

# The Oxford Handbook of Sentencing and Corrections

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Print publication date: 2012

Print ISBN-13: 9780199730148

Published to Oxford Handbooks Online: Sep-12

DOI: 10.1093/oxfordhb/9780199730148.001.0001

## The Effectiveness of Corrections-Based Work and Academic and Vocational Education Programs

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DOI: 10.1093/oxfordhb/9780199730148.013.0020

### Abstract and Keywords

This article studies the effectiveness of corrections-based work and academic and vocational education programs for offenders. It summarizes the present education, vocational, and work programs, as well as their goals and theoretical explanations for why they may affect recidivism, or a relapse into crime. It also reviews the research on the effectiveness of these programs. This article concludes with a theoretical proposal that states that effective programs are those that produce cognitive transformations.

effectiveness, corrections-based work, education programs, recidivism, theoretical proposal

### I. Introduction

Correctional populations have, on average, less education and fewer marketable job skills compared to the general population (Andrews and Bonta 1994). Almost from the beginning of U.S. penitentiaries, and continuing today, education and work have been important components of daily life in correctional facilities. Recently there has been a concern about the large number of offenders who return to prison after only a short period in the community. In response, many jurisdictions are initiating reentry programs to increase opportunities for offenders to continue with rehabilitation activities during the transition from institutions to the community. Most reentry programs include some type of education and work programs (Brazzell, Crayton, Mukamal, Solomon, and Lindahl 2009). The question that this chapter addresses is whether there is research evidence

indicating that these programs are effective in producing the desired outcomes of increased employment and reduced recidivism.

After reviewing the importance of education and work in corrections from a historical perspective, I give an overview of current education, vocational, and work programs, the desired goals of these programs, and theoretical explanations for why they may impact recidivism. The final sections of the chapter review the research on the effectiveness of these programs in reducing recidivism. I end with a theoretical proposal—effective programs are those that produce cognitive transformations, creating changes in the thought processes of delinquents and offenders so they are ready to take advantage of opportunities provided in the community. Administrators and designers of programs in facilities, during reentry and in the community, must consider how to create the cognitive changes that will assist participants in taking advantage of new opportunities in education and employment. Given the large number of education and work programs offered to delinquents and offenders, a surprisingly few strong research studies have been conducted to examine the effectiveness of the programs. More needs to be done to increase the number and quality of the research on evidence of what works, when and for whom in the area of education and work.

Work and academic and vocational education programs have been mainstays of rehabilitation since almost the start of penitentiaries. A large number of offenders and juveniles participate in these programs while they are in facilities or in the community. The public and policy makers generally believe education has benefits in its own right. Encouraging is the fact that:

- Education programs include many of the components of effective correctional treatment;
- Research demonstrates programs such as basic education, GED, postsecondary, and vocational training are effective in reducing later recidivism; and increasing future employment.

In contrast:

- Life skills and work programs have not been found to be effective in reducing recidivism; and
- Questions remain about the effect of these programs when they are embedded within multimodal or holistic programs.

Questions remain about educational programs. For example:

- Research fails to untangle the issues of what works for whom, when, why, and in what circumstances.

- Educators in facilities face tremendous difficulties in normalizing the experiences of student-inmates.
- Lockdowns, transfers between facilities, and restricted movement within facilities limits the time that students spend in classrooms.

Work programs face a different set of issues:

- Often the institutional goals of producing products and maintaining facilities conflict with rehabilitation goals for work programs.

Overall, considering the large number of vocational and academic education, prison industry, and work programs for juvenile delinquents and adult offenders,

- The research is disappointingly scarce; and
- It is severely limited in the scientific quality of the research methodology.

More rigorous research using randomized trials would greatly increase our knowledge of how to provide effective, evidence-based correctional education and work programs.

## II. Education in Prisons and Reformatories: Historical Perspective

Educational programs for offenders originally focused on religious instruction, as this was supposed to help offenders achieve spiritual enlightenment (Gerber and Fritsch 1995; Teeters 1955). Consistent with the religious beliefs of those who were responsible for the early penitentiaries, offenders were thought to need time to reflect on their crimes and repent. They were kept in solitary confinement where they would realize the error of their sinful ways and become penitent. Religious instruction was expected to help them in reaching penitence.

The focus of education programs changed from religious instruction to basic literacy and communication skills when the reformation era began. Zebulon R. Brockway, credited with initiating the reformatory age, proposed his theory of rehabilitation in 1876 at the first conference of the American Prison Association (the forerunner of the current American Correctional Association). Since that time, academic education has been a cornerstone of correctional programming. As superintendent of the first reformatory in Elmira, New York, Brockway brought his revolutionary ideas into practice. In his opinion, the goal of the reformatory was to reform youth. With this goal in mind, reformatories were designed to provide physically and mentally healthy

environments where youth would have access to academic education and extensive vocational training. Brockway believed that law-abiding behavior was attainable through legitimate industry and education (Reagan and Stoughton 1976). Elmira was used as a model for both adult prisons and juvenile reformatories throughout the United States.

The reformatory age led to an era of rehabilitation in corrections when the use of indeterminate sentencing became an important component of decision making. Offenders were released when there was evidence that they had been rehabilitated. The goal of corrections was to “correct” through rehabilitation. Educational programs became a mainstay of correctional rehabilitation during this time. By 1930, academic and vocational educational programs were operating in most prisons, where they were considered to play a primary role in the process of rehabilitation. From the original basic literacy programs, the type and variety of educational programs grew to include opportunities for a high school or general equivalency diploma (GED), vocational education, life skills programs, postsecondary or college education, and educational release.

The focus on rehabilitation continued until the 1970s, when corrections in the United States turned away from a rehabilitation philosophy to just deserts and crime-control philosophies that emphasize retribution, deterrence, and incapacitation (MacKenzie 2006). Despite the “tough on crime” rhetoric of many decision makers and politicians, prisons continued to offer academic education. There appears to be a general belief that education has benefits in its own right and this may be, in part, the explanation for the continued interest in offering education programs in corrections (Applegate, Cullen, and Fisher 1997; Cullen, Skovron, and Scott 1990).

Another reason for the continuing emphasis on educational programs is the relatively low level of education among correctional populations. Convicted offenders are, on average, less educated and have fewer marketable job skills than the general population (Andrews and Bonta 2003; Harlow 2003). For example, 41 percent of the inmates in prisons or jails and 31 percent of probationers have not completed high school or its equivalent (Harlow 2003). In comparison, only 18 percent of the general public had not finished the 12th grade. Incarcerated adults also have high rates of illiteracy. In an assessment of adult literacy, a U.S. Department of Education study found prison inmates were lower in their ability to search, comprehend, and use information, to use documents, and to perform computations when compared to the general public (Greenberg, Duleavy, Kutner and

White 2007). Ryan (1990) estimates that half of America's inmates are illiterate, if sixth grade achievement is used as a cutoff. According to several researchers, the average reading level of incarcerated offenders may be below the fifth grade level. More than one half of all prison inmates have not completed high school, and those who have are often two to three grade levels behind in actual skills (Tewksbury and Vito 1996).

Basic skills in reading, writing, and math are necessary for functioning in the modern world. Recognition of this, along with a belief that education will facilitate successful reentry, has led many jurisdictions to require prisoners to participate in educational programs, particularly if they test below a certain level. Twenty-two of the 50 states and the federal government have adopted legislation or implemented policies mandating education for prisoners (McClone 2002). In these jurisdictions, prisoners who test below a certain level are required to participate in education for a certain period of time.

### III. Work and Employment Programs in the Penitentiary

Similar to educational programming, work and employment training have been important parts of the daily activities of inmates from almost the inception of the penitentiaries in America. Originally, the Pennsylvania prison system called for solitary confinement without work so that offenders would have time to reflect on their crimes and repent. Yet, the terrible psychological and physical effects of such isolation quickly became apparent, and decisions were made to incorporate moral and religious instruction and work into the daily schedule. Inmates were expected to work from 8 to 10 hours per day in isolation in their cells. Even for those convicted of serious crimes, William Penn's "Great Law" and the Quakers advocated hard labor in place of capital punishment.

Work was also the major component of the Auburn or "congregate" system; however, in contrast to the isolation of the Pennsylvania system, inmates in the Auburn system worked in groups. Inmates worked in shops during the day and at night they were separated into small cells. They were forced to walk in lockstep marching formations when they moved throughout the prison. Silence was enforced because it was believed that communication between prisoners would be contaminating. Advocates argued for the Auburn system because the prisons were cheaper to construct, offered better vocational training, and produced more money for the state. The economic benefit of having inmates work was most likely one of the major reasons that the congregate system was adopted in almost all American prisons.

Since the time of the early penitentiaries, work has served many purposes in U.S. correctional systems (Flanagan 1989). It has been used to reduce costs, supply governments with needed goods, keep inmates busy, rehabilitate, maintain the institution and as retribution. The primacy of these goals has waxed and waned over time. During the reformatory era, the goal was to change youth so that they would not return to crime after release. From this perspective, work and vocational training were considered important components in the process of reformation because these activities were expected to prepare youth for future employment, thus enabling them to live crime-free lives. Subsequently, these ideas were transferred to adult prisons.

#### IV. Correctional Academic and Vocational Education and Work Programs Today

Today, most correctional facilities offer educational programs. Academic education is legally mandated for juveniles and youthful adults. However, correctional administrators do not limit the programs to only those for whom education is legally required. In a recent Bureau of Justice Statistics report, Harlow (2003) found over 90 percent (91.2 percent) of state prisons, all federal prisons, and almost 90 percent (87.6 percent) of private prisons offered educational programs. These facilities usually house offenders sentenced to a year or more; thus the inmates have sufficient time to achieve educational goals.

Many different types of programs fall under the rubric of education. The most commonly offered programs are basic education (including English as a second language, special education, and literacy classes), GED or high school, vocational education, and postsecondary education/college. Many facilities also offer life skills programs and vocational education. Life skills programs, also called social skills, are sometimes part of other curricula, such as basic adult education or vocational education.

At times, drug treatment and education, parenting, and cognitive skills programs are considered educational programs, but since many of these are not taught by academically trained educators they will not be included in this review of educational programs. Cognitive skills programs emphasize changes in thought processes such as errors in thinking, problem solving, coping skills, antisocial attitudes, and impulsivity. Sessions are usually taught by trained lay people, not educators. Parenting classes are also frequently led by people not trained as educators, and they use varied models for presenting the information. Similarly, drug treatment and education are usually provided by drug counselors, not educators. Furthermore, most

studies examining the impact of drug treatment and education focus on a combination of treatment and education or treatment alone and not education alone.

Educational programs available to inmates differ somewhat by facility. Most state prisons offer basic adult education (80.4 percent) or secondary education (83.6 percent), and almost all of the federal prisons offer these programs (97.4 and 98.7 percent, respectively). Fewer private prisons offer basic adult education (61.6 percent) and secondary education (70.7 percent). Many of the state, federal, and private prisons provide college courses (26.7 percent, 80.5 percent and 27.3 percent, respectively) and vocational training (55.7 percent, 93.5 percent, and 44.2 percent, respectively).

In comparison to prisons, local jails hold people from arraignment through conviction and for short sentences. Despite the fact that inmates spend a relatively short time in these facilities, many jails (60.3 percent) provide educational programs (Harlow 2003).

Many inmates take advantage of the educational opportunities while they are incarcerated (Harlow 2003). Over 50 percent of the state (51.9 percent) and federal (56.4 percent) inmates reported participating in educational programs since their most recent incarceration. Fewer jail inmates participate (14.1 percent). Offenders on probation (22.9 percent) also reported participating in educational programs. While there may have been a decline in the percent of inmates who were able to take advantage of educational programs over time due to the great increase in the numbers of inmates in prison, a large percent still participate in educational programs.

Despite the encouraging statistics on the number of facilities offering educational programs and the large number of inmates who report that they have attended educational programs, this tells little about what actually occurs on the ground (Brazzell et al. 2009). Enormous variance occurs between programs and facilities in curricula and methods, staffing and quality of instruction, and participation and completion rates. While many inmates report exposure to educational programs, little information exists on dosage or the actual time spent in the classroom and achievements obtained. Institutional structural problems such as lockdowns, transfers, restricted movement, and short stays seriously limit classroom time, as do inconsistent funding streams and teacher vacancies. Security concerns limit materials to which students may have access, and most facilities prohibit use of the Internet. Volunteers and outside instructors may have trouble entering or exiting facilities in a timely manner. Little national data are available on

classroom time, educational attainment, and staff training and qualifications, which would provide evidence that the needs of the inmates are being addressed adequately.

Another issue of concern for educational programs is the decline in programming. From 1997 until 2004 there was a slight decrease in the proportion of inmates in educational programs, particularly in vocational training and adult secondary education (Crayton and Neusteter 2008; Harlow 2003). With the severe budget problems and large prison populations in many states, there is reason to worry about what will happen in the future with correctional education.

Work, prison industries, and vocational education programs also permeate the U.S. correctional system. Ninety-four percent of all state and federal adult correctional systems offer work programs (Stephan 1997). Roughly a third of the facilities surveyed employed inmates in prison industry, approximately half provided vocational training, and almost two-thirds of the inmates participated in a work program while in prison. While many facilities offer work programs, these programs are not necessarily focused on rehabilitation of the inmates. And, with the budget crises going on in many states today, programs that are designed to assist inmates by giving them real world work experiences many be reduced or eliminated.

In contrast to education, work serves many different purposes in correctional facilities. While work has been considered an essential component of rehabilitation, it has also been viewed as important in alleviating the costs of incarceration, reducing management problems, providing social benefits or as retribution. For example, prison farms use inmate labor to help produce food for the inmates. In Texas inmates grow most of their own vegetables. Most institutions use inmates for maintenance tasks, thereby reducing the need for outside laborers and decreasing the operating costs of prisons. In prison factories and industries, inmates produce goods such as furniture or license plates that can be sold to other state agencies. In some systems, inmates are sentenced to “hard labor” as retribution for their crimes. Recently, work programs have been designed to have other social benefits, such as to provide payment of restitution to victims, reimburse the state for a portion of the costs of confinement, or to help support dependents. Work also reduces inmate idleness and its attendant problems, and gives structure to the daily activities. Work and employment skills are often important parts of reentry programs. Such programs are designed to help inmates make the transition from institutions to life in the community (Brazzell et al. 2009).



In fact, some states have mandated that inmates participate in work or education 8 hours a day.

When the goal of inmate labor is to benefit society or the institution or as retribution, there is often little interest in whether such work has an impact on later criminal activities, and, often, these goals conflict. For example, an intensive vocational education program may remove inmates from maintenance jobs in the facilities. Using inmate earnings to pay victim restitution and dependent support may remove money that might otherwise be used by the inmate or the institution for other purposes.

In many situations, inmate labor is designed to benefit the inmate in some way. For example, work programs for offenders and delinquents are expected to help them develop good work habits and improve life management skills. Work in prison may also provide inmates with income to be used in the commissary while in prison or as “gate money” at release. Work may be considered rehabilitation when it gives the offender real world work experience, job skills, and vocation training.

#### V. Theoretical Rationale for Expected Impact on Criminal Activities

Conspicuously absent from the research literature in the area of education is a discussion of a theoretical explanation for the connection between education and post-release offending. Few correctional educators articulate the precise mechanism by which they expect the intervention to impact future offender behavior. There are many possible ways in which education may bring about changes that will reduce the future criminal activities of offenders.

#### Cognitive Theories

One mechanism by which education will theoretically affect recidivism is through improvement in inmate cognitive skills. The way individuals think influences whether they violate the law (Andrews and Bonta 2003; MacKenzie 2006). Deficiencies in social cognition (understanding other people and social interactions), problem-solving abilities, and the sense of self-efficacy are all cognitive deficits or “criminogenic needs” found to be associated with criminal activity (Foglia 2000; Andrews, Zinger, Hoge, Bonta, Gendreau, and Cullen 1990; MacKenzie 2006). Criminogenic needs are dynamic (or changeable) deficits or problems that are directly related to an individual’s criminal behavior. Educational programs that increase

offenders' social cognitions, ability to solve problems, and belief in their ability to control events in their lives may reduce their future offending.

Other research examining inmate cognitive skills demonstrates a connection between executive cognitive functioning (ECF) and antisocial behavior. ECF is defined as the cognitive functioning required in planning, initiation, and regulation of goal-directed behavior (Giancola 2000). It would include such abilities as attention control, strategic goal planning, abstract reasoning, cognitive flexibility, hypothesis generation, temporal response sequencing, and the ability to use information in working memory. From this perspective, education may be important in reducing crime because it improves the ability to use and process information.

Some researchers and educators argue that the importance of education and cognitive skills may be in its ability to increase individuals' maturity or moral development (Batiuk, Moke, and Rountree 1997; Duguid 1981; Gordon and Arbuthnot 1987). For example, academic instruction can help instill ideas about right and wrong, and these ideas may be associated with changes in attitudes and behaviors.

Education may also mitigate the harsh conditions of confinement or "pains of imprisonment" and reduce prisonization, the negative attitudes that are sometimes associated with incarceration. Deprivations of prison or imported criminogenic norms lead to a prisonized subculture with norms favoring attitudes hostile toward the institution and supportive of criminal activities. By providing safe niches and a more normalized environment, education may provide a basis for reconstruction of law-abiding lifestyles upon release from prison (Harer 1995). Educational opportunities may also mitigate suffering and lead to attitudes accepting the legitimacy of administrative rules and regulations (Tyler 1990; Bottoms and Hay 1996).

## Economic Theories

In contrast to the perspective that educational programs will increase general problem solving, perspective taking, executive cognitive functioning, or stage of moral development, economic theories of crime hypothesize that educational programs are important in reducing offending more directly via increased skills and employability. Employability may increase for several reasons. One, the offenders may obtain necessary credentials, such as a high school diploma or GED, that make them eligible for jobs for which they previously would not have been considered. Second, the educational

programs may provide them the skills needed for specific jobs. From this perspective, education would increase an offender's chances of getting and keeping legitimate employment after release, thereby eliminating the need to commit crimes for financial gain. There is some evidence that education in prison is associated with an increase in employment. In a review of the research, Gerber and Fritsch (1995) examined the impact of educational program participation on post-release employment and concluded that inmates who participated in or completed prison education programs were more likely to be employed after release.

Obviously, the academic curriculum will differ, depending upon the theoretical rationale for the relationship between education and offending. Although a general liberal arts curriculum might be crucial for increasing cognitive functioning, changing ones' antisocial beliefs, or increasing moral development, it might be less apt to provide specific job skills. If gainful employment is the theoretical link to reducing crime, then education programs would focus more directly on teaching the specific job skills that offenders will need in order to find work in the community. Indeed, Duguid, Hawkey, and Pawson (1996) argue that evaluations should examine these theoretical differences in programs and intermediate outcomes to determine "what works for whom, when, why and in what circumstances." It is quite possible that the needs of individuals differ and that the type of educational program successful in reducing recidivism for one person will not be the same for another individual.

The rationale for using work and employment as ways to reduce future criminal activity is similar to that of education—research has consistently found an association between crime and unemployment (Farrington 1986; Glueck and Glueck 1930; Sampson and Laub 1993; Wolfgang, Figlio, and Sellin 1972; MacKenzie, Browning, Skroban, and Smith 1999). When offenders are compared to the general public, they are found to be less educated, to have fewer marketable skills, and are more apt to be unemployed (Andrews and Bonta 2003). In comparison to those who desist, offenders released from prison who continue to be involved with the criminal justice system have lower earnings and lower employment rates (Needels 1996). During periods of unemployment, adults are more criminally active than when they are employed (Farrington, Gallagher, Morley, and St. Ledger, 1986; MacKenzie et al. 1999).

Theoretical explanations for the relationship between employment and crime vary (Bushway and Reuter 1997; Fagan 1995; Uggen 2000). According to

economic choice theory, an individual makes a rational choice between legal and illegal work, based in part on the relative economic attractiveness of the two options. If and when legal work is more attractive (pay, hours, etc.) individuals will work in the legal workforce. When illegal work becomes more attractive, people will turn to crime. Those with low levels of education or job skills will turn to illegal activities because these activities are more rewarding compared to the legal opportunities available. From this perspective, correctional education may give people more gratifying opportunities for legal work in the community.

Control theory provides another explanation for the relationship between employment and crime. According to this theory, employment exerts social control over people, and this reduces their desire to get involved in criminal activities. Employment is the main builder of social bonds, and these bonds, in turn, keep people from engaging in criminal activity. Yet another theory used to explain the crime-employment relationship is strain or anomie. From this perspective, frustrations caused by inequalities will cause people to resort to crime. To the degree that education and work skills increase pay and status, frustrations may be reduced, resulting in less criminal activity.

In summary, almost from the beginning of the development of penitentiaries, education, vocational education, and work have been major components of the daily schedules of inmates. Education and vocational education were viewed as important aspects of rehabilitation. Inmate labor and work has served many purposes within facilities but has also been considered important in rehabilitation. In part, this support for education and work programs results from research demonstrating a strong relationship between both education and work skills and crime. In comparison to the general public, offenders are less educated, have fewer marketable job skills, and are more apt to be unemployed. A variety of theories are offered to explain these findings. A consistency across theories is the expectation that a change in offenders that increases educational levels, job skills, or employment would have an impact on reducing criminal activities. While there is theoretical and empirical evidence that academic underachievement and unemployment are related to criminal offending, evidence of the effectiveness of education, vocation, and work programs in reducing recidivism is less clear. The next section of this chapter reviews the literature on the impact of education, vocational education, and work programs on recidivism.

## VI. Effectiveness of Academic and Vocational Education and Work Programs

Despite the fact that education and work are cornerstones of correctional interventions, the quantity and quality of the research examining the effectiveness of such programs in reducing recidivism and conversely increasing employment are extremely limited. In part, this stems from a belief that such opportunities should be offered to all inmates. Therefore, administrators and staff are hesitant to use experimental designs to randomly decide which offenders will be given the chance to participate. While this speaks to how important correctional officials believe these programs are, it severely limits our ability to determine how effective these programs are in producing the desired outcomes. That is, the internal validity of the studies is in question due to selection effects. Any significant outcomes could be due to previously existing differences between the treated (education, work) group and the comparison and may not result from the impact of the interventions.

Several early reviews of the education and vocation training for juveniles and adults called into question the effectiveness of these programs. For example, as he found with other correctional programs, Martinson (1974) concluded there was no clear evidence that these programs successfully reduced recidivism. A later review by Linden and Perry (1983) agreed with these conclusions. However, more recent reviews of the research found more positive results. Gerber and Fritsch (1995) in a review of education and vocational education programs and Taylor (1994) in a study of PSE programs concluded that there was sufficient evidence that these programs can successfully reduce recidivism.

My colleagues and I conducted systematic reviews and meta-analyses of evaluations of correctional education, vocational education, and work programs for adults (Wilson, Gallagher, Coggeshall, and MacKenzie 1999; Wilson, Gallagher, and MacKenzie 2000; MacKenzie 2006). We began with an intensive search for all published and unpublished evaluations that met our eligibility criteria. To be eligible to be in the review, the evaluation had to include a group who received one of these interventions and a comparison group who do not. The study had to report outcomes of either a return to criminal activities and/or employment after release.

In these meta-analyses we also attempted to code and analyze the characteristics of the different programs that may have made them more or less effective. For example, we wanted to ask questions like: Were programs with smaller class size more effective? How effective

was tutoring by peers or volunteers? Were programs that incorporated transition or reentry programming more effective? Was obtaining a degree or certificate more effective than just participating? Did programs with drug treatment, parenting, cognitive skills, or life skills result in better outcomes? Disappointingly, based on the information given in the research manuscripts, it was not possible to identify these characteristics and relate them to outcomes. Many studies compared those who participated in education to those who did not. Education records did not give sufficient information for researchers to code achievement (Streurer, Smith and Tracy 2001).

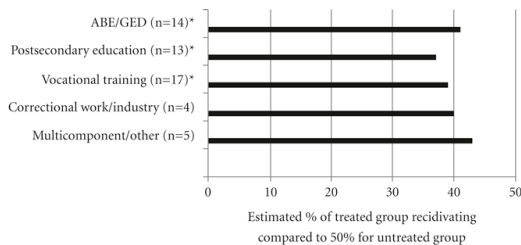
We also attempted to examine characteristics of the participants and how these related to the effectiveness of the interventions. As with program characteristics, little information was given in the study reports about the characteristics of the participants. Most of the research participants in these studies were men; none of the studies had a sample of women only. While 19 (36 percent) of the programs studied included both men and women, there was insufficient information to determine the actual percentage of each. Women represented such a small proportion of the total that we do not believe that it is reasonable to generalize the findings to programs serving women.

Most evaluations studied offenders who participated in education during their incarceration ( $n = 50$ ), only three studied probation programs. This probably reflects the limited number of programs offered to offenders in the community. However, in terms of the meta-analysis, it means that the results cannot be generalized to programs provided in the community. With the increased concern about and funding for reentry programs, most likely more programs, particularly work and employment, may be offered in the future.

It is important to note that significant results cannot be attributed with complete assurance to the effect of the intervention because the vast majority of the studies included in the meta-analyses used naturally occurring groups of participants compared to non-participants (Cecil, Drapkin, MacKenzie, and Hickman 2000; Bouffard, MacKenzie, and Hickman 2000; Gaes 2008; Wilson et al. 1999, 2000). Thus, the generally positive findings may result from differential characteristics of the offenders that existed prior to the program and not as a positive effect of program participation itself. That is, participating offenders may be more motivated to change and would have lower recidivism even if they did not have an opportunity to participate in a program. A few studies used random assignment, and some had stronger research designs by using propensity

scores or comparing participants and non-participants in motivation levels (Streurer et al. 2001; Harer 1995).

## VII. Impact on Recidivism



\*= significant difference between treatment and comparison groups

Fig. 20.1.

In total, we identified 53 program-comparison contrasts meeting our eligibility criteria: 6 Adult basic education (ABE); 3 general equivalency diploma (GED); 5 combined ABE and GED; 13 of PSE; 17 vocational education; 4 correctional industries; and 5 multicomponent or other work programs. Outcome data were measured mostly with reincarcerations (66 percent) and arrests (19 percent) with the remaining measuring convictions (11 percent) and parole revocations (4 percent). Since outcome data from many of the ABE and GED studies were combined in the studies, we combined these programs in the recidivism analyses. Overall, for the programs combined (work and education), there was a significant reduction in recidivism. If the comparison group's recidivism rate is set to 50 percent, the overall program group recidivism rate is estimated at 39 percent. The recidivism rate for comparison is arbitrarily set in order to provide a convenient benchmark for assessing the magnitude of the relationship reflected by the data analysis of effect size. Shown in figure 20.1 are the recidivism rates and significance levels for the separate analyses of program types.

### Adult Basic Education (ABE) and General Equivalency Diploma (GED)

Participants in ABE, GED, and combined ABE or GED recidivated at a significantly lower rate than those in the comparison group. We estimated that program participants recidivated at a rate of 41 percent relative to a base recidivism rate of 50 percent for the comparison group.

## Postsecondary Correctional Education (PSE)

Many people worried that loss of Pell Grant funding would have a long-term adverse impact on correctional education. This did happen immediately after the funding was abolished in 1994, but a recent survey of prisoners indicates that the level of college participation has returned to the percent participating during the Pell Grant period (Erisman and Contardo 2005). Erisman and Contardo (2005) found that approximately 5 percent of the total number of prisoners participated in PSE, a percentage similar to the time before the loss of the Pell Grants. However, wide differences existed among different jurisdictions. Forty-four of the 46 responding prison systems and the Federal Bureau of Prisons (FBOP) offered at least some PSE programs. However, 89 percent of the participants were in only 14 states and the FBOP. This means that the other state systems had very few participants.

What is interesting is that the type of PSE program has changed from the time of the Pell Grants until 2003–2004. In 2003–2004, prisoners were taking more vocational classes instead of purely academic courses. Almost two-thirds of the prisoners enrolled in PSE in 2003–2004 were enrolled in vocational certificate programs for college credit (Erisman and Contardo 2005). The other third were taking college classes for an associate's degree program. Thus, few prison inmates were earning college degrees, even at the associate's level. It is important to note that the research examining PSE treats the courses taken for college credit as PSE and not vocational education. Conversely, research on vocation education does not include PSE vocational education certificate programs as part of vocational education.

Most of the education programs for prisoners are provided by community colleges. Only approximately 16 percent of the providers were public four-year institutions and only 4 percent were for-profit institutions. Some inmates are enrolled in correspondence courses, but since they are not funded by public funds, correctional systems seldom have statistics about the type of college, courses, or characteristics of the inmate participants.

While it seems reasonable to use technology for prison education programs, few correctional facilities do so. Most use traditional instructional methods. In their survey, Erisman and Contardo (2005) found that almost all of the courses were provided by on-site instructors. Forty-five percent used some type of video or satellite instruction for at least some of their classes. Internet technology was least frequently used. Correctional educators cited security concerns as the reason that the Internet was not used more often.



Of course, limitations on the use of the Internet to access information and library resources would be a severe disadvantage for prisoner students.

New Mexico was one jurisdiction using interactive distance education for college courses. Nine New Mexico correctional facilities were fitted with lab space, computers, and a secure, high-speed network connection to a computer server at Eastern New Mexico University-Roswell. This is an Internet-based program, but prisoners enrolled in the classes are not able to access the Internet to send e-mail or to view external web sites. Inmate students do not have direct contact with the instructors. Department of Corrections facilitators with college degrees monitor the classes and pass messages between faculty and students. One major benefit to this system is that the program exists in nine prisons; therefore when prisoners are transferred they may immediately enroll in the same course at the new facility.

One complication for PSE is that courses must be offered by degree-granting institutions if the students are to receive credit (Erisman and Contardo 2005). In many states, education programs at the ABE and GED levels are administered by in-house educators employed by the department of corrections. College courses require the involvement of external institutions. Some states with larger PSE programs have solved the problem of coordinating PSE and the institutions by centralizing the process (Erisman and Contardo 2005). For example, the Washington Department of Corrections contracts with the State Board for Community and Technical Colleges to provide for-credit vocational education certificate programs. North Carolina has a formal interagency partnership between the Department of Corrections and the community college system.

According to our meta-analyses, PSE programs significantly reduced the recidivism of participants. Compared to a base recidivism rate of 50 percent for the comparison, we estimate the participants would recidivate at a rate of 37 percent (Wilson et al. 1999). Insufficient information in the reports prohibited us from determining the type of classes (vocational, academic) given to participants, nor could we determine the type of inmate who most benefited from the courses.

In a more recent meta-analysis focusing on PSE, Chappell (2004) examined 15 experimental and quasi-experimental studies conducted between 1990 and 1999. According to Chappell, studies often failed to control for selection bias. She found that 22 percent of the PSE participants recidivated, compared to a rate of 41 percent for the comparisons, a relatively large

reduction in recidivism. Chappell does not provide a list of the studies included in her analysis, so it is difficult to compare her results with other meta-analyses.

## Life Skills

“Life skills” programs are a relatively new type of educational program. The rationale for these programs is that adult basic education programs, which focus on basic academic skills, may not address a number of other important deficiencies of offenders (Finn 1998). While inmates may have serious difficulties reading and writing, they may also have difficulty with other things, such as conducting job searches, balancing a checkbook, controlling anger, establishing healthy interpersonal relationships, and setting and meeting goals. Life skills programs are designed to address such skill deficiencies that may hinder the attempts of offenders to function successfully in everyday life. The actual components of life skills programs vary widely. Some common components include budgeting, building interpersonal relationships, conflict resolution, tax and credit management, job search skills, cultural diversity training, anger and stress management, decision making, and goal setting. Life skills programs are often combined with other types of programs and may or may not be delivered by educators. At times the programs are delivered by laypeople and are similar to cognitive skills-type programs.

Some life skills programs are holistic and use a multimodal approach to life skills training (see, for instance, <http://wdp.doc.state.vt.us/programs.htm>). In these programs, participants in facilities may live together in units separated from the general population. Programs have been designed for adults and juveniles and for those in facilities or in the community. They are given intensive treatment by trained personnel.

Most life skills programs provide much more limited instruction and do not provide separate living units (see, for example, the description of San Diego County jail’s Staying Out Successfully, SOS, by Melton and Pennell 1998 or the Delaware Life Skills Program described by Miller 1995, 1997). These programs may focus on communication, anger management, career planning, goal setting, time management, job skills, relationship building, personal budgeting, and drug use issues.

In my systematic review and meta-analysis, I did not find a significant difference between life skills programs and comparison groups (MacKenzie

2006). There are several problems in drawing conclusions about the effectiveness of these programs. First, there are relatively few studies that used strong research designs (MacKenzie 2006; Bouffard et.al, 2000). Second, the theoretical model for life skills varies greatly in implementation. At times it is more like a counseling program with a focus on adjustment, anger control, and changes in attitudes. At other times the life skills programs are delivered by educators and are more like a practical education program teaching people about skills needed to successfully live in U.S. society, such as balancing a checkbook, opening a checking account, or completing tax forms. Another reason that these programs may not be effective is that they do not focus on cognitive change. The skills emphasized in the program are very practical but may not bring about the type of cognitive transformation needed to change offender's criminal activities (MacKenzie 2006). A holistic program may be successful in changing offenders but we did not find any that demonstrated the impact of a multimodal program on recidivism. Furthermore, in the more holistic programs it is often difficult to identify the specific components of the program that might have an impact, particularly if programs such as academic education or cognitive skills are offered as part of the life skills program.

The life skills programs that have been evaluated are those that are not part of a comprehensive program, and this makes it difficult to draw conclusions about the effectiveness of the programs that are embedded within larger, more comprehensive programs. For example, a multimodal program may be devoted to placing parolees in jobs after release from prison (Finn 1998). The programs provide job preparation services to inmates while they are still incarcerated in state prisons so that they have a head start in finding employment upon release. In-prison services include assessment and testing to evaluate the participant's skills and work history, assistance in gathering documentation needed for jobs (e.g., birth certificates, social security cards, school transcripts), job readiness training, and employability and life skills workbooks. The life skills program components offer information, education, and programs on things like: self concept/anger management; family relationships; civic and legal responsibilities; victim awareness; personal health and hygiene; and, job preparation. Upon release, these programs may help parolees find jobs and may match them with job openings. In such programs, life skills are offered in different ways—in prison working with an employment specialist, or in educational programs and out of prison during parole. This type of program that incorporates life skills within such a multimodal, holistic program is not the type of program examined in the

meta-analyses we did. We do not know how important life skills programs may be when imbedded within a larger program.

## Vocational Education

Vocational education is one of the most widely implemented educational programs in correctional systems because it addresses the high incidence of academic and employment failure of offenders. Over 50 percent of the state prisons, most federal prisons (93.5 percent), 44.2 percent of private prisons, and some jails (6.5 percent) offer vocational training. Over 30 percent of the inmates in state and federal prisons report participating in a vocational program while in the facility. Similar to life skills programs, vocational education programs vary greatly, and this makes it difficult to draw conclusions about their effectiveness. Programs include classroom-based education, job training, and apprenticeships in areas such as electricity and carpentry.

Some vocational education programs are holistic programs designed to address multiple deficiencies. For example, Lattimore et al. (1990) studied the Sandhills Vocational Delivery System (VDS) of the North Carolina Department of Corrections. The program was designed to improve the post-release employment prospects of youthful inmates using integrated training and employment services (Lattimore, Witte, and Baker 1990). A variety of state agencies provided services in a comprehensive program with the goal of improving the post-release employability and employment of the inmates. The protocol included individual work with inmates to identify vocational interests and aptitudes, individual plans of study, providing the needed vocational training as well as other services, and helping inmates to obtain post-release employment. Other services included such things as academic programs, self-improvement, and life enrichment activities.

Frequently vocational education programs begin with classroom instruction aimed at giving the inmates work-related knowledge, such as basic math skills needed for automotive mechanics or construction tasks. For example, in her study, Piehl (1995) reports on a program in the Wisconsin Department of Corrections that offered accreditation to offenders who complete vocational education programs, enabling them to obtain a necessary trade license. Other programs may offer more hands-on training in which juvenile delinquents and adult offenders have an opportunity to work on construction projects (Home Builders Institute, 1996). At times a partnership is formed

between the correctional institutions and local tradespeople, so post-release employment possibilities are improved.

Systematic reviews and meta-analyses of vocational education programs indicate that these programs are successful in reducing the later criminal activities of participants (Wilson et al. 2000; Wilson et al. 1999; MacKenzie 2006). Wilson et al. (1999) estimate that if the comparison group's recidivism rate was 50 percent, the recidivism rate of those who participated in a vocational education program would be 38 percent. Vocational educational programs also increase the employment rate of offenders, and higher recidivism rates are associated with lower employment rates. One reason for the findings that vocational education has an impact on both recidivism and employment may be because many of the programs are very comprehensive, giving inmates classes and assistance while they are in the facilities but also assisting them in finding employment after release. This transitional help may be important in helping offenders adjust in the community. With the current emphasis on reentry services, more such transitional programs are being instituted in order to reduce the high reincarceration rates of those released from jails or prisons (Brazzell et al. 2009). There is insufficient research and information to examine the effectiveness of different components of the vocational education programs.

Two difficulties arise if we try to conclude that vocational education participation leads to increases in employment and decreases in criminal activities. The first difficulty is ruling out alternative explanations for the results, due to the poor scientific quality of the research. For example, out of the 18 studies I examined, only two used experimental designs (MacKenzie 2006). Almost all of the studies use previously existing groups for the comparisons, so we can never be sure that the effects are due to the vocational program and not self-selection into the program. It may be that the groups differed prior to the program, and this is the reason for the differences in outcomes. It is highly likely that the participants are more motivated individuals who would be more apt to find employment and stop committing crimes even if they did not participate in the program. However, two studies (Lattimore et al. 1990; Saylor and Gaes 1996) used strong research designs, and the results of both demonstrated a significant reduction in recidivism, lending credence to the overall findings.

The second problem in drawing conclusions about the impact of the programs on later criminal behavior is that many of the studies combine vocational education with other services or institutional work. Participants

receive vocational education but they may also be given a prison industry job or receive academic education and other services. Thus, we cannot rule out the possibility of a combination or multimodal aspect having the impact and not the vocational program alone. One reason for the success of vocational educational programs may be that they include an educational component along with environmental opportunities for work. The educational component may cognitively change participants so that they are ready to take advantage of the work opportunities.

## Correctional Industries

The term “correctional industries” is used to describe a wide range of employment-related activities occurring during an offender’s term of incarceration. Although some industrial facilities are located outside the prison, the workers are almost always serving time in some type of residential facility. The industries produce a number of different products and services, usually for government agencies but at times also for private-sector consumers. The industries may produce furniture, health technology, automobile parts, institutional and jail products, signs, printing products, textiles and apparel, traffic paint, and food. In general, inmates working in correctional industries are older, serving longer sentences, are less apt to be drug users/abusers and have better pre-prison employment records (Flanagan 1989). Most prison industries are not designed as rehabilitation mechanisms but rather serve other institutional goals, particularly reducing costs by the sale of the products and services.

Given the large number of correctional industries programs, it is surprising that in our search for evaluations we found only four studies examining correctional industries (MacKenzie 2006; Wilson et al. 1999, 2000). Most likely, this is because the industries are not considered treatment programs, and so there is little expectation or interest in the impact on future recidivism or employment. Of the four prison industry evaluations that we located, only two were judged to be methodologically sound. The other two studies were judged so low in scientific rigor that we did not use them to make decisions about effectiveness.

The two well-designed studies were conducted in New York (Maguire, Flanagan, and Thornberry 1988) and the Federal Bureau of Prisons (Saylor and Gaes 1992). In both studies, the participants had lower recidivism rates than the comparisons, but only in the Saylor and Gaes’s (1992) study was the difference significant. However, both studies used preexisting groups

that can be assumed to differ prior to the study. Most likely, those who volunteer and are accepted in the industry program would be different from others. Both studies attempted to control for these differences in multivariate analysis. Furthermore, the Saylor and Gaes evaluation had a large number of subjects and, thus, while the results were significant, the absolute differences in recidivism rates was relatively small (6.6 compared to 10.1).

## Work and Multicomponent Programs

These are the type of programs that are becoming popular in reentry programs. The programs usually focus on assisting offenders in obtaining employment, acquiring job search skills, or other employment services. Participants may live in pre-release facilities in institutions, halfway houses, or other community residential facilities. In our meta-analyses, these programs were not significant in reducing recidivism. However, one difficulty that arises in drawing conclusions about these programs is the large differences in the programs studied. They varied in the types of employment services provided and whether the programs were provided in the community, prison, or both. There is little evidence from our examination of correctional work programs to suggest that they have been successful in reducing recidivism.

A recent systematic review by Visher and her colleagues for the Campbell Collaboration examining non-custodial employment programs for ex-offenders found similar results (Visher, Winterfield, and Coggeshall 2006). They examined employment services interventions for recently released prisoners and job training or job placement programs for people who had been arrested, convicted or incarcerated for a criminal charge. Their sample of eight eligible studies included only random assignment studies of programs for older youth and adults. The recidivism of offenders in these studies of employment interventions was not reduced, despite the fact that the random assignment studies included very heterogeneous programs in terms of both the type of program delivered and the individuals enrolled. However, they caution that employment-focused interventions for former prisoners have not been adequately evaluated for effectiveness. They identified only eight studies, and the majority of these were more than 10 years old.

## VIII. Impact on Employment

In our meta-analysis, 16 studies measured employment status once offenders were in the community: educational programs ( $n = 4$ ), vocational training ( $n = 8$ ), correctional industries ( $n = 1$ ) and multicomponent/others ( $n = 3$ ). Overall, more were employed after release than the comparisons. The second question of interest was the relationship between recidivism and employment. If, as some theorists assert, employment causes a reduction in recidivism, we would expect the two to be correlated. Larger differences in the recidivism rates of program participants relative to non-participants were associated with larger differences in employment status at follow-up. That is, programs that have an impact on recidivism also have an impact on employment. These are the expected findings if there is a causal relationship between employment and recidivism; however, our study cannot rule out alternative explanations for the relationship.

## IX. What Works in Corrections?

Cognitive changes that occur as a result of educational programs may be particularly important in changing offenders. After reviewing 284 research studies judged to be of sufficient scientific rigor and completing systematic reviews and meta-analyses, I conclude that the treatment and management strategies focusing on rehabilitating offenders were effective in reducing recidivism (MacKenzie 2006). In contrast to the more theoretical meta-analyses, I examined specific types of strategies, such as boot camp, intensive supervision, cognitive skills, and educational programs. Programs emphasizing punishment, deterrence, or control, such as boot camps, Scared Straight, or intensive supervision, were ineffective. Programs with poor or little theoretical basis or poorly implemented programs were also ineffective (e.g., psychosocial sex offender treatment; residential programs for juveniles; treatment for batterers). Similarly, programs that emphasized the formation of ties or bonds without first changing the individual's thought process were ineffectual. Examples of the latter programs are life skills education, correctional industries, and multicomponent work programs.

Almost all the effective programs focused on individual-level change. In contrast, the ineffective programs frequently emphasize developing opportunities. For example, cognitive skills programs emphasize individual-level changes in thinking, reasoning, empathy, and problem solving. In contrast, life skills and work programs, examples of ineffective programs, often focus on giving the offenders opportunities in the community. Based on these observations, I proposed that effective programs must focus on



changing the individual. This change is required before the person will be able to take advantage of opportunities in the environment. Giordano and her colleagues call this change a cognitive transformation (Giordano, Cernkovich, and Rudolph 2002). They propose that individual-level change must precede changes in ties or bonds to social institutions. The social environment may be conducive to the formation of ties, but the individual must change if the bond is to form. To get along with family, keep a job, support children, or form strong, positive ties with other institutions, the person must change in cognitive reasoning, attitude toward drug use, antisocial attitudes, reading level, or vocation skills. Such transformations are necessary before a person makes initial moves toward a different way of life. Only if a cognitive transformation occurs is the person able to sustain a new life. Thus, educational programs that bring about cognitive transformations would be expected to be effective in changing offenders.

Prison industries or other work programs may not be effective for correctional populations because the programs focus on giving opportunities for employment but do not emphasize individual change. The person may not have the individual abilities and/or attitudes to take advantage of the environmental opportunities, and thus a bond with the world of work is not formed. Education and vocational education programs may be effective because they focus on changing the thinking skills of the students. This, in turn, may increase an ex-offender's ability to find and keep employment. During the education process the individual changes and these changes make employment more likely, thereby increasing the chances that the person will form a tie or bond to the world of work.

These findings have direct implications for the development of effective re-entry programs. Programs would be expected to be most effective if they focus on individual transformations. There will be a temptation to focus on programs that increase opportunities for work, reunite families, and provide housing. Obviously, these are important needs of the reentering ex-prisoners. Such programs provide opportunities for the formation of ties or bonds to the community. However, the research on "what works" suggest that an emphasis on these opportunities for ties will not be effective if there is not also a focus on individual-level transformation, such as might occur with academic and vocation education programs. From this perspective, education programs are important in bringing about a change in thinking and cognitions, not just in their ability to directly impact the offender's ability to get employment. The individual learns to value employment and the associated benefits.

## The Black Box of Correctional Education

The good news from research on correctional education is that ABE, GED, PSE, and vocational education appear to reduce the recidivism of offenders as well as increase employment. There is, however, serious concern about the quality of the research and whether these results will be upheld if more rigorous randomized trials that eliminate the self-selection problem are conducted. On the other hand, many education programs are consistent with the principles of effective programs, and they also would be expected to bring about the cognitive transformations associated with effective correctional programs.

There are still many unknowns about correctional education (MacKenzie 2008). Questions remain about the exact curriculum that is effective and what works for whom, when, why, and in what circumstances. Does the link between education and recidivism depend only on cognitive change, or some combination of cognitive change and increased opportunities for additional schooling or employment in the community?

We also know little about the exact curricula that may be most effective for different types of offenders. Strong arguments have been made about the importance of gender- and race/ethnicity-sensitive programming. However, we do not know if such “responsive” programming would increase academic progress, be more effective in reducing recidivism, or assist in employment success.

Given the importance of work and education to offenders and delinquents, the quality of the research examining the programs is, on the whole, acutely limited in both quantity and quality. Research designs use dropouts, people who did not volunteer or who for some other reason did not participate. Such designs have the internal validity problem of selection. The two groups are most likely very different before the educational or work program began; therefore, any differences found in outcomes cannot be attributed to the program. Those who volunteer to enter a educational program may be labeled the “motivated” group. The motivated group who volunteer for treatment would be expected to be more ready for treatment or more amenable to treatment. Comparing the educational group to the comparison group means that those who are the most ready, or most amenable to programming are being compared to a group that includes people who do not want to “waste” their time in educational programs. Thus, any differences in outcomes are most likely because the “good” candidates (the

ready, amenable group) are being compared to a group that may include many who are “bad” treatment candidates. Any differences in later criminal activity can easily be attributed to differences between the groups that existed prior to the program and, therefore, little can be said about the impact of the educational program. While many correctional education administrators reject the idea of randomized research designs because they might deprive some individuals of educational experiences, they fail to see the large benefits that such research could provide. For example, more information is needed about the difference between education programs focusing on job-related skills versus those centering on problem solving and cognitive processes. Certainly, random assignment to these two programs would fairly give each group educational opportunities and at the same time provide relevant information about each type of program. This could be carried further to examine whether some types of individuals (genders, race/ethnic, past criminal history) benefited more from one or the other program. Well-planned, randomized trials would greatly add to our knowledge of what works for whom in vocational and educational programming.

Finally, there have been few studies examining educational programs that assist offenders in the process of reentry. Most research has examined programs that are provided in institutions, and some have examined programs provided in the community, but few have examined holistic, multimodal programs that take participants from institution to the community.

Some structural problems exist in facilities that greatly restrict the achievement obtained by student inmates. Lockdowns, transfers between institutions, and restricted movement in facilities limit classroom time. Concerns about security prohibit Internet use, thus greatly reducing the ability of offenders to obtain information and use library resources. Studies have examined education participation but not achievement. Nor do the studies examine the specific components of educational programs.

## X. Conclusions

Certainly, more work needs to be done to examine vocational and academic education and work programs. With the current emphasis on reentry programs both educational and work-related, there will be an increased concern regarding how to design effective programs that help transition ex-offenders from facilities to the community. We need strong research designs that will tell us whether a combination of employment and education can be successful in reducing recidivism and increasing employment. It is possible to

begin examining the theoretical issues to identify effective programs. While overall the evidence indicates that education is effective, more work needs to be done on the questions of whom, when, why, and what. Many of the studies of work and employment for offenders are poorly designed and were completed long in the past. The groups are so dissimilar that no one can tell whether differences in later criminal activity are the result of the program or because the groups are so different in characteristics. New studies need to be designed, particularly on the new reentry programs that are becoming so popular in many jurisdictions. With the increased interest in evidenced-based corrections, we can only hope that more emphasis will be placed on providing research evidence to support the use of educational and work programs (MacKenzie 2000, 2001, 2005).

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