An Outcome Evaluation of the Challenge Incarceration Program

MINNESOTA DEPARTMENT OF CORRECTIONS

1450 Energy Park Drive, Suite 200
St. Paul, Minnesota 55108-5219
651/642-0200
TTY 651/643-3589
www.doc.state.mn.us
October 2006

Table of Contents

EXECUTIVE SUMMARY 1
INTRODUCTION 5
The Present Study 7
CIP: A PROGRAM DESCRIPTION 9
RESEARCH QUESTION #1: HAS THERE BEEN A DEMOGRAPHIC CHANGE IN THE CIP POPULATION? IF SO, WHAT ARE THE CAUSES? 13
Data and Methods 16
Results 17
RESEARCH QUESTION #2: DOES CIP SIGNIFICANTLY REDUCE OFFENDER RECIDIVISM? 22
Data and Methods 23
Results 30
Felony Reconviction 33
Reimprisonment for a New Offense 36
Any Return to Prison 39
RESEARCH QUESTION #3: DOES CIP REDUCE COSTS? 43
Early Release Cost Reduction 44
Recidivism Cost Reduction 48
CONCLUSION 51
REFERENCES 55

TABLES AND FIGURES

Tables

Table 1. CIP Demographic Characteristics by Fiscal Year, 1993-2004 13
Table 2. Characteristics of January 1st, 2006 Prison Population by Offense Type 15
Table 3. Characteristics of CIP and Overall Prison Admissions, FY 1998-2004 18
Table 4. Autoregression Analyses on the Percentage of White Offenders Entering CIP, FY 1993-2004 19
Table 5. CIP Offense Type Characteristics by Fiscal Year, 1993-2004 20
Table 6. Comparison of CIP and Control Group Offenders 29
Table 7. Recidivism Rates by CIP Participation 30
Table 8. Recidivism Rates by Overall Program Participation 31
Table 9. Reincarceration Offense Type by Program Participation 32
Table 10. Cox Proportional Hazards Model: Time to First Felony Reconviction 35
Table 11. Cox Proportional Hazards Model: Time to Reincarceration 38
Table 12. Cox Proportional Hazards Model: Time to Any Prison Return 41
Table 13. Early Release Cost Reduction by Fiscal Year, 1993-2002 45
Table 14. CIP Per Diem, Graduation Rates, Admission Volume and Average Bed Days Saved, FY 1993-2002 47
Table 15. Recidivism, Early Release, and Total Cost Reduction, FY 1993-2002 48
Table 16. Prison Return Rate and Duration by Program Participation 49

Figures

Figure 1. Reconviction Survival Functions for CIP and Control Groups 34
Figure 2. Reconviction Survival Functions by Program Participation 34
Figure 3. Reincarceration Survival Functions for CIP and Control Groups 37
Figure 4. Reincarceration Survival Functions by Program Participation 37
Figure 5. Any Return Survival Functions for CIP and Control Groups 40
Figure 6. Any Return Survival Functions by Program Participation 40
Figure 7. CIP Early Release Cost Reduction, FY 1993-2002 46

EXECUTIVE SUMMARY

In 1992, the Minnesota Legislature created the Challenge Incarceration Program (CIP), a correctional boot camp designed to produce a high level of offender accountability with intensive, structured programming. The program was also designed to save prison beds and lower costs by providing a reduction in prison time served to offenders who complete all three phases of the 18-month program. Although military structure, strenuous physical activity, and hard labor have figured prominently in the design and operation of CIP, offender rehabilitation has received primary emphasis since its inception in October 1992. For example, during the six months of Phase I, the "boot camp" phase, offenders participate in chemical dependency, educational, cognitive skills, restorative justice, and transition programming. After completing Phase I, offenders are released to the community for Phases II and III, where they are required to participate in aftercare programming, perform community service, and maintain employment while under supervision for at least 12 months.

Nationwide, the popularity of the boot camp concept has ebbed and flowed over the last 25 years. Widely perceived as a tough intermediate sanction capable of reducing offender recidivism, bed space needs, and operating costs, boot camps proliferated during the 1980s and early 1990s. By the mid-1990s, more than 100 adult and juvenile boot camps were operating in federal, state, and local jurisdictions. The number of boot camps has slowly declined since that time, however, as the results from evaluations of more than 30 boot camps have generally shown that, despite the ability to produce a modest reduction in costs, they do not have much of an impact on offender recidivism.

This report presents the results of a rigorous outcome evaluation of CIP since its beginning in 1992. In doing so, this study addresses three main questions:

1. Has there been a demographic change in the CIP population? If so, what are possible causes of the change?
2. Does CIP significantly reduce offender recidivism?
3. Does CIP reduce costs?

Has there been a demographic change in the CIP population? If so, what are the possible causes of the change?

Over the last five years, the CIP population has changed significantly. From FY 2000-2004, the percentage of white participants grew from 47 to 76 percent, the average age increased by three years from 29 to 32, methamphetamine offenders increased from 4 to 60 percent, and offenders from Greater Minnesota grew from 37 to 48 percent. The onset of these changes coincides with the implementation of new admissions standards in April 2000, which expanded the list of prohibited offenses, excluded offenders with more extensive criminal histories, and included for consideration factors such as gang affiliation, victim impact, community concern, and lack of residential ties within Minnesota.

To address concerns that the new admissions standards may have a disparate racial impact on the CIP population, this study examined whether the increase in white offenders has been influenced by these standards. This report also analyzed whether the increase in white offenders is due to other factors such as the race, age, offense type, and sentencing county of all offenders admitted to prison each month.

The results show that the growing percentage of white CIP offenders has been due to the methamphetamine boom. None of the other variables in the statistical model, including the new admissions standards, achieved statistical significance, suggesting that they have not had a significant impact on the changes in the racial composition of the CIP population. The growing influx of methamphetamine offenders has influenced the makeup of CIP because these offenders are predominantly white (85 percent). Moreover, methamphetamine offenders are generally viable CIP candidates in that most have a relatively limited criminal history. Thus, as methamphetamine offenders started entering prison in greater numbers beginning in FY 2000, they began comprising a larger share of the CIP eligibility pool and, ultimately, the CIP population itself.

Does CIP significantly reduce offender recidivism?

In finding that boot camps have no effect on recidivism, the majority of evaluations have been limited in one or more of the following ways: 1) program-implementation problems, 2) poor comparative data, 3) reliance on only one measure of recidivism, 4) a brief follow-up period, and 5) exclusion of program dropouts. This study attempts to improve on the existing boot camp literature by using a retrospective quasi-experimental design to compare the recidivism rates of all l,347 offenders who entered CIP from FY 1993-2002 with a comparison group of 1,555 offenders who were released from a Minnesota correctional facility between January 1, 1993, and December 31, 2002.

Recidivism was analyzed by assessing the impact of CIP participation on recidivism while controlling for the effects of variables such as discipline history, number of prior felony convictions, and offender race. In addition, a sampling technique was used to create a Control group that was virtually equivalent to the CIP group. Program participation is measured in this study as 1) all CIP participants and the Control group and 2) CIP Phase I completers, CIP Phase I dropouts, and the Control group. Recidivism, on the other hand, is operationalized as 1) a felony reconviction, 2) reincarceration for a new criminal offense, and 3) any return to prison (i.e., reincarceration due to a new crime or technical violation). The present study offers a long-term perspective on the effectiveness of CIP, as the average follow-up period for all 2,902 offenders is 7.2 years.

The results show that CIP significantly lowers the rate of reoffending when recidivism is measured as a felony reconviction or as a reimprisonment for a new crime. This finding, moreover, is robust across both measures of CIP participation. However, when the definition of recidivism is expanded to add returns to prison for a technical violation, CIP no longer has a statistically significant impact on recidivism. Although offenders in the CIP and Control groups returned to prison (whether for a technical violation or a new crime) at virtually the same rate (47.6 vs. 47.0 percent), they returned for different reasons. Whereas the Control group was much more likely to return for a new crime, CIP offenders were more likely to return to prison as technical violators for shorter lengths of time.

Does CIP reduce costs?

Boot camps reduce costs in two ways: 1) offering program graduates a reduction in time served, and 2) decreasing the amount of time offenders spend in prison following release. When prior evaluations have examined whether boot camps reduce costs, they have focused mainly on the savings produced by early release; i.e., the reduction in time served. Of the few studies that have attempted to measure the amount of recidivism savings, none have used actual data that measured recidivism as any return to prison; i.e., new offenses as well as technical violations.

The present study calculated the cost reduction resulting from both early release and a decrease in recidivism; i.e., any return to prison. The results show that the early release component of CIP has reduced costs to the State of Minnesota by $13.6 million. However, due to the relatively low graduation rates and high per diems associated with the implementation and expansion of CIP, the early release component did not generate a cost reduction until FY 1998. Since that time, however, CIP has decreased costs by nearly $3 million per year through reduced prison time.

The results further reveal that costs have been reduced by an additional $4.5 million through a decrease in recidivism. Although CIP and Control group offenders returned to prison at roughly the same rate, CIP offenders stayed, on average, 40 fewer days in prison because they were less likely to return to prison for a new crime and, thus, they generally had shorter lengths of stay. Combined, CIP has cut costs to the State of Minnesota by $18.1 million through reduced prison time and a decrease in recidivism.

INTRODUCTION

Correctional boot camps first appeared in the United States in the early 1980s in Georgia and Oklahoma. A successor to the "shock probation" and "scared straight" (i.e., shock education) programs from the 1960s and 1970s, boot camps were initially based on the premise that military regimentation, strict discipline, and strenuous physical activity could jolt offenders into reforming their criminal ways. Moreover, by providing early release to program graduates, boot camps were also conceptualized as a means to help alleviate the problem of prison overcrowding.

Boot camps were thus widely perceived to be a tough intermediate sanction that offered the promise of significant cost savings by reducing recidivism and the size of prison populations. As a result, the boot camp concept gained a great deal of popular support during the 1980s and early 1990s. Indeed, by the mid-1990s, more than 100 boot camps were operating in federal, state, and local jurisdictions. Much of the growth occurred between 1990 and 1992, when at least 19 states first opened a boot camp (Camp and Camp, 1996; 2002).

Minnesota was one of the 19 states, as the Legislature mandated the commissioner of corrections to establish the Challenge Incarceration Program (CIP) in 1992. Although the earliest correctional boot camps contained little or no programming and aftercare for participants, Minnesota, like other states that implemented boot camps during the early 1990s, placed a much greater emphasis on rehabilitation during the creation and development of CIP. The enabling legislation stipulated, for example, that CIP would contain three phases, each lasting at least six months: An institution phase (Phase I) and two intensive supervision and surveillance phases (Phases II and III). During Phase I, offenders would be exposed not only to rigorous military discipline, hard labor, and physical activity, but also to educational, chemical dependency, cognitive skills, restorative justice, and transition programming. And the emphasis on rehabilitation would continue during Phases II and III, as offenders would be required to participate in aftercare programming, perform community service, and maintain employment while in the community.

After the Department of Corrections spent several months planning and developing the program, the Minnesota Correctional Facility (MCF)-Willow River began accepting adult male offenders into CIP in October 1992 and female offenders in September 1993. Eleven years later, the female CIP population was moved in 2004 from the MCF-Willow River to the MCF-Togo. Today, the daily Phase I capacity is 90 male offenders for the MCF-Willow River and 24 female offenders for the MCF-Togo. Beginning in 2007, however, the capacity at the MCF-Willow River is scheduled to expand by 90 prison beds.

CIP has generally been well received in the state, but the same cannot be said for boot camps nationwide. After reaching a peak in the mid-1990s, the number of boot camps operating in the United States has slowly declined. Most recently, the Federal Bureau of Prisons decided in January of 2005 to close its 14-year-old boot camp program (i.e., the Intensive Confinement Center that operated in Pennsylvania, Texas, and California) that had, at one time, served more than 7,000 prisoners (Paulson, 2005).

While some have attributed the decline to reported instances of physical and emotional abuse (Bottcher and Ezell, 2005), most have noted the failure of boot camp evaluations to demonstrate a reduction in offender recidivism. Of the more than 30 outcome evaluations since the 1980s, only a minority have shown a significant recidivism reduction among boot camp participants (Farrington et al., 2002; Jones, 2003; Kurlychek and Kempinen, 2006; MacKenzie and Souryal, 1994; Marcus-Mendoza, 1995). Most of these studies were limited, however, in that they either had relatively brief follow-up periods (i.e., 12 or 24 months; MacKenzie and Souryal, 1994; Farrington et al., 2002) or comparison groups that were not rigorously matched (Jones, 2003; Marcus-Mendoza, 1995).

Most evaluations of boot camp programs have shown that they have no effect on recidivism; that is, research suggests that boot camps neither significantly increase nor decrease the recidivism rates of those who participate in them (MacKenzie, Wilson, and

Kider, 2001). Still, it is important to point out, however, that the vast majority of these evaluations have likewise been plagued by brief follow-up periods and poor comparative data. Furthermore, as noted by Bottcher and Ezell (2005), evaluations have also suffered from program-implementation problems and the exclusion of program dropouts from the analyses.

While nearly every boot camp evaluation has examined offender recidivism, only a few have analyzed whether boot camps actually reduce costs. As MacKenzie and Souryal (1994) noted in their multi-site evaluation, boot camps are more likely to generate cost savings when they target prison-bound offenders, function as an early release mechanism (i.e., program participants serve less time in the boot camp than they would have in prison), have relatively high program graduation rates, and are able to reduce the amount of time offenders spend in prison following release. Despite the weak evidence regarding the ability of boot camps to lower recidivism rates, several studies have found significant reductions in prison beds and total costs (Clark et al., 1994; Farrington, 2002; Jones, 2003; Marcus-Mendoza, 1995), while Austin and colleagues (2000) reported only a modest reduction in costs.

The Present Study

Although it has been more than 13 years since CIP first opened in October 1992, it has yet to undergo a rigorous outcome evaluation. To this end, the present study evaluates CIP since its inception, focusing on three main questions:

1. Has there been a demographic change in the CIP population? If so, what are the possible causes of the change?
2. Does CIP significantly reduce offender recidivism?
3. Does CIP reduce costs?

Before discussing these questions in more detail, the ensuing section provides an in-depth description of CIP. The next three sections then examine each research question separately. In particular, these sections contain a brief review of the relevant literature, a

description of the data and methods used, and a presentation of the results. The final section of this report concludes by discussing the implications of the findings for CIP, in particular, and boot camps in general.

CIP: A PROGRAM DESCRIPTION

In 1992, CIP was conceptualized as an alternative to long-term incarceration that would save prison beds and money by providing early release to adult offenders who completed a six-month boot camp. Consistent with the growing rehabilitative emphasis placed on boot camps that have opened since the early 1990s, CIP was created to be an intensive, structured, and disciplined program that not only protected public safety and punished offenders by holding them accountable, but also treated chemically-dependent offenders and helped prepare them for successful reintegration into society.

To meet these goals, CIP was designed to contain a six-month institutional, or "boot camp," phase as well as two aftercare phases, each lasting at least six months. At six months, the institutional phase of CIP surpasses the national average of 4.6 months (Camp and Camp, 2003). In addition, although data are not available on the lengths of aftercare for boot camps nationwide, it is unlikely that many exceed 12 months, the collective duration of Phases II and III. Thus, with three phases spanning a total of at least 18 months, CIP is arguably one of the longest boot camp programs in the country.

Unlike some boot camps in other states, where judges decide which offenders are eligible, correctional staff determines which offenders will enter CIP by identifying those who meet the admissions standards and are willing to participate. When CIP was originally created, the admissions standards excluded offenders who have a history of violent offenses, have a term of imprisonment greater than four years,[1] were admitted as a supervised release violator, or received a dispositional departure. From 1992-2000, relatively few formal changes were made to the admissions standards. But as discussed in more detail in the next section, these standards were tightened significantly in April 2000 to exclude more offenders. In general, the admissions standards have been developed to identify non-violent drug and property offenders who are perceived to be good candidates for early release.

[1] Initially, in 1992, offenders were required to be serving a sentence of 18 to 36 months. The most recent legislation has increased the sentence length allowable to 48 months or less remaining.

After meeting the admissions standards, incarcerated offenders are later transferred to the MCF-Willow River (males) or the MCF-Togo (females), where they enter Phase I, the "boot camp" phase. Since October 1992, CIP has accepted a group, or squad, of offenders at one time each month. During Phase I, offenders undergo a rigorous 16-hour daily schedule in which they are expected to maintain a high level of program activity and discipline. Offenders typically begin their day by waking up at 5:30 a.m. and participating in physical training until 7 a.m., at which time they eat a morning meal. After breakfast, CIP participants are usually involved in a work detail and programming (e.g. education, chemical dependency, transition, and cognitive skills) until 11 a.m., when they break for lunch. During the afternoon, offenders participate in additional programming and a work detail before breaking for the evening meal at 5:30 p.m. Following supper, offenders meet with their support groups, participate in physical training, conduct squad meetings, and work on team building for the rest of the evening. The day then concludes for offenders with lights out at 9:30 p.m.

Like most correctional boot camps, military drill and ceremony, rigorous physical training, and intensive manual labor are emphasized during Phase I. Offenders are expected to march, perform facing movements, and participate in transitions ceremonies. The physical training in which offenders participate usually consists of running, power walking, step aerobics, strength training, and stretching. Although work assignments vary, the manual labor performed by offenders generally includes woodcutting, snow removal, facility maintenance, and community service projects.

Consistent with the rehabilitative emphasis of CIP, offenders receive a wide variety of programming, which includes critical thinking skills training, chemical dependency treatment, educational development, and transition planning. For example, the critical thinking skills component, which pervades all aspects of CIP, involves 40 hours of formal instruction designed to help offenders think creatively, develop problem-solving skills, and effectively manage their emotions.

The vast majority of offenders who enter CIP have been diagnosed as chemically dependent. As a result, chemical dependency (CD) treatment is required for all offenders (including those not diagnosed as chemically dependent) during the first two months of Phase I. Offenders involved in the CD treatment program, which lasts the full six months for those who are chemically dependent, receive 12 hours of individual and group counseling per week. In particular, offenders are expected to complete a five workbook curriculum that focuses on intake and orientation, anger management, criminal and addictive thinking patterns, drug and alcohol education, socialization, release and reintegration, and relapse prevention. Moreover, as part of the curriculum, offenders are required to complete victim impact papers and thinking reports.

Educational programming is required for offenders who do not have a high school diploma or general equivalency degree (GED). In addition, offenders who function below a secondary education level are also expected to participate in educational programming. The goal of this programming is to help offenders become more employable or ready to pursue higher education after release by giving them an opportunity to earn their GED or improve their math and reading skills.

During Phase I, all offenders are required to participate in 11 hours of transition programming in the 90 days preceding their release. The pre-release programming involves providing offenders with resources and assistance pertaining to life skills, education, and employment.

After successfully completing Phase I, offenders are released from the MCF-Willow River (males) or the MCF-Togo (females) and enter Phase II, the first of two community phases. While in the community during Phase II, offenders are subject to intensive supervised release conditions, which include contacting intensive supervised release (ISR) agents daily, submitting to random drug and/or alcohol tests, maintaining full-time employment, abiding by assigned curfews, performing community services, and participating in aftercare programming.

After completing Phase II, offenders move on to Phase III, the final phase of CIP. During this phase, offenders remain in the community on ISR and are expected to maintain employment, perform community service, and continue their participation in aftercare programming. Offenders are considered CIP graduates after they complete Phase III, at which point they are placed on regular supervised release until the expiration of their sentence. However, if offenders voluntarily drop out or fail at any time during Phases I-III due to disciplinary reasons, they are required to serve the remainder of their term of imprisonment (i.e., two-thirds of the pronounced sentence minus jail credit) plus the time spent in CIP in a Minnesota correctional facility.

RESEARCH QUESTION #1: HAS THERE BEEN A DEMOGRAPHIC CHANGE IN THE CIP POPULATION? IF SO, WHAT ARE THE CAUSES?

The demographic composition of the CIP population has shifted considerably over the last several years, particularly with respect to race. From the inception of CIP in October 1992 to the end of FY 2000 (June 2000), 50 percent of those entering the program were white and the average age was 29. But during FY 2001-2004, the percentage of white CIP participants grew to 70 percent, and the average age increased by three years to 32 (see Table 1).

Table 1. CIP Demographic Characteristics by Fiscal Year, 1993-2004

Fiscal Year	*Percent White*	*Percent Male*	*Average Age*	*N*
1993	56.8	100.0	25.5	81
1994	52.6	91.8	28.4	97
1995	59.6	89.0	27.5	109
1996	40.2	91.3	29.5	92
1997	48.0	93.0	29.9	100
1998	52.0	89.0	29.6	173
1999	47.2	93.9	30.8	180
2000	46.8	90.3	30.3	154
2001	60.3	85.1	30.5	174
2002	73.3	86.6	32.8	187
2003	68.6	82.9	32.9	194
2004	75.9	87.9	32.9	207
Total	58.7	89.2	30.6	1,748

The growth in the percentage of white offenders entering CIP coincides with several developments related to the program itself and, more generally, to the Minnesota prison population. As mentioned previously, the admissions standards excluded violent offenders, supervised release returns, offenders with a term of imprisonment greater than 48 months, and those receiving a dispositional departure. In April 2000, however, CIP's admissions standards were tightened considerably by adding a number of new exclusionary criteria, which are listed below.

- Offenders must serve at least six months institutional time.
- The list of prohibited offenses was expanded to include terroristic threats, felon in possession of a firearm, drive-by shooting, burglary of an occupied residence, robbery (including simple and theft from person), criminal vehicular homicide, crimes involving the use of firearms, fleeing a police officer at the time of arrest, offenses committed for the benefit of a gang, and crimes committed by certain dangerous and repeat offenders.
- Offenders cannot have an upward dispositional departure and may be excluded if they have an upward durational departure.
- Offenders can have no more than two previous incarcerations in state or federal correctional facilities.
- Offenders can have no more than three prior felony convictions.
- Offenders cannot have previously participated in CIP unless they were terminated for medical, legal, or administrative reasons.
- Offenders are ineligible for CIP if they have an Immigration and Naturalization Service (INS) detainer.
- All public risk monitoring cases are ineligible.
- Offenders must wait 30 days after loss of good time or addition of disciplinary confinement time for transfer to CIP.
- Offenders are not eligible if they have had 15 days or more of disciplinary confinement time added in the previous six months.
- Other factors were also added for consideration such as gang affiliation, victim impact, community concern, mental health status, and lack of residential ties to Minnesota.

In addition to stricter admissions standards for CIP, the State's prison population has grown significantly since the 1970s, but especially over the last several years. Indeed, from FY 2001-2005, Minnesota's prison population grew by 35 percent at an average rate of 8 percent per year. A disproportionate share of this increase belongs to methamphetamine offenders, who accounted for 45 percent of the overall growth since FY 2001.

The methamphetamine offender population is comprised mainly of white males in their 20s and 30s from Greater Minnesota. On January 1, 2006, there were 1,138 offenders in Minnesota correctional facilities whose governing offense involved methamphetamine. As shown in Table 2, 85 percent are white, 68 percent are between 25 and 44, and 72 percent are from Greater Minnesota. As a result, the methamphetamine boom over the last five years may have not only increased the percentage of white offenders among the general population (i.e., the percentage grew from 46 percent on January 1, 2000, to 51 percent on January 1, 2006)[2], but also had a similar, but more pronounced, effect on the CIP population.

Table 2. Characteristics of January 1, 2006, Prison Population by Offense Type

	Meth	*Other Drug*	*Property*	*Person*	*Sex*	*DWI*	*Other*	*Total*
Gender								
Male	89.5	90.9	89.8	94.6	98.9	92.3	96.7	93.8
Female	10.5	9.1	10.2	5.4	1.1	7.7	3.3	6.2
Race								
White	85.2	27.1	57.0	36.9	61.8	63.8	46.5	51.3
African-American	1.8	55.3	29.0	43.7	23.9	10.9	34.8	31.7
American Indian	3.1	2.3	9.4	9.6	5.1	18.7	9.4	7.6
Asian	1.6	1.3	1.4	3.5	2.3	0.9	3.2	2.4
Hispanic	8.3	14.0	3.2	6.3	6.9	5.7	6.1	7.0
Age								
Under 25	16.5	15.2	24.3	22.9	14.7	2.8	26.1	19.3
25-34	38.9	42.5	31.5	36.2	30.5	27.9	37.8	35.4
35-44	29.4	28.7	30.7	24.3	29.3	41.9	23.8	28.0
45-54	13.9	11.5	11.6	12.0	18.2	22.1	10.0	13.5
55 and Over	1.2	2.0	1.8	4.7	7.3	5.3	2.4	3.8
Avg. Age	34.6	32.7	33.7	34.3	37.7	39.8	32.7	35.0
Sentencing County								
Metro-Area	27.6	56.4	54.9	62.9	47.9	33.6	54.0	51.6
Greater MN	72.4	43.6	45.1	37.1	52.1	66.4	46.0	48.4
N	1,138	971	1,152	2,752	1,517	470	874	8,874

[2] It is important to note that the calculation of the percentages of white offenders excludes those who identify themselves as Hispanic. Prior to July 1, 2001, the DOC's Profile Card treated "Hispanic" as a discrete racial category. In an effort, however, to maintain consistency with national reporting standards, "Hispanic" has not been treated as a separate racial group since that time, although the Profile Card still identifies the number of Hispanic offenders who are currently incarcerated.

Has the percentage of white offenders in CIP increased in recent years, then, due to the addition of more stringent admissions standards, the methamphetamine boom, or other factors? To address concerns that the new standards may have a disparate racial impact on the CIP population, the present study uses multivariate autoregression, a time-series analytical technique, to examine monthly data from FY 1993-2004. Although autoregressive integrated moving average (ARIMA) is a popular technique for analyzing time-series data, it is generally capable of assessing the impact of only one independent variable of interest (Bailey, 1998). Given that the purpose here is to examine whether several variables such as the new admissions standards and the methamphetamine boom have significantly increased the percentage of white CIP participants, multivariate autoregression will be used due to its ability to assess the impact of more than one independent variable of interest on the dependent variable.

Data and Methods

As noted earlier, CIP has admitted a group of offenders at one time each month since its inception. The dependent variable in this analysis, then, will be the percentage of white offenders entering CIP each month. Correctional staff at the MCF-Willow River has maintained records on all newly-admitted offenders who have met the minimum statutory criteria and, in particular, the reason(s) why offenders were deemed ineligible to participate in CIP since January 1998, more than two years before the implementation of the new admissions standards and approximately three years before the onset of the methamphetamine boom. As a result, the impact of the new admissions standards will be operationalized by creating two variables, one that measures the percentage of offenders rejected each month on the basis of the old admissions standards (i.e., standards in place as of October 1992) and another that measures the percentage of offenders rejected each month on the basis of the new admissions standards (i.e., standards implemented in April 2000). The old standards variable will serve as the reference in the statistical analyses.

The impact of the methamphetamine boom on the CIP population will be measured as the percentage of prison admissions each month who have methamphetamine as their governing offense. To account for the possibility that there might be other factors that

have caused the increase in white CIP offenders, several control variables will be included in the statistical model. For example, the percentage of white offenders admitted each month will be one of the control variables to address the possibility that the increase of white offenders in the CIP population is simply due to an increase of white offender admissions in general.

Another control variable included in the model will be the percentage of offenders entering prison with a drug offense other than methamphetamine. This variable will test whether the increase of white CIP offenders is due to an increase in admissions for drug offenders in general, not just those incarcerated for methamphetamine. The third major control variable will be the percentage of offenders admitted each month with a county of commitment from Greater Minnesota. Because there is a greater concentration of whites from the 80 non-metro area counties, the growth of white CIP offenders could also be attributable to an increase in offender admissions from Greater Minnesota.

As shown earlier, the average age of offenders entering CIP has increased since 2001. Accordingly, the average age of offenders admitted to prison each month is included as a control variable to account for the possibility that the growth in white offender admissions is due more to an increase in older offenders. Sentence length is another control variable that will be included in the statistical model. This variable is measured as the average sentence length (in months) of offenders entering prison each month. The final control variable included in the model will be offender gender, which is measured as the percentage of male offenders admitted to prison each month.

Results

Table 3 presents descriptive statistics on the offenders admitted to prison and, in particular, CIP from FY 1998-2004. From FY 1998-2004, the monthly percentage of methamphetamine offenders admitted to prison grew from 0 to 11.5 percent. Just as more methamphetamine offenders were being admitted to prison, so, too, were white offenders from Greater Minnesota. Indeed, the monthly percentage of white offenders admitted to prison increased from a low of 44 during FY 1999 to a high of 51 in FY

2004. Moreover, the monthly percentage of offenders with a county of commitment from Greater Minnesota grew from 35 to 48 percent during the same time. In contrast, the monthly percentage of other drug offender admissions steadily declined after FY 1999, whereas the percentage of male admissions fluctuated but remained relatively high over the seven-year period.

Table 3. Characteristics of CIP and Overall Prison Admissions, FY 1998-2004

Characteristics	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*Total*
CIP								
Percent White	51.9	46.7	47.2	59.5	73.3	67.8	77.6	60.6
Percent Meth	0.0	1.4	3.5	22.2	46.7	41.9	56.3	24.6
Percent Other Drug	71.4	75.6	81.6	69.4	45.7	47.4	39.6	61.5
Percent Greater MN	35.1	34.5	36.6	49.8	53.5	65.2	68.2	49.0
Percent Male	89.4	93.6	91.5	85.9	85.7	82.9	95.1	89.2
General Population								
Percent White	47.0	44.4	45.1	47.7	50.0	51.2	51.2	48.1
Percent Meth	0.0	0.1	1.6	4.4	6.8	9.7	11.5	4.9
Percent Other Drug	18.1	20.9	20.2	18.9	17.2	17.2	15.7	18.3
Percent Greater MN	36.5	34.6	35.4	40.0	41.5	45.5	47.5	40.1
Percent Male	90.0	90.8	90.8	91.6	91.0	90.9	90.7	90.8
Old Standards								
Percent Rejected	100.0	100.0	88.0	71.2	78.4	79.1	72.9	84.2
New Standards								
Percent Rejected	0.0	0.0	12.0	28.8	21.6	20.9	27.1	15.8

Considering that overall prison admissions are the pool from which CIP draws its participants, it should come as little surprise that the CIP admission trends tend to mirror those for the general population. For example, the monthly percentages of white methamphetamine offenders from Greater Minnesota entering CIP grew substantially since FY 1999. Moreover, the percentage of other drug offender entrants likewise declined, while the percentage of male CIP admissions stayed fairly high from FY 1998-2004.

The increase in white CIP admissions has coincided not only with overall admission trends, but also with the implementation of new admissions standards. The percentage of offenders rejected each month due to the new standards increased from 0 in FY 1999 to

27 percent in FY 2004. Over the FY 2001-2004 period, the new admissions standards accounted for 25 percent of the rejections each month.

To determine the extent to which these factors have affected the increase of white offenders entering CIP, two autoregression models were estimated. Model 1 is based on data from FY 1998-2004; however, to address concerns that this timeframe does not fully capture the impact of the changes in admissions standards and methamphetamine increase on the dependent variable, Model 2 uses data since the beginning of CIP in October 1992 (FY 1993-2004). The results in Table 4 indicate that both models explain a relatively high proportion of the variance in the dependent variable—the monthly percentage of white CIP entrants. Model 1 is a slightly better fit of the data, however, considering that it has a higher Adjusted R^2 than Model 2.

Table 4. Autoregression Analyses on the Percentage of White Offenders Entering CIP, FY 1993-2004

Variables	*Model 1 (FY 1998-2004)*				*Model 2 (FY 1993-2004)*			
	B	SE	b	p Value	B	SE	b	p Value
Percent Meth	2.62	0.86	0.29	.003	1.57	0.67	0.14	.021
Percent New Standards	0.13	0.12	0.05	.273	0.13	0.15	0.04	.385
Percent Other Drug	-0.65	0.78	-0.19	.408	-0.38	0.63	-0.11	.544
Percent White	0.01	0.73	0.01	.991	-0.65	0.52	-0.54	.211
Percent Non-Metro	-0.54	0.57	-0.35	.348	0.72	0.41	0.49	.081
Percent Male	0.79	0.76	1.12	.302	0.14	0.59	0.21	.811
Avg. Admission Age	0.01	0.02	0.40	.712	0.01	0.02	.654	.479
Avg. Sentence Length	-0.00	0.00	-0.29	.219	0.00	0.00	.142	.424
Adjusted R^2	.967				.927			

Apart from this modest difference, the results produced by both models are generally the same. For example, in both models, the monthly percentage of methamphetamine offenders admitted to prison was the only statistically significant predictor of the monthly percentage of white offenders entering CIP. In particular, the findings from Model 1 indicate that, after controlling for the effects of the other independent variables, the percentage of white offenders entering CIP has increased 2.6 percent for each one percent increase in the proportion of methamphetamine offenders admitted to prison. As with the

other remaining control variables, the monthly percentage of new standards rejections failed to achieve statistical significance in either model.

The results presented here do not lend support to the notion that the changes in admission standards in 2000 have had a significant impact on the racial composition of the CIP population. Nor do they indicate that other factors such as the race, age, or sentencing county of all offenders admitted to prison have significantly increased the percentage of white offenders going to CIP. Instead, what these findings suggest rather clearly is that the growing percentage of white offenders entering CIP has been due to the recent methamphetamine boom.

Table 5. CIP Offense Type Characteristics by Fiscal Year, 1993-2004

Fiscal Year	*Meth*	*Other Drug*	*Property*	*Other*	*N*
1993	0.0	55.6	33.3	11.1	81
1994	0.0	43.3	48.5	8.2	97
1995	0.0	56.9	36.7	6.4	109
1996	0.0	72.8	26.1	1.1	92
1997	0.0	71.0	26.0	3.0	100
1998	0.0	72.3	26.6	1.2	173
1999	0.0	77.8	17.2	5.0	180
2000	3.9	81.2	11.7	3.2	154
2001	22.4	68.4	8.0	1.1	174
2002	44.4	46.5	8.0	1.1	187
2003	47.9	45.9	2.6	3.6	194
2004	60.4	39.6	0.0	0.0	207
Total	19.9	60.2	16.8	3.1	1,748

Methamphetamine offenders are often viable candidates for CIP insofar as most tend to have a relatively limited criminal history. For example, of the 1,127 methamphetamine offenders incarcerated in a Minnesota correctional facility on July 1, 2005, nearly half did not have a prior felony conviction while almost three-fourths were experiencing their first commitment to prison. Therefore, as methamphetamine offenders started entering prison in greater numbers beginning in FY 2000, they began comprising an increasingly larger share of the CIP eligibility pool and, ultimately, of the CIP population itself. Indeed, the results in Table 5 reveal that the percentage of methamphetamine offenders entering CIP

grew from 4 in FY 2000 to 60 percent in FY 2004. And the percentage of white offenders participating in CIP also grew significantly during this time because methamphetamine offenders are, as shown earlier, predominantly white.

RESEARCH QUESTION #2: DOES CIP SIGNIFICANTLY REDUCE OFFENDER RECIDIVISM?

Recidivism is often regarded as one of the most important criteria in determining whether a given correctional program "works." Most evaluations have therefore examined whether boot camps do, in fact, "work" by analyzing the impact of program participation on future reoffending. But there has been a great deal of variation in how boot camps have been designed, implemented, and evaluated, which makes it difficult to draw firm conclusions about the effectiveness of boot camps in general.

The experimental design is often considered the best method available for evaluation research. The strength of the experimental design lies in its ability to control for rival causal factors through the random assignment and equivalence of experimental (i.e., the ones who enter the program) and control groups (i.e., the ones who do not enter the program). Nevertheless, this design also has its limitations, especially when it comes to evaluating correctional programs. First, the experimental design can be ethically problematic by withholding treatment or programming from offenders who may benefit from the program but would be prevented from participating by virtue of random assignment to the control group. Second, evaluations utilizing experimental designs can be quite time-consuming. For example, it would likely take approximately five years to complete an evaluation of CIP with an experimental design because subjects would 1) have to be assigned to the experimental and control groups, 2) given 18 months to complete all three phases of CIP, and 3) given another 36 months following graduation from the program to adequately determine whether offenders in the experimental and control groups recidivated.

Of the more than 30 boot camp evaluations, roughly one-third have used a prospective experimental design (MacKenzie, Wilson, and Kider, 2001; Wilson, MacKenzie, and Mitchell, 2005). But as Bottcher and Ezell (2005) correctly point out, program-implementation problems have compromised the random assignment and equivalence of experimental and control groups. Due largely to the difficulties associated with

implementing an experimental design, most boot camp evaluations have utilized retrospective quasi-experimental designs.[3] Such designs compare offenders who have already participated in the program (i.e., the experimental group) with a comparable group of offenders (i.e., the control group). Although most previous evaluations have used a comparison group of offenders, only a few were carefully matched to the experimental group (Kurlychek and Kempinen, 2006; Mackenzie, et al., 1977). Instead, the majority of studies have used a comparison group that is only roughly comparable to the experimental group in that there were statistically significant differences between the two groups for the control variables used in the analysis.

The follow-up period for reoffending has, with few exceptions (Bottcher and Ezell, 2005; Zhang, 2000), been relatively short, often three years or less. In addition, studies have varied widely in terms of how recidivism has been operationalized, with some defining and measuring it as rearrest, reconviction, reincarceration for a new offense, or any return to prison (either for a new crime or for a technical violation). Most, however, have used only one measure of recidivism, usually either rearrest or reconviction. Finally, as noted earlier, the majority of evaluations have excluded program dropouts, which can bias the findings in favor of the experimental group (i.e., boot camp participants) (Wilson et al., 2005).

Data and Methods

In evaluating whether CIP "works," the present study uses a retrospective quasi-experimental design to compare the recidivism rates of CIP participants with a control group of offenders. More specifically, this study examines all offenders who entered CIP from the time it opened, October 1992, through the end of June 2002. During this time, there were 1,347 offenders (1,216 male and 131 female) who entered CIP.[4] Given that Phase 1 of CIP lasts six months, nearly all of these offenders were released into the community by December 31, 2002. Similarly, the Control group consists of offenders

[3] These designs attempt to statistically control for rival causal factors through the use of multivariate statistical techniques.

[4] There were some offenders who entered CIP more than once between FY 1993 and 2002. For these multiple-entry offenders, their last entry is the one considered here.

who were released from a Minnesota correctional facility within a similar timeframe, January 1, 1993-December 31, 2002.

In contrast to the majority of boot camp evaluations, this study uses multiple measures of recidivism. In particular, recidivism is operationalized as a felony conviction (i.e., reconviction), a return to prison for a new criminal offense (i.e., reincarceration), and any return to prison (i.e., reincarceration due to a new crime or technical violation). It is important to emphasize that the first two recidivism measures contain only new criminal offenses, whereas the third measure is much broader in that it includes new crimes as well as technical violations. Prior recidivism analyses performed by the department have used the first two measures, but not the third, because a reincarceration due to a technical violation does not constitute a new criminal offense. The third measure is used here, however, because determining whether offenders returned to prison for any reason is needed to estimate the cost savings of CIP, as discussed in the next section.

For the first two recidivism measures, it was still necessary to account for supervised release violators in the recidivism analyses by deducting the amount of time spent in prison from their total at-risk period, or "street time." Failure to deduct time spent in prison as a supervised release violator would artificially increase the length of the at-risk periods for these offenders, particularly CIP participants, since they are generally subjected to more intense post-release supervision (Bales et al., 2005). Therefore, the time that an offender spent in prison as a supervised release violator was subtracted from his/her "street" time; i.e., at-risk period, but only if it preceded a felony reconviction or reincarceration for a new offense, or if the offender did not recidivate. Put another way, the time an offender spent in prison as a supervised release violator was not deducted from his/her "street" time if it followed a reconviction or reincarceration for a new offense; i.e., a recidivism-qualifying event.

Operationalizing the concept of release is an important issue for the current study because it will have a bearing on how recidivism is measured and analyzed. To make the comparison between the CIP and Control groups as even as possible, releases for the

Control group (i.e., the offenders who did not participate in CIP) are defined as the first instance in which they exit prison and are placed on some form of supervision such as supervised release, intensive supervised release, or work release. For the CIP group, releases are defined as any instance in which an offender has successfully completed Phase I of CIP (the institutional phase) and been released to the community. For those who fail during Phase I , their at-risk period begins when they are, like the Control group, released to supervision from a Minnesota correctional facility. Although offenders must complete Phases II and III in order to graduate from CIP and obtain the benefits of the term of imprisonment reduction, those who complete Phase I are, for the purposes of the recidivism analyses, considered program completers because they are in the community during Phases II and III and, thus, have the opportunity to commit a new crime.

This study provides two different measures of boot camp participation. The first measure distinguishes between offenders who entered CIP (i.e., the experimental group) and those who did not (i.e., the control group).[5] The second measure, on the other hand, divides boot camp participation into three discrete categories: Phase I completers, Phase I dropouts, and the Control group.[6] The Control group variable serves as the reference in the statistical analyses.

Felony conviction and incarceration data were collected on offenders in both the experimental and comparison groups through December 31, 2005. Data on felony convictions were obtained electronically from the Minnesota Bureau of Criminal Apprehension (BCA), whereas incarceration data were derived from the DOC's Correctional Operations Management System (COMS) database. The main limitation with using these data is that they measure only felony convictions or incarcerations that took place in the State of Minnesota. Because neither measure includes convictions or incarcerations occurring in other states, the findings presented later likely underestimate the true reconviction and reincarceration rates for the offenders examined here. Still,

[5] For this dichotomous variable, CIP participation was coded as "1", while the Control group was coded as "0".

[6] For this measure, three dichotomous dummy variables were created: CIP graduates (1 = CIP graduates, 0 = CIP dropouts and Control group offenders), CIP dropouts (1 = CIP dropouts, 0 = CIP graduates and Control group offenders), and Control group (1 = Control group, 0 = CIP graduates and dropouts).

there is little reason to believe, however, that the omission of these data would affect offenders in the experimental group more than those in the comparison group, and vice versa.

Given that the recidivism data were collected through the end of 2005, the minimum follow-up period for most of the offenders was three years, with 7.2 years being the average. This study thus provides a long-term perspective on the recidivism of boot camp participants. In fact, the only boot camp evaluation to have a longer follow-up period was Bottcher and Ezell's (2005) study of the California Youth Authority's now-defunct juvenile boot camp, which had a slightly longer follow-up period of 7.5 years.

As discussed shortly, a multi-stage sampling design was used to carefully select a control group that is as similar to the CIP group as possible. The comparison group was gathered by first selecting offenders who were released between January 1, 1993 and December 31, 2002, the same release timeframe for the CIP group. The CIP offenders were first removed from this sample. Next, offenders who had been incarcerated for sex and other person crimes were excluded since offenders imprisoned for violent offenses are ineligible to participate in CIP. Further, offenders who were discharged, as opposed to being placed on supervised or intensive supervised release, were also removed because CIP participants are released to supervision.

The goal of the multi-stage sampling procedure is to create a comparison group of offenders that matches the CIP group as closely as possible for the control variables used in the recidivism analyses. The dependent variable in the analyses is whether an offender recidivates (felony reconviction, reimprisonment for a new offense, or any return to prison) at any point from the time of release through December 31, 2005. The principal variable of interest, meanwhile, is CIP participation because the central purpose of these analyses is to determine whether CIP significantly lowers the recidivism rates of its participants. The control variables included in the statistical model should therefore consist of those that might theoretically have an impact on whether an offender recidivates and, thus, might be considered a rival causal factor.

The following lists the control variables used in this study and describes how they were created:

Offender Gender: dichotomized as male (1) or female (0).

Offender Race: dichotomized as white (1) or minority (0).

Offense Type: three dichotomous dummy variables were created to quantify offense type; i.e., the governing offense at the time of release. The three variables were property offense (1 = property offense, 0 = non-property offense), drug offense (1 = drug offense, 0 = non-drug offense), and other offense (1 = other offense, 0 = non-other offenses). The other offense variable serves as the reference in the statistical analyses.

Metro Area: this variable measures an offender's county of commitment, dichotomizing it into either Metro area (1) or Greater Minnesota (0). The seven Metro-area counties include Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington. The remaining 80 counties were coded as Non-Metro area or Greater Minnesota counties.

Length of Stay (LOS): the number of months between admission and release dates.

Disciplinary History: the number of discipline convictions received during the term of imprisonment for which the offender was released.

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

Age at First Felony Conviction: the age of the offender in years based on the date of birth and first felony conviction date.

Age at First Prison Commitment: the age of the offender in years based on the date of birth and first prison commitment date.

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

Prior Prison Commitments: the number of prior prison commitments, excluding the offender's current prison incarceration.

Previous boot camp research has suggested that the intensity of post-release supervision may be a significant predictor of recidivism. For example, in their multi-site evaluation, MacKenzie, Brame, McDowall, and Souryal (1994) reported a recidivism reduction for the boot camps that intensively supervised their graduates following release. Thus, the recidivism reduction observed for these programs may have been due not to the boot camp itself, but to the intensity of post-release supervision.

As noted earlier, CIP Phase I completers are intensively supervised during Phases II and III, the first 12 months following release. Only 29 offenders in the Control group, however, were released to intensive supervision. Instead, the vast majority were placed on work release or supervised release. As a result, it is not possible to include post-release supervision as a control variable in the analyses because it is nearly perfectly collinear with program participation. But the omission of this variable may be offset to some extent by the relatively lengthy follow-up period used in this study. That is, if the intensity of supervision is a significant predictor of recidivism, one might expect the beneficial impact of intensive supervision to wear off over time, particularly after the first 12 months.

After violent offenders, CIP participants, and discharged offenders were removed from the Control group, a multi-stage sampling design was used in which the Control group was stratified by the 11 control variables listed above. More specifically, at each stage, a simple random sample was drawn in proportion to the size of the strata (i.e., control

variable) in the CIP population. For example, the first stage involved stratifying the control group by the offense type variable. Of the 1,347 CIP offenders in the experimental group, the offense type was drugs for 73 percent, property offenses for 23 percent, and other offenses for 4 percent. Accordingly, a simple random sample of the control group was drawn in which the offense type was drugs for 73 percent of the offenders in the sample, property for 23 percent, and other for 4 percent. This process was then repeated for the remaining ten control variables, resulting in a final Control group sample of 1,555 offenders.

As shown in Table 6, the multi-stage sampling technique was effective in producing a Control group that is equivalent to the CIP population with respect to the control

Table 6. Comparison of CIP and Control Group Offenders

Characteristics	*CIP*	*Control*	*t test p Value*
Percent Male	90.3	90.7	.670
Percent White	54.6	54.0	.712
Offense Type			
Percent Property	21.4	23.3	.221
Percent Drug	75.1	72.5	.125
Percent Other	3.6	4.2	.392
Percent Metro Area	60.5	63.7	.074
Discipline Convictions	2.4	2.6	.284
Age at Release	30.3	30.4	.856
Age at First Conviction	25.3	25.8	.094
Age at First Commitment	27.7	27.3	.160
Prior Convictions	1.0	1.1	.228
Prior Commitments	0.5	0.5	.223
Length of Stay (Months)	16.7	14.4	.058
Percent Reconvicted	32.3	46.4	.000
Percent Reincarcerated	21.8	34.4	.000
Percent Any Return	47.6	47.0	.638
N	1,347	1,555	

variables used in the recidivism analyses. Indeed, the results from an independent samples t-test reveal that there are no statistically significant differences between the CIP and Control groups for these control variables. Instead, the only statistically significant differences between the two groups are the rates at which they reoffended; i.e., both felony convictions and reincarceration for a new offense.

Of the boot camp evaluations that have used multivariate statistical methods, most have relied on binary logistic regression or Ordinary Least Squares (OLS) regression. Only a few studies, however, have used survival analytical techniques to examine the recidivism rates of the experimental and comparison groups (Bottcher and Ezell, 2005; MacKenzie et al., 1995; MacKenzie and Souryal, 1994). In analyzing recidivism, survival analysis models are preferable in that they utilize time-dependent data, which are important in determining not only whether offenders recidivate, but also when they recidivate. As a result, this study uses a Cox proportional hazards model to analyze the recidivism of the CIP and Control groups.

RESULTS

The findings presented in Table 7 reveal that the felony reconviction and reincarceration rates were significantly lower for CIP offenders compared to those in the Control group. For example, 46 percent of the 1,555 Control group offenders were convicted of a felony following release compared to 32 percent of the 1,347 CIP offenders. The felony reconviction rate for Phase I dropouts (38 percent) was higher than that for Phase I completers (31 percent). Because not all offenders who are convicted of a felony are sentenced to prison, the reincarceration rates were lower for each group. Still, the rate for CIP offenders (22 percent) was significantly less than that for the Control group (34 percent). Again, compared to Phase I completers (20 percent), the reincarceration rate was higher for Phase I dropouts (29 percent).

Table 7. Recidivism Rates by CIP Participation

	Control	*Phase I Dropout*	*Phase I Completer*	*All CIP*
Type of Recidivism	Percent	Percent	Percent	Percent
Felony Reconviction	46.4	38.1	30.8	32.3
Reincarcerated	34.4	28.6	19.9	21.7
Release Violation	12.6	22.3	26.8	26.2
Any Return	47.0	50.9	46.7	47.6
N	1,555	273	1,074	1,347

In contrast to the findings for felony reconvictions and reincarceration due to a new offense, offenders in the Control and CIP groups returned to prison (whether for a new crime or for a technical violation) at virtually the same rate. The similar rate of return to prison is due to the fact that CIP offenders (both Phase I completers and dropouts) are more than twice as likely to return for a technical violation than the Control group, who was, in turn, much more likely to return for a new crime. Indeed, 73 percent of the Control group offenders returned to prison due to a new crime as opposed to 45 percent of CIP offenders. In contrast, 55 percent of the CIP offenders returned to prison for a technical violation compared to 27 percent of the Control group.

Table 8. Recidivism Rates by Overall Program Participation

Type of Recidivism	*Control Group*	*Phase 1 Failures*	*Phase 2 Failures*	*Phase 3 Failures*	*Phase III Graduates*
Reconviction	Percent	Percent	Percent	Percent	Percent
First Year	9.8	12.4	13.5	6.0	0.8
Second Year	21.0	20.9	26.9	24.1	3.5
Third Year	30.8	27.1	36.8	39.7	8.8
Fourth Year	36.7	32.6	40.9	41.4	14.5
Fifth Year	40.1	34.8	44.6	45.7	16.6
Total	46.4	38.1	51.8	50.0	22.6
Reincarcerated					
First Year	6.3	8.4	9.8	3.4	0.0
Second Year	13.6	15.8	14.5	22.4	1.6
Third Year	19.9	20.9	18.1	25.0	4.4
Fourth Year	25.6	24.5	25.4	29.3	6.9
Fifth Year	28.7	25.6	31.1	30.2	8.4
Total	34.4	28.6	40.4	39.7	11.8
Any Return					
First Year	25.9	35.2	85.5	34.5	1.2
Second Year	31.8	42.9	92.8	87.9	8.5
Third Year	36.3	45.8	94.8	96.6	17.4
Fourth Year	40.5	48.7	96.4	98.3	22.0
Fifth Year	42.9	49.8	96.9	98.3	23.7
Total	47.0	50.9	97.4	98.3	26.7
N	1,555	273	193	116	765

As noted above, CIP participation is, for the purposes of the recidivism analyses, measured two different ways. To provide a closer look at differences in recidivism rates over time, CIP participation is separated into four discrete categories in Table 8. The results in this table indicate that CIP offenders who failed during Phases II and III had the highest recidivism rates for all three measures; i.e., reconviction, reincarceration, and any return to prison. This is hardly surprising, however, since these offenders are a biased sub-group in that they are categorized on the basis of their failure to complete Phase II or III, either for a new offense or for a technical violation.

In contrast to the Phase II and III failures, Phase III graduates had, by far, the lowest recidivism rates. Over the entire follow-up period, only 12 percent were reincarcerated for a new crime, 23 percent reconvicted for a felony, while 27 percent returned to prison for any reason. Again, though, these offenders are a biased sub-group in that their graduation from CIP is contingent on successfully reintegrating into the community.

When CIP offenders recidivate with a new crime, how does the severity of their offenses compare to that of the Control group? Because the felony conviction data obtained from the BCA do not always include offense type information, Table 9 depicts only the

Table 9. Reincarceration Offense Type by Program Participation

Offense Type	*Control*	*Phase I Dropout*	*Phase I Completer*	*All CIP*
	Percent	Percent	Percent	Percent
Homicide	1.5	1.3	1.4	1.4
Robbery	3.9	3.8	1.4	2.0
Assault	9.8	5.1	4.7	4.8
Sex	2.1	0.0	3.3	2.4
Other Person	1.3	1.3	0.4	0.7
Weapons	4.7	5.1	5.1	5.1
Burglary	10.1	10.3	17.2	15.4
Other Property	22.3	32.0	17.7	21.5
Methamphetamine	10.5	7.7	12.6	11.3
Other Drug	25.9	17.9	31.2	27.6
DWI	1.3	1.3	0.5	0.7
Other	6.6	14.2	4.5	7.1
N	611	78	215	293

findings on the type of offense for which offenders were reincarcerated. The results indicate that the Control group was more likely to be reimprisoned for a crime against a person (19 percent) than CIP offenders (11 percent). Phase I dropouts, however, were more likely to be reincarcerated for a property offense (42 percent), whereas Phase I completers were more likely to be reimprisoned for a drug offense (44 percent).

The results presented thus far suggest that CIP offenders are, compared to the Control group, significantly less likely to reoffend with a new criminal offense. But are the lower reoffense rates for CIP offenders due to their participation in CIP? Or is the reoffense reduction due to other factors such as prior criminal history, discipline history, or offender race? To address this issue, a number of different Cox proportional hazards models with the aforementioned control variables were estimated across types of recidivism (e.g., reconviction, reincarceration, and any return to prison) and program participation (e.g., Control vs. CIP and Control, Phase I dropout, and Phase I completer).

Felony Reconviction

In Figures 1 and 2, the felony reconviction survival curves are presented for both measures of CIP participation. These figures, which represent the time following release to first felony conviction, depict the probability that an offender "survived" without being convicted of a felony. Figure 1 shows that, compared to all CIP offenders, offenders in the Control group were reconvicted at a much faster rate at each month throughout the follow-up period. More specifically, at the end of the first year following release, the probability of remaining reconviction free was 95 percent for CIP offenders and 90 percent for the Control group. After five years (60 months), the probability was 71 percent for CIP offenders compared to 59 percent for the Control group. And after nearly 13 years (150 months), the probability of not being reconvicted for a felony was 51 percent for CIP offenders and 42 percent for the Control group.

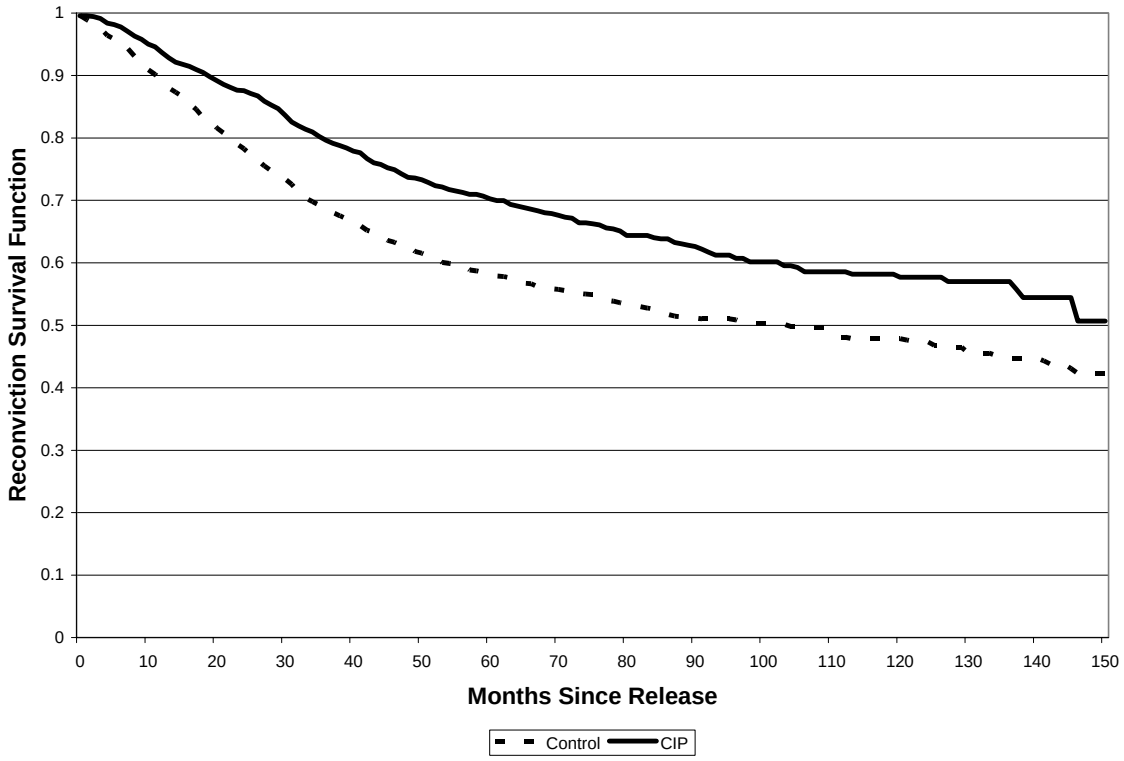

Figure 1. Reconviction Survival Functions for CIP and Control Groups

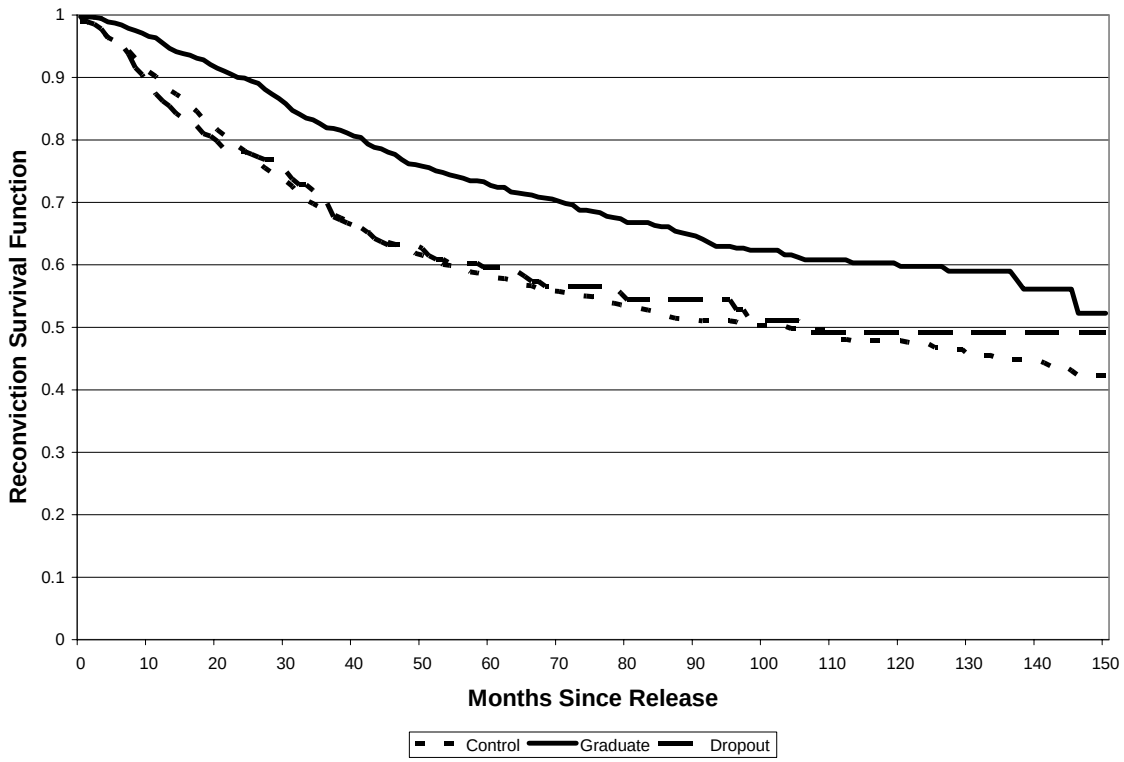

Figure 2. Reconviction Survival Functions by Program Participation

In breaking out CIP participation by whether offenders completed or failed Phase I, Figure 2 reveals that Phase I completers had the highest probability of survival throughout the at-risk period. For example, their probability of not being reconvicted for a felony was 96 percent at 12 months, 73 percent at 60 months, and 52 percent at 150 months. CIP dropouts, on the other hand, had a similar, but slightly higher, probability of survival than the Control group, as their rate was 87 percent at 12 months, 60 percent at 60 months, and 49 percent at 150 months.

The results of the Cox regression models that analyze time to first felony reconviction are shown in Table 10. In Model 1, which is based on a binary measure of program participation (CIP = 1 and Control = 0), the results indicate that, controlling for other factors, CIP significantly lowers the rate at which offenders recidivate with a new felony conviction. In particular, participation in CIP reduced the timing to reconviction by 32 percent. Similarly, in Model 2, which divides CIP participants into Phase I completers and dropouts, the findings suggest that offenders who complete Phase 1 are significantly

Table 10. Cox Proportional Hazards Model: Time to First Felony Reconviction

Variables	*Model 1*			*Model 2*		
	Hazard Ratio	SE	p Value	Hazard Ratio	SE	p Value
CIP	0.68	.061	.000			
Phase I Completer				0.63	.068	.000
Phase I Dropout				0.90	.112	.363
Prior Convictions	1.17	.015	.000	1.17	.015	.000
Discipline	1.01	.005	.015	1.01	.006	.125
Gender (Male)	1.24	.111	.055	1.22	.111	.070
Race (Minority)	1.26	.066	.000	1.25	.066	.001
Metro-Area	1.19	.067	.009	1.20	.067	.008
1st Conviction Age	1.00	.007	.830	1.00	.007	.726
Release Age	0.97	.006	.000	0.97	.007	.000
Offense Type						
Property	0.97	.155	.827	1.00	.155	.982
Drugs	0.77	.149	.078	0.81	.150	.153
Length of Stay	1.00	.002	.503	1.00	.002	.385

less likely to be reconvicted than the Control group. More specifically, compared to the Control group, the time to reconviction was 37 percent lower for Phase I completers. Offenders who failed during Phase 1, however, were not significantly different from the

Control group in terms of the rate at which they recidivated. This finding lends support to the notion that the CIP and Control groups were very similar to each other, and that the recidivism reduction observed in both models is not due to a selection effect; i.e., CIP offenders differed in some unmeasured way from the Control group.

The results from both models further suggest that the number of prior felony convictions, offender race, county of commitment, and age at release are statistically significant predictors of felony reconvictions. That is, recidivism rates are significantly greater for offenders with prior felony convictions, minority offenders, offenders with a Metro-area county of commitment, and offenders who are younger at the time of release. Although discipline history was significant in Model 1, it failed to reach significance in Model 2.

Reimprisonment for a New Offense

Figures 3 and 4 show the survival functions for time to first reincarceration across both types of CIP participation. Both figures are similar to those presented earlier for felony reconvictions in that CIP offenders and, in particular, Phase I completers had the highest probability of surviving without being reimprisoned for a new crime throughout the entire follow-up period. For example, the probability of not being reincarcerated for Phase I completers was 98 percent after 12 months, 84 percent after 60 months, and 68 percent after 150 months. Phase I dropouts, however, were comparable to the Control group in that their survival probability was 92 percent after 12 months, 71 percent after 60 months, and 63 percent after 150 months.

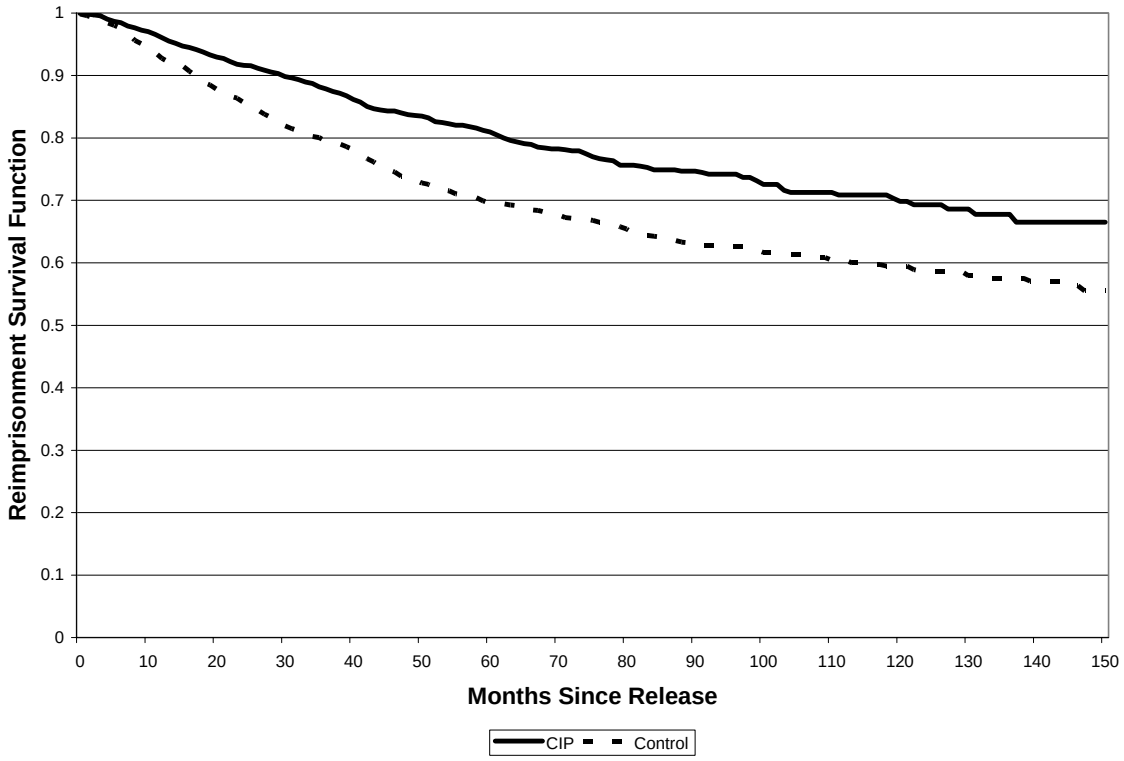

Figure 3. Reincarceration Survival Functions for CIP and Control Groups

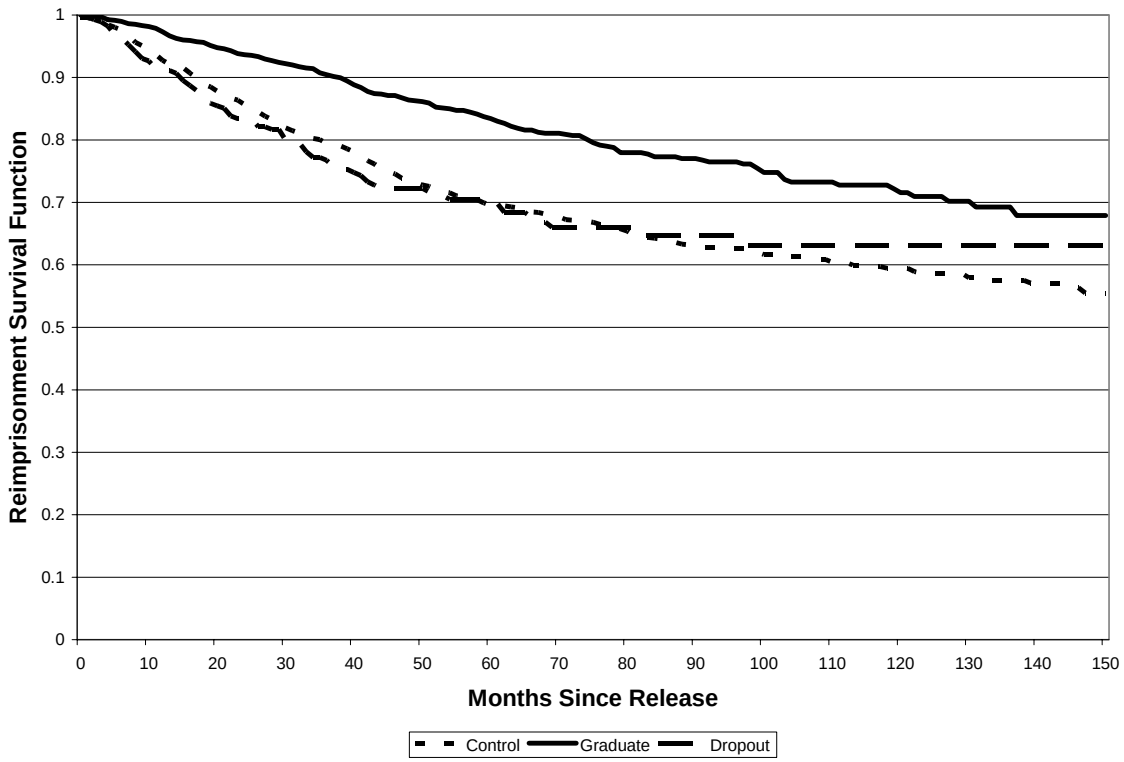

Figure 4. Reincarceration Survival Functions by Program Participation

Table 11 shows the results from the reincarceration analyses where Model 1 is based on a binary measure of program participation (CIP = 1 and Control = 0) while Model 2 splits up CIP participants into completers and dropouts. Once again, compared to the Control group, significantly lower recidivism rates were found for CIP participants when controlling for other factors (see Model 1); that is, after controlling for the effects of the other independent variables, the time to reincarceration for a new offense was 35 percent lower for CIP offenders. In addition, Phase I completers were significantly less likely to be reimprisoned for a new offense than the Control group, whereas Phase I failures were not (see Model 2). More specifically, the time to reincarceration for Phase I completers was 42 percent lower than the Control group.

Unlike the reconviction analyses, Metro Area and Release Age were not significant predictors of reincarceration for a new offense in either model. However, prior prison commitments, male offenders, and minority offenders significantly increased the chances of reimprisonment in both models. Drug offenders, on the other hand, were significantly less likely than "other" offenders to be reincarcerated for a new offense. Discipline history was once again a statistically significant predictor of recidivism in Model 1, but not in Model 2.

Table 11. Cox Proportional Hazards Model: Time to Reincarceration

Variables	*Model 1*			*Model 2*		
	Hazard Ratio	SE	p Value	Hazard Ratio	SE	p Value
CIP	0.65	.073	.000			
Phase I Completer				0.58	.082	.000
Phase I Dropout				0.91	.129	.481
Prior Commitments	1.21	.021	.000	1.22	.021	.000
Discipline	1.02	.006	.012	1.01	.007	.158
Gender (Male)	1.44	.140	.009	1.42	.140	.012
Race (Minority)	1.27	.078	.002	1.26	.078	.003
Metro Area	1.04	.078	.649	1.04	.078	.581
1st Commitment Age	0.98	.010	.106	0.99	.010	.986
Release Age	0.99	.010	.133	0.98	.010	.078
Offense Type						
Property	1.10	.170	.577	1.15	.171	.421
Drugs	0.64	.167	.008	0.68	.168	.020
Length of Stay	1.00	.001	.938	1.00	.001	.861

Any Return to Prison

Figures 5 and 6 display the survival functions for time to first return to prison by the two measures of CIP participation. Figure 5 shows that, compared to CIP offenders, the Control group had a faster rate of return to prison during the first 18 months following release. After the first 12 months, for example, the survival probabilities were 77 percent for CIP offenders and 74 percent for the Control group. But from the beginning of month 19 to the end of month 84 (7 years), CIP offenders had a lower probability of not returning to prison for either a new crime or a technical violation. Indeed, after 60 months, their probability of not returning to prison was 53 percent compared to 56 percent for the Control group.

In Figure 6, the results indicate that Phase I dropouts had a similar probability of survival during the first six months as the Control group. For the remainder of the follow-up period, Phase I dropouts had the greatest probability of returning to prison. For example, their survival probability was 65 percent after 12 months, 47 percent after 60 months, and 44 percent after 150 months. Phase I completers, on the other hand, had similar survival probabilities as the Control group after the first 18 months following release.

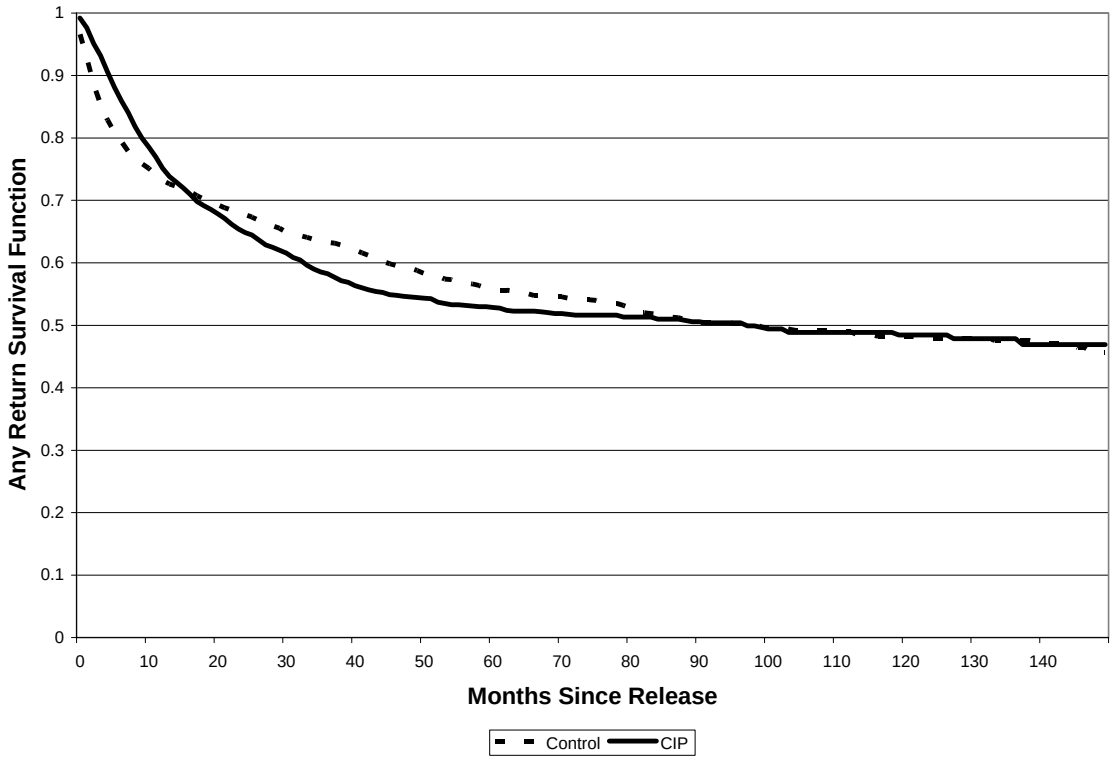

Figure 5. Any Return Survival Functions for CIP and Control Groups

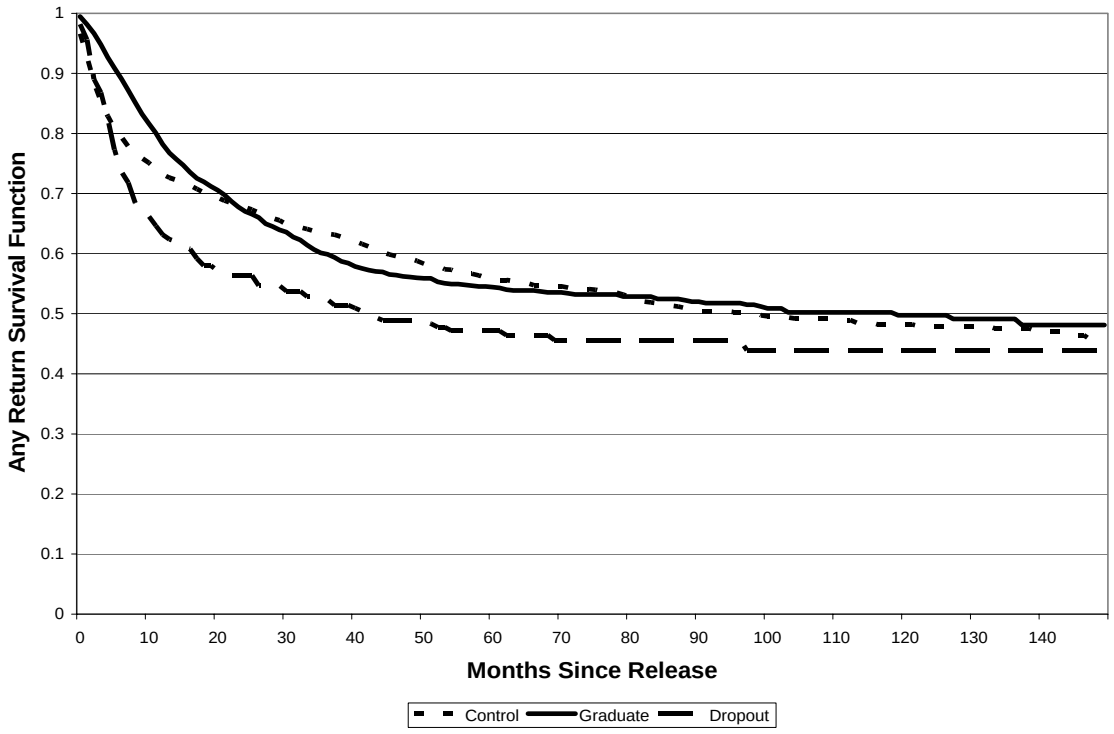

Figure 6. Any Return Survival Functions by Program Participation

Table 12 shows the results from the Cox proportional hazards models when recidivism is defined as any return to prison. The findings indicate that neither measure of CIP participation had a statistically significant impact on any return to prison when controlling for the other independent variables in the model. The results suggest, however, that prior prison commitments, age of first prison commitment, discipline history, male offenders, minority offenders, and those with a Metro-area county of commitment all significantly increased the chances of returning to prison for a new crime or technical violation in both models.

Table 12. Cox Proportional Hazards Model: Time to Any Prison Return

Variables	*Model 1*			*Model 2*		
	Hazard Ratio	SE	p Value	Hazard Ratio	SE	p Value
CIP	1.07	.054	.234			
Phase I Completer				1.05	.059	.460
Phase I Dropout				1.15	.099	.158
Prior Commitments	1.15	.019	.000	1.15	.020	.000
Discipline	1.02	.005	.004	1.02	.006	.018
Gender (Male)	1.40	.104	.001	1.39	.104	.002
Race (Minority)	1.35	.060	.000	1.35	.060	.000
Metro Area	1.22	.061	.001	1.22	.061	.001
1st Commitment Age	0.98	.008	.018	0.98	.008	.023
Release Age	0.99	.008	.475	0.99	.008	.423
Offense Type						
Property	1.13	.145	.410	1.13	.145	.385
Drugs	0.85	.139	.228	0.86	.140	.265
Length of Stay	1.00	.001	.477	1.00	.001	.440

Overall, the results indicate that CIP significantly reduces offenders' time to reoffense by at least 32 percent. Moreover, this finding is robust across different measures of program participation. Given that this study used multiple measures of recidivism and program participation, a carefully-selected Control group, and a relatively lengthy follow-up period, the results presented here offer some of the most credible evidence to date that boot camps, if properly designed and implemented, can produce a reduction in reoffending.

CIP, however, does not reduce one's chances of returning to prison in general. The higher rate at which CIP offenders returned to prison as technical violators may be largely attributable to the fact that they were supervised not only more intensely than the Control group (at least for the first 12 months), but also for a longer period of time. Because this study was unable to control for the intensity of post-release supervision, it is possible that supervision intensity, rather than the boot camp itself, is the main reason why CIP offenders were less likely to reoffend but more likely to return as technical violators.

Still, if supervision intensity was largely responsible for the recidivism findings, one might expect the CIP reoffense rates to be lower, especially during the first 12 months following release, but to then converge with those from the Control group over time. The recidivism findings do not support this pattern, however, as the differences between the two groups are fairly robust over time. In addition, if supervision intensity was the main causal factor, one might expect the return rate to be higher for CIP offenders during the first year after release when they are intensively supervised. Once again, however, the findings do not follow this pattern, as the Control group actually had a higher return rate during the first year following release. Although the supervision intensity argument cannot be ruled out entirely, it is weakened somewhat by the relatively lengthy follow-up period used in this study.

RESEARCH QUESTION #3: DOES CIP REDUCE COSTS?

Boot camps can, in theory, reduce costs by saving bed spaces in two ways: 1) offering program graduates a reduction in time served and 2) decreasing the amount of time offenders spend in prison following release; i.e. reducing recidivism. The reduced costs resulting from bed space savings are affected by factors related to program design and effectiveness, such as program size, graduation rates, eligibility criteria, and program length. For example, the larger the size of the program and the higher the graduation rate, the greater the number of bed spaces saved due to the length of stay (LOS) reduction. In contrast, more restrictive eligibility criteria and longer program duration will likely cut into bed space savings; that is, strict entrance criteria will trim the number of offenders who actually enter the program, whereas a longer program will reduce the amount of time saved from early release. Finally, by lowering recidivism rates, boot camps can save bed spaces by decreasing the amount of post-release time offenders spend in prison.

As mentioned earlier, some boot camp evaluations have found significant cost savings, while others have not. Although each of these studies has attempted to calculate the cost savings incurred from a reduction in time served for program graduates, only two have tried to address the extent to which boot camps save prison beds through reduced recidivism. For example, MacKenzie and Souryal (1994) generated cost savings estimates based on several different assumptions (as opposed to actual data) about the rate at which offenders would re-offend. In addition, Jones (2003) attempted to account for recidivism in the cost savings analysis by deducting the amount of time served by technical violators from the overall cost savings. Neither of these studies, however, used actual data that measured recidivism as any return to prison; i.e., new offenses as well as technical violations.

The cost savings analyses presented in this study are based on fixed costs, as opposed to marginal costs. Fixed costs contain "start-up" costs associated with the construction and staffing of a prison, whereas marginal costs include only food, clothing, medical, and other expenses that vary with the size of the inmate population. The choice of whether to

use fixed or marginal costs depends on a key assumption one makes about the cost-benefit analysis. If the number of bed spaces saved is large enough to prevent the construction of a new prison, then fixed costs should be used. If not, then marginal costs should be used (Austin et al, 2000; Cohen, 2000; Lawrence and Mears, 2006). This decision is not only a highly subjective one, but it is also a false dichotomy in that there are other options – besides construction or no construction – often available such as the expansion of existing facilities or the use of local jails or private prisons. Consequently, for the sake of comparison, this study also presents the costs savings based on a marginal costs model.

Early Release Cost Reduction

The present study determines the cost reduction resulting from 1) early release for program graduates (i.e., a LOS reduction) and 2) reduced recidivism (i.e. any return to prison). The early release cost reduction was calculated by first segregating CIP participants into ten separate cohorts by the fiscal year in which they entered Phase I (FY 1993-2002). Next, operating costs were determined by counting the total number of days each cohort spent in CIP and then multiplying by the per diem associated with each phase for that fiscal year. As noted earlier, offenders who fail CIP are required to repeat the days spent in the program in a Minnesota correctional facility. Thus, an offender who fails CIP Phase I after 90 days is required to serve the remainder of his/her term of imprisonment (i.e., two-thirds of the pronounced sentence) plus the 90 days spent in CIP. The additional 90 days this particular offender would serve in prison would also be considered a program cost.

The calculation of days lost due to program failure is slightly different for Phase II and III failures. Offenders who fail during Phases II and III because of a new criminal offense are required to serve their new sentence, but not the time they spent in CIP. For these offenders, the time spent in prison for the new crime counts against the recidivism cost reduction, not against the early release cost reduction.

But offenders who fail during Phases II and III due to a technical violation are required to redo the time they spent in CIP. Moreover, because these offenders are recidivists insofar as they return to prison after their release, the amount of return time they spend in prison must be partitioned into costs against both early release and recidivism savings. More specifically, the number of days that Phase II and III failures spent in Phase I (usually 180 days) counts against the early release savings because the Phase I time was spent in a correctional facility. Thus, the Phase I time that these offenders must serve over again nullifies any cost reduction that might have been gained from early release. However, the remainder of return time that Phase II and III failures spent in prison counts against the recidivism cost reduction. For example, if an offender failed in Phase III after 400 days in CIP and returned to prison for 600 days, 180 of these days would count against the early release cost reduction while the remaining 420 would count against the recidivism cost reduction.

Table 13. Early Release Cost Reduction by Fiscal Year, 1993-2002

Fiscal Year	*Days Saved*	*Beds Saved*	*Days Lost*	*Beds Lost*	*Bed Costs Saved*	*CIP Costs*	*Early Release Cost Reduction*
1993	18,150	50	2,364	6	$1,212,996.24	$1,225,251.47	($12,255.23)
1994	34,114	93	3,470	10	$2,308,412.52	$2,827,886.14	($640,082.15)
1995	35,629	98	4,244	12	$2,668,352.70	$2,782,176.79	($113,824.09)
1996	39,040	107	3,990	11	$3,054,958.00	$3,060,431.70	($5,473.70)
1997	36,125	99	4,161	11	$2,752,100.40	$2,925,065.20	($172,964.80)
1998	65,601	180	6,144	17	$4,953,362.67	$3,659,006.43	$1,294,356.24
1999	78,063	214	4,895	13	$6,272,692.64	$3,760,497.26	$2,512,195.38
2000	83,425	229	3,942	11	$6,697,237.58	$3,860,289.31	$2,836,948.27
2001	98,335	269	5,186	14	$7,994,047.18	$4,298,386.62	$3,695,660.56
2002	98,467	270	6,558	18	$7,342,610.01	$3,257,152.96	$4,085,457.05
Total	586,949	1,608	44,954	123	$45,256,769.94	$31,656,143.88	13,600,626.06

The costs against the early release savings thus consist of CIP operating costs and the Phase I days lost by offenders who failed during Phases I-III. The early release savings, on the other hand, are calculated by first counting the total number of days for each CIP Phase III graduate from the time of release from Phase I until their original supervised release date, i.e. the time they were sentenced to serve in prison but were able to serve in the community due to CIP's early release provision. The total number of bed days saved for each cohort was then multiplied by the average overall per diem for that fiscal year, resulting in total bed costs saved. As shown in Table 13, the total bed costs saved are

subtracted by total CIP costs to produce the early release cost reduction for each fiscal year.

The results in Table 13 suggest that the early release cost reduction from FY 1993-2002 amounts to roughly $13.6 million, or a little more than $1.3 million per year. It is interesting to note, however, that CIP did not begin to generate an early release cost reduction until FY 1998. Indeed, from FY 1993-1997, the early release deficit was nearly $944,600 (see Figure 7). But from FY 1998-2002, the early release cost reduction has totaled more than $14.4 million. In addition, the annual amount of early release savings has grown successively larger each year, for the savings increased from $1.3 million in FY 1998 to more than $4 million in FY 2002.

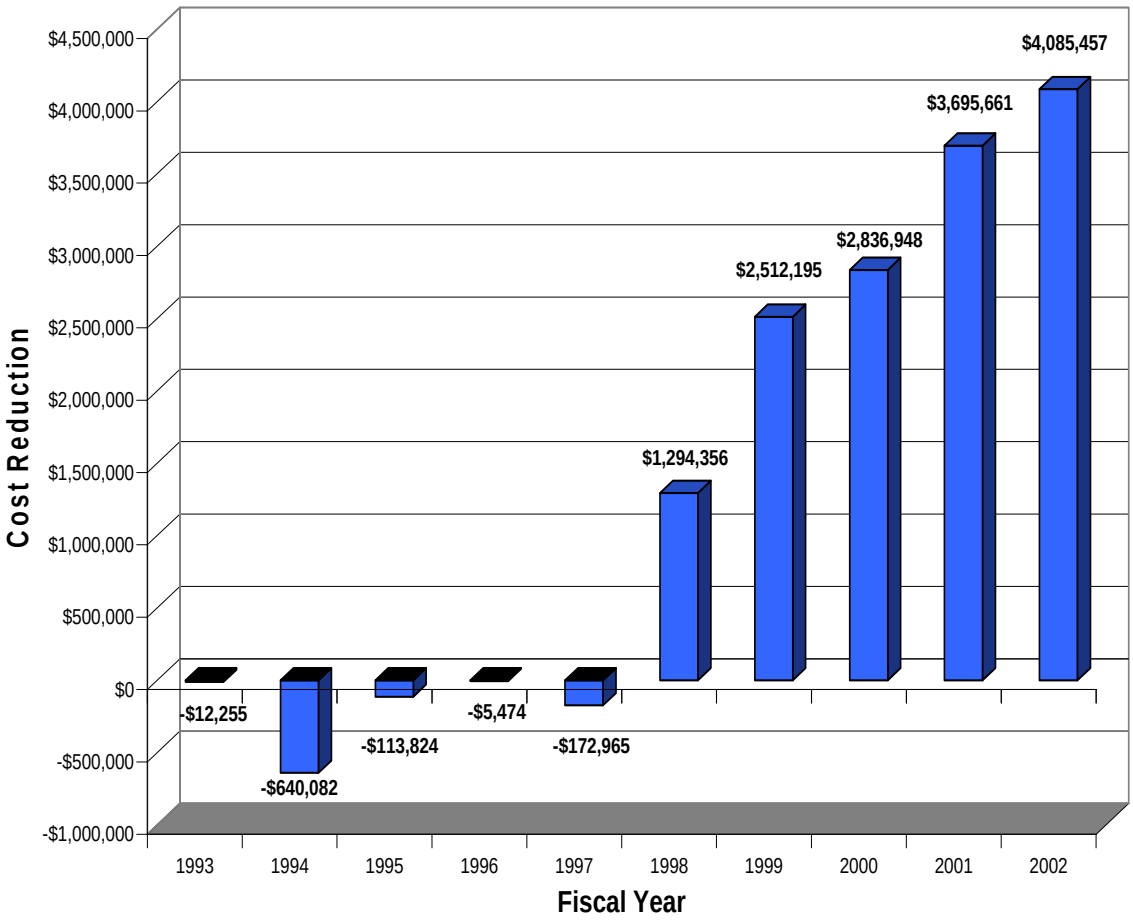

Figure 7. CIP Early Release Cost Reduction, FY 1993-2002

The increased early release cost reduction is due chiefly to four factors. First, as CIP was developing and expanding during the mid-1990s, the per diems were comparatively high, resulting in higher operating costs (see Table 14). Since that time, however, per diems have decreased, which has reduced the costs associated with operating CIP. Second, graduation rates have increased since 1993, especially from FY 2000-2002. Whereas the graduation rate was 37 percent for the FY 1993 cohort, the rate was 68 percent for the 515 offenders who entered between FY 2000 and 2002. Third, along with higher graduation rates, increased program capacity has enabled more offenders to receive the LOS reduction, resulting in a greater early release cost reduction. For example, the number of offenders (868) who entered the program from FY 1998-2002 was more than 80 percent higher than the number (479) who entered during FY 1993-1997. Finally, modifications to statutory and departmental admission standards have increased the number of bed days saved by program graduates. In particular, statutory changes during

Table 14. CIP Per Diem, Graduation Rates, Admission Volume and Average Bed Days Saved, FY 1993-2002

Fiscal Year	*CIP Per Diem*	*Total Per Diem*	*Graduation Rate*	*CIP Entrants*	*CIP Graduates Avg. Bed Days Saved*
1993	$75.63	$76.84	37.0	81	527.9
1994	$137.47	$75.33	49.5	97	548.6
1995	$115.51	$85.02	49.5	109	602.1
1996	$148.31	$87.16	60.9	92	552.7
1997	$141.55	$86.10	51.0	100	705.3
1998	$100.78	$83.31	49.7	173	762.1
1999	$103.27	$85.73	49.4	180	876.1
2000	$101.48	$84.26	66.2	154	818.4
2001	$99.57	$85.52	70.7	174	797.6
2002	$81.08	$79.89	67.3	187	780.4
Total Avg.	$113.39	$82.92	56.8	135	738.6

1996 and 1997 removed the restriction on length of sentence and increased the maximum allowable LOS from 36 to 48 months. Therefore, by expanding the admission standards to include eligible offenders with longer terms of imprisonment, the average number of bed days saved per CIP graduate has increased significantly since 1996. Indeed, the average number of bed days saved increased from 562 days during FY 1993-1996 to 796 days during FY 1997-2002.

Recidivism Cost Reduction

The recidivism cost reduction was calculated by making a comparison between the CIP and Control groups with respect to how much time each group has spent, or will spend, in prison following the release that initiated their at-risk period. For the purposes of the cost savings analysis, recidivism is operationalized as any return to prison, whether for a new criminal offense or for a technical violation. As noted above, for offenders who fail Phases II and III due to a technical violation as opposed to a new crime, the return time spent in prison (minus the Phase I days) counts against the recidivism cost reduction.

The total number of prison days saved or lost for both the CIP and Control groups was determined by first calculating the average number of days each group has spent, or will spend, in prison since the release that initiated their at-risk period. The difference (in days) in the averages for the two groups was then multiplied by the number of CIP offenders due to the uneven sizes of the CIP and Control groups. For example, the difference in average prison return days between the CIP and Control groups was 40.48 days, which was multiplied by 1,347 (the size of the CIP group) to produce a total of 54,527 prison days saved. The total number of bed days saved was then multiplied by the average per diem ($82.92) over the ten-year period, resulting in the total recidivism cost reduction.

Table 15. Recidivism, Early Release, and Total Cost Reduction, FY 1993-2002

CIP Average Prison Return Days	355.44 days
Control Group Average Prison Return Days	395.92 days
Days Saved	54,527 days
Prison Beds Saved	149 beds
Recidivism Cost Reduction	$4,521,378.84
Early Release Cost Reduction	$13,600,626.06
Total Cost Reduction	$18,122,004.90

As Table 15 shows, CIP offenders spent, on average, 40 fewer days in prison following release than the Control group. The number of prison beds saved (149) amounts to $4.5 million in reincarceration savings. Overall, the results indicate that CIP has reduced costs to the State of Minnesota by $18.1 million.

Although CIP and Control group offenders return to prison at virtually the same rate (47.6 vs. 47.0 percent), they return for different reasons. Of the offenders who returned to prison, those in the Control group were much more likely to return for a new crime (73 percent) compared to CIP (45 percent). CIP offenders, however, were much more likely to return for a technical violation (55 percent) than comparison group offenders (27 percent). Due to the legislative provision requiring CIP failures to redo their program time, the average amount of return prison time for a technical violation was 117 days higher than the Control group (see Table 16). Further, when CIP offenders did return to prison for a new crime, the average number of return days was 29 higher than the Control Group. However, CIP offenders still served, on average, 40 fewer days in prison because the Control group was significantly more likely to return for a new offense and, thus, have a longer stay in prison.

Table 16. Prison Return Rate and Duration by Program Participation

	Control	*Phase I Dropout*	*Phase I Completer*	*All CIP*
Return Rate	Percent	Percent	Percent	Percent
New Offense	34.4	28.6	19.9	21.7
Release Violation	12.6	22.3	26.8	25.9
Overall	47.0	50.9	46.7	47.6
Average Prison Return Days	Avg. Days	Avg. Days	Avg. Days	Avg. Days
New Offense	1,107	1,152	1,130	1,136
Release Violation	23	63	157	140
Overall	396	374	351	355
N	1,555	273	1,074	1,347

It is important to note that if a marginal costs model was used, the size of the savings would be approximately $12 million less at $6.2 million. This is a very conservative estimate, however, given that marginal costs do not include expenses associated with prison construction and staffing. It is also worth emphasizing that the cost-benefit analyses presented here do not include all of the benefits produced by CIP. In particular, the lower reoffense rates for CIP participants lead to fewer victims, reduced victim restitution costs, and decreased use of law enforcement and court resources. Moreover, following their release from prison after the completion of Phase I, CIP participants

produce added cost savings by working in the community and, thus, paying taxes. It is beyond the scope of this study, however, to calculate these additional costs savings.

CONCLUSION

The findings reported here indicate that the methamphetamine boom, not the new admissions standards, has increased the percentage of white offenders participating in CIP. The results suggest, moreover, that CIP significantly reduces the rate at which offenders commit a new criminal offense. But due to the fact that CIP offenders are more likely to come back as technical violators, they returned to prison at roughly the same rate as the Control group. CIP still produces a recidivism cost reduction, however, because offenders spend, on average, 40 fewer days in prison due to the shorter lengths of stay associated with technical violations. The largest source of cost reduction, however, derives from the decrease in time served for offenders who complete all three phases of CIP. Indeed, the early release cost reduction accounted for roughly three-fourths of the $18.1 million that CIP has saved the State.

Notwithstanding the generally favorable results presented here, some may question these findings, particularly those from the recidivism analyses, because this study did not use an experimental design and did not include a measure for the intensity of post-release supervision. These limitations, however, are offset, to a large extent, by the strengths of this study. In particular, the multi-stage sampling procedure produced a Control group that was virtually equivalent to the CIP group, as reflected by the absence of statistically significant differences among the control variables. Moreover, to control for the effects of the control variables (i.e., rival causal factors), this study used a Cox proportional hazards model with several different measures of recidivism and program participation. Finally, this study followed offenders from both groups over a relatively long period of time after release (an average of 7.2 years), providing a long-term perspective on the effectiveness of CIP. In light of these strengths, this study offers what is arguably the most credible evidence to date that boot camps can deliver on the promise of reducing costs and recidivism.

The findings from this study also confirm what some researchers suggested more than a decade ago: Boot camps can save money by targeting prison-bound offenders, functioning as an early release mechanism, producing relatively high graduation rates,

and reducing the amount of time offenders spend in prison following release (MacKenzie et al., 1995). With regard to the last point—reducing recidivism—researchers have also noted that the most promising findings have been associated with boot camps that put rehabilitation first by emphasizing therapeutic programming, closely supervising program graduates after release, and providing lengthy aftercare (McKenzie et al., 1994; Parent, 2003).

When CIP was created in 1992, it drew on the lessons learned from the "first generation" boot camps, which were relatively short in duration (60-90 days) with little or no therapeutic programming and aftercare. To avoid the "low dosage" effect associated with the earliest boot camps, Phase I of CIP was devised to last 180 days, more than 40 days longer than the national average. Further, since the beginning of CIP, chemical dependency, educational, cognitive skills, restorative justice, and transition programming have been heavily emphasized during Phase I. Finally, reflecting the priority placed on truly providing a continuum of care, the community phases were designed to cover a 12-month period in which offenders would be intensively supervised and required to participate in aftercare programming. In short, the design and implementation of CIP has adhered to the principles of sound correctional programming, which helps explain the results presented here.

Considering that the findings from both this study and previous evaluations suggest that the most effective boot camps are those that emphasize therapeutic programming and aftercare, it is unlikely that the military component of boot camps, by itself, offers much in the way of actually reducing recidivism. The rigorous military structure of a boot camp is still significant, though, in that it greatly minimizes offenders' idle time. But perhaps most important, the repetition and organization of military life may foster an environment that is conducive to the effective delivery of programming such as CD treatment to offenders.

Although the findings from this study provide compelling evidence that boot camps can be an effective form of correctional treatment, they also carry several implications for

CIP, in particular, and boot camps in general. As mentioned previously, the MCF-Willow River is scheduled to gradually add 90 prison beds during the first six months of 2007, increasing the total capacity to 180 beds. During the early stages of the expansion, it is likely that the per diem at the MCF-Willow River will increase. It is possible, moreover, that either graduation rates may decrease or that program capacity will not be met by the end of FY 2007. Thus, although CIP's capacity will get larger beginning in 2007, the expansion may temporarily slow the growth in cost savings that has been observed since FY 1998. As illustrated by the findings presented here, even though CIP grew in size from FY 1993-1997, it did not begin to reduce costs until per diems decreased, graduation rates increased, and changes were made to the admissions standards. Similarly, the 90-bed expansion might produce a short-term slowdown in cost savings, but may eventually lead to a long-term increase in reduced costs.

The "growing pains" that CIP experienced from FY 1993-1997 suggest that a great deal of caution should be exercised when conducting initial outcome evaluations of newly started boot camps or even correctional programs in general. Much like a new business that loses money before it begins to turn a profit, CIP did not reduce costs prior to FY 1998. Although Cox regression models limited to the FY 1993-1997 period reveal that CIP significantly reduced the extent to which participants reoffended (both felony convictions and reimprisonment for a new crime) during this time[7], the recidivism savings would still not be enough to offset the early release cost reduction deficit. As a result, an outcome evaluation of CIP after its first five years of operation may have led to the premature—not to mention, erroneous—conclusion that it does not "work" insofar as it does not reduce costs. As this study has shown, however, CIP does "work" in that it has produced an early release cost reduction of $14.4 million since FY 1998.

The growing perception over the last decade that boot camps are largely ineffective has been based mainly on results showing that boot camp participants are no less likely to recidivate than a comparison group of offenders. But as this study illustrates,

[7] The results from these Cox proportional hazards models are not shown here, but are available upon request.

determining whether a program "works" should not be limited to a simple question of "Did they recidivate?" Rather, in assessing whether a program is effective, the focus should be not only on whether they recidivated, but also on why they returned and for how long.

Even though the rate of return to prison was nearly the same for both the CIP and Control groups, they generally came back for different reasons. Whereas the Control group was significantly more likely to return for a new crime, CIP offenders were more likely to return to prison for a technical violation. As a result, CIP offenders have spent, on average, 40 fewer days in prison following release than the Control group, resulting in a cost reduction of at least $4.5 million to the State.

Concentrating merely on whether offenders are rearrested, reconvicted, or reincarcerated following release is often the benchmark used in correctional program evaluations because it is, generally speaking, an easier or more feasible issue to address analytically. But results can vary significantly depending on how one measures recidivism. Moreover, even if multiple measures of recidivism are used, the issue of whether offenders recidivate does not tell the full story about whether a correctional program "works". Instead, it is also critical to know why and how long offenders returned to prison because the answers to these two questions will provide a more complete picture as to whether a program is effective.

REFERENCES

Austin, J., Camp-Blair, D., Camp, A., Castellano, T., Adams-Fuller, T., Jones, M., et al. (2000). *Multi-Site Evaluation of Boot Camp Programs, Final Report.* Washington, DC: National Institute of Justice, U.S. Department of Justice.

Bailey, W. (1998). Deterrence, brutalization, and the death penalty: Another examination of Oklahoma's return to the death penalty. *Criminology*, 36, 711-733.

Bales, W.D., Bedard, L. E., Quinn, S. T., Ensley, D. T., & Holley, G. P. (2005). Recidivism of public and private state prison offenders in Florida. *Criminology and Public Policy*, 4, 57-82.

Bottcher, J. & Ezell, M.E. (2005). Examining the effectiveness of boot camps: A randomized experiment with a long-term follow up. *Journal of Research in Crime and Delinquency*, 42, 309-332.

Burns, J. C. & Vito, G. F. (1995). An impact analysis of the Alabama boot camp program. *Federal Probation, 58,* 1, 63-68.

Clark, C. L., Aziz, D. W., & MacKenzie, D. L. (1994). *Shock Incarceration in New York: Focus on Treatment.* Washington, DC: National Institute of Justice, U.S. Department of Justice.

Cohen, M.A. (2000). Measuring the costs and benefits of crime and justice. In *Measurement and Analysis of Crime and Justice, Criminal Justice 2000* (p. 263-316), Volume 4. Washington, D.C.: National Institute of Justice, U.S. Department of Justice.

Jones, R. J., Olson, B. W., Karr, S. P., & Urbas, S. M. (2003). *Impact Incarceration Program: 2003 Annual Report to the Governor and the General Assembly*. Springfield, IL: Illinois Department of Corrections.

Kempinen, C. A. & Kurlycheck, M. C. (2003). An outcome evaluation of Pennsylvania's boot camp: Does rehabilitative programming within a disciplinary setting reduce recidivism. *Crime & Delinquency, 49,* 4, 581-606.

Kurlychek, M.C. & Kempinen, C.A. (2006). Beyond boot camp: The impact of aftercare on offender reentry. *Criminology & Public Policy*, 5, 2, 363-388.

Lawrence, S. & Mears, D.P. (2004). *Benefit-Cost Analysis of Supermax Prisons: Critical Steps and Considerations.* Washington, D.C.: The Urban Institute.

MacKenzie, D. L., Brame, R., McDowall, D., & Souryal, C. (1995). Boot camp prisons and recidivism in eight states. *Criminology, 33*, 3, 327-358.

MacKenzie, D.L. & Souryal, C. (1994). *Multisite Evaluation of Shock Incarceration*. Washington, DC: National Institute of Justice, U.S. Department of Justice.

MacKenzie, D.L., Souryal, C., Sealock, M., & Kashem, M.B. (1997). *Outcome study of the Sergeant Henry Johnson Youth Leadership Academy (YLA)*. College Park, MD: Department of Criminology and Criminal Justice.

MacKenzie, D. L., Wilson, D. B., & Kider, S. B. (2001). Effects of correctional boot camps on offending. *Annals of the American Academy of Political and Social Science, 578*, 126-143.

Marcus-Mendoza, S.T. (1995). Preliminary investigation of Oklahoma's shock incarceration program. *Journal of the Oklahoma Criminal Justice Research Consortium*, 2, 44-49.

Parent, D. G. (2003). *Correctional Boot Camps: Lessons From a Decade of Research.* Washington, DC: National Institute of Justice, U.S. Department of Justice.

Paulson, A. (2005). Inmates try boot camp for kicking drugs. *Christian Science Monitor*, December 1.

Stinchcomb, J.B. & Terry, W.C. (2001). Predicting the likelihood of rearrest among shock incarceration graduates: Moving beyond another nail in the boot camp coffin. *Crime & Delinquency*, 47, 221-242.

Wilson, D.B., MacKenzie, D.L., & Mitchell, F.N. (2005). *Effects of Correctional Boot Camps on Offending*. A Campbell Collaboration Systematic review, available at: http://www.aic.gov.au//campbellcj/review/titles.html.

Zhang, S. X. (2000). An Evaluation of the Los Angeles County Juvenile Drug Treatment Boot Camp (Final Report). Washington, DC: National Institute of Justice.