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ABSTRACT

This study compared correctional education participants and non-participants in Maryland, Minnesota, and Ohio to assess the impact of correctional education on recidivism and post-release employment of inmates. The study attempted to address criticism of previous studies by using a treatment and comparison group, using statistical controls, addressing possible self-selection bias, using more than one measure of recidivism, and using a longer time period. These two study groups were chosen: offenders who had participated in correctional education, and those who had not. Sociodemographic characteristics of the groups were examined, including age, marital status, education level, and literacy competency. Data was collected from inmate self-report pre-release surveys, institutional/educational records, parole officer surveys, criminal history data, and employment and wage data. Hypotheses were developed that education will result in the following: reduced re-arrest, re-conviction, and re-incarceration, in recidivists committing less serious offences, in greater post-release compliance with parole conditions and pro-social activities, and in higher employment and wages. Correctional education participants in Minnesota and Ohio had statistically significant lower rates of re-arrest, re-conviction, and re-incarceration than non-participants. (Rates were also lower, but not statistically significant, in Maryland.) Overall, participants and non-participants were in compliance with parole. Participants and non-participants were generally employed, at rates that were not statistically different. Participants earned statistically higher wages than non-participants. Several recommendations were made, including increased funding for education and research and improved data collection measures and management. (Contains 29 references.) (SLR)

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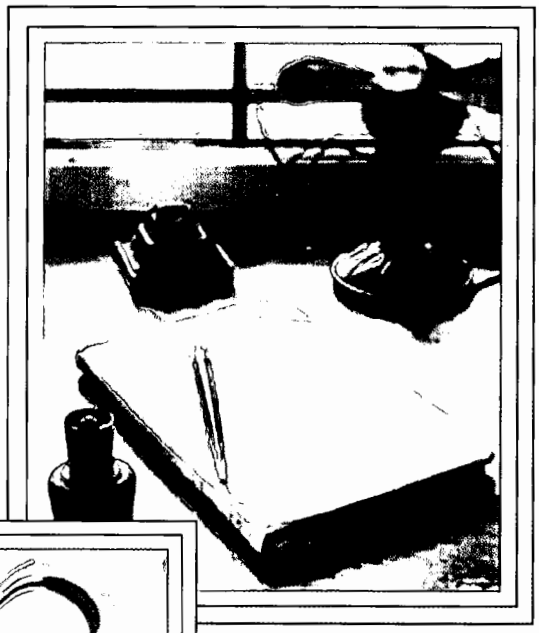

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CEA is a non-profit professional association serving educators and administrators around the world. They are committed to educating individuals/students in correctional settings. CEA is the largest affiliate of the American Correctional Association. Involved in this publication partnership are Stephen J. Steurer, Ph.D., CEA Executive Director and Director for this project and Linda G. Smith, Ph.D., independent Research Consultant.

MTC is a leader in inmate rehabilitation through education. MTC is the third largest operator of privatized correctional facilities in the world with approximately 13,000 beds under contract. MTC also manages and operates 23 Job Corps centers in 19 states for the U.S. Department of Labor, preparing disadvantaged youth for meaningful careers. The MTC Institute, a research unit within MTC, sponsored the printing and distribution of this document. The Institute staff involved in this publication partnership includes: Robert T. Jones, President; Carl E. Nink, Executive Director; Isabel Dulfano, Ph.D. and Anne Parkinson, MBA, Research Associates; and Susie Webster, Coordinator and Layout Design.

Education Reduces Crime

Three-State Recidivism Study

Executive Summary

Stephen J. Steurer, Ph.D. – Project Director
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EDUCATION REDUCES CRIME

PREFACE

By Stephen J. Steurer, Ph.D.

Why read this booklet? With the increased numbers of inmates crowding our jails and prisons, it is imperative for the public to reconsider the traditional view of the purpose of incarceration. Rather than accepting the old adage of locking them up and "throwing away the key," we must consider recent research findings that show many prisoners can be rehabilitated, through education and training, and eventually contribute constructively to society upon reentry. These studies are demonstrating that prison can be a place where criminals are transformed into law-abiding citizens, productive workers, and good parents. If you think this is important, please continue reading.

The *Three-State Recidivism Study* reviews one of the major functions of the criminal justice system, that is, to rehabilitate. Over the past decade, greater emphasis has been placed on the other major rationales, specifically incarceration and punishment without much commitment to rehabilitation. The result of the push to incarcerate and punish that occurred in the 1990s and early 2000s is an unprecedented growth in the size of the nation's prison and jail populations, even as crime rates have decreased. Given the economic hardship of maintaining federal, state, and local correctional systems, and the number of people in jails and prisons, society can no longer afford to ignore ways to reduce crime and lower over-burdening costs resulting from high incarceration rates. Since there are methods and programs that work, our intent is to bring this information to political leaders, the media, and the public to shed light on successful alternatives to the current system. Specifically, we want to share the results of the findings from the *Three-State Recidivism Study*.

The primary investigators of the *Three-State Recidivism Study* believe that the results of their research need to be disseminated beyond the correctional and academic worlds. The full-length version of the study is available on the CEA website, at ceanational.org. However, this publication provides a shortened version of the key findings for those who are unaware of the positive impact of correctional education as well as those who might be able to bring about a change in public policy related to correctional education programs. What follows in the next two sections are two important summaries – a brief introduction of important previous research and an executive summary of the study.

The title of this booklet may be a bit simplistic, but it tries to make a point. Education programs can reduce the likelihood of repeat offending and improve public safety for everyone. The results of the study argue forcibly against the notion of locking people up and "throwing away the key" without offering a viable means for rehabilitation, specifically through education. On a consistent basis, research is showing that many adult offenders are capable of positive change.

The *Three-State Recidivism Study* is not the first study to highlight the positive impact education can have on reducing criminal behavior and improving the chances for successful employment after release from prison. It is, however, a study with many firsts. The design has been reviewed by a number of highly regarded correctional researchers. We believe it is the best large-scale correctional education research study to date. This study is also the first one to access and document wages using state department of labor unemployment and tax data for a large sample. The extensive exit survey given

THREE-STATE RECIDIVISM **STUDY**

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to all inmate participants before release in the *Three-State Recidivism Study* has not been done in other research studies. This survey yielded data about the offender's family, prior involvement in the criminal justice system both as a juvenile and an adult, educational attainment, employment, and release plans which have never been collected from such a large sample of offenders leaving prison until now. Finally, no study has ever been able to collect and assemble data from so many important sources – offenders themselves, correctional institutional and educational records, parole officers, state and national criminal history repositories, and state wage and labor data. The amount of data on over 3,000 inmates is impressive and represents the collaborative work of many agencies in Maryland, Minnesota, and Ohio.

So what is the importance of such a study? Why did such a study have to be made? First, and foremost, we wanted to know if education does, in fact, make a difference in the lives of ex-offenders after release from incarceration. If there is a difference, does it affect public safety positively? In addition, does the difference justify the use of federal and state funds for inmate education?

As you will see from the executive summary, education does make a difference for offenders, and the difference is significant in terms of reduced recidivism and wages earned after release from incarceration. The authors of the study did not attempt to conduct a cost-benefit analysis or measure the savings due to reduced recidivism or criminal activity. Those calculations were left to others. In Maryland, for example, government analysts translated a drop in recidivism of over 20% with dollars saved which were based only on re-incarceration costs. Those who did not return as a result of educational programs saved the state over 24 million dollars per year, twice the state's investment in its correctional education program.

No one has done any calculations about other savings, but one can assume that there are tremendous dividends not only in reduced costs of incarceration, but also in costs of the police, judicial, and social service systems. Finally, and more importantly, people who no longer commit crime and choose to work in lawful jobs **pay taxes and support their families**. Given both the social and economic costs of incarceration, rehabilitation and the return of offenders to their families, communities, and workforce as productive citizens should be the real goal of corrections.

INTRODUCTION

By Linda G. Smith, Ph.D.

Correctional educators have worked for years in the belief that education not only provides hope for their students and an avenue for change, but that it also reduces the likelihood of future crime. Correctional educators have continued to teach while facing constant scrutiny and pessimism from the public and from certain legislators about the value of their work among those who have committed serious crimes. While the climate was always difficult, Congress got much tougher on crime in the 1990s. Inmate eligibility for Pell grants for post secondary education was entirely eliminated in 1994. Federal adult and vocational education set asides for correctional agencies were dropped a few years later. There were even limitations put on the right to special education services for the incarcerated. Many states also cut back or eliminated their funds for programs. One state even fired all full time teachers in the state prisons.

Valid and reliable empirical data was needed to determine if correctional education did, in fact, help reduce recidivism.

In the meantime, correctional educators have continued their efforts to convince the public and legislators of what they believe is a worthwhile contribution in the ongoing battle to reduce the recidivism of incarcerated offenders returning to their homes, communities, and the workforce. However, as we note in the next section, while there have been studies examining correctional education, there were few rigorous research efforts examining the impact of correctional education on post-release behavior, particularly recidivism and post-release employment. It was apparent that valid and reliable empirical studies were needed to determine if correctional education did, in fact, help reduce recidivism and increase the incarcerated offenders participation in the labor market after release from prison.

LITERATURE REVIEW

In an attempt to counter the efforts at cutting back or eliminating correctional education, there were a number of studies conducted in the early 1990s to measure the value of correctional education including GED participation, vocational training, cognitive/life skills programs, and post-secondary/college participation (Flanagan, T.J., Adams, K., Burton, S., Gerber, J., Longmire, D., Marquart, J., Bennett, K., and Fritsch, E.J., 1994; Eisenberg, 1991; Saylor and Gaes, 1991; Menon, R., Blakely, C., Carmichael, D. and Silver, L., 1992; Jenkins, Steurer, and Pendry, 1995; Smith and Silverman, 1994; Porporino and Robinson, 1992; Little, G.L., Robinson, K.D., and Burnette, K.D., 1991; Gainous, 1992). Limited research, however, has been conducted examining the impact of correctional education on post-release behaviors such as recidivism and employment during the last five years (1997-2002) mostly due to cutbacks in budgets.[1]

Recently, three major reviews and assessments of published research, which examined the effectiveness of correctional education, have been conducted by the Evaluation Research Group at the University of Maryland, the Washington State Institute for Public Policy, and the Urban Institute. Each of these assessments included research conducted during the past 15 years with most occurring in the late 1980s and early to mid 1990s. In addition, Wilson, Gallagher, and MacKenzie (2000) conducted a meta-analysis of 33 independent experimental and quasi-experimental evaluations of corrections-based education, vocation, and work programs for adult offenders. We provide a brief summary of these and other findings reported for state and local correctional education programs during the last decade.

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Evaluation Research Group, University of Maryland

The Evaluation Research Group at the University of Maryland has set the standard for reviewing and assessing evaluation research for correctional programs including correctional education programs. Utilizing a technique developed by University of Maryland researchers for a report to Congress on crime prevention (Sherman, Gottfredson, MacKenzie, Eck, Reuter, and Bushway, 1997), the Evaluation Research Group constructed a system to examine program effectiveness by evaluating both the quality of the research design and program effect (Cecil, Drapkin, MacKenzie, Hickman, 2000, p.208). The system assesses methodological rigor and evaluates the reported evidence of the effectiveness of the program in reducing recidivism. A five-point scale is used with 5 being the highest rating and requiring random assignment to a treatment and a control group and 1 being the lowest where the study included no comparison group. Each study received a score using this scale.[2]

Overall, the Evaluation Research Group concluded that adult basic education programs "show promise" for decreasing recidivism.

In their review, the Evaluation Research Group identified twelve adult basic education programs and five life skills programs that met the eligibility criteria for inclusion in their assessment.[3] We do not report the findings from the life skills programs nor do we report their findings for programs discussed elsewhere in the literature review.

Altogether, there were 12 studies that the Evaluation Research Group assessed and rated. We report their findings on six of these studies and all six received a rating of 2 on the Maryland Scale of Scientific Methods.[4] Overall, the Evaluation Research Group concluded that adult basic education programs "show promise" for decreasing recidivism. They also stated that more methodologically rigorous research is needed before definitive conclusions can be drawn since "many of the studies evaluating basic education and GED programs for correctional offenders employed methodological strategies that can only produce questionable findings" (Ibid. p.211). They cited three major concerns with correctional education studies: (1) Failure to provide controls for other factors that may contribute to recidivism including the failure to use a control/comparison group; (2) concerns related to self-selection bias; and (3) an inadequate follow-up period (Ibid. p.211). Researchers and evaluators of correctional education programs should consider these concerns when conducting future studies.

Washington State Institute for Public Policy

The Washington State Institute for Public Policy (WSIPP) (Phipps, Korinek, Aos, and Lieb, 1999) conducted one of the most comprehensive reviews of both community-based and institutional correctional programs in the United States and Canada. They examined the effectiveness of adult correctional programs in reducing recidivism by reviewing several evaluation reports using a technique similar to and based on the Maryland Scale of Scientific Methods (Sherman, et al., 1997). As part of their review of these programs, WSIPP created a format to assess program effectiveness by establishing certain criteria which they determined were needed in evaluating the reported research: (1) a comparison group that received no or minimal treatment, and (2) measurement of criminal recidivism for both the treatment and comparison groups (p.5). WSIPP divided their review of these programs into seven topics: substance abuse treatment, education, employment, sex offender treatment, cognitive behavioral treatment, life skills training, and intensive supervision. For the purposes of the current literature examination, we are only reviewing their discussion of education programs.

In their overview of Adult Basic Education programs, they state:

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Adult Basic Education (ABE) of felony offenders appears to be a promising, but still unproven, crime reduction strategy. The premise behind ABE is that many inmates lack basic abilities in reading, writing, and mathematics and if these skills are increased, then offenders have a better chance of avoiding criminal behavior when released from prison. The Institute s review of the national research literature found that this question has not been extensively or rigorously evaluated. Only a handful of studies have been published on this topic, and most employ fairly weak research designs (p.53).

The Washington State Institute for Public Policy found that Adult Basic Education of felony offenders appears to be a promising, but still unproven, crime reduction strategy.

WSIPP examined six studies evaluating correctional education programs. They examined first, programs with evidence of an effect in reducing recidivism. Two studies, both evaluating the Federal Bureau of Prisons education programs and conducted by Harer (1994, 1995) using a 1987 study group, met the standard set by WSIPP. WSIPP determined that the Federal Bureau of Prisons education program showed evidence of an effect and also concluded that Harer had conducted the most rigorous research for ABE programs (a WSIPP rating of 4 for most portions and a 2 for others) (Phipps, et al., 1999, pp.53, 55, 56).[5] Harer s study in 1994 showed a 33% recidivism rate for non-participants compared to 29% for participants (significant at the .10 level). The 1995 study conducted by Harer had better results than the 1994 study with lower recidivism rates for program participants versus non-participants (39% and 46% respectively) and was statistically significant at the .001 level.

The next program reported by WSIPP showed only some evidence of an effect and was conducted by Piehl (1995) of the Wisconsin in-prison education program in the late 1980s. Piehl s study examined both basic and vocational education and findings from this study showed that 41% of the prisoners who did not participate in education returned to prison compared to 33% who did participate in correctional education. This study rated a 3 on the WSIPP scale because the evaluation methods were non-experimental (Ibid. pp.53, 57, 58).[6]

A program where effectiveness could not be determined was a study of all inmates released from the Ohio state prisons in 1992 (ODRC, 1995). The Ohio study showed lower recidivism rates for those who participated in education programs compared to those who did not participate (ODRC, 1995). However, the study lacked statistical controls to render it rigorous enough to draw solid conclusions about the effectiveness thus it received a rating of 3 on the WSIPP scale (Phipps, et al., 1999, pp.53, 59, 60).[7] WSIPP assessed two other studies where program effect could not be determined. Walsh (1985) examined re-arrest rates for a study group of probationers (50 who participated in a GED program and 50 non-participants) over a 3-year period. While Walsh found a significant difference in recidivism between the program participants (24%) compared to non-participants (44%), WSIPP could not determine program effect due to the small sample size and the lack of analytical tests for sample selection bias (Phipps, et al., 1999, pp.54, 64). Walsh s study rated a 2 on the WSIPP scale as did Porporino and Robinson s study (1992).[8] Porporino and Robinson looked at the re-incarceration rates of adult offenders who participated in Adult Basic Education (ABE) programs and found that 30% of the ABE completers were reincarcerated compared to 36% of those released before program completion. WSIPP concluded that the absence of statistical controls and the inability to include program dropouts in the analysis made drawing conclusions from the research problematic (Phipps, et al., 1999, pp.54, 63).

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Programs with no evidence of effect included an evaluation of recidivism rates for a cohort of Texas inmates participating in the Windham School System s education program (Adams, 1994). Overall, correctional education participants had a re-incarceration rate of 23% compared to non-participants who had a re-incarceration rate of 24%. WSIPP rated the study a 2 based on the absence of statistical controls and the uncontrolled differences across the participant and comparison study groups which precluded an assessment of effectiveness (Phipps, et al., 1999, pp.54, 61).[9]

Urban Institute

Urban Institute concluded that despite the weaknesses of previous studies, correctional programming does show promise of reducing recidivism and increasing post-release employment

The Urban Institute in *The Practice and Promise of Prison Programming* reviewed evaluation research of correctional programs and also examined educational, vocational, prison industries, and employment services programs in seven states: Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin (Lawrence, Mears, Dubin, and Travis, 2002). In their review of the evaluation literature, and in the process of gathering data for their inventory, Urban correctly pointed out the need for improved research on prison programming.

> *To obtain an accurate picture of prison programming, better data and research are needed. Current data sources do not readily allow researchers or administrators to provide basic descriptive information about prison programming, including the prevalence, duration, intensity, or quality of programming....considerably more in-depth, comprehensive, and detailed information is necessary for accuractely assessing the state of prison programming....(Ibid. p.12).*

Urban cited several methodological problems that "preclude any assessment of *direct and unequivocal* beneficial effects of prison programming" (Ibid. p.4). These included weak research designs, failure to address issues related to selection bias, failure to identify and isolate specific program effects, inability to differentiate the types of programs, and a lack of any meaningful examination of long-term outcomes. As with the other reviews, the Urban Institute concluded that despite the weaknesses of previous studies, correctional programming does show promise of reducing recidivism and increasing post-release employment of offenders.

In Urban's policy recommendations, they cited opportunities for improving both programming and research. Stating that there is "considerable need for rigorous process and outcome evaluations of well-designed correctional programs," Urban points out that the evidence gleaned from such studies could increase public and political support for correctional programs (Ibid. p.22).

A Meta-Analysis of Corrections-Based Education, Vocation, and Work Programs for Adult Offenders

Meta-analysis is a statistical approach that has been used in corrections to evaluate "what works" questions by using rigorous, quantitative techniques to examine program effectiveness. Wilson, et al., (2000) conducted a meta-analysis of 33 independent experimental and quasi-experimental evaluations of recidivism for education, vocation, and work programs. They found that program participants are employed at a higher rate and recidivate at a lower rate than non-participants in education, vocation, and work programs in corrections with "the reduction in reoffending greater for education programs than for work programs" (p.361). They too raised concerns about methodological weaknesses in corrections-based research as well as problems of self-selection bias as did the previous studies by the Maryland Evaluation Research Group, the Washington State Institute for Public Policy, and the Urban Institute. They also encouraged evaluators to consider more thoughtful research, which incorporates theoretical perspectives in their future studies.

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The OCE/CEA Three-State Recidivism Study of Correctional Education

The OCE/CEA Three-State Recidivism Study of Correctional Education was rigorously designed to eliminate most of the methodological weaknesses pointed out in the literature and answer the question – is there any value in education for the incarcerated? Since most states were struggling to keep education programs in the prisons and did not have the money for research needed to examine their correctional education programs, the U.S. Department of Education, Office of Correctional Education, saw the need for a study to assess whether or not correctional education programs were reducing the risk of recidivism for those inmates reentering their communities.

The Study was rigorously designed to eliminate most of the methodological weaknesses pointed out in the literature and answer the question — is there any value in education for the incarcerated?

Although many people believe that there are numerous other social and economic benefits to be gained from educating inmates, this study focused primarily on the recidivism outcome. While not initially planned as part of the study, the focus of the research was extended to include wage and earnings data as well. There is great difficulty associated with accessing wage and earnings data because of laws surrounding the confidentiality of social security numbers. Thus, this information has been rarely examined in the context of the impact of correctional education. In addition, a great deal of demographic/background data was collected from the study participants to really look carefully at the characteristics and needs of incarcerated offenders who participated in correctional education and those incarcerated offenders who did not participate. This was done to gain information that could assist correctional education administrators in their strategic planning for correctional education programming.

The study also addressed methodological concerns raised about the rigor of correctional education research by: (1) using both a treatment and comparison group for the study; (2) using statistical controls for factors other than participation in correctional education that might impact recidivism; (3) addressing concerns related to self-selection bias; (4) using more than one measure of recidivism including re-arrest, re-conviction, and re-incarceration; and, (5) using a longer period of time for assessing outcomes (three years).

The following section provides an Executive Summary of the OCE/CEA Three-State Recidivism Study.

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[1] A recent query by the Correctional Education Association of state correctional education directors for research on their programs provided very few studies. many states indicated that they do not have money for correctional education research and in some cases did not have a research department.

[2] See the Maryland Scale of Scientific Methods (Sherman, Gottfredson, MacKenzie, Eck, Reuter, and Bushaway, 1997) for a complete description of the rating scale and the Washington State Institute for Public Policy (Phipps, Korinek, Aos, and Lieb, 1999) for their modifications of the Maryland Scale of Scientific Methods.

[3] According to the Evaluation Research Group, this meant "eliminating from consideration studies that are so methodologically weak that they are ranked a 'level one' on the Maryland Scale (Cecil, Drapkin, MacKenzie and Hickman, 2000, p.210).

[4] See Cecil, et al., 2000 (pp.221-224).

[5] Harer's studies (1994, 1995) also received a rating of 4 by the Evaluation Research Group (Cecil, et al., 2000, pp.218-219).

[6] Piehl's study (1995) only received a rating of 2 by the Evaluation Research Group (Cecil, et al., 2000, p.219).

[7] The Ohio Department of Rehabilitation and Corrections (1995) also received a 3 from the Evaluation Research Group (Cecil, et al., 2000, p.220).

[8] The Evaluation Research Group also rated these two studies as a 2 (Cecil, et al., 2000, pp.221-223).

[9] The Adams, et al. study (1994) was also rated a 2 by the Evaluation Research Group (Cecil, et al., 2000, p.222).

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EDUCATION REDUCES CRIME

Executive Summary

By Linda G. Smith, Ph.D.

Three-State Recidivism Study

Correctional education for incarcerated offenders has become an important issue for policymakers and correctional administrators across the country. As states become more focused on performance-based funding, the allocation of scarce resources for programs for incarcerated offenders is dependent on the impact and outcomes of these programs. While studies of correctional education programs have generally shown some positive effects on outcomes such as recidivism, many have had methodological weaknesses that diminish the validity of the findings (Gerber and Fritsch, 1995; Gendreau, Little, and Goggin, 1996; Stevens and Ward, 1997; Janice, 1998; Cecil, et al., 2000). The Three-State Recidivism Study was designed to address some of the weaknesses of previous studies and to assess not only the impact of correctional education on recidivism but also on employment outcomes. The study was conducted by the Correctional Education Association (CEA) and funded by the U. S. Department of Education, Office of Correctional Education (OCE).

The study was designed to assess not only the impact of correctional education on recidivism but also on employment outcomes.

Purpose of the Study

The purpose of the study was to compare correctional education participants and non-participants in three states – Maryland, Minnesota, and Ohio on a number of key socio-demographic and outcome variables. Specifically, the study was designed to assess the impact of correctional education on recidivism and post-release employment.

Research Design

Since a randomized study design was not possible, a quasi-experimental design with a release cohort was used. A cohort study is a design used for non-equivalent groups where there is a belief that the treatment group does not systematically differ from the comparison group on important variables. A quasi-experimental design such as this does not sacrifice the ability of the study to examine the impact of a treatment as long as an assumption of comparability can be met. Three dichotomous measures of recidivism were utilized – re-arrest, re-conviction, and re-incarceration. Employment data used a dichotomous measure of participation in the work force (yes or no) and wages earned yearly. Both study groups were followed for three years after release from incarceration. Both bivariate and multivariate analyses were conducted. In addition, non-traditional analyses were utilized to address issues related to selection bias and will be discussed as well.

Eight hypotheses were developed for the research. These included:

Hypotheses 1-3	Hypothesis 4	Hypotheses 5-6	Hypotheses 7-8
Participation in correctional education programs would result in reduced rates of re-arrest, re-conviction, and re-incarceration compared to non-participants.	For participants who did recidivate, they would commit less serious offenses when compared to non-participants.	Post-release behavioral compliance with parole/ release conditions and participation in pro-social activities would be higher for correctional education participants compared to non-participants.	Participation in correctional education programs would result in higher rates of employment for participants, as well as higher wages than those of non-participants.

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Study Groups

The study groups consisted of a release cohort of offenders from Maryland, Minnesota, and Ohio who had participated in correctional education during incarceration (N=1375, 43.3%) and those who had not participated while incarcerated (N=1797, 56.7%). A total of 3170 inmates were selected for participation in the study and criminal history records for 3099 were examined for a period of three years after release from incarceration.

OCE/CEA Recidivism Study Cohort

	Participants		Non-Participants		Totals
	N	%	N	%	N
Maryland -------	275	31.1	610	68.9	885
Minnesota ------	574	54.6	477	45.4	1051
Ohio ----------	524	42.5	710	57.5	1234
Total For All States	1373	43.3	1797	56.7	3170

Several important socio-demographic characteristics of the study groups were examined in the research. It should be noted that this was the first time that a study of this size systematically looked at the characteristics and needs of the correctional education population. A summary of the key characteristics of the study participants (both correctional education participants and non-participants) collected from the Self-Report Pre-Release Surveys included the following:

- Mean age of the study participants was just over 30 years of age.
- Most lived in a city prior to incarceration.
- The majority of the study participants were single.
- Close to two-thirds of the participants had children under the age of 18.
- Over one-fourth had not held a legal job in the year prior to incarceration.
- Almost half had been unemployed for six months or more in the year prior to incarceration.
- More than half had a family history of incarceration.
- More than two-thirds had a close friend from their neighborhood who had been incarcerated.
- Mean number of prior felony arrests for study participants was five.
- Mean number of prior incarcerations for study participants was six including jail and prison.
- Over 62% of the correctional education participants had not completed high school.
- On average study participants did not have a literacy competency level of ninth grade in math, reading, or language (collected from the Educational/Institutional Records Test of Adult Education (TABE) scores rather than self-report).
- Less than half of the study participants self-reported having a job waiting upon release.

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An examination of the characteristics of the study participants tell us that both groups in the study had a number of barriers that increased their risk for recidivism and joblessness upon release from incarceration. Overall, the risk was slightly higher for the correctional education participants compared to the non-participants.

These data also tell us that much more attention needs to be directed toward assisting offenders in overcoming these barriers through basic education, job readiness and job placement programs, life skills, parenting classes, and post-secondary programs including vocational education. These data can be used for strategic planning and program development for current and future correctional programs.

More attention needs to be directed toward assisting offenders in overcoming barriers through basic education, job readiness, job placement, life skills, parenting, and post-secondary programs including vocational education.

Data Collection Sources/Instruments

Data for the study were collected from five primary sources:

- Inmate Self-Report Pre-Release Survey
- Institutional/Educational Records
- Parole Officer Surveys
- Criminal History Data
- Employment and Wage Data

The Inmate Self-Report Pre-Release Survey provided the data on the study participants' characteristics reported in the previous section. Other than the TABE scores, the Institutional/Educational Records had too much missing data to yield any reportable results. The Parole Officer Surveys were collected from study participants' parole/supervision officers six months to one year after release and provided data on supervision status, employment, and post-release participation in programs.

The two primary post-release behavioral outcomes examined in the study included recidivism and employment. After release from incarceration, offenders were followed and data collected for a period of three years for both recidivism and employment. Recidivism was defined as a return to criminal offending after release from incarceration, and re-arrest, re-conviction, and re-incarceration were the three measures used to determine the percentage of both correctional education participants and non-participants who recidivated. These data were based on official records collected from each state's criminal history repository.

Employment was defined as any reported earnings to each state's wage and labor department. Only employment data from official records in Maryland and Minnesota were collected for the study because Ohio did not have data available at the time the study was concluded. State industry codes were also collected from these records in Maryland and Minnesota. Employment was recorded as "yes" if any earnings were reported for any quarter during the three years following the inmate's release from incarceration. Yearly wages were also reported.

Key Findings for the Bivariate Analyses for All States Combined

The key findings for the Three-State Recidivism Study are presented for all three states combined which was the design of the original proposal to the United States Department of Education. We also did additional analyses for each state separately and conducted multivariate and bivariate probit analyses.[10] We will provide a brief discussion of the other analyses as well.

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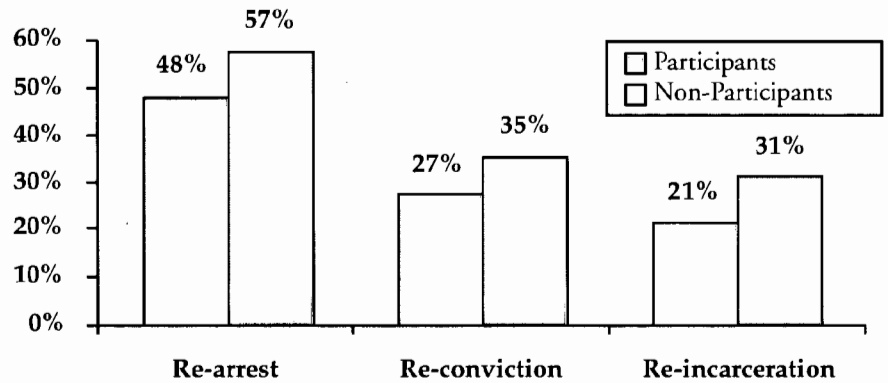
Correctional education participants had statistically significant lower rates of re-arrest, re-conviction, and re-incarceration.

Key Findings on Recidivism – Hypotheses 1-4

- For re-arrest, correctional education participants had statistically significant (at the .01 level) lower rates of re-arrest (48%) when compared to the comparison group of non-participants (57%).
- For re-conviction, correctional education participants had statistically significant (at the .01 level) lower rates of re-conviction (27%) when compared to the control group of non-participants (35%).
- For re-incarceration, correctional education participants had statistically significant (at the .01 level) lower rates of re-incarceration (21%) when compared to the control group of non-participants (31%).
- Overall, there were no significant differences between the participants and non-participants in the types of new offenses committed. Both groups had less serious rearrest offenses compared to their original offense for which they had been in prison.

Aggregate Recidivism For All States (N=3099)



A drop from 31% to 21% is actually a 29% overall drop in recidivism.

Recidivism Data by State

	N	Participants	Non-Participants
Maryland-------			
Re-arrest	840	54%	57%
Reconviction	840	32%	37%
Re-incarceration	840	31%	37%
Minnesota------			
Re-arrest	1025	42%	54%
Reconviction	1025	24%	34%
Re-incarceration	1025	14%	21%
Ohio----------			
Re-arrest	1234	50%	58%
Reconviction	1234	26%	33%
Re-incarceration	1234	24%	31%

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- For Ohio, all three measures of recidivism — re-arrest, re-conviction, and re-incarceration — showed statistically significant lower rates for participants vs. non-participants.
- For Minnesota, all three measures of recidivism — re-arrest, re-conviction, and re-incarceration — showed statistically significant lower rates for participants vs. non-participants.
- For Maryland, all three measures of recidivism, re-arrest, reconviction, and re-incarceration showed lower rates for participants vs. non-participants although the differences were not statistically significant.

Re-arrest Offenses for Release Cohort

Crime Category	Participants %	Non-Participants %
Violent	30.4	24.4
Property	22.9	23.2
Drug/Alcohol	20.7	21.9
Misdemeanor	17.1	22.6
Traffic	2.1	1.8
Probation/Parole Violation	3.5	2.1
Other	3.3	3.8

Key Findings From Parole Outcomes – Hypotheses 5-6

- The findings indicated overall that both groups of study participants were in compliance with supervision requirements although over half of both study groups were unemployed at the time the Parole Survey was administered.
- Only about one-fourth of the participants in either group were engaged in any post-release program activity including education, substance abuse, counseling, or other assistance.

Parole Officer Survey Data

Parole Reporting Status	Participants %	Non-Participants %
Never Reported	23.3	23.0
Still Reporting	40.0	25.7
Transferred to Another State	5.0	1.8
Expiration of Sentence	20.0	38.9
Transferred to Another Agent	3.3	1.8
Revoked	1.7	2.7
Closed	6.7	6.2

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Key Findings From Employment Outcomes – Hypotheses 7-8

- Both correctional education participants and non-participants had surprisingly high rates of employment with non-participants showing slightly higher rates (81.4%) of employment compared to the participants (77.3%). The difference, however, was not statistically significant. These high rates of employment for both correctional education participants and non-participants may be attributable in part to the state of the economy and the employment rates nationwide at the time the study was conducted.
- For each of the three years wage earnings were reported, data showed that correctional education participants had higher earnings than non-participants.

Wage Data for Release Cohort

	Participants	Non-Participants
Ever Employed:		
Yes	77.3%	81.4%
No	22.7%	18.6%
Yearly Wages Earned:	**Mean**	**Mean**
Year one total*	7775.03	5980.63
Year two total	9353.24	8491.75
Year three total	10628.78	9557.92

* Significance at .01

Discussion of the Findings of the Bivariate Analyses

Wages were higher for correctional education participants compared to non-participants for every year of post-release follow-up.

Bivariate analyses for the study were conducted for all three states combined and for each state individually. The bivariate outcomes for the study indicated that correctional education participants did significantly better than non-participants on measures of recidivism (Hypotheses 1-3).

However, the magnitude of the difference between participants and non-participants varied substantially by state. In the bivariate analyses, the largest differences on each recidivism outcome measure was found in Minnesota, followed by Ohio while the differences between participants and non-participants were generally small in Maryland.[11] There was little difference between the two groups comparing the re-arrest offense (Hypothesis 4). Both groups committed less serious post-release offenses compared to their original incarceration offense. Parole outcomes for both groups were about the same with little difference between the two groups (Hypotheses 5-6). Correctional education participants were slightly more likely to engage in post-release programming. Employment rates for both groups were about the same (Hypothesis 7). These employment rates for the study participants were higher than employment rates reported for offenders in previous studies although still significantly lower than national averages for the general population at the time the study was conducted. Interestingly, wages were higher for correctional education participants compared to non-participants for every year of post-release follow-up (Hypothesis 8).

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While the bivariate analyses yielded promising results about the impact of correctional education on post-release recidivism and employment, we also conducted multivariate analyses to assess the effect of correctional education on recidivism.[12]

Discussion of the Findings of the Multivariate Analysis[13]

After controlling for other factors related to recidivism, participants in correctional education had statistically lower recidivism rates than non-participants in Minnesota for re-arrest, re-conviction and re-incarceration. Ohio also had statistically lower recidivism rates for all three measures of recidivism. In Maryland, the multivariate analyses indicated that participants in correctional education were less likely to be re-arrested, re-convicted, and re-incarcerated than non-participants although the difference does not reach statistical significance. We also examined the impact of college/post secondary education in the logistic regression models, and the models predicted a statistically significant reduction in recidivism for those that participated in this program.[14] Those who participated in vocational education also had similar results in the logistic regression models.

Addressing Selection Bias

Ojmarrh Mitchell, Jerry Lee Research Associate, Department of Criminology and Criminal Justice, University of Maryland, College Park addressed the issue of Selection Bias.

When it is necessary to use a non-equivalent comparison group design as is often the case in correctional research, there is concern that the difference in outcomes between the treatment group (correctional education participants) and the comparison group (correctional education non-participants) might be attributed to self-selection into the treatment. While the comparisons of the participants versus non-participants in the original analyses revealed more similarity between the groups than dissimilarity, there were also several significant differences between the groups on variables known to be related to offending. For example, participants were significantly younger, less likely to be racial minorities, more likely to have family histories of incarceration, more likely to be violent offenders, and had less stable employment (i.e. shorter job tenure and more unemployment) than non-participants. Some might interpret these differences as putting the participants at a slightly higher risk of recidivating than the non-participants.

Some might interpret the differences between the treatment group and the comparison group as putting the participants at a slightly higher risk of recidivating than the non-participants.

If these observed differences were the only important differences between participants in correctional education and non-participants, obtaining estimates of correctional education's effect on the outcomes of interest would be uncomplicated. For instance, simply controlling for these differences in multivariate analyses (which we did) would statistically remove these differences and provide unbiased estimates of correctional education's effect. The greater concern, however, is that the two groups differ on unobserved variables; that is, perhaps the two groups also differ on measures that the evaluation did not capture. For example, since some of the participants voluntarily entered correctional education, there is the possibility that these self-selectors are more dedicated to changing for the better than non-participants. Such a situation is referred to as selection bias.

We initially used a series of motivation questions on which to compare the two groups. In this original bivariate analysis, we found that the two groups did not consistently differ in regard to motivation. However, we conducted additional analysis and came up with one composite measure to describe motivation. Using this composite, the participants did appear to be more motivated than non-participants in the multivariate analysis (motivation predicted which study group the offender

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was in – participants versus non-participants). Yet, when we controlled for this in the multivariate analysis predicting recidivism, motivation did not predict recidivism. This is an interesting outcome that we will study further as motivation is always raised as a biasing influence on outcomes. In this study, it can be said that motivation (at least as measured by our composite) did not predict recidivism and was not a biasing influence on the outcomes studied.

To further address issues of selection bias we conducted propensity score analyses and bivariate probit analyses, which is an extension of Heckman's selection bias correction for dichotomous outcomes (Heckman, 1978; Smith and Paternoster, 1990). Once subjects were matched using propensity score analyses, we conducted multivariate probit analyses on this matched data set. The results of the analyses produced results very similar to those generated by the traditional bivariate and multivariate analyses. Simple bivariate and traditional multivariate analyses (without selection bias correction) indicate that participants in correctional education were less likely to recidivate than non-participants, and the same conclusions were drawn from the predicted probabilities of recidivism based on multivariate probit regression or propensity score analysis with probit regression.

In this study, motivation did not predict recidivism and was not a biasing influence on the outcomes studied.

The bivariate probit models did not show any evidence of selection bias for Ohio, and this state continued to show reductions in recidivism for the participants compared to the non-participants across all three types of analyses (bivariate, multivariate, and bivariate probit analysis) for all measures. Because we could not say with certainty that the models for Minnesota and Maryland were not misspecified, we only considered the results for the bivariate, multivariate, and predicted probabilities of recidivism based on multivariate probit regression or propensity score and probit regression. Before placing too much emphasis on the bivariate probit analyses, two issues should be noted.

First, as stated earlier, for Minnesota and Maryland, it cannot be said with certainty that the models using bivariate probit analyses were good models and not misspecified. Bivariate probit models assume that the error terms are normally distributed and that the joint distribution of these errors is bivariate normal. If this assumption is not met then biased estimates of correctional education's effect may result (Winship and Mare, 1992). This assumption is particularly problematic because it is generally not testable. The bivariate probit model can also produce misleading estimates of the treatment effect if the model is not specified properly.

Specifically, the appropriateness of this model is dependent on having exclusion restrictions.[15] In particular, in Maryland, it is possible that the selection bias corrected models of the data are limited by the lack of strong exclusion restrictions. These exclusion restrictions are important because the validity of the selection bias corrected models in large part rests on the ability of the analyst to find exclusion restrictions.

It should also be noted that both Minnesota and Maryland had important missing data in their databases at the time the study was conducted that might have improved the bivariate probit models. Both states have dramatically improved their data collection efforts since the data for this study were collected. Data that were missing in the original study have been or is in the process of being corrected and might result in different outcomes if another study was conducted with this new data.

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Findings

The research reported here shows strong support for educating incarcerated offenders. All of the analyses described lead to several compelling conclusions. First, the effect of correctional education on recidivism varied across states with all states showing a reduction in recidivism in the analyses. Second, the magnitude of correctional education's effect on recidivism was highly dependent on the type of analytic technique utilized. The bivariate and multivariate analyses showed promising results of the effect of correctional education on recidivism. However, the research had mixed results when using the non-traditional bivariate probit analysis. The employment data showed, post-release, the earnings of the correctional education participants were higher than the non-participants. Higher wages generally indicate that individuals are better able to support themselves and their families, and that they are engaged in jobs that hold promise of sustainability.

The research reported here shows strong support for educating incarcerated offenders.

Recommendations

Based on the research findings, there are several recommendations that can be made about correctional education. These include:

- Increase correctional education funding and enhance existing programs. Correctional education works and even small differences in outcomes can be translated into significant savings (Gaes and Kendig, 2002).
- Collect and use supporting data to substantiate requests for increased funding. Data collection should be an ongoing process for correctional education.
- Improve data collection and management information systems for correctional education in agencies and organizations delivering services.
- Focus on more than just recidivism as a measure of success of correctional education. Employment data and other post-release behaviors such as parole compliance, participation in substance abuse treatment, family reunification, continued involvement in education, and vocational training are good indicators of success.
- Collect data on offender population characteristics and use these data for strategic planning and program development. There are a variety of education programs that could be implemented, which could be extremely valuable in reducing recidivism and increasing employment opportunities for offenders. For example, job readiness, post-secondary education, parenting classes, cognitive skills, health education, and other life skills related programs can facilitate a smoother transition for offenders returning to their families, communities, and the workforce after release from incarceration.
- Increase funding for research. Funding is needed to produce rigorous and methodologically sound studies, which include both process and outcome evaluations, longitudinal data, cost-benefit analyses, and wider dissemination of the results. Research is necessary to ensure program integrity, accountability, and fiscal responsibility and to make certain that there is support for the continued allocation of funds for offender programs.

Conclusion

In conclusion, it can be said that in an era where "best practices" is an important concept in corrections, on-going research to document the efforts of the thousands of dedicated correctional educators is needed to confirm and reinforce the idea that correctional education does work. Focusing solely on recidivism would be inad-

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In an era of best practices, on-going research to document the efforts of dedicated correctional educators is needed to confirm and reinforce the idea that correctional education does work.

equate, however, especially when there are many other meaningful outcomes such as family stability, workforce participation, and cost savings/benefits.

The need for more rigorous research and analyses is essential in order to draw a valid and reliable conclusion about correctional education. We can no longer depend on research that is based solely on simple bivariate analysis as evidence of success, or analysis that does not use a control or comparison group for the purpose of sustaining the ongoing funding of correctional education programs.

We need to consider that administrators, policymakers, legislators, and others understand more fully the complexities of research, and the various issues surrounding it, than they did a decade ago, and thus are likely to expect much more than we have given them in the past. The Three-State Recidivism Study made a significant contribution to the base of knowledge and the understanding of the impact of correctional education on recidivism and employment. The Three-State Recidivism Study was also designed to address some of the methodological weaknesses of previous research on correctional education.

It should be emphasized that what the research shows about the impact of correctional education on recidivism and employment is compelling. We have shown conclusively in Ohio that correctional education does have a significant impact on recidivism utilizing an exceptionally rigorous design, which used three types of analyses (bivariate, multivariate, and bivariate probit models).

We showed in Minnesota that participation in correctional education significantly reduces recidivism in two of the three analyses (bivariate and multivariate). In Maryland we did not have conclusive evidence of statistically significant differences between the participants and the non-participants on the impact of correctional education. But, as we pointed out, significant difference does not always account for differences in potential cost savings.

Because of the complexity in examining the cost savings for correctional programs, with few exceptions, researchers have not examined this issue in any meaningful, valid study. Future research examining correctional education needs to study cost savings associated with correctional programming instead of relying only on outcomes related to recidivism and/or employment.

We urge these three states, and other states, to continue to provide accountability about the impact of correctional education. We also encourage them to utilize a variety of analytical techniques and to be cognizant of potential criticisms if their studies are not methodologically sound. Research and evaluation should automatically be a part of any correctional programming effort and should be considered an essential element of any budget.

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[10] See the full report for a discussion of all analyses conducted.

[11] While the differences in recidivism rates may be small for Maryland, see the full report for a discussion of the large cost-savings associated with these differences.

[12] O.J. Mitchell of the University of Maryland, College Park, Department of Criminology provided assistance with the multivariate analysis.

[13] See the full report for the tables and discussion of the multivariate analyses.

[14] We had small sample sizes for these models and combined all three states' data.

[15] See the full report for a discussion of exclusion restrictions.

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