouses or jobs might be able to shed more light on this issue.

John R. Hepburn and Marie L. Griffin examined the social bonds of probationers to determine if these variables explained differences between those who recidivated and those who did not. This and the previous study are directly applicable to the present research in that if social bonds facilitate an individual's adjustment to society once released from incarceration, then clearly any type of incarcerative condition that influences the creation of such bonds needs to be identified. This knowledge can help inform the direction of certain policies. Hepburn and Griffin (2004) used employment variables as representative of commitment and also include familial and peer relationships as indicators of attachment. They began by noting that some research (e.g., MacKenzie et al., 1999) has shown that successful adjustment to society is not due to social bonds, whereas other research (e.g., Kruttschnitt et al., 2000; Mackenzie and Brame, 2001) has shown that social bonds *are* important to the outcome of probationers.

Examining 258 convicted child molesters (a decidedly high risk population), Hepburn and Griffin tested whether full-time employment and social support from family and friends predicted successful adjustment during probation. The authors defined successful adjustment as a lack of re-arrest or technical violation (Hepburn and Griffin,

2004: 56). The key findings from this study were that those with full-time employment and higher levels of social support had the longest time to failure (revocation of probation). The researchers summed their findings by noting: “The rate of failure among those without positive family support was significantly greater than the rate of failure among those who had positive family support” (Hepburn and Griffin, 2004: 59).

This article may be criticized on a number of grounds, including the use of a highly ungeneralizable sample, and the failure to take into account negative bonds which may lead to further criminality. However, it is viewed as an essential contribution to the literature due to the careful operational definitions of social bonds. The researchers used more than simply one or two dichotomous variables to measure this construct, which may tap more deeply into social bonds.

Social bonds have also been examined with respect to what Horney et al. (1995) term “local life circumstances” of probationers. Horney and her colleagues sought to extend Sampson and Laub’s (1993) finding that offenders’ trajectories could be altered by circumstances and events such as a strong marriage or stable employment, which are the components of social bonds of interest for this paper. Sampson and Laub emphasized that bonds to institutions and others take time to develop. For them, “the quality, strength and interdependence of social ties” (1993: 21) are key. Horney et al. (1995), taking a different perspective, explored whether life events in the short run can influence the rate of offending for individuals. That is, they tested the immediate impact of certain events themselves to determine if those events such as work or marriage altered offenders’ crime patterns. Horney and colleagues surveyed 600 convicted felons concerning the three-years prior to the arrest that led to the current incarceration. They found that such events as getting a

job, or moving in with a wife significantly affected one's chance of either stopping or starting to offend. This study is somewhat tangential to the present analysis, because the time period being examined does not allow for such bonds to, in a sense, come to fruition. Horney et al. also failed to examine whether life circumstances influenced different *types* of crimes (Sullivan et al., 2005). Nonetheless, the study serves to show the import of life-events (which can be considered "transitions" (Sampson and Laub, 1993)) in altering criminal careers.

Doris L. MacKenzie and Spencer De Li (2002) applied the concept of "local life-circumstances" (immediate impact of current situations) to offenders on probation. Interviewing 107 offenders twice during probation, MacKenzie and De Li wished to determine if social bonds changed during probation, and if those bonds were related to re-offending. In their analysis, social bonds and "local life circumstances" influenced the rate of crime for non-drug offenses. That is, the more bonded an individual, the less crime that person committed. However, "there was no evidence that either arrest or probation led to an increase in social bonds. From the perspective of long-term change, this is a disappointing finding" (MacKenzie and De Li, 2001:271).

However, the study is not necessarily a direct examination of attachment and commitment. For example, one measure of social bond simply recorded whether or not an offender had a job. As Sampson and Laub (1993); Laub, Nagin and Sampson, (1998) have pointed out, it is not merely the events such as marriage and employment that result in strong social bonds, it is the strength and quality of those ties. As Sampson and Laub (1995) argued, "the occurrence of marriage *per se* may not increase social control, but close emotional ties and mutual investment increase the social bond between individuals

and all other things being equal, should lead to a reduction in criminal behavior” (Italics in original, p. 146). Thus, it would seem that an equitably rigorous study has yet to be undertaken which examines the impact of correctional boot camps on social bonds or social investment.

B. Can We Influence Social Bonds?

As the above discussion has shown, much of the extant literature points to these bonds as an integral factor leading adults away from crime. Specifically, the larger the “stake” or social investment, the greater the incentive to avoid committing criminal acts. It has also been shown that social events that can lead to bonding are important in deflecting a trajectory of crime. However, it is not as clear whether or how these bonds can be created after one has transitioned out of adolescence.

Several researchers have addressed the issue of how social bonds can form in individuals which can lead to changes in criminal careers. Laub and Sampson (1993), building on their work that illustrated the efficacious nature of social bonds, particularly commitment to employment and attachment to a marital partner (Sampson and Laub, 1993), attempted to explain how such bonds develop. “Turning points” indicate an event that changes the direction of an individual’s life-course path (Laub and Sampson, 1993:304; Sampson and Laub, 1993: 8). These researchers argued that events in and of themselves are not sufficient to produce turning points. Instead of simply marriage or employment being examined as a measure of social bond as many studies (see above) have done, Laub and Sampson suggested that the quality of marriage and employment matter.

Laub and Sampson (1993) focused on bonds in adulthood. They hypothesized that several factors can influence the development of turning points (events that change one's life trajectory). These include: 1.) Chance, or fortuitous events; 2.) Occurrence of marriage or employment (these factors "only provide the possibility for change to occur" p.318); 3.) Macro-structural changes affecting the opportunity for change and 4.) Historical context. In Laub and Sampson (2003), several factors are found to turning points and "transitions" for juvenile delinquents such as enrollment in the Lyman school for troubled teens and military service. Presumably, these transitions which act as "turning points" in the individuals' lives lead to stronger social bonds in the future, and it is these bonds that lead one away from crime. Therefore, it *is* possible to create or strengthen bonds after childhood, which suggests that childhood is not the only phase that matters for criminal pathways (for an opposing view, see Gottfredson and Hirschi, 1990). An important aspect that the authors included in this later work is the concept of human agency, or choice. From the perspective of convicted adult offenders who may have demonstrated the futility of pure repressive formal controls, the decision to change along with opportunity to do so (which social bonds may provide) seems especially important. As previously mentioned, the concept of social investment and "stake in conformity" calls forth the image of an individual at once constrained in options for crime and also actively choosing not to embark in criminal events for fear of losing resources.

Nagin and Paternoster (1994) sought to contribute to Sampson and Laub's thesis by directly testing factors associated with the "accumulation" of social bonds in youths. In their analysis, Nagin and Paternoster combine attachment and commitment variables into what they call "personal capital" (Nagin and Paternoster, 1994: 600). They explained

that these two factors, which for the most part are considered distinct in the literature, represent a form of social investment; since they are both related, and should have a similar impact on crime, the concepts should be combined. This work builds on theories of economics that explain a person's willingness to purchase an item based on a calculus of current gain vs. future assets (termed "individual discount rate" (p. 587)). Those with "higher discount rates will be less willing to incur the sacrifices required for the accumulation of both forms of personal capital" (Nagin and Paternoster, 1994:587). These researchers tested this hypothesis on a sample of 699 students at the University of Maryland, who were asked to respond to criminal event scenarios.

Their findings indicated that those who were "present centered" (think more in the short-term than the long-run) have less of an investment in society; that is, their self-reported SIC was lower. Interestingly, the Tobit regression analysis produced small coefficients for individual differences in present orientation and bonds, which indicates that individual differences do not render social control unimportant or unable to explain the process of the decision to engage in criminal events. Their conclusion was that one of the factors that may influence the level of bond of particular individuals *is* present orientation and impulsivity. Therefore, the relevance of Nagin and Paternoster's theory in the present paper is that it is offered as one of the few attempted explanations of why or how social bonds are formed apart from childhood. However, the use of students limits the generalizability of the findings, especially for adult offenders, which are the focal point for the present research.

The policy implications from much of the above analyses are rather unclear, at least in terms of corrections concerning adult offenders. If social bonds are important in leading individuals away from crime, how can policy-makers reconcile that with current correctional strategies? What, for example, is the best incarcerative condition for an offender for whom society demands a more repressive sanction than probation? Sampson and Laub (1993) clearly support non-incarcerative solutions for most offenders. Even they, however, recognize that such a penalty is required for some criminals (p. 256). For example, a child molester is seen as so evil in today's society that some form of incarceration is usually viewed as necessary as a form of retribution and incapacitation. Yet as indicated above, research has shown that social bonds, explicitly commitment and attachment are integral in reducing recidivism, even for this select group (see Hepburn and Griffin, 2004). Therefore it seems important to explore the efficacy of different correctional policies in regard to their effect on social bonds.

Viewed from this perspective, the lack of empirical research evaluating correctional policies with respect to social bonds is rather striking. Much of the work that addresses this question is based on theoretical groundings. For example, in an article published in "Texas Probation", Laub and Allen (1999), addressed the issue of how corrections can differentially affect bonds. They argued that incarceration policies are damaging to social bonds. Laub and Allen suggested that alternative sanctions should be pursued, specifically residential sanctions (e.g., home confinement, community service, etc.), and restorative justice (the latter of which focuses on Braithewaite's concept of reintegrative shaming, and restoring the offender as an accepted member of society). These policies should work to help maintain or create social ties.

Laub and Allen (1999) also pointed out several correctional policies that should not work to create or help maintain social bonds. These include first and foremost boot camp prisons, which focus too highly on discipline and control and are not very different from prisons in their “knifing off” of legitimate opportunities upon release. Other correctional programs that the authors argue are not likely to work include intensive supervision of probationers, and traditional probation. Laub et al., (1995) echoed these sentiments, suggesting that prisons may have the unintended effect of making society more dangerous because social bonds are cut off. Correctional policies should thus work to help offenders form bonds, by stressing rehabilitation and job training.

Interestingly, many of these points (rehabilitation, job training, education) are what distinguish CBCs that have shown higher rates of successfully adjusted graduates from those for which recidivism rates remain equitable to, or are higher than traditional prison rates. While the suggestion that community corrections are more likely to result in higher retention or creation of social bonds holds much merit, the punitive nature of American corrections today makes a ubiquitous revolution away from incarceration not very likely. Therefore, it is essential to evaluate policies currently in place to determine if they have an effect on the level of bond an individual holds. This has not been done with respect to CBCs thus far. However, a number of studies have shown evidence that such incarcerative conditions may improve offenders’ attitudes. The mechanism of change may be very similar to the process of strengthening commitment or attachment, which is why this literature is explored below.

C. Boot Camps: Attitudes and Cognitive Change

As previously mentioned, the CBC literature has consistently shown that these programs do not reduce recidivism. However, some work has demonstrated that such things as attitudes *are* affected or influenced by CBCs. MacKenzie and Corbett (1994) and MacKenzie et al. (1995) examined CBCs in eight different states. These analyses indicated that attitudes were positively influenced in some states, but recidivism, for the most part remained similar to that of offenders in other correctional programs. As previously mentioned, the trouble with this and most other examinations of boot camps vs. comparisons are the lack of randomized designs. That is, when comparing boot camps with probationers or parolees of traditional prisons, there is the possibility that offenders sentenced to the former differ in some unknown way from those assigned to the latter. It could be that judges sentence those most at risk for recidivism to CBCs, thereby creating non-equivalent populations for comparison. Other methodological problems plague the existing literature. These include failure to control for extraneous variables such as level of intensity of probation, prior offenses and key components of the CBC under study. CBCs are known to differ dramatically from site to site, which is a consideration that needs to be accounted for, especially when making broad generalizations about a policy.

One finding that has persisted despite the lack of randomized designs concerns attitudinal change of boot campers. In 1998, Dionne Wright and G. Larry Mays examined the effect of a CBC in Oklahoma on recidivism and attitudes. Their sample included 1,937 first time offenders. They compared those sentenced to probation (n=575) to those sentenced to prison (n=802) and those sentenced to a boot camp (n=560). These researchers started with the premise that because of a focus on rehabilitation, counseling, education and job training, CBCs should prepare offenders better than traditional prisons

for re-integration into society. They hypothesized that recidivism would not be lower for the CBC graduates, but that attitudes would positively change. After controlling for relevant differences, bivariate and multivariate analyses were run, which resulted in the finding that boot campers were *more* likely to recidivate than those incarcerated in a prison or on probation (Dionne and Mays, 1998).

Dionne and Wright found attitudes of those assigned to the boot camp under study to be positively influenced. Offenders in the CBC that were surveyed generally felt their experience was positive. However, since rates of crime did not significantly differ by group, these conclusions seem to imply that since recidivism is the key indicator of success with regard to CBCs, the influence on attitudes matters little. Yet, if these attitudinal changes are indicative of some internal change in offenders which simply has not been identified as of yet, this finding is indeed important in terms of policies surrounding graduates of such facilities.

Much of the empirical research on the effect of CBCs on offender attitudes has been done by Dr. Doris Layton MacKenzie, of the University of Maryland, College Park. In one of the early studies to test the affect on attitudes, MacKenzie and Ronald L. Corbett examined boot camps in eight different locations. At the time, little was known empirically about the goals and success rates of such facilities, thus this research was integral. MacKenzie and Corbett compared and contrasted CBCs in Florida, Illinois, South Carolina, New York, Texas, Oklahoma, Louisiana and Georgia. They found considerable variability in program structure and recidivism rates. However, an interesting discovery was that antisocial attitudes were positively impacted in most of the CBCs. That is, offenders graduated from the camps with *lower* levels of anti-social attitudes.

MacKenzie and Souryal (1995) studied CBCs in six different locations, relying on the data from the above study (see MacKenzie and Corbett, 1994). Those who criticize CBCs because they provide environments that are anathema to rehabilitation (see MacKenzie and Souryal's (1995: 330) discussion of Andrews et al., 1990) would predict that offenders sentenced to such facilities develop hostile attitudes due to the harsh military atmosphere. Attitudes could change in one of two directions. Based on the "prisonization" literature, incarcerative conditions may actually increase antisocial cognitions, which would hypothetically increase future criminal activity (Thomas and Foster, 1972). However, MacKenzie et al. note that the CBCs differ so dramatically across the six states that consistency concerning the affect on attitudes is not expected. They note that the short tenure of inmates in the camps may preclude the formation of a prisoner subculture. Finally, they expected that those facilities that focused on rehabilitation would actually increase positive attitudes.

MacKenzie and Souryal (1995) assessed the effect of CBCs on attitudes with a scale adapted from the Jesness Inventory. The research design compared like inmates assigned to a boot camp or prison. The design required that the sample size at each of the six boot camp and prison sites to be at least 100 inmates. The prison group, as a whole, either did not change attitudinally, or developed more antisocial cognitions. Their analysis concluded that those who completed a boot camp program developed "more positive attitudes toward the program...and less antisocial attitudes" than the comparison group (MacKenzie and Souryal, 1995: 165). The study indicated that subjects in the prison comparison group either remained the same attitudinally, or became *more* antisocial. Whereas research has shown that antisocial attitudes and pessimism are related to the

commission of crime (see e.g., Andrews and Bonta, 1998), this has significant implications for policy. However, a caution must be mentioned, which relates to the general literature on CBCs. These researchers employed a quasi-experimental design, which may have resulted in a selection effect, whereby those assigned to the camp differed in some meaningful way from the control. Indeed, in an analysis of attitudes at the Time 1 (T1) survey, significant differences were found in three of the six sites. boot camp participants were initially “less oppositional” than the prisoners, which may have affected the results (MacKenzie and Souryal, 1995: 164).

MacKenzie et al. (forthcoming) recently have examined attitudes and impulses using the data set for the present study. The Randomized Examination of the Maryland boot camp, as previously mentioned, provides a unique opportunity to test hypotheses about the effect of CBCs because of the random design of the experiment. MacKenzie and colleagues sought to discover whether this design would lead to different results with respect to attitudes and impulses. One-hundred fifty eight inmates who completed both a Time 1 survey (approximately a week before entrance into the program) and a Time 2 (T2) survey (just before release) were examined. Of the one-hundred and fifty eight cases used in this analysis, seventy-five (47.7 percent) were assigned to the CBC and eighty three (52.5 percent) were assigned to the prison. Four separate scales were included to measure cognitive changes: Jesness Anti-Social attitudes, Staxi-Anger Management, Grasmick self-control and the Self-Appraisal Questionnaire. Because of the randomized design of the experiment, if boot campers differed from the prisoners on these scales at Time 2 researchers can more confidently attribute that change to the respective incarcerative condition. The results showed that while there were no differences across the groups

at Time 1, at Time 2, the prisoners increased in antisocial attitudes (p. 11). However, somewhat surprisingly, the CBC did not positively affect attitudes; indeed, for these participants, attitudes and impulses remained virtually the same. For the prison control group, attitudes notably worsened. MacKenzie et al. attribute the difference in attitudinal change to a previous finding with the same participants that the graduates from the CBC had lower rates of recidivism than the control group.

It should be noted that in a preliminary study of the Maryland Boot Camp (Mitchell et al., 2005), attitudes and cognitive patterns of the two groups were not found to differ significantly. The authors suggest that the “military atmosphere of the boot camp” may not be important (p. 84). It is necessary to note however, that the military atmosphere is not what is hypothesized to lead to greater effects for the boot camp, but rather the focus on and availability of treatment (see Hypotheses, below). Moreover, this study was only completed on just under half (113) of the subjects included in the study presented below. Because of this, and the knowledge of the differences in availability of treatment by condition (see chapter 4), it does not seem unreasonable to anticipate that the Maryland Boot Camp will have a differential effect on social bonds.

Boot Camps and Social Bonds

There has been a relative dearth of empirical work assessing the change in commitment or attachment (social investments) with respect to CBCs. Two recent studies by MacKenzie et al. (2001a; 2001b) are exceptions. Here the researchers were mainly responding to the nearly ubiquitous finding that CBCs do not reduce recidivism. Therefore, they wanted to examine the effect of such facilities on other things (i.e. stress, anxiety, social bonds and antisocial attitudes) with a sample of juveniles.

Of interest for this research is the emphasis on antisocial attitudes and social bonds. However, MacKenzie and colleagues suggest that “the major characteristics of boot camps do not suggest that these programs will incorporate elements that would increase ties or commitments to conventional activities outside the facility” (MacKenzie et al., 2001a: 131). After administering surveys to a sample of 2,668 in a CBC and 1,848 in a traditional prison, the researchers found that the CBC graduates did increase pro-social attitudes and commitment, more so than the control group, however these findings were not significant. However, due to the lack of statistical significance, the researchers could not be sure that this effect was correct. This research, to date, is one of the only known instances of research to examine the influence of CBCs on an offender’s SIC. No literature was located in which a similar study was conducted within the realm of adult offenders.

MacKenzie et al. (2001b), in a report for the National Institute of Justice compared 27 boot camp facilities for juveniles to 22 traditional correctional detention centers. Congruent with the above findings, these researchers discovered that offenders assigned to boot camps were more likely to perceive their experience as positive. However, they found that attachments to family, school and work did not significantly change in either the experimental (CBC) or control conditions. Interestingly, the level of bonds for offenders actually decreased in both conditions. However, these two studies were non-experimental, and examined social bonds that may be more salient for adults (e.g., work) than for juveniles. It may be that correctional strategies such as CBCs may work more efficaciously for adults than younger offenders (see Uggen, 2000).

Other related research has been explored that has attempted to link social bonds or social investments to graduates of boot camps. This literature, mostly completed by Brent B. Benda and colleagues, is viewed as critical in illustrating that social bonds are important in the social adjustment of those sentenced to boot camp facilities. Benda et al. (2003) followed five-hundred and seventy two CBC graduates from a southern facility to study what factors differentiated 1.) nonrecidivists; 2.) recidivists with felonies; 3.) recidivists with drug violations and 4.) technical violators. The authors included numerous control variables which may have influenced offender outcomes, such as membership in a gang, past physical or sexual abuse and drug use. The findings in the study were that marriage, full-time employment, more children, higher education, more positive perceptions of the boot camp, closer caregiver monitoring, greater perception of change in the boot camp, being older, more drug sales, and increased religiosity discriminated recidivists from non-recidivists. As well, gang membership, sexual abuse, carrying a weapon, viewing boot camp as a means of expedient release discriminated recidivists with a felony from others. Higher self-esteem, higher self-efficacy, perceiving more stimulation in the boot camp, and having more attachment to female care-givers distinguished technical parole violators from others. All of these factors were significant at the $p < .001$ level. Marriage, employment, number of children and education were the four largest predictors of non-recidivism.

This study showed that SIC, or social investment is integral for graduates of Correctional boot camps. The researchers also suggest that commitment and attachment may result in the types of “informal social control” that Sampson and Laub discuss in their

work. It is therefore important to determine if some types of CBCs can actually impact these forms of social bonds so that the programs can be more successful.

Subsequently, Benda et al. (2005) examined the factors that predicted recidivism among men and women from the same CBC as above. They used “life-course criminological theory” to determine if commitments and attachments explain which offenders are better able to adjust to society upon release. Along with three other focal points, Benda et al. studied the differences between genders with respect to life-course theory’s ability to predict recidivists. They hypothesized that “because young women tend to maintain closer ties with their families, and are more influenced by familial dynamics, we expect that caregiver attachment and monitoring will be more inversely related to criminal recidivism among them than among men” (Benda et al., 2005). Social bonds here were defined as higher education, full-time employment, living with a conventional partner, having children and positive social relationships. This study is unique in that the vast majority of empirical evaluations of CBCs involve male offenders, thus a sex effect has, for the most part, gone unexamined.

Benda et al.’s (2005) sample included five-hundred and seventy two male and one-hundred and twenty female inmates who opted to serve their sentence in a CBC. Their results indicated that attachment mattered more for females than males. However, for both sexes, having higher degrees of social bonds predicted who would recidivate. Using Cox’s Proportional-Hazards Model of Recidivism, they found that having full-time employment “lowered the hazard rate of recidivism by .37” (Benda et al., 2005: 105). Unfortunately, these two studies are not as scientifically rigorous as may be desirable, with no randomized design employed. Whereas the offenders were allowed to choose

whether or not to attend the Camp, their motivations may have differentiated them from offenders for whom a judge or magistrate has ordered to go to a CBC. Thus it is not clear that the specific predictors would apply to other CBC graduates due to a potential selection bias. Further, the components of the CBC examined were not taken into account in any sufficient manner in these studies. The authors caution against generalizing their findings because of these limitations.

Benda et al. (2003; 2005) provide an interesting backdrop to the present analysis. These researchers, in spite of some methodological shortcomings, illustrate that social investment matters for adjustment to society upon release from a CBC. Also relevant is MacKenzie et al.'s. (2001a; 2001b) finding that this form of incarceration does not serve to increase inmates levels of social bonds, specifically attachment and commitment. Yet MacKenzie et al.' studies revolved around juveniles, for whom "shock incarceration" may not represent as salient a "turning point" (Sampson and Laub, 1993) as for adult offenders. As well, the insignificant findings from MacKenzie and colleagues were derived from a comparison to a "control" group in a quasi-experimental design. Therefore, the study may have been biased in that extraneous variables were not adequately controlled.

D. Age in the Context of Social Bonds/Corrections

It is important to recognize that the findings from MacKenzie et al. (2001a, 2001b) which showed that a juvenile boot camp did not increase social bonds more so than a traditional prison should not be taken as *prime facie* evidence that such programs will have the same non-effect on adults. As Sampson and Laub (1993) cogently argue, informal social controls are "age-graded", which means that as one progresses through the life-course, differing factors increase and decrease in significance. For example, mar-

riage and employment seem to be related to desistance from crime in adulthood. However, these institutions would likely have a different effect on juveniles, who are in a period in life in which peers occupy primary influential significance. The point here is only that factors which lead to “turning-points” (Laub and Sampson, 1993) are likely to be different for adults than for youths.

The relationship between age and social bonds is the subject of some debate. Sampson and Laub (1993) argue that as individuals age, they become exposed to relationships that *may* lead to social capital, and the ability to desist from crime. Others argue that desistance is a “natural” part of aging, and social bonds are not related to this process (see, e.g., Gottfredson and Hirschi, 1990). The present work takes the former view, that as one gets older, opportunities for conventional social relationships and ties remain and are important in the process of desistance.

The idea of an age effect with respect to corrections has been expounded recently by Chris Uggen (but see also Benda et al., 2003). In a reanalysis of a work release program in nine US cities, undertaken in the 1970s, Uggen (2000) found specific age effects. That is, whereas the initial program was largely thought to have failed, upon review, it turned out that age was an important variable in structuring who succeeds versus who fails. For those who were assigned, those who participated as well as for those eligible, Uggen found longer time to arrest as well as self-reported illegal activity than for those not offered the work program of similar ages. He concluded that this shows an age-treatment interaction, in which older offenders (specifically, adults over the age of 27) may be “more amenable to treatment” (p. 542). This supports Benda et al.’s (2003) suggestion that older offenders may “be shocked out of a criminal lifestyle” (p. 547). He fur-

ther argues that older boot camp graduates are likelier to be married, have jobs and children. This may make them more amenable to the treatment such facilities offer. While the present research rejects for now the notion that there is a “cut off” point in age whereby treatment suddenly becomes effective, an interaction between age and treatment, using age as a continuous variable, will be examined.

A review of the literature to this point reveals that social bonds represent as a type of social investment integral in the process of desistance generally and for offenders processed in the correctional system specifically. That is, commitment and attachment of an individual toward conventional others and conventional (non-criminal) lines of action can initiate an internal process in which individuals become less likely to commit crimes, perhaps because the “stake” is too high. An examination of the CBC for the present study reveals that this program, more so than the control, emphasizes hard work, deliberation, responsibility, and education (see condition description in chapter III). This study explicitly attempts to integrate two important fields in criminology and criminal justice. It has been established that social bonds are related to crime, even for adult offenders. It remains to be seen however, if current correctional policies have any discernible effect on these bonds. If so, popular support for such things as correctional boot camps would be warranted.

What is left, then, is a methodologically sound examination of the effect of an adult CBC on an offender’s SIC, or social investment, which the present study attempts. To this point, social bonds have not been directly tested with respect to *adult* CBCs. Additionally, certain related factors (i.e. cognitive components) have been examined in of-

fenders graduating from such programs. Thus, the present research is viewed as an integral contribution to the literature.

A finding that CBCs increase social bonds would, at first glance seem to cut against the grain of certain of the developmental research which argues that social bonds should be slow and gradual in forming (Laub, Nagin and Sampson, 1998; Laub and Sampson, 2001). However, following the argument of Brent B. Benda and colleagues (2003), I suggest that correctional strategies that focus on therapy, rehabilitation and education may represent “an impetus to cease criminal behavior [and] is another transition that promote[s] a ‘turning point’, in addition to informal social controls¹⁰” (p. 547). Thus, the correctional strategies may be an instrument in the as of yet largely unexplained process of the creation or facilitation of social bonds.

E. Research Questions and Hypotheses

The purpose of the present work is to investigate the relationship between a correctional program and social bonds. The research questions driving the study are:

A) Does a correctional boot camp that emphasizes therapy and rehabilitation differentially impact social bonds as compared to a traditional prison?

B) Does the impact of a correctional boot camp on social bonds depend on an offender’s age?

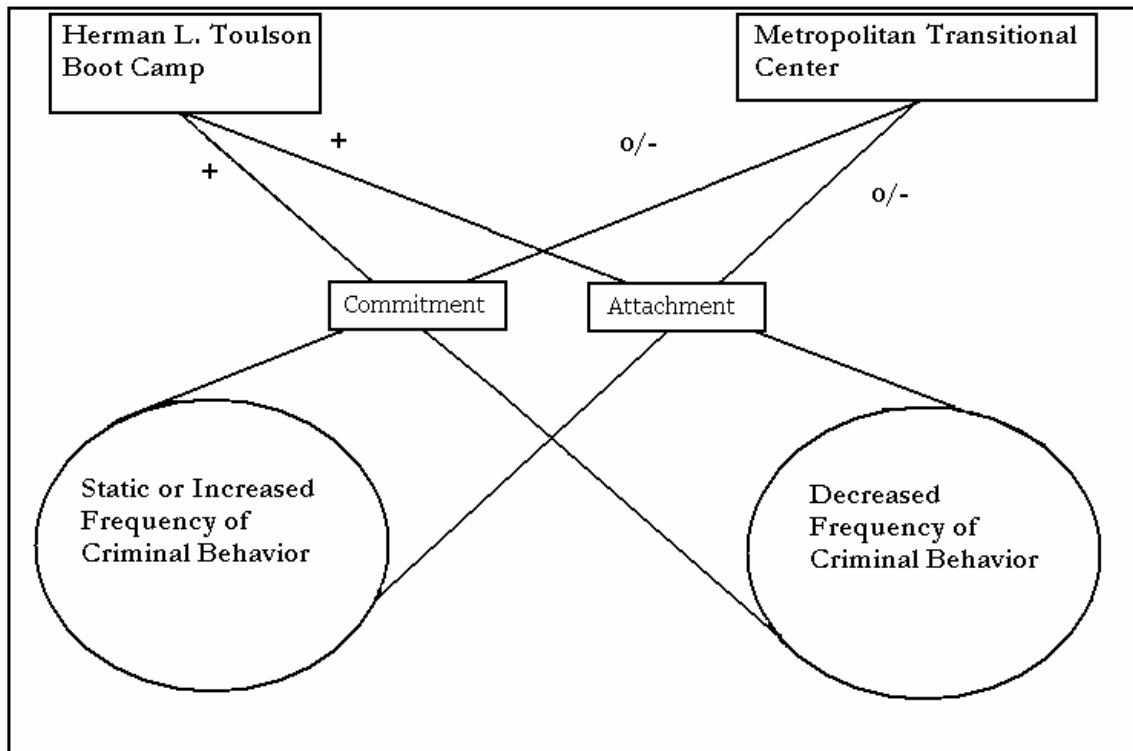
The hypotheses for this research are:

¹⁰ It is unclear here whether or not Benda et al. consider the “correctional intervention” to have promoted informal social controls, or whether it just represents a “transition” which *in addition to* informal social controls, is key in the process of desistance. However, in a personal correspondence with Brent B. Benda he stated that... “I believe there is a segment (identified in the article) of that population that seem to benefit from the Boot camp experience, as a turning point (i.e., it is a type of shock emotionally, etc.) and this can lead to a bonding process (probably along with other factors (e.g., serious relationship))” (May 23, 2006). This notion supports the basic premise of the present paper.

A) Offenders assigned to the CBC will have higher levels of social bonds (commitment and attachment) than the control group. This relationship is illustrated in Figure 1. This is expected to result either from an increased level of bonds of the boot campers, or because of a larger *decrease* in the prison group.

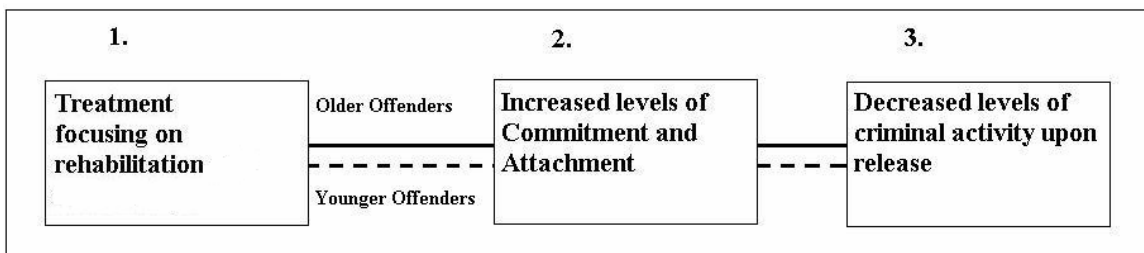
B) Older offenders in the boot camp should increase social bonds more so than their counter-parts in the prison group. The justification for this argument is that the availability of rehabilitation, therapy and education in boot camp in question (Herman L. Toulson) was more widespread than in the prison (Metropolitan Transitional Center) (MacKenzie et al., 2004; Bierie, 2006). Thus it is likely that just as older offenders saw more value in work programs in Uggen's work, older offenders might be more open to the treatment that the boot camp offers. Those offenders who have more to gain and/or relationships available to improve upon are most likely to increase social bonds given treatment. As Benda et al. (2003) suggest, it is more probable that older offenders have such relationships upon entrance in a boot camp. Therefore the contingency of age is tested and described in chapter V. The proposed causal relationships are shown in figure 2. This indicates that, as hypothesized, treatment will lead to increased social bonds (more so for older offenders), which will lead to decreased criminality. It should be noted that this hypothesis refers to the first two links only.

Figure 1. Hypothesized Relationship between Boot camp/Prison, Social Bonds and Later Outcomes



Note: plus sign indicates increase in pathway; minus sign indicates a decrease; zero indicates no change.

Figure 2. Hypothesized Causal Scheme



Note: solid line indicates strong relationship; dotted line indicates weaker relationship.

It has elsewhere been hypothesized (see Laub and Allen, 1999) that boot camps should not work to maintain or increase social bonds. Sampson and Laub (1990; 1993) argue that social bonds take time to develop into the invested relationships that produce social capital. Lengthy periods of incarceration may act as a disconnecting mechanism in

the offender's life (see Laub et al., 1995) where social bonds become severed, and life prospects diminished. Laub and Allen (1999:17) state: "Boot camp prisons are not much different than spending time in prison". Therefore, while recognizing that CBCs differ in program content, they suggest that such programs should not work to "restore social bonds or build social capital" (p. 16). Thus, in a sense, the present research is a test of this thesis.

The present work argues that there are differences between certain CBC facilities, and so the effect of such programs is not uniform. Laub and Allen are likely correct in their assertion that militaristic boot camps that do not focus on self-discipline, therapy and "getting oneself on track" will have a detrimental effect on social bonds. However, an understanding of the components of the CBC under study guides the current hypothesis which leads to a different hypothesis. The Toulson Boot Camp stressed responsibility, education and therapy. Due to this knowledge and due also to the finding that particular CBCs can positively influence attitudes, it is expected that commitment and attachment—one's social investment measure—will increase for those sentenced to the CBC condition more so than the traditional prison¹¹. Specifically, those assigned to the Toulson Boot Camp should have more positive change in commitment and attachment than those who served their six months in the Metropolitan Transitional Center (traditional therapeutic prison). This is so because of the "shock" of the boot camp, as well as the greater acces-

¹¹ Osler (1991) reviews New York's "One Year Out" study which found that inmates assigned to a Boot camp that stressed rehabilitation, education and therapy, scored higher on a "positive adjustment scale" which measured aspects analogous to attachment and commitment (i.e. higher percentage of offenders who found work and improved family ties (Osler, 1991: 38)). These findings help drive the current hypothesis that facilities emphasizing self-discipline, education, work and responsibility should help to increase social bonds more so than traditional facilities that do not have the same focus.

sibility of treatment in the former condition. If such a result is found, a significant contribution to the literature will be made.

Correctional boot camps remain highly popular in the general public, representing an “intermediate sanction with teeth” (MacKenzie et al., 1995:327), and will likely continue to be utilized into the future. It is, I think, essential for research to identify what effect these policies have on offenders that will allow those in the criminal justice system a better understanding of how to implement existing strategies. If commitment and attachment are aspects that are influenced by boot camps, such facilities may be able in the future to mold their treatment around these concepts, so as to enhance the effect even more.

CHAPTER IV

~Current Study

This chapter begins by outlining the methodological procedures of the study, and then describes the study sample used in the present analysis. In order to determine if the prison and boot camp groups were similar at T1 (an assumption of randomization), an equivalence analysis concentrating on relevant variables is presented. This is followed by an attrition analysis, to determine if drop-outs differ in some important way from those who remained in the study. Next I discuss the incarcerative (treatment) conditions to which the participants were assigned. In the last section of this chapter, the measures that were used in the primary analysis are explained.

A. Methodology/Data

In 2002, researchers at the University of Maryland, College Park, under the direction of Dr. Doris L. MacKenzie began an experiment in which offenders in the Maryland Prison System were randomly assigned to one of two conditions: 1.) A traditional prison (Metropolitan Transitional Center) or 2.) A boot camp (Herman L. Toulson Boot Camp). The current study ended in 2004, and researchers are now following up on offenders who completed or participated in the project.

Procedure

The data for the present research were taken from a Time 1 and Time 2 self-report survey (SRS) administered to participants during the course of the study. The procedure consisted of interviewing participants in both groups using a “Time 1” and “Time 2” survey. The surveys conducted were extensive and each lasted from 60-90 minutes each. Demographic, life-circumstance and attitudinal variables were included within the sur-

vey. The participants were surveyed by trained research assistants before the offenders knew whether they were going to the CBC or MTC. This constituted the Time 1 survey. The Time 1 survey consisted of more questions than the Time 2 survey concerning employment history and commitment to employment.

Before the T1 survey, each participant received full disclosure of the purpose of the study, and was assured confidentiality. Per guidelines for ethical human studies, each individual signed an informed consent document. The researchers attempted to make sure that the respondents understood that none of the information would be shared with authorities, and that a signature on the certificate of confidentiality did not represent a “confession”. This is seen as particularly important given the sensitive information that the survey instrument sought to elicit. The Time 2 survey was conducted just prior to release from the study. This survey included questions about experiences during the study, and changes in such things as relationships since the beginning of the study. It is from the Time 2 survey that the outcome variables for the present work are derived.

Sample

For this study, eligible participants were chosen from the Maryland prison system. The eventual sample was 234, with most hailing from the Baltimore City area. The random assignment process resulted in 111 offenders being assigned to the TBC and 123 to the MTC. A total of 210 inmates completed the Time 2 survey, including those who were dropped but still interviewed (CBC- $n=100$ (42.7 percent); MTC- $n=110$ (47.0 percent))¹². It is important to note however, that after randomization, six inmates were wrongly placed into the prison. This in effect broke random assignment, which may have resulted

¹² These numbers are calculated considering the six misassigned offenders as having been in the boot camp the entire study. Those correctly placed in the Boot camp were moved to the prison within a month. Due to initial correct placement, their information is analyzed as having been in the Boot camp.

in non-equivalence of the two groups which makes it more difficult to attribute between group differences at Time 2 to experimental manipulation. However, for my analysis, I maintained the two groups as randomized (e.g., as assigned) to maintain the integrity of the experimental design¹³. This is an “intent to treat” design, which retains the equivalence of the two groups. Table 1 presents a breakdown of assignments as well as reasons for dropping out.

Table 1. Breakdown of Initial Assignment and Attrition

	TBC(N=111)	MTC(N=123)	Both(N=234)
<i>Court Released</i>	3(2.7%)	3(2.3%)	6(2.6%)
<i>Released Early</i>	2(1.8%)	6(4.6%)	8(3.4%)
<i>Refused Both Surveys</i>	0(0.0%)	0(0.0%)	0(0.0%)
<i>Refused Time Two</i>	1(.9%)	1(.8%)	2(.8%)
<i>Failed during study</i>	5(4.2%)	3(2.3%)	8(3.4%)
Total at Time Two	100 (90.1%)	110(89.4%)	210(89.7%)

Note: The difference between “court released” and “released early” is that court released “refers to a case in which an inmate petitions the sentencing judge for a reconsideration of their sentence. Released early may just refer to being paroled.

Subject Selection

Participant selection for this study took place over two years, choosing potential offenders from the Maryland prison system. Inmates had to meet several conditions to become eligible. For example, inmates were not eligible to take part in the study if they were convicted of violent crimes. An additional stipulation was that the sentence of the

¹³ The offenders who were misassigned were moved from their intended group after approximately one month. Therefore, the analysis by intent to treat does not seem a mistaken strategy since initial assignment correctly took place.

proposed offender had to be between 2 and 10 years. The overall sample was limited to men because of the small number of eligible women available. As well, the research team only considered inmates with a “Mutual Agreement Program” (MAP) contract for inclusion in the study. The Maryland parole commission issued the “MAP” contract, which required the offender to fulfill certain obligations in order to gain early release.

Equivalence Analysis

This section investigates whether the two groups were similar at T1. Many of the threats to internal validity are accounted for if the two groups are generally similar at T1. As mentioned in chapter III, threats to internal validity arise if there are differences between treatment and control groups prior to the treatment being administered. An analysis of data at Time 1 confirms that there were few statistically significant differences between the experimental and control group in any relevant category (see Table 2). The average age of those in the boot camp was 23.03 and 23.39 for the prison group. Of the sample taken from the boot camp vs. prison respectively 12.6 percent compared to 15.4 percent were white, with the majority in both (82.9 percent in the boot camp vs. 82.1 percent in the prison) being African American. In both conditions, the majority had some high school education, but no degree. More than half of the sample came from broken homes (i.e., did not live with biological parents)¹⁴, and were not married or involved with a partner at the time of arrest. The only difference with respect to offense history between the groups was age at first arrest ($p < .05$), with the MTC being older (see Table 2).

In testing the equivalence of the two groups at T1, several demographic variables were seen as relevant. First, I wanted to determine if there are any differences with respect to marital or relationship status at the outset of the study. The results suggested that

¹⁴ One item asked participants who they were raised by: both parents; mother, father, foster home, other relative, etc. No differences were found.

there were no differences in marital status. Next I examined the *level* of attachment at T1. The researchers of the study created a relationship attachment scale to measure the degree of attachment to a significant other. It should be noted that this attachment scale, measured at T1, is *not* the same as the dependent variable in the primary analysis, which was measured at T2. It was necessary to create my own scale of attachment at T2 as a dependent variable because the T2 survey did not include the items comprising the T1 scale. The T1 scale was created by summing seven items that asked about a participant's relationship with a spouse or live-in partner. The calculations involving this scale are presented in Table 2. The results indicate that there is a marginal ($p < .10$) difference between the two groups.

I also compared the boot camp to the prison on other familial relationships. This set of analyses revealed that there were no differences regarding the marital status of respondents' biological parents, whether the respondents had children of their own, and whether they lived with their children (see Table 2 below). However, there was a marginal ($p < .10$) difference regarding whether or not the offender supported his children, with more boot campers responding yes to this question. No other differences between the two groups were found with respect to family variables.

Commitment to employment was also a major area of interest for the present work. To measure commitment at T1, the researchers created a scale that referred to the extent to which offenders were "attached" to the last legal job they had, based upon items from the T1 survey. This scale is different than the one I used to measure commitment at T2 for the primary analysis because the items in the commitment at T1 were *not* available on the T2 survey. Table 2 indicates that there were no differences by group on the T1

scale (labeled “job commitment scale” in the table). The table also shows that there were no significant differences by group regarding employment status at the time of arrest.

Thus, for the most part, the two groups were similar at the first wave on the variables measured, indicating that randomization was generally successful. Those variables that were unequal at T1 will be accounted for in the primary analysis. This is to increase confidence that a finding of differences at T2 is not driven by differences at T1. It should be noted that two differences on criminogenic variables (age at first arrest and attachment at T1) indicate that the boot campers were more at risk. Therefore a finding of a positive treatment effect would be greater evidence that the boot camp influences social bonds.

Table 2. Equivalence Analysis of Treatment and Control at T1

<i>Variable</i>	<i>Category</i>	TBC	MTC	<i>p</i>
Age in years <u>M</u> (<i>SD</i>)		23.09 (4.2)	23.39 (3.9)	.763
Race % (N)				.587
	Black	82.9 (92)	82.1 (101)	—
	White	12.6 (14)	15.4 (19)	—
	Other	4.2 (5)	2.4 (3)	—
Employment Status % (N)				.808
	Not employed	24.8 (25)	24.0 (28)	—
	Full-Time	49.5 (50)	50.0 (58)	—
	Part-Time	13.8 (14)	17.2 (20)	—
	Irregular	11.9 (12)	8.6 (10)	—
Job Commitment Scale <u>M</u> (<i>SD</i>)		2.86 (.91)	2.93 (.99)	.590

Table 2
(cont).

Education Level % (N)				
				.950
	8 th Grade or less	5.6 (6)	6.6 (8)	—
	9 th Grade	18.5 (20)	15.6 (19)	—
	10 th or 11 th Grade	38.9 (42)	42.6 (52)	—
	High School Grad/GED	26.9 (29)	24.6 (30)	—
	Some College	10.2 (11)	10.7 (13)	—
Marital Status % (N)				.348
	Single	49.5 (53)	55.7 (68)	—
	Separated or Divorced	5.6 (6)	4.1 (5)	—
	Married	5.6 (6)	9.8 (12)	—
	Cohabiting	39.3 (42)	30.3 (37)	—
Attachment Scale <u>M</u> (<i>SD</i>)				.070*
		3.09 (.87)	3.30 (.77)	
Family Demographics % (N)				.392
	Parent	63.0 (108)	65.6 (122)	

**Table 2
(cont).**

	Support Kids ^{15?}	95.6 (68)	87.5 (80)	.084*
	Lived with Kids	71.6 (67)	66.3 (80)	.301
	Were your biological parents married?	22.6 (106)	27.9 (122)	.226
Offense History <u>M</u> (<i>SD</i>)	Prior official arrests	4.67 (4.7)	4.74 (4.3)	.902
	Prior convictions	1.8 (1.8)	1.6 (1.5)	.370
	Age at first arrest	15.74 (3.0)	16.90 (4.2)	.047**

** Difference Significant at the .05 level; *Difference Significant at the .10 level.

Note: Table calculated including misassigned participants.

Note: Standard Deviations in *Italics*. Commitment and Attachment scales represent the average of responses on the items in question. Higher number indicates higher commitment. N's for items: "Support Kids"=TBC: 68; MTC: 80. Item "Lived with Kids"=TBC: 67; MTC: 80. This is because these items are *conditional* on being parents, thus have lower N's than the other categories in this table. The "Support Kids" question was originally intended to be trichotomized, with the third response being "Don't have kids", but was coded as missing in the dataset.

Attrition

Table 1 (shown above) displays a breakdown of attrition and initial assignments to each group. As is shown, more participants left the control group than the experimental group. Specifically, this table shows those for whom T2 information could not be gathered. These participants cannot be included in the primary analysis for this research. Drop-outs may jeopardize the equivalence of the two groups under true randomization

¹⁵ This variable is contingent upon having kids. The response categories in the dataset are yes/no. If a respondent did not have children, the case is system missing. This poses potential problems for the analysis presented below. To deal with this issue, several avenues can be taken. First, we could trichotomize the variable, making 0=did not support; 1=support and 2=did not have kids. Supplementary analysis showed that a chi-square test found no difference between the two groups at T1 on this categorical variable. However, the dummy version was used because the difference between the two groups was not in whether or not they had children, but rather whether parents supported their kids. The trichotomized variable in effect masks this by including non-parents.

unless it happens that attrition is random. By examining Table 1 above, it appears that differential attrition *rates* between the two groups did not occur. The CBC condition lost a total of 11 participants¹⁶ while 13 left the prison group during the study. Twenty inmates were kicked out of the program from both groups, but 12 were interviewed. These cases are considered in the study because they have complete information. Researchers did not follow up on eight of the drop-outs because the researchers did not know of the failures until later. Therefore no T2 information is available for these inmates.

It is essential to ensure that attrition is not related to the outcome variable *and* the independent variable. If attriters differ in some important way than those who remained, this could lead to erroneous conclusions of the analysis (e.g., attributing a Time 2 difference to the experimental manipulation instead of other differences). For instance, if those who dropped out of the boot camp had lower degrees of attachment to begin with (Time 1) then we cannot confidently attribute a difference in attachment at Time 2 to the treatment assigned.

Below, I present the findings from a logistic regression analysis, using an attrition or drop-out variable comparing those who dropped out with those who remained for the duration of the study. As can be seen from Table 1, 11 boot campers and 13 prisoners failed to complete the T2 survey. In the following analysis, I examine whether there is any difference on this “drop-out” variable by treatment, and other relevant variables.

According to Kerlinger and Lee (2000), attrition will potentially affect study results if it is related to *both* the independent and dependent variables. The logistic regression reported below was meant to test whether there were any such issues with regard to

¹⁶ This does not include the six who were misassigned to the Boot camp who were technically not “failures” since they never should have been assigned to that condition. These participants did remain in the study.

attrition in the present data. The results shown in Table 3 were calculated using the independent variables of interest from the “equivalence analysis”. A logistic regression analysis was chosen as appropriate because of the dichotomous nature of the dependent variable. Drop-out is coded as 0=not dropped out; and 1=dropped out. Twelve inmates who left the program early but were interviewed are not considered drop-outs for this analysis. I also did not consider the six misassigned offenders as drop outs. The last three rows of Table 3 represent the overall model fit chi-square statistic, the degrees of freedom and finally the percentage of drop-outs from the total sample.

The logistic regression in Table 3 suggests that the main independent variable, the incarcerative condition (TBC), was not a significant predictor of attrition. However, there are appears to be two variables that do predict dropping out. Attachment at T1 was significant and negatively related to attrition. As Table 3 indicates, a unit increase in attachment corresponded to a 53% decrease in the odds of dropping out. Commitment at T1, on the other hand, was significant and positively related to attrition. Here, for each unit increase in commitment levels, the odds of dropping out increased by 2.431. At first blush, these two findings appear discordant. Logically, there seems to be no reason why higher attachment would lead to decreased likelihood of dropping out while being committed to a job *increases* one’s likelihood of dropping out. However, the results are not very strong ($p < .10$). Also undermining confidence in the substance of the results is the low number of cases included due to listwise deletion, which was used in the logistic analysis. Any case with missing information on any of the variables was not included in the analysis. Finally, the large number of variables in the analysis coupled with the low N in the reference category justify supplementary analyses in order to achieve stronger results.

Because of the problems mentioned above, supplemental analyses were conducted for each independent variable's (from the logit regression reported in Table 3) interaction with the treatment. I estimated each variable and its interaction separately in a logit analysis in order to avoid the listwise problem when all variables are entered at the same time. The results indicated that attachment at T1 and the racial category of white marginally interacted with the treatment to predict attrition, though these relationships were not strong ($p < .10$). The only variable that strongly ($p < .05$) interacted with the treatment was whether or not an offender was a parent. The analysis suggested that those in the boot camp who were parents were less likely to drop out. Overall, then, there were few differences between the prison and boot camp and between those who remained in the study and those who dropped out. Thus my conclusion is that differential attrition did not occur to any extent more than would be expected by chance alone.

**Table 3. Logistic Regression Summary
for Variables Predicting Attrition (N=120)¹⁷**

<i>Variable</i>	β	<i>p</i>	Odds Ratio
<i>Main Predictor:</i>			
TBC	-.971 (.705)	.169	.379
<i>Demographics:</i>			
Commitment at T1	.888* (.489)	.070	2.431
Attachment at T1	-.760* (.421)	.071	.468
White	-1.239 (1.323)	.349	.290
Education	-.204 (.386)	.596	.815

¹⁷ N is low due to listwise deletion of cases missing on any of the included variables.

Table 3 (cont).

Employed	.191 (1.205)	.874	1.211
Age	-.039 (.125)	.759	.962
<i>Relationship Status:</i>			
Live with Girl-friend	1.290 (.857)	.132	3.632
Married	.899 (1.380)	.515	2.457
<i>Offense History:</i>			
Age at First Arrest	-.098 (.110)	.372	.907
Number of Convictions	.245 (.298)	.410	1.278
Number of Arrests	-.019 (.098)	.845	.981
<i>Family:</i>			
Parents Married	-.377 (.795)	.635	.686
Have Kids	—	—	—
Live with Kids	-.854 (.793)	.281	.426
Support Kids	.657 (1.664)	.693	1.928
Number of Kids	-.401 (.373)	.282	.670
Constant	.856 (3.172)	.787	NA
	χ^2	13.95	
	df	16	
% Dropped-Out		10.2	

Note: The variable and “Do you have kids” was a constant for this analysis and thus not calculated. Reference category for Race was “White”; Reference category for Relationship status=Separated or Divorced. Education coded (highest grade completed) 1=8th; 2=9th; 3=10th or 11th; 4=High School Grad or GED; 5=some college. * $p < .10$ ** $p < .05$ *** $p < .01$

B. Treatment Conditions

The two conditions to which offenders were assigned for this study were “matched” on treatment offered. However, the treatment inmates actually received turned out to differ substantially (Beirie, 2006). The Toulson Boot Camp is located in Jessup, Maryland. It is a rather large facility, with capacity for 500 offenders. Its goals are to provide an outlet for prison overcrowding. The TBC stresses individual responsibility, and mental change. Teamwork is also emphasized, as the offenders are assigned to “platoons” with whom they must complete tasks. They learn to defer gratification for the greater good as well as to orient their attitudes toward conventional roles/activities. Drug treatment, cognitive skills training and educational classes are offered to most inmates.

The Metropolitan Transitional Center is a traditional but therapeutic prison which emphasizes preparing offenders for their eventual release in the community. Capacity is about 1,100 inmates (although about 1,300 were held here during the study). It offers educational classes five days a week, though limited resources severely limit availability for this service. This is also the case for drug therapy and life-skills training. These services are provided on a priority list basis.

The major difference between the two conditions is the availability and emphasis on rehabilitation and education. The researchers had initially attempted to match the conditions on the treatment offered. However, the treatment actually received by inmates of both conditions differed substantially. In the MTC, many of the offenders wanted to be included in education programs, but were denied because of a lack of resources. Additionally, less time was spent on therapy in the prison as compared to the boot camp. In the boot camp, considerably more participants than in the prison received their General Education Diploma (18.8% vs. 5.1% respectively). The atmosphere was also much more

therapeutic in the boot camp, with an emphasis on treatment and self-responsibility than that which was found in the MTC. Due to these differences, certain of the prison group subjects were openly hostile to the interviewers, whereas the boot campers generally reported positive experiences (MacKenzie et al., 2004).

C. Measures

Below I introduce the measures that were created to test the hypothesis introduced in chapter III. In order to produce statistically viable measures, I examined the T2 survey for items that could potentially measure commitment and attachment, and then subjected those items to statistical analyses. This was to ensure the reliability and validity of the scales used.

Outcome or Dependent Variables

The outcomes of interest for this research were commitment and attachment. There were items on the T1 survey directly referring to attachment and commitment; however, for my outcome measures, I only used the T2 survey. The reason the outcome measures were taken solely from the T2 survey was because there were not enough items from T1 that were included on the T2 survey to permit using both waves. The T1 commitment and attachment items were also not included on the T2 survey. Because there were not direct commitment and attachment items in the T2 survey, to create my measures of these constructs, I had to rely on items that related to these constructs. Some are excellent proxies; others are more imperfect¹⁸. This is a potential limitation of the present study.

The main interest for attachment revolves around measuring relationships with significant others and family members. Commitment to “conventional lines of action”

¹⁸ Kempf (1993) notes that this is a consistent problem in investigations of Hirschi’s theory.

(Hirschi, 1969: chapter nine) are of particular interest here, which indicates an offenders' motivation to "get on track". First, I describe the kind of items I looked for as representative of these constructs, then I present the findings from statistical analyses performed on these items. This was done to ensure that the items identified were "tapping" the measures as hypothesized. After this analysis, I created composite scales of the retained items.

Attachment

To create an attachment scale, the author identified relevant items on the surveys and then combining them to create scale(s) using those items. Several items in the T2 survey appear to measure the construct of attachment. I looked for items that related to the quality and nature of relationships with family or friends. Attachments appear to stimulate offenders to desire to stay within the confines of the law so as not to "disappoint" loved ones (see e.g., Benda et al., 2003: 540). The concept of social support—the perception that others care for, and do not think badly of an individual (Nye, 1958: 72; Glueck and Glueck, 1952: 62-64; see also Cullen, 1994), is also an important component of attachment and was measured in the present analysis.

To proceed, I selected items from the exit (T2) survey that seemed to indicate attachment to friends and family. For example, a section of interest on the T2 survey asks how an offender's relationships with others had changed after completing the study in either the MTC or TBC. Other variables of interest include whether or not an offender will live with family upon release. In all, 17 items were identified as potentially measuring attachment. The response categories differed for some of the items I identified. Because I wanted to create a scale, it became necessary to standardize the items. To do this, I computed Z-scores (subtracting the mean, dividing by the standard deviation) for each independent item. I did this because the response ranges differed for specific items. After

performing a factor analysis (discussed later in this chapter), I combined the items to create the attachment measures (For a full description of retained attachment items, see Appendix A).

Commitment

Commitment was measured in much the same way as attachment. I examined the T2 survey and selected possible items to create a scale that on their face appear to measure commitment. Here, I looked for items that revolved around wanting to “get on track”, and gain employment upon release. Thirteen items on the T2 survey were initially identified as possible measures. Examples of relevant items included “Drugs are NOT a part of my future” and “I won’t be coming back to prison”. Another item asked participants to indicate how willing they would be to participate in rehabilitation programs. I also looked for items that related to an offender’s ability to stop themselves from doing something wrong. Responses to the identified items ranged from Likert-style (e.g., Strongly Agree through Strongly Disagree) to dichotomous. Therefore, the items needed to be and were standardized before being considered for the scale (For a full list of the items eventually retained to represent commitment, see Appendix B).

In the next section, I explore whether or not the items identified for attachment and commitment are reliable and valid measures of social bonds. I do this using reliability analysis as well as a detailed set of Factor Analyses. The final scales were created after determining which items produced the most valid and reliable scale. To create the scales, I computed a composite measure using the average of all the standardized items.

Reliability/Validity of Items

Performing reliability analyses on the items identified above as measuring commitment and attachment can help determine whether or not the items are all related in an

expected way (Shannon and Davenport, 2001). One of the most common measures of inter-item reliability is a Cronbach's Alpha coefficient. Generally speaking, a Cronbach's alpha coefficient of .60 to .85 is desirable to establish reliability of a set of measures. Some researchers (see Santos, 1999) use .70 as a "cut-off value for [a scale] being acceptable" (p. 4). Coefficients above .90 may suggest that the items are not conceptually distinguishable and thus not separate indicators of a latent construct. In an analysis to examine the commitment and the attachment items chosen from the T2 survey, the following Cronbach's alpha computations result: .874 for attachment and .794 for commitment¹⁹.

The validity of scales is one of the most significant aspects that could affect confidence in the results of the study. Construct validity may be weak for the attachment and commitment scales. This is true because the items are not necessarily those traditionally used in the social bonding literature²⁰. The reliability coefficients (Cronbach's alpha computations) indicate that the two scales are generally reliable; yet the question remains if those constructs are valid measures. Below, I present the results of a statistical procedure which can increase confidence in the validity of the attachment and commitment scales even further.

Factor /Principle Component Analyses²¹

The reliability analysis, which produced Cronbach's alpha levels of .70 and over suggests that the items for commitment and for attachment are correlated together sufficiently to be potential scales. Factor Analysis would be the ideal technique for further

¹⁹ This is the combined total for all items used for Attachment and Commitment, even if they will be broken up into subscales.

²⁰ Traditional measures of commitment usually refer to the quality of a job, and how committed one is to that job. Measures of attachment usually refer to the degree of stability of a relationship. My measures are not as direct, and refer to how willing one's family is to help or support an offender, the changes in relationships during incarceration, and for commitment, how devoted one is to "getting on track" in life.

²¹ The analyses described uses the terms Components and Factors interchangeably.

evaluation of scales to determine if more than one scale should be created from these items, and to determine if commitment and attachment are separate constructs. Factor analysis can be used to discern whether or not identified items correlate as hypothesized with other items, and jointly “tap” the same underlying trait (i.e., commitment and attachment). This is done by measuring “the covariation among a set of observed variables” (Long, 1983). However, certain of the items I chose may alert one to a problem in using this particular statistical technique. Some argue that such a method is not appropriate for dichotomous or categorical variables, as it sometimes leads to “as many factors as there are items with different item difficulties” (Kubinger, 2003: 107). Also, the correlation between dummy variables may inflate the number of factors extracted.

In this analysis, very few of the identified items which may comprise the two full scales are categorical or dichotomous variables²². Therefore a factor analysis (FA) seems suitable to determine the validity of the scales. Moreover, even granting one of the criticisms of using categorical or dichotomous variables in an FA—that it may inflate the number of factors beyond what exist in reality (Garson, 2006)—does not imply that satisfactory results cannot be obtained from the data I used. Indeed, given this observation, a finding from the analysis that only the two hypothesized factors are extracted would give cause for greater confidence in the validity of the scales. However, if the analysis results in considerably more than the hypothesized factors²³ it becomes difficult to ascertain if

²² It should be noted that the reader will see in Appendix A and Appendix B that none of the final scales are comprised of dichotomous variables. However, in the FA performed to reduce the number of items, several variables were in fact dichotomous.

²³ This issue becomes even more complex when one considers that we have already suggested that “sub-scales may exist for the commitment and attachment items. Therefore, more than two factors are hypothesized to begin with. However, if a significantly larger number of factors are extracted, we may have cause for concern.

this is the correct number of underlying traits measured or in part caused by the dichotomous/categorical variables.

The first computation involved two factor analyses in order to establish whether the selected commitment and attachment items loaded as hypothesized (i.e. one factor each). This was to test convergent validity. The results, using substantial eigenvalue coefficients, and factor loadings as guides, indicated that most commitment items loaded predominantly on one or two components (Two components extracted). The FA conducted on the attachment items similarly produced two components. Six components were extracted, but four components have mostly low or negative loadings. Because of a likely correlation between the components, I used oblique rotation. Specifically I used direct oblimin which accounts for correlations among components and does not force components to rotate at 90° (see Fabrigar et al., 1999). Upon noting a low between-component correlation however, I utilized orthogonal rotation (varimax) for the remainder of the analyses²⁴.

There are several criteria for retaining items used in the factor analysis literature. For these analyses, I used the generally accepted rule of keeping items that loaded .30 and above. If an item loaded on more than one component at .30 or above, I used the highest loading as well as theory to decide which component it belonged to. This means that if an item loaded on the same factor as a theoretically distinct set of items, in the interest of parsimony, the former was not retained. The initial FA resulted in only one factor with an eigenvalue for commitment items of over two. I utilized high eigenvalues in

²⁴ As well, the factor analyses described further in this paper included mostly items which were hypothesized to load together, thus we are only interested in the emergence of one factor, meaning inter-factor correlations are not a main concern. Thus Orthogonal (varimax) will remain the rotation method. As well, for the FA's in which I forced one factor to be extracted, I did not rotate since with only one factor, there is no need for rotation.

order to decide how many factors certain items produced statistically. The traditional criteria is to use eigenvalues over one (Fabrigar et al., 1999), however, because my analysis resulted in so many components (or factors) with eigenvalues over one, I also examined the amount of variance explained to determine if scales should be retained.

One predominant factor/component was extracted (eigenvalue: 3.34) in the FA with the proposed commitment items. This suggests that the identified items only measure one underlying trait. The rotated component matrix extracted five components, however four of these had mostly low or negative loadings. Relying on this information, I created one commitment scale, retaining items that loaded above .30 on the strongest factor. When I forced a one factor solution, two items not originally loading highly on the strongest factor loaded above .30 on this factor. This forced factor FA is presented in Table 4. This table shows the factor loadings for each of the proposed commitment items. Table 5 displays factor loadings for a one solution FA on only those items retained for the scale. This table shows that retaining one factor is a reasonable decision. Thus, only one form of commitment was measured in this analysis.

The proposed attachment items seemed more weakly correlated than the items related to commitment but this may have been because of the existence of multiple factors²⁵. The full attachment item FA produced one eigenvalue of 3.81 and one over 2. The somewhat subjective interpretation of eigenvalues suggested that two attachment factors exist within the given items. This indicates that the items I identified to measure attachment may actually be tapping two distinct forms of this construct. To support that inter-

²⁵ As is discussed, subscales are created. Here, I employed oblique rotation as well because of potentially correlated factors at first, but as explained above, noting a low inter-factor correlation, switched to orthogonal rotation. The loadings for two theoretically distinct scales seemed to load together. But because of conceptual differences, two scales were created.

pretation, I forced two factors to be extracted for the attachment items to confirm that two factors or types of attachment existed. These loadings are shown in Table 6, which presents loadings for all proposed attachment items. This table shows that two types of attachment are in fact underlying the attachment items I identified.

The last step I took involved calculating a one factor solution for each of the two attachment scales to ensure they loaded well together. The factor loadings as well as eigenvalues for these scales are presented in Tables 7-8. This, along with the reliability analysis (see Appendices) serves to demonstrate the existence of statistically viable scales. In the next section, I describe the labels I gave each scale.

Table 4. Commitment Factor Loadings: All Proposed Items.

Item	Factor Loadings	
	Commitment to Conventionality	
Drugs are not a part of my future		.461
I know what to do to reach my goals		.743
I have a specific action plan to reach my goals		.722
I have a plan to make my life balanced		.749
I WON'T be coming back to prison		.551
I know how to change specific things in my life		.672
I have a good sense of where I am headed in life		.758
Have you met with your parole officer?		.111
Have you found a job?		.150
I wouldn't apply to a job if I knew the employer was reluctant to hire ex-cons		.214

Table 4 (cont).

I still try to get what I want even if it causes other people problems	.218
Most employers will hire an ex-convict if s/he is qualified for the job	-.069
I am willing to participate in a rehabilitation program <i>only</i> if it gains me early release	.172

Eigenvalue: 3.340 Note: This solution was forced to one factor

Table 5. Commitment Factor Loadings: Retained Items (Forced to One)

Item	Factor Loadings
	Commitment to Conventionality
Drugs are not a part of my future	.445
I know what to do to reach my goals	.764
I have a specific action plan to reach my goals	.724
I have a plan to make my life balanced	.763
I WON'T be coming back to prison	.553
I know how to change specific things in my life	.677
I have a good sense of where I am headed in life	.733

Eigenvalue: 3.189 Note: This solution was forced to one factor.

Table 6. Orthogonal Factor Loadings: All Proposed Attachment Items

Item	Factor Loadings	
	Supportive Attachment	Facilitated Attachment
I do things my family tells me I shouldn't do	.222	.219
Spousal relationship change	-.069	.555
Who will you live with?	.185	.076
Live-in partner relationship change	-.120	.440
Child relationship change	-.028	.459
I feel that nobody understands me	-.077	.013
Parental relationship change	.243	.657
Brother/sister relationship change	.233	.700
Other relative relationship change	.257	.654
Close friends relationship change	.217	.373
My family will help me stay out of trouble	.627	-.109
I have family to turn to for guidance	.765	-.047
I have family to talk to, who care about me	.730	-.108
I have family who will spend time with me in social activities	.731	-.155

Table 6 (cont.)

I have family to borrow money from	.734	.030
I have family to count on in an emergency	.697	-.151
I have family I can talk to in case of an emergency	.703	-.152

Bold indicates retained items. Note: This solution was forced to two factors. **First component Eigenvalue: 3.185. Second component Eigenvalue: 2.375**

Table 7. Supportive Attachment Retained Item Loadings.

Item	Factor Loadings	
	Supportive Attachment	
My family will help me stay out of trouble		.672
I have family to turn to for guidance		.765
I have family to talk to, who care about me		.776
I have family who will spend time with me in social activities		.724
I have family to borrow money from		.709
I have family to count on in an emergency		.624
I have family I can talk to in case of an emergency		.693

Eigenvalue: 3.189 Note: This solution was forced to one factor.

Table 8. Facilitated Attachment Retained Item Factor Loadings.

Item	Factor Loadings Facilitated Attachment
Spousal relationship change	.530
Child relationship change	.437
Parental relationship change	.502
Brother/sister relationship change	.711
Other relative relationship change	.773
Close friends relationship change	.697
Parental relationship change	.437

Eigenvalue: 2.504 Note: This solution was forced to one factor.

Final Scale Labels

The final scale I created to measure commitment consists of future plans items; questions that asked participants about their plan for successful adjustment upon release. These items tapped whether or not the person was committed to balancing their life and staying out of trouble upon release. Hirschi (1969) emphasized the import of actually taking strides toward reaching goals. However, I could not easily measure this aspect of commitment because the inmates were rather limited in their ability to take meaningful “strides” toward conformity. Thus, the concept of mental loyalty to conventionality was the best measure of commitment available²⁶. I labeled this scale “Commitment to Conventionality”.

²⁶ A few items *did* ask participants whether they had “met with their parole officer”, or attained a job or position as a student in a school. However, whereas these items were weakly correlated with each other, and the other items measuring commitment, the assumption must be made that rather than indicating commitment, the attainment of, say, a job may simply be a matter of timing or connections. That is, a person may be very committed to getting a job, but find it difficult to gain employment while incarcerated. The inmate who responds that he has a job likely has someone on the outside who is aiding their transition. It is this “other” person, and not the inmate then, who is the committed individual. The items pertaining to “positive action” were not retained in the present analysis.

Two subscales cumulatively represent the construct of attachment used to examine possible differences between the CBC and prison groups in this paper. The first scale indicated how social relationships changed during incarceration. It referred to relationships between family as well as friends. This subscale is of particular interest in determining if one condition was superior to the other in either maintaining or facilitating attachment. Thus I labeled the scale “Facilitated Attachment”.

The second subscale consists of items that indicated the extent to which the person has others he can count on for help or support. This set of items is important because it may tap the aspect of attachment most relevant for reducing crime or criminality. If one has social support to assist in times of emotional or financial hardship, crime may become a less appealing option (see, for example, Cullen, 1994). Social support can also provide the conventional “bond” which can initiate the process of desistance. This is a “traditional” attachment or social support scale. For the purposes of this paper, it is referred to as the “Supportive Attachment” scale.

Independent Variables

For this research I included three predictor variables. The first is represented by a dummy variable (TBC) which indicates whether or not the participant was assigned to 1=Toulson Boot Camp or 0=Metropolitan Transitional Center. This variable (TBC) was active, in that it was manipulated by the researchers and is categorical (binary). The main purpose of this paper was to analyze whether or not a particular incarcerative condition affects social bonds/social investment. Thus the key independent variable of interest was that which indicates the participant’s respective assignment. The assignment to the boot camp or prison occurred as a stochastic process, in which participants had an equal chance to be in either condition.

A control variable (age at first arrest)—required because of a disparity found in the equivalence analysis—was also included in the models (discussed in the next chapter) to ensure covariate balance is achieved. Age at first arrest is a continuous variable that ranged from 9-32. One case had an age value of one. This was dropped from the analysis²⁷. Other variables that differed between the two groups only reached a significance level of .10. Because of this and coding issues with these variables, they are not included in the analysis.

Age was also included as an independent variable for the primary analysis. This relates to the second hypothesis of the present work: that an age interaction exists with respect to treatment. Before testing that hypothesis, I entered age as a predictor of social bonds to determine if, net of age at first arrest and treatment, age is related to a change in social bonds. Age was coded as a continuous variable that ranged from 17-32.

D. Analytic Strategy

The design of the present study was an “experimental control group post-test only” (since the primary assessment only used items from the second wave). Multivariate Ordinary Least Squares (OLS) Regression represented the primary method of analysis. More complex methods than t-tests were required because of the necessity of a control variable as well as the inclusion of the Age variable as a predictor in some of the models. The results of the regression are reported in chapter V. This technique examined the change between the boot campers and prisoners at Time 2 on the full commitment and attachment scales.

The analysis also attempted to identify an interaction between age and type of condition. I hypothesized in the previous chapter that older offenders would benefit more

²⁷ Analyses run with and without this case showed no differences.

in the boot camp than similar offenders in the prison. The analyses tested this possibility by splitting the sample by age, regressing the social bonds on the treatment variable for older offenders, and then doing the same for younger offenders.

The next chapter is in three parts. First, the chapter presents the models for the main analyses. Second, I discuss tests for violations of the assumptions of OLS regression. Then, the results for the regressions to determine if the CBC had a greater impact on social bonds during incarceration than the prison are presented. Finally, the age-interaction analyses are discussed.

CHAPTER V

~Analysis

This chapter is organized in the following way: In the first section, I present the models used to test the thesis that boot camps differentially influence social bonds compared to a traditional prison. The second section presents the results from the series of OLS regressions on the full sample. The third and final section discusses the results from a split-case regression testing whether the effect of treatment varied by age.

To test the research questions, a statistical significance level of .10 was used, meaning that I only rejected the null hypothesis if the results obtained would occur less than ten percent of the time if the null is true. The $p < .01$, $p < .05$, and $p < .10$ levels are standard rejection levels used in social/behavioral scientific research. Traditionally, sociologists and criminologists adopt a .10 level for “borderline” statistical significance, and .05 for more robust findings. This reduces the chance of a type II error (failing to reject the null hypothesis when it is not true). To reduce the probability of pre-treatment differences between the two groups confounding the results, I also accounted for variables from the T1 survey that were statistically different at T1 at the .05 level.

A. Models

In this section I present the models for the multivariate regression with all three social bond scales. Due to the results of the equivalence analysis reported in the preceding chapter, there were several T1 variables that had to be accounted for in this analysis. In order to increase confidence in the primary analysis, it is important to ensure that potential covariates associated with the two groups (prison and boot camp) do not influence the results. In the equivalence analysis, I found significant differences between the two

groups on three variables: (1.) “Did you support your children”; (2.) “Age at first arrest” and (3.) “Attachment at Time 1”. Initially, I entered these variables into the models as controls, but decided to drop two of the covariates because of issues with the original coding of the variables²⁸. A sensitivity analysis indicated that the results were not manifestly different with and without these variables, thus, the only control that was included in the models reported below is age at first arrest. There are very few missing cases for this variable, so rather than weakening the model, it simply strengthens it²⁹.

The series of multiple, OLS regressions were run using the following models:

$$\text{Socbond} = \alpha + \beta_1 TBC + \epsilon \quad (1)$$

$$\text{Socbond} = \alpha + \beta_1 TBC + \beta_2 \text{FirArrest} + \epsilon \quad (2)$$

$$\text{Socbond} = \alpha + \beta_1 TBC + \beta_2 \text{FirArrest} + \beta_3 \text{AGE} + \epsilon \quad (3)$$

Where α is the constant, or intercept; $\beta_1 TBC$ represents the effect of the boot camp; $\beta_2 \text{FirArrest}$ is the “Age at first arrest” control variable; $\beta_3 \text{AGE}$ is the effect of age on social bonds; and ϵ is the error term.

The tables below present simply the unstandardized β coefficients as well as Standard Errors (in parentheses), with stars indicating significance. Each column is a different model, with controls, and an age variable added sequentially in models 2, 3, and 4.

²⁸ The items “support kids and “attachment at T1” originally included “don’t have” as a response choice for those without children or a romantic relationship. However, in the dataset, these items were coded as “missing” if the respondent did not have children or a relationship. Therefore it was difficult to separate out those missing for a legitimate reason from those without a relationship.

²⁹ It should also be noted that this variable was the only variable that was different between the two groups at a significance level of .05 or less. This gives further justification for only using Age at first arrest as a control in the final models.

The first model displays the baseline regression (social bond regressed on TBC) without controls. Model 2 includes age at first arrest. Model 3 includes the controls and age. Age, it should be noted, is not a “control” variable; there were no statistically significant differences in mean age between the prison and boot camp. Instead, it is an exploratory variable, included to examine whether age is a predictor of change in social bonds, regardless of treatment received.

An age-interaction with condition is tested in Tables 12-14 by splitting the sample and regressing age on social bonds for those over the median age of 22 and those under that age. The age interaction is derived from the above discussion of Uggen’s (2000) work. It is hypothesized that *older* offenders are more susceptible or amenable to treatment, and thus would benefit more than younger offenders. The expected result is that the regressions utilizing the older sample will produce statistically significant TBC coefficients, whereas the younger sample calculations will not.

B. Results

Regression Violations

One issue that may arise with OLS regression concerns certain assumptions that must hold in order to obtain the Best Linear Unbiased Estimators (BLUE). The relevant assumptions were tested with respect to the four dependent variables. The first assumption, linearity between the main independent and dependent variables, is not an issue with a dichotomous independent variable. The relationship by nature with other variables is linear. The next assumption is non-stochastic independent variables. It is plausible that this is an issue with some of the controls, (i.e. Attachment at T1 predicts whether one supports their children). However, multicollinearity diagnostics indicated that collinearity between the independent variables is not high enough to obfuscate the results.

Constant variance of the residuals was examined by plotting the error terms against the predicted value for each dependent variable. None of the results indicated heteroscedasticity. The fourth assumption, expected value of error terms is zero, also was tested. All of the residuals were almost zero. Autocorrelation (spatial or serial) does not seem logically to be possible within the given context, since only the T2 survey was used for the primary analysis. Finally, the residuals were plotted with stem and leaf plots and scatterplots. The results indicated some skewness, but nothing to render the findings erroneous.

One aspect of regression often not given due accord in the literature is model specification. Some authors seem to tacitly assume that their models are the superlative method to examine the question at hand. Here, this issue factored into the creation of the tested models. While it is true that other variables outside the dataset explain changes in social bonds better than the boot camp or age, the hypothesis of interest revolved around the effect of the treatment, not the creation of bonds as a whole. Thus the model is not under-specified since the TBC variable is really the only variable relevant to the hypothesis, though the omitted controls may affect the results. Finally, the main model (without age) should not suffer from *over*-specification, considering that the control is present to account for differences between the two groups and are thus required in order to remove its influence regarding the main independent variable.

Regression Results

The first regression estimated revolved around the *Commitment to Conventionality* scale. The regressions models with and without controls indicate that the boot camp is not more instrumental than the prison in enhancing this scale (see Table 9). In model 3, which includes an age variable, the boot camp is also not statistically significant. It is in-

interesting to note that the coefficient for TBC remains, in all models, negative (though statistically not significant). This suggests perhaps a negative effect for the boot camp. The results presented in Table 9 show that of the predictor variables, age is statistically significant for the *Commitment to Conventionality* scale. The significant age variable indicates that irrespective of treatment, age is associated with an increase in *Commitment to Conventionality*. This is theoretically an expected result. It does not, however, rule out the possibility of an age interaction being present.

Table 9. OLS Regression Results for the Effect of the TBC on Commitment to Conventionality

Item	1 (N=207)	2 (N=197)	3 (N=197)
TBC ^a	-.046 (.093)	-.096 (.096)	-1.00 (.095)
Age at first arrest		.009 (.013)	-.008 (.014)
Age			.033** (.013)

***Significant at the .01 level. **Significant at the .05 level. *Significant at the .10 level. Note: Standard Error in Parentheses. a. TBC coded 1: Boot camp 0: MTC. R-sqr for Model 1=.062. Model 2=.009. Model 3=.041.
a. The comparison group is MTC (Prison).

The results from the OLS regression using the dependent variable, *Supportive Attachment* are displayed in Table 10. The conclusions reached from the regression with the commitment scale (model 1) with respect to the boot camp are echoed here. The TBC does not seem to be a predictor of an increase or decrease in social bonds. As was the case with the previous results, the boot camp coefficient, while not statistically significant, is negatively associated with the outcome. This, along with the results from the *Commitment to Conventionality* scale seems to indicate that the boot camp may possibly be having the opposite effect than I had hypothesized. The results in Table 10 show that age is a statistically significant predictor of this scale, meaning as offenders get older,

Supportive Attachment increases. This indicates that the effect of treatment is not dependent on the age of the offender. Age at first arrest is not statistically significant in any of the models associated with *Supportive Attachment*.

Table 10. OLS Regression Results for the Effect of the TBC on Supportive Attachment

Item	1 (N=207)	2 (N=197)	3 (N=197)
TBC ^a	-.032 (.099)	-.092 (.103)	-.095 (.103)
Age at first arrest		-.011 (.014)	-.025 (.015)
Age			.026* (.014)

***Significant at the .01 level. **Significant at the .05 level. *Significant at the .10 level. Note: Standard Error in Parentheses. a. TBC coded 1: Boot camp 0: MTC. R-sqr for Model 1=.001. Model 2=.007. Model 3=.236.
a. The comparison group is MTC (Prison).

The last estimation involved the *Facilitated Attachment* scale. This scale, recall, involves variables directly associated with social relationship change while incarcerated. It is thus one of the most interesting from the perspective of the actual effect of the boot camp. Analyses of the assumptions indicated a slight left skew in the residuals regression. This meant that I needed to normalize one of the variables. Because a natural logarithm of a dichotomous variable (TBC) is non-sensical, I calculated a new variable using the natural log of *Facilitated Attachment* and re-ran the analysis. The results were not manifestly different from that using the unlogged variable.

Table 11 presents the regression coefficients for *Facilitated Attachment*. Here, the results are generally supportive of the overall hypothesis. In the baseline equation (model 1) the boot camp is borderline significant ($p < .10$) and positively related to the outcome.

However the next model that includes the controls (model 2) produces a significant effect for the boot camp at the .05 level. This social bond then, for the entire sample, is the only measure that the boot camp seems to impact. This suggests that offenders perceive their social relationships to have changed more positively while in the boot camp than in the prison. Model 3 also produced a significant TBC variable. This indicates that the boot camp still has a positive influence on *Facilitated Attachment* holding age and age at first arrest constant. The results from model 2 indicate that the boot campers, on average, were .176 units more “attached” than the prisoners at the end of the study. In terms of substantive meaning, it appears that the boot camp may lead to better perceived social relations with those on the outside compared with the social relations of those in the prison.

Table 11. OLS Regression Results for the Effect of the TBC on Facilitated Attachment

Item	1 (N=210)	2 (N=200)	3 (N=200)
TBC ^a	.153* (.081)	.176** (.084)	.175** (.084)
Age at first arrest		.010 (.011)	.005 (.013)
Age			.011 (.012)

***Significant at the .01 level. **Significant at the .05 level. *Significant at the .10 level. Note: Standard Error in Parentheses. a. TBC coded 1: Boot camp 0: MTC. R-sqr for Model 1=.058. Model 2=.024. Model 3=.028.

a. The comparison group is MTC (Prison).

The overall results thus far present the impression that the effect of the Toulson boot camp on social bonds is not manifestly large by comparison to a traditional prison. Only three of the above nine models produced significant boot camp regression coefficients. It appears the boot camp did not affect *Commitment to Conventionality* and only influenced one form of attachment. However, following the second hypothesis for this

study, it is possible that the effect of the treatment is not uniform. That is, the effect may vary by some other variable, such as the age of the inmate. In the next section I test for this possibility.

C. Age and Condition Interaction

The second hypothesis for this research was that older offenders in the boot camp would improve upon their level of social bonds more so than younger offenders. That is, I suspected that only older offenders *in the boot camp* would increase their level of social bonds. This was to suggest that an age interaction existed; that the effect of treatment depended on age. There is more than one way one can detect whether the effect of treatment differs by a certain variable. One method that is often used in the psychological and criminological literature is to create an “interaction term” (Pindyck and Rubinfeld, 1998).

One other option is to split the dataset and examine the effects in this manner. Thus Commitment and Attachment can be regressed on the treatment for *only* those older than the median age, and then for those under the median age. The median age for the entire sample was 22 years. I split the sample to create two groups, and regressed the three measured social bonds on the treatment for those older than 22 and then for those younger than or equal to 22. This method makes it possible to determine if an interaction exists; that is, if the TBC is a significant predictor of social bonds for older offenders rather than younger ones. This is to test the hypothesis that the effect of treatment varies by age. The models resemble the original regression equation, except the age variable is not included.

Table 12 presents the split-case regression of age on *Commitment to Conventionality*. As is shown, in both groups (Age>22 or Age<22) the boot camp remains statistically insignificant. This is true even when controlling for age at first arrest. This suggests that the effect of treatment, contrary to the second hypothesis, does not depend on age. It would seem that the TBC simply does not have a discernible effect on *Commitment to Conventionality* as measured here, and this lack of effect does not vary according to one's age. However, it is interesting to note that for the older offenders, the sign of the coefficient switches from what was found in Table 9. For this group, TBC variable is positively related to *Commitment to Conventionality*. For the younger offenders, the coefficient is negative. While these results are not statistically significant, they suggest that the boot camp *may* be a more constructive experience for older offenders. Thus, this conclusion is tenuous at best.

Table 12. Split Case Regression: Commitment to Conventionality Regressed On TBC (Older v. Younger)

Item	Age≤22		Age>22	
	1(N=117)	2 (N=111)	1 (N=90)	2 (N=86)
TBC	-.128 (.128)	-.197 (.131)	.075 (.126)	.020 (.134)
Age at first arrest		.006 (.028)		-.009 (.015)

***Significant at the .01 level. **Significant at the .05 level. *Significant at the .10 level. Note: Standard Error in Parentheses
 Note: R-square for Age>22 Model 2=.005; Age<22=.022.

With respect to attachment, similar findings to the above obtain for the *Supportive Attachment* subscale. The boot camp variable, while not a statistically significant predictor of the social bond, is actually negative in both groups. The control variable age at first arrest is also not statistically significant, meaning it is not related to an increase in this

form of attachment either for older or for younger offenders. Once again, these findings suggest that there is no age interaction in terms of the treatment.

**Table 13. Split Case Regression: Supportive Attachment Regressed on TBC
(Older v. Younger)**

Item	Age \leq 22		Age $>$ 22	
	1 (N=117)	2 (N=111)	1 (N=90)	2 (N=86)
TBC	-.055 (.135)	-.116 (.140)	.083 (.099)	-.073 (.152)
Age at first arrest		-.027 (.030)		-.020 (.016)

***Significant at the .01 level. **Significant at the .05 level. *Significant at the .10 level. Note: Standard Error in Parentheses. Note: R-square for Age $<$ 22 model 2=.013; Age $>$ 22=.018.

However, regression calculations for *Facilitated Attachment* (Table 14) produced a statistically significant finding for age in model 1 (without the controls). This relationship holds in model two (with Age at first arrest). It should be noted that these findings are marginal at best, and, using the test advocated by Paternoster et al., (1998), it was determined that the coefficients for TBC were not statistically different between these two groups (Sig=.152).

**Table 14. Split Case Regression: Facilitative Attachment Regressed on TBC
(Older v. Younger)**

Item	Age \leq 22		Age $>$ 22	
	1 (N=118)	2 (N=112)	1 (N=92)	2 (N=88)
TBC	.079 (.103)	.119 (.015)	.252* (.129)	.247* (.137)
Age at first arrest		.034 (.023)		-.001 (.015)

**Significant at the .05 level. *Significant at the .10 level. Note: Standard Error in Parentheses.
Note: R-square for Age $<$ 22 model 2=.029; Age $>$ 22=.038.

In chapter III, I noted that I did not adhere to the notion of a “cut off” age with respect to the effects of treatment. Recall that Uggen (2000) argued that there is something particular about age 26 wherein maturity sets in and treatment suddenly becomes effective. For example, he states, “by the age of 26, when crime rates have begun to decline, transitions to marriage and employment may facilitate cessation or desistence from crime” (Uggen, 2000: 534). This paper has attempted to argue that in fact, there is no universal demarcation, but rather that, given an age/treatment interaction, it is more likely that as people age in general, they become more susceptible to reform. This is why the interaction is tested at the median age, rather than age 26³⁰. It is important to note that Uggen did test age as a continuous variable, but maintained the position that 26 is the key age in terms of ability to reform. Within the present data, it is possible to test Uggen’s dichotomous age notion.

I repeated the above analyses with Uggen’s age cut-off to determine if indeed, this is a key age wherein offenders become amenable to treatment. The results (not presented) are very similar to the above. None of the models produced statistically significant TBC variables, meaning that, using age 26 to split the sample, treatment was not found to vary by age. No age interaction was found using age 26 as a cut-off, even for *Facilitated Attachment* scale that had produced an age interaction using the median age. Interpretations

³⁰ The analysis was repeated using various “cut-off” ages. Results are similar to those shown.

of this test must be made with caution, however, because the sample size of offenders older than 26 was so low as to introduce power issues ($N=36$). Therefore it could be that an effect is present (i.e., the null is not true), but the estimations simply did not have enough power to detect it.

Chapter VI

~Making Sense of It All: Discussion and Implications

*Commitment has kind eyes. He wears sturdy shoes.
Everything is vivid when he is around. It is wonderful to sit
and have lunch in his gardens around harvest time. You
can taste in the vegetables that the soil has been cared for.*

~J. Ruth Gendler

Explorations of the impact of Correctional Boot Camps (CBCs) should not be confined to the recidivism rates of participants. Certain of the research conducted with regard to CBCs has found that such things as attitudes are affected in a positive manner by these facilities. It follows that if cognitive components or attitudinal factors are impacted by CBCs, it is possible that cognitive ties to a conventional role or social relationship may also be reassessed during incarceration. Commitment and attachment represent one's "stake in conformity", as illustrated by J. Ruth Gendler's quotation. A person's stake in conformity, in essence, "roots" him/her to conventional society. Thus if a correctional program increases one's SIC, a decrease in criminal behavior should result.

Summary

Most examinations of the effectiveness of CBCs are focused on survival analyses; comparing recidivism rates of offenders who spent time in a boot camp to those in other correctional contexts. These investigations are confined to the second half of the causal sequence expected if boot camps increase social bonds, and therefore may not uncover important treatment effects. The purpose of the present study has been to investigate the first part of the proposed causal sequence—whether or not social bonds, are differentially impacted by a CBC versus a traditional prison. Future tests concerning the outcomes of these two groups in terms of recidivism await data collection. Drawing on a diverse body

of correctional literature that has shown the importance of social bonds in discriminating between probationers who succeed and those who do not (e.g., Benda et al., 2003; 2005; Piquero, 2003; Sherman and Berk, 1984), as well as the CBC research indicating such camps' may positively influence attitudes (e.g., MacKenzie and Corbett, 1995), this study hypothesized that a treatment oriented boot camp would increase an offenders' SIC. The findings, presented in chapter V, indicate that there is a very modest effect. This is true for the sample as a whole as well as for select subsets (older offenders). Only the calculations with *Facilitated Attachment* indicated that the boot camp significantly improved social bonds. It is unclear why this variable would be influenced by the treatment and not the other bonds.

In the full sample regressions, we saw that age significantly predicted an increase in social bonds, irrespective of treatment. This is theoretically expected—older offenders may have higher levels of social bonds to begin with, or perhaps there is something about the maturing process in which societal and intimate relationships become more important. The boot camp was statistically significant in one of the full-sample regression calculations. *Facilitated Attachment* levels were higher in the boot camp, which indicated that this facility *did* have a positive impact on one measure. The other social bonds, however, were not predicted by assignment to the boot camp in any of the models. Thus, in general, the conclusion is that the experience of boot camps is not that different from a prison. That is, social bonds are not, for the most part, differentially impacted since the treatment in the boot camp and the atmosphere in the prison do not specifically focus on enhancing relationships. It was found that there is little overall difference between the two groups on measured social bonds.

It is important to note that a moderate age interaction was found with respect to *Facilitated Attachment*. This variable seems to have been most affected by treatment. Though the effect was not large, it still is suggestive that there is some positive mechanism affecting offenders in the boot camp. It was found that for offenders older than 22 the boot camp significantly predicted an increase with regard to this type of attachment. Yet this age interaction was not found using different ages to split the sample (see the discussion of the age interaction in chapter V).

Overall, the impact of the boot camp must be seen as particularly small. Especially disappointing from a hypothesis viewpoint is the lack of age interaction with respect to the two other measured social bonds (*Commitment to Conventionality* and *Supportive Attachment*). Even for *Facilitated Attachment* the age effect disappeared when using age 26 and over as a cut point, suggesting that the increase in bonds is not uniform with age, meaning that perhaps the interaction was *not* for older offenders, but just with respect to age 22. It seemed to make sense that just as Uggen (2000) had found that older offenders benefited from a work treatment program more than younger offenders, older offenders in the boot camp would “take advantage” of the treatment and education programs offered. And perhaps this is somewhat true in terms of improving personal relationships (*Facilitated Attachment*). However, generally, the age-interaction did not seem to occur. There are two possible reasons for the lack of age interaction for these bonds. First, it may happen that the boot camp does not generally have an impact on these bonds as a whole, no matter the age. Second, it may be that while there was a theoretical reason for an age effect in Uggen’s work, there was no such reason to expect that the treatment of the boot camp should influence different age levels uniquely. For example, older

individuals, perhaps in need of supporting a family, can easily see the advantages of employment, but do not respond in the same way to a boot camp (which incidentally may have a *lack* of effect on all ages). The lack of findings may have also been due to a lack of power when splitting the sample. Finally, the present research cannot dismiss the idea that correctional boot camps truly are not manifestly different from traditional prisons. This would explain the previous null findings from past research comparing boot camps and prisons.

A. Study Limitations

As is the case with most research designs, the present study is not without a few shortcomings. First, the sample and type of facility generally prohibits sweeping generalizations about the impact of boot camps. The sample was almost entirely African-American, and from one location, Baltimore City, Maryland. Thus it may not be representative of a typical United States prison population. There could be idiosyncrasies about the study subjects that are not shared by other prisoners across the nation. For example, if the offenders in the present study were disproportionately more committed to attaining legal employment than those in other U.S. cities due to perhaps a concentrated effort by a governmental official, the boot camp/prison experience may be qualitatively different than for those in other localities.

Weisburd and Taxman (2000) describe the problem of non-generalizability of experiments in “single sites” in criminal justice. They argue, “a strong impact of treatment in one jurisdiction may not carry over to others that have offenders drawn from different ethnic communities or that come from different socioeconomic backgrounds” (p. 316). In the longitudinal literature, this is referred to as a “cohort effect” (Gottfredson and Hirschi,

1987). The only answer to the question of generalizability is replications. If future studies can show a similar effect as the present work, it becomes more difficult to attribute the results to “cohort” or sample effects.

The demographic characteristics of the sample used are also relevant to questions raised by others about the applicability of the Life-Course Perspective (LCP) in criminology. Some (see Nielson, 1999) argue that social bonds do not explain desistance or criminal behavior for minority groups. Therefore, even a finding of an increase in commitment and attachment may not be relevant in terms of positive adjustment upon release. Since the sample for this study was largely minority, this factor may be a limitation of the present work. Further analyses are certainly required to test whether older offenders graduating from the boot camp do indeed adjust better than their counterparts in the prison.

As well, more contingencies could have been tested within the present dataset. For example, it would be interesting to examine the effect of receiving a GED while incarcerated, and also to consider if childhood bonds differentially impact the ability to form adult bonds. This study has not examined the life-course of individuals, and so cannot contribute more information than simply the impact of the correctional program. However, antecedent variables are important if we are considering identifying appropriate correctional measures for different populations as a primary goal of research.

Perhaps the greatest limitation of the present study is the measures used. As noted earlier, traditional commitment and attachment items were not available in the second wave survey. The T1 survey included a set of such items, but were not included in the T2 survey. This prevented a measurement of social bonds with obvious face validity. As

well, only items from T2 were used, which prohibited a mixed model examination (change scores).

These two limitations can be addressed in ways that permit conclusions to be drawn, at least tentatively. First, the factor analysis in conjunction with the reliability analysis indicates that the items retained in the scales “hang together” sufficiently to suggest that the scales tap underlying measures. Even if the measures labeled “Commitment” and “Attachment” were not traditional definitions, they nonetheless represent a latent trait that taps to some degree an individual’s ties to aspects of society.

The second issue, absence of change-scores, is not a fatal flaw for the present work. Some may argue that the analysis would have been strengthened by using a method that compared the same individuals from T1 to T2, which controls many covariates effectively. However, the experimental design of the study makes the two groups compared as equivalent as possible, therefore any difference at T2 can be attributed to treatment. The pre-treatment discrepancies between the groups may well have been due to chance. Nevertheless, the primary analysis included the discrepant variables as “controls” to balance covariates between the two groups. Overall, then, the limitations introduce an element of caution, but do not invalidate the results.

B. Theoretical Implications

Whereas theory has not always (or ever) gone hand in hand with research concerning CBCs, the current study seems a step forward in that respect. While correctional programs should always be validated by empirical research that examines recidivism rates, interweaving theoretical approaches into evaluations may also help unpack the complete effect of a particular correctional technique (Andrews and Bonta, 2002). As

Benda argues: “effective intervention relies on theory as a guide for what motivations are most likely to lead to behavioral change (Andrews & Bonta, 1994). In fact, evidence indicates that programs based on useful theory are five times more effective than are those lacking an underlying theoretical framework” (Benda, 1999:28). Unfortunately this point is not so evident to all. Glaser sums up the problem (which seems as relevant now as when he said it): “A concern with the social bonds of offenders is often absent in criminal justice agencies because public officials—as well as many criminologists—have abandoned crime-causation theory” (Glaser, 1979:203). Recent theoretical advances will hopefully change this lack of interest of theory as it relates to corrections.

In terms of social bond theory, the present study has several implications. First, in general, Laub and Allen’s (1999) argument that boot camps should not increase or affect social bonds seems mostly justified. The effect of the TBC was marginal at best, only manifesting for one of the measured bonds. There may be skepticism regarding the belief that an increase in one’s reported social bonds will lead to any improved adjustment for the boot campers than for the prisoners. It could be suggested that the social bonding process is too complex to be explained by a short stint in a correctional facility. In addition, the translation of bonds into reduced criminality requires a confluence of factors, which may not have been available in the boot camp.

Laub and Allen (1999) argue persuasively that boot camps should not work to increase social bonds because they are not manifestly different from traditional prisons. By this they mean that both types of facilities in effect “knife off” the individual from the very institutions and people that they need to connect with. In this regard, the argument is much like Braithwaite’s (1989), who suggested the need for reintegrative shaming instead

of stigmatizing shaming, the former of which would potentially invite the offender back into society, re-connecting or making use of his bonds and lowering his criminal behavior; the latter of which (because of its opposite effects) would increase or prolong criminal behavior. The present findings cannot be said to contradict this assessment.

Despite the overall minimal impact of the boot camp, the findings are important for the Life Course Perspective in criminology. Life-Course criminology ushers in a new way to examine the age-crime debate. It is generally accepted that criminal behaviors decrease with age. Gottfredson and Hirschi (1986: 219) in a piece arguing against the utility of a career criminal put forth their view on age and crime:

The authors have spent some time investigating the relation between age and crime (Hirschi and Gottfredson, 1983). This investigation led to the conclusion that the propensity to commit criminal acts reaches a peak in the middle to late teens and then declines rapidly throughout. Further, this distribution is characteristic of the age-crime relation regardless of sex, race, country, time, or offense. Indeed, the persistence of this relation across time and culture is phenomenal.

However, these authors do not seem to give much consideration to the idea that some offenders desist before others, and the myriad of reasons for this possibility. That all offenders eventually stop committing crimes is good enough. Life-Course criminology allows a thoroughgoing analysis of this aspect, showing that “transitions” can lead to a “turning point” or a change of one’s life “trajectory” (Sampson and Laub, 1990). The present study takes this body of knowledge one step further, by examining not the relationship of social bonds to desistance (which is impressive enough), but what factors strengthen the bonds themselves. The results illustrate that social bonds *can* be affected—if modestly—for a certain type of bond and for offenders over the age of 22. This might suggest that age itself is not the only variable that matters in the social bonding process, but age may lead one to become more amenable to treatment or a change in general. Of

greater import than the magnitude of the effect found is that an effect was found at all. This finding implies treatment may be able to influence social bonds, and given the age-graded nature of such bonds (see Sampson and Laub, 1993), may be more effective for older offenders.

C. Policy Implications

Whereas the above findings are not uniform, no single clear policy implication emerges. If the results of the regression analyses had indicated that the Toulson Boot Camp as a whole did not affect social bonds, or largely did have an impact, the implications would be more straightforward. However, overall, there does not appear to be much support for CBCs as a correctional alternative. Even a therapeutic, rehabilitation-oriented facility does not appear to have a straightforward impact on a theoretical set of variables. The present research has attempted to search for a positive effect of CBCs, given the plethora of negative investigations. Yet the findings are not encouraging for CBC proponents, as the boot camp predicted increases in only one of three measured forms of social bonds, and only a weak age interaction was found.

CBCs will likely continue to be popular with the public despite the research. In general, more therapeutic and less militaristic facilities should produce more positive results. In terms of therapy and rehabilitation, Camps should focus on “criminogenic needs”, or risk factors (Andrews and Bonta, 2002). Andrews and Bonta list several of these risk factors, including “antisocial attitudes, antisocial associates, a history of antisocial behavior and antisocial personality patterns” (p. 86). One could add to this list a lack of attachment and commitment—social bonds. It follows that more emphasis on relation-

ships with conventional society may serve to make the Herman L. Toulson Boot Camp even more effective.

The results do not support the idea that therapeutic boot camps are the most efficient or effective way to increase an individual's level of social bonds. Though the study only attempted to examine the *difference* between a traditional prison and a boot camp, the lack of overall effects found³¹ may be taken by some as an indication that we should begin to look for other policies to help build investment in conventional society. Some argue that incarceration of any kind will likely damage or destroy one's societal relationships. And while it cannot be denied that more individual-oriented treatment would likely produce better results, given current budget concerns, it may be more fruitful to explore what current practices or policies have to offer to develop or enhance social bonds.

It seems that the burden is on policy-makers and researchers to identify programs already in place that have the greatest impact on adult family and societal-relationship variables as well as perhaps how to improve them. The Maryland "What Works in Corrections" congressional report pointed to the ineffectiveness of CBCs that stress harsh discipline and militarism (Sherman et al., 1998). The current study found that a CBC with emphasis on therapy and rehabilitation had a small differential effect, but not on all measured social bonds. One of the implications of the present work is that policymakers should recognize the import of correctional programs that do not remove offenders from their social networks. Indeed, some research (see Rex, 1999) has found that certain forms of probation can facilitate social ties. In conjunction, mandatory counseling may improve

³¹ Indeed, an examination of the R^2 of the full OLS models (with control variables included) shows that the models explain exceedingly low variance in the outcome. This suggests that other things than whether or not one went to the Boot camp explain changes in social bonds.

offenders' appreciation for the social/institutional relationships he/she has. Sessions focusing on social ties could be incorporated in boot camps, or other correctional facilities.

This is not to discount the value of searching for alternatives. It is only to point out the fallacy of considering the book on correctional "state" policies as closed (see for example, Stinchcombe and Terry's (2001) somewhat hyperbolic title). Indeed, a finding of a uniform increase in social bonds for boot campers would justify caution in coming to conclusion that these facilities are completely hopeless. However, findings of increased attachment may have little practical significance if strong aftercare programs are not offered, and it is conceivable that those who increased social bonds may not differ from their counterparts with respect to recidivism if released without proper attention. Thus another policy implication may well be to include aftercare programs for boot camp graduates.

To the extent that an age interaction exists, there are implications for the suggested "target" population for correctional boot camps. If older offenders increase their levels of social bonds in the boot camp but not in the prison, as seems to be the case for *Facilitated Attachment*, perhaps certain age groups should be considered in the future for such treatment. Such an effect may not be uniform within the present dataset. To that extent, and whereas the findings were not strong, concrete policy implications should await the results of future research.

D. Research Implications

The current work has several implications for future scholarly work with respect to theory, corrections in general, and boot camps in particular. First, research following up on the present work should determine if in fact, increased social bonds leads to de-

creased criminal activity. Second, if it is found that increased bonds do lead to decreased crime, it is imperative to examine what kinds of interventions lead to increased levels of social bonds. It is not realistic to presume that mandatory military training, or forced marriages will become part of the correctional landscape anytime soon. Considering the importance of social bonds/ties/investments to desistance from crime, research must ferret out the most deleterious from the most advantageous programs available. This research should not be limited in scope to corrections, but more broad-based to determine if we can impact one's stake in conventional society.

Future research should explore policies such as educational programs. Laub (2006) argues that one of the most effective means of influencing social ties is through education. If directed toward children, this in effect is an attempt to head off the problem at the pass (i.e., preventing children from becoming bond-less adults). However, educational programs exist for adult offenders. These should be tested in a similar manner to the present research, examining their impact on adult bonds. The Toulson Boot Camp provided more access to education than the Metropolitan Transitional Center. In earlier work (MacKenzie et al., 2004) researchers discovered that the thirst for education was widespread among both groups. Evaluations in the future must look to education as a means of increasing bonds, and consequently decreasing crime. The current dataset is rich with information that can be explored in this realm. It goes without saying that additional programs should be investigated with respect to their impact on bonds.

Additionally, future research of this type must have a clear conception of what social bonds are. As mentioned in the beginning of this chapter, one of the likely critiques of this work is that a traditional definition of social bonds was not available. Though

Hirschi's (1969) seminal work did not have one clear conception of commitment or attachment in mind (both of which took on many forms), it has become the norm to consider commitment and attachment as single measures such as whether one is married.

This last observation leads us directly to evaluations of corrections. As mentioned in the beginning of this paper the linkage of theory to correctional policies has not generated much criminological research. This is a mistake not only intellectually but practically as well, for findings that policies impact certain variables may shed light on how best to administer particular programs. Other criminological variables *must* be tested as outcomes, and the research literature should no longer be confined to survival analyses or comparisons of recidivism. In this way, we can gain a more comprehensive understanding of the full effect of treatments.

E. Conclusions

Social bonds, the building blocks for an individual's "Stake in Conformity", are an essential part of the complex process that is known as desistance (Sampson and Laub, 1993). This paper has argued against the deterministic stability thesis that is currently dividing criminology [see the exchange between Hirschi and Gottfredson (1995) and Sampson and Laub (1995)] to suggest that societal relationships are a key part of making criminal behavior less attractive. To that extent, any correctional program that impacts social bonds should be more successful in effecting change in offenders' lifestyles.

The current study has undertaken an examination of a Correctional Boot Camp located in Jessup, Maryland to determine its effect on social bonds (commitment and attachment) in relation to a traditional prison. Contrary to the overall hypothesis which was driven by knowledge of the therapeutic and rehabilitative nature of the boot camp, a uni-

form increase or decrease in commitment or any of the two types of attachment was not obtained. However, interestingly, one type of measured social bond *was* positively impacted by the treatment. As well, an age interaction was found with this type of attachment. That is, older offenders assigned to the boot camp increased their level of this bond more so than their counterparts in the prison. This effect was by no means robust however ($p < .10$).

The overall conclusion of the study is a mixed one: boot camps are likely not the most effective method of increasing social bonds for offenders generally, but they appear to have a positive impact for a certain type of attachment. Yet, all statistically significant findings (with respect to the full sample calculations and the split-case regression) were arguably modest. Therefore, on the basis of the present results as well as past CBC reviews, it is suggested that corrections begin to move away from boot camp facilities and closer to programs that do more to explicitly facilitate offenders' social relationships. Further research should be conducted to flesh out the present results, as well as to examine whether an increase in social bonds does in fact lead to decreased criminal behavior within the present data. If follow-ups show that increased bonds results in better adjustment to the community upon release, this information can be utilized by program officials to help make their facilities that much more effective in the future. As it stands however, the continued use of boot camps as a method to positively influence offenders in general has not been supported by this research.

REFERENCE MATTER

APPENDIX A. Attachment Scales

Facilitated Attachment Scale

Item description:	Range	Item-Total Correlation	Alpha if Item Deleted
1. How has your relationship with your spouse changed while you have been in this facility?***	0-2	.390	.655
2. How has your relationship with your live in girl-friend changed while you have been in this facility?***	0-2	.293	.680
3. How has your relationship with your kids changed while you have been in this facility?***	0-2	.337	.669
4. How has your relationship with your parents changed while you have been in this facility?***	0-2	.482	.629
5. How has your relationship with your brother/sister changed while you have been in this facility?***	0-2	.552	.609
6. How have your relationships with other relatives changed while you have been in this facility?***	0-2	.464	.634
7. How have your relationships with your close friends changed while you have been in this facility?***	0-2	.265	.687
Total		---	.687

Note: *Reverse Coded; **Trichotomized-Don't have coded as 0. I wanted to tap a change for the better in relationships. If one reports such an effect, we can say attachment increased. If a relationship was judged to have stayed the same, the response was coded as 1. "Better" was coded as 2. If an offender reported they did not have a relationship (spouse, children, etc.), the response was also coded as 0; attachment cannot be said to have increased.

Supportive Attachment Scale

Item description:	Range	Item-Total Correlation	Alpha if Deleted
1. My family is going to help me stay out of trouble	1-4	.538	.820
2. I have family or friends I can turn to for guidance	1-4	.643	.804
3. I have family or friends I can talk to, who care about my feelings and what happens to me	1-4	.656	.802
4. I have family or friends who will spend time with me in social activities	1-4	.595	.811
5. I have family or friends from whom I could borrow money if I needed it	1-4	.588	.813
6. I have family or friends I can count on in an emergency	1-4	.502	.826
7. I have family or friends I can talk to about important decisions in my life	1-4	.575	.815
Total		---	.835

Note: Scale found in Future Plans section of the survey and referred to an offender's assessment of the support that he would be getting from friends and/or family.

APPENDIX B. Commitment Scale

Commitment to Conventionality Scale

Item Description	Range	Item-Total Correlation	Alpha if Item Deleted
1. Drugs are NOT a part of my future	1-5	.341	.801
2. I WON'T be coming back to prison	1-5	.341	.782
3. I know how to change specific things that I want to change in my life	1-5	.529	.767
4. I have a good sense of where I am headed in life	1-5	.585	.756
5. I know what I need to do to get started toward reaching my goals	1-5	.605	.752
6. I have a specific action plan to help me reach my goals	1-5	.555	.762
7. I have a plan for making my life more balanced	1-5	.609	.751
Total		---	.794

REFERENCES CITED

- Agnew, R. (1993). Why Do They Do It? An Examination of the Intervening Mechanisms between "Social Control" Variables and Delinquency. *Journal of Research in Crime and Delinquency*. 30:3. 245-266.
- Akers, R. L. (1989). A Social Behaviorist's Perspective on Integration of Theories of Crime and Deviance. In Messner, S. F., Krohn, M. D., and Liska, A. E. (1989). *Theoretical Integration in the Study of Deviance and Crime: Problems and Prospects*. Albany, NY: State University of New York Press.
- Akers, R. L., and Lee, G. (1999). Age, Social Learning, and Adult Social Bonding in Adolescent Substance Abuse. *Deviant Behavior*. 19. 19-25.
- Albonetti, C. A. (1987). *Prosecutorial Discretion: The Effects of Uncertainty*. Law and Society Review. 21:2. 291-313.
- Andrews, D. A., Bonta, J., and Hoge, R. D. (1990). Classification for Effective Rehabilitation: Rediscovering Psychology. *Criminal Justice and Behavior*. 17:19-52.
- Andrews, D. A., Bonta, J. (2002). *The Psychology of Criminal Conduct*. Cincinnati, OH: Anderson.
- Becker, H. S. (1960). Notes on the Concept of Commitment. *The American Journal of Sociology*. 66:1. 32-40.
- Benda, B. (1999). Testing the Problem Syndrome Among Young Males in Boot Camp: Use of Theoretical Elaboration with Reciprocal Relationships. *Social Work Research*. 23:1.
- Benda, B., Toombs, N. J., and Peacock, M. (2003). Discriminators of Types of Recidivism among Boot Camp Graduates in a Five-Year follow-up Study. *Journal of Criminal Justice*. 49:3. 539-551.
- Benda, B. Harm, N. J., and Toombs, N. J. (2005). Survival Analysis of Recidivism of Male and Female Boot Camp Graduates using Life-Course Theory. *Journal of Offender Rehabilitation*. 40:3/4. 87-113.
- Benda, B. (2006). *Personal Communication*. May 23, 2006.
- Bierie, D. (2006). *Personal Communication*. September 28, 2006.
- Braithwaite, J. (1989). *Crime, Shame and Reintegration*. Cambridge, UK: Cambridge University Press.

- Briar, S., and Piliavin, I. (1965). Delinquency, Situational Inducements, and Commitment to Conformity. *Social Problems*. 13:1. 35-45.
- Campbell, D. T. and Stanley, J. C. (1963). *Experimental and Quasi-Experimental Designs for Research*. Chicago, IL: Rand McNally.
- Campbell, D., T. and Kenny, D. A. (2003). *A Primer on Regression Artifacts*. New York: Guilford Press.
- Clarke, R. V. and Cornish, D. B. (1985). Modeling Offenders' Decisions: A Framework for Research and Policy. In Tonry, M. and Morris, N. eds. *Crime and Justice: An Annual Review of Research*. 6:147-85.
- Cornish, D. B. and Clarke, R. V. (1986). *The Reasoning Criminal: Rational Choice Perspectives on Offending*. New York: Springer-Verlang.
- Costello, B. J. and Vowell, P. R. (1999). Testing Control Theory and Differential Association: A Reanalysis of the Richmond Youth Project. *Criminology*. 37:4. 815-842.
- Cullen, F. T. (1994). Social Support as an Organizing Concept for Criminology: Presidential Address to the Academy of Criminal Justice Sciences. *Justice Quarterly*. 11: 4, in Cullen, F. T. and Agnew, R. (2003). *Criminological Theory: Past to Present*. Los Angeles, CA: Roxbury.
- Fabrigar, L. R., MacCallum, R. C., Wegener, D. T., and Strahan, E. J. (1999). Evaluating the Use of Exploratory Factor Analysis in Psychological Research. *Psychological Methods*. 4:3. 272-299.
- Garson, D. (2006). *Factor Analysis*. Syllabus for Class.
- Gendler, J. R. (1984). *The Book of Qualities*. Berkeley, CA: Turquoise Mountain Publications.
- Giordano, P. C., Cernkovich, S. A., Rudolph, J. L. (2002). Gender, Crime, and Desistance: Toward a Theory of Cognitive Transformation. *American Journal of Sociology*. 107:4.
- Glaser, D. (1979). A Review of Crime-Causation Theory and Its Application. *Crime and Justice*. 1: 203-237.
- Glueck, S. and Glueck, E. (1952). *Delinquents in the Making*. US: Harper.
- Gottfredson, M. R., and Hirschi, T. (1990). *A General Theory of Crime*. Stanford,

CA: Stanford University Press.

- Gottfredson, M. R., and Hirschi, T. (1986). *The True Value of Lambda Would Appear to Be Zero: An Essay on Career Criminals, Criminal Careers, Selective Incapacitation, Cohort Studies, and Related Topics*. *Criminology*. 24:2. 213-235.
- Hagan, J. (1988). *Structural Criminology*. Cambridge, Mass: Polity Press.
- Hepburn, J. R., and Griffin, M. L. (2004). The Effect of Social Bonds on Successful Adjustment to Probation: An Event History Analysis. *Criminal Justice Review*. 29:1 46-75.
- Hindelang, M. J. (1973). Causes of Delinquency: A Partial Replication and Extension. *Social Problems*. 20:4. 471-487.
- Hirschi, T. (1969). *Causes of Delinquency*. Berkely, CA: University of California Press.
- Hirschi, T. (1986). On the compatibility of rational choice and social control theories of crime. In Cornish, D., and Clarke, R. (eds.), *The Reasoning Criminal*. New York: Springer-Verlag.
- Hirschi, T., and Gottfredson, M. R. (1983). Age and the Explanation of Crime. *The American Journal of Sociology*. 89:3. 552-584
- Horney, J., Osgood, D. W., Marshall, I. H. (1995). Criminal Careers in the Short-Term: Intra-Individual Variability in Crime and its Relation to Local Life Circumstances. *American Sociological Review*. 60:655-673.
- Huebner, B. M. (2005). The Effect of Incarceration on Marriage and Work Over the Life-Course. *Justice Quarterly*. 22:3. 281-303.
- Huebner, B. M. (2007). Racial and Ethnic Differences in the Likelihood of Marriage: The Effect of Incarceration. *Justice Quarterly*. 24:1. 156-183.
- Kempf, K. (1993). The Empirical Status of Hirschi's Control Theory. Pp. In *New Directions in Criminological Theory: Advances in Criminological Theory*, vol. 4, edited by Adler, F., and Laufer, W. S. New Brunswick, NJ: Transaction Books.
- Kerlinger, F., N. and Lee, H., B. (2000). *Foundations of Behavioral Research*. 4th ed. Australia: Wadsworth.
- Krohn, M. D., and Massey, J. L. (1999). Testing Control Theory and Differential Association. A Re-Analysis of the Richmond Youth Project Data. *Criminology*. 37:4. 815-843.
- Krohn, M. D., Massey, J. L., Skinner, W. F., and Lauer, R. M. (1983). Social Bonding

- Theory and Adolescent Cigarette Smoking: A Longitudinal Analysis. *Journal of Health and Social Behavior*. 24:4. 337-349.
- Kruttschnitt, C., Uggen, C., and Shelton, K. (2000). Predictors of Desistance Among Sex Offenders. *Justice Quarterly*. 17:61-88.
- Kubinger, K. (1997). On Artificial Results Due to Using Factor Analysis for Dichotomous Variables. *Psychological Science*. 45:1. 106-110.
- Lackey, C., and Williams, K. R. (1995). Social Bonding and the Cessation of Partner Violence Across Generations (in Abuse and the Family). *Journal of Marriage and the Family*. 57:2. 295-305.
- Laub, J. H. and Sampson, R. J. (1993). Turning Points in the Life-Course: Why Change Matters to the Study of Crime. *Criminology*. 31:301-325.
- Laub, J. H. and Sampson, R. J. (2001). Understanding Desistance from Crime. *Crime and Justice*. 28:1. 1-70.
- Laub, J. H., and Sampson, R. J. (2003). *Shared Beginnings, Divergent Lives: Delinquent Boys to Age 70*. Cambridge, Mass: Harvard University Press.
- Laub, J. H., Nagin, D. S. and Sampson, R. J. (1998). Good Marriages and Desistance from Crime. *American Sociological Review*. 63:225-238.
- Laub, J. H., Sampson, R. J., Corbett, R. P. and Smith, J. S. (1995). The Public Policy Implications of a Life-Course Perspective on Crime. In Barlow, H. D. ed. *Crime and Public Policy: Putting Theory to Work*. Westview Press.
- Laub, J. H. and Allen, L. C. (1999). Life-Course Criminology and Community Corrections. *Texas Probation*. 14:3. 11-21.
- Laub, J. H. (2006). *Bad Boys, Bad Men?: The Life-Course of Crime*. Presented During Distinguished Scholar Award Ceremony.
- Long, J. S. (1983). *Confirmatory Factor Analysis: A Preface to Lisrel*. Sage: Newbury Park.
- MacKenzie, D. L., Bierie, D. and Mitchell, O. M. (Forthcoming). An Experimental Study of a Therapeutic Boot Camp: Impulses, Attitudes and Recidivism.
- MacKenzie, D. L., and Brame, R. (2001). Community Supervision, Prosocial Activities, and Recidivism. *Justice Quarterly*. 18:429-448.
- MacKenzie, D. L., Brame, R., McDowall, D., Souryal, C. (1995). Boot Camp Prisons and Recidivism in Eight States. *Criminology*. 33:3.

- MacKenzie, D. L., Browning, K., Skroban, S. and Smith, D. (1999). The Impact of Probation on the Criminal Activities of Offenders. *Journal of Research in Crime and Delinquency*. 36:423-453.
- MacKenzie, D. L. and Corbett, R. P. (1994). Results of a Multi-site Study of Boot Camp Prisons. *Federal Probation*. 58:2. 60-67.
- MacKenzie, D. L. and Li, S. D. (2002). The Impact of Formal and Informal Social Controls on the Criminal Activities of Probationers. *Journal of Research in Crime and Delinquency*. 39:243-276.
- MacKenzie, D. L. and Souryal, C. (1995). Inmates' Attitude Change During Incarceration: A Comparison of Boot Camp with Traditional Prison. *Justice Quarterly*. 12:2. 325-354.
- MacKenzie, D. L., Wilson, D. B., Armstrong, G. S. and Gover, A. R. (2001a). The Impact of Boot Camps and Traditional Institutions on Juvenile Residents: Perceptions, Adjustment, and Change. *Journal of Research in Crime and Delinquency*. 38:279-313.
- MacKenzie, D. L., Gover, A. R., Armstrong, G. S. and Mitchell, O. (2001b). *A National Study Comparing the Environments of Boot Camps with Traditional Facilities for Juvenile Offenders*. National Institute of Justice: USDOJ.
- MacKenzie, D.L, Mitchell, O., Bierie, D., Van Brakle, M., O'Neill, L., Franke, D., and Ngo Mitchell, F. (2004). *A Randomized Study of The Maryland Correctional Boot Camp for Adults: Final Report*. Submitted to the Maryland Governor's Office of Crime Control and Prevention.
- Matsueda, R. (1988). The Current State of Differential Association Theory. *Crime and Delinquency*. 34:3. 277-306.
- Mitchell, O., MacKenzie, D. L., and Perez, D. M. (2005). A Randomized Evaluation of the Maryland Correctional Boot Camp for Adults: Effects on Offender Antisocial Attitudes and Cognitions. *Rehabilitation Issues, Problems, and Prospects in Boot Camp*. 40:4. 71-86.
- Mosher, C. J., Miethe, T. D., and Phillips, D. M. (2002). *The Mismeasure of Crime*. London: Sage.
- Nielson, A. L. (1999). Testing Sampson and Laub's Life-Course Theory. Age, Race/Ethnicity and Drunkenness. *Deviant Behavior*. 20:2. 129-151.
- Nagin, D. S. and Paternoster, R. (1994). Personal Capital and Social Control: The Deter

- rence Implications of a Theory of Individual Differences in Criminal Offending. *Criminology*. 32:4. 581-606.
- Norusis, M. J. (2004). *SPSS 12.0: Guide to Data Analysis*. Upper Saddle River, NJ: Prentice-Hall.
- Nye, F. I., (1958). *Family Structure and Delinquency*. New York: John Wiley and Sons.
- Osler, M. W. (1991). Shock Incarceration: Hard Realities and Real Possibilities. *Federal Probation*. 55:1. 34-42.
- Paternoster, R. (2006). *Personal Communication*. August 30, 2006.
- Paternoster, R. and Bachman, R. (2001). *Explaining Criminals and Crime: Essays in Contemporary Criminological Theory*. Los Angeles, CA: Roxbury.
- Pindyck, R. and Daniel L. Rubinfeld (1998). *Econometric Models and Economic Forecasts*. Singapore: McGraw-Hill.
- Piquero, N. L. (2003). A Recidivism Analysis of Maryland's Community Probation Program. *Journal of Criminal Justice*. 31:295-307.
- Reiss, A. J. (1950). Delinquency as the Failure of Personal and Social Controls. *American Sociological Review*. 16:2. 196-207.
- Rex, S. (1999). Desistance From Offending: Experiences on Probation. *Howard Journal of Criminal Justice*. 38:4. 366-383.
- Rizter, G. and Trice, H. (1970). On the Problem of Clarifying Commitment Theory. *Social Forces*. 48:4. 530-533.
- Sampson, R. J. and Laub, J. H. (1990). Crime and Deviance over the Life-Course: The Salience of Adult Social Bonds. *American Review of Sociology*. 55:609-627.
- Sampson, R. J. and Laub, J. H. (1992). Crime and Deviance in the Life-Course. *Annual Review of Sociology*. 18: 63-84.
- Sampson, R. J. and Laub, J. H. (1993). *Crime in the Making: Pathways and Turning Points Through Life*. Cambridge, Mass: Harvard University Press.
- Sampson, R. J. and Laub, J. H. (1995). Understanding Variability in Lives Through Time: Contributions of Life-Course Criminology. *Studies on Crime and Crime Prevention*. 4:2. 138-154.
- Santos, J. R. (1999). Cronbach's Alpha: A Tool for Assessing the Reliability of Scales. *Journal of Extension*. 37:2. 1-5.

- Sherman, L. W. and Berk, R. A. (1984). The Specific Deterrent Effects of Arrest for Domestic Violence. *American Sociological Review*. 49:2. 261-272.
- Sherman, L. W., Douglas, A. S., Schmidt, J. D., and Rogan, D. P. (1992). Crime, Punishment, and Stake in Conformity: Legal and Informal Control of Domestic Violence. *American Sociological Review*. 57:5. 680-690.
- Sherman, L. W., Gottfredson, D., MacKenzie, D., Eck, J., Reuter, P., and Bushway, S. (1998). *Preventing Crime: What Works, What Doesn't, What's Promising: A Report to the United States Congress*, National Institute of Justice, Washington, DC.
- Shannon, D. M., and Davenport, M. A. (2001). *Using SPSS to Solve Statistical Problems*. New Jersey: Prentice Hall.
- Stebbins, R. A. (1970). On Misunderstanding the Concept of Commitment: A Theoretical Clarification. *Social Forces*. 48:4. 526-529.
- Stinchcomb, J. B. and Terry, W. C. (2001). Predicting the Likelihood of Rearrest among Shock Incarceration Graduates: Moving Beyond Another Nail in the Boot Camp Coffin. *Crime and Delinquency*. 47:2. 221-242.
- Sullivan, C. J., McGloin, J. M., Pratt, T. C. and Piquero, A. R. (2005). Rethinking the "Norm" of Offender Generality: Investigating Specialization in the Short-Term. *Criminology*. 44:1. 199-234.
- Toby, J. (1957). Social Disorganization and Stake in Conformity: Complementary Factors in the Predatory Behavior of Hoodlums. *The Journal of Criminal Law, Criminology, and Political Science*. 12-17.
- Thomas, C. W., and Foster, S. C. (1972). Prisonization in the Inmate Contraculture. *Social Problems*. 20:2. 229-240.
- Uggen, C. (2000). Work as a Turning Point in the Life-Course of Criminals: A Duration Model of Age, Employment and Recidivism. *American Sociological Review*. 67:529-546.
- Vold, G. B., Bernard, T. J., and Snipes, J. B. (2002). *Theoretical Criminology*. New York: Oxford Press.
- Warr, M. (1998). Life-Course Transitions and Desistance from Crime. *Criminology*. 36:2. 183-213.
- Weisburd, D. and Taxman, F. S. (2000). Developing a Multicenter Randomized Trial in Criminology: The Case of HIDTA. *Journal of Quantitative Criminology*. 16:3. 315-340.

- Western, B., Kling, J. R., and Weiman, D. F. (2001). The Labor Consequences of Incarceration. *Crime and Delinquency*. 47:3. 410-427.
- Wilcox, P., Hunt, L. A., and Land, K. C. (2003). *Criminal Circumstance: A Dynamic Multi-contextual Criminal Opportunity Theory*. New York: Aldine de Gruyter.
- Wooldredge, J., and Thistlewaite, A. (2002). Reconsidering Domestic Violence Recidivism: Conditioned Effects of Legal Controls by Individual and Aggregate Levels of Stake in Conformity. *Journal of Quantitative Criminology*. 18:1. 45-70.
- Wright, D. T., and Mays, G. L. (1998). Correctional Boot Camps, Attitudes, and Recidivism: The Oklahoma Experience. *Journal of Offender Rehabilitation*. 28:1/2. 71-87.