

□ TOWARD A META-ANALYSIS OF CORRECTIONAL REHABILITATION

CDATE: UPDATING THE EFFECTIVENESS OF CORRECTIONAL TREATMENT 25 YEARS LATER

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EDITOR'S NOTE *This article, published by special invitation, announces the initiation of what is perhaps the most significant research endeavor in correctional rehabilitation of the past quarter century. Readers who have conducted studies evaluating correctional measures and who believe their study (published or unpublished) meets the specified criteria and should be considered for incorporation into this research effort are asked to send a copy to Dr. Douglas S. Lipton, NDRI, 11 Beach St., New York, NY 10013. Readers with questions are invited to call Dr. Lipton at 212-966-8700 Ext 434.*

ABSTRACT Correctional Drug Abuse Treatment Effectiveness (CDATE) will assemble and annotate all evaluation research studies on rehabilitation programs for offenders, drug abusing and non-drug abusing alike, conducted since 1968, i.e., since the studies reported by Lipton, Martinson and Wilks in *The Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies* (1975). This three-year project also will conduct a comprehensive detailed review of such studies in all levels of criminal justice custody. It will seek out all credible evaluation studies of treatment of offenders from all countries, examine and assemble them to inform policy and practice in the most meaningful way. This will include performing a variety of analyses including meta-analyses comparing the effect of each treatment on each of the outcome variables

and assessing the degree to which a variety of program and client characteristics have effects on outcomes. The original survey, *The Effectiveness of Correctional Treatment*, which covered the period 1945 to 1967, will be updated, and the questions "What works? with whom? under what circumstances?" will be addressed for all offenders, and especially for drug abusing offenders. [Article copies available from The Haworth Document Delivery Service: 1-800-342-9678.]

CDATE, a project that began January 1, 1994, will conduct a comprehensive, detailed review of the evaluation research on rehabilitation programs for offenders in all levels of criminal justice custody. The letters *CDATE* stand for Correctional Drug Abuse Treatment Effectiveness because one of its focuses is on the effects of various rehabilitation modalities on drug-using offenders, whether treatment for substance abuse was or was not the primary mission. By treatment is meant any kind of purposive effort or intervention aimed at changing offenders in a positive direction. CDATE is funded for three years by the National Institute on Drug Abuse.

This research project is a twenty-five year update of *The Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies*. It will assemble, annotate, and analyze all studies conducted since 1968, i.e., since the studies reported by Douglas Lipton, Robert Martinson and Judith Wilks, in that seminal work. The new study will seek out, from all countries, all credible evaluation studies, published and unpublished, of treatment of offenders, drug abusing and non-drug abusing alike. It will examine and assemble them to inform correctional policy and practice in the most meaningful way, and separately highlight and examine treatment for substance abusing offenders.

More specifically, the CDATE project will

- Develop a comprehensive data base of correctional treatment evaluation studies from all countries completed between January 1, 1968 and December 31, 1994.
- Categorize and systematically annotate each of the studies that meet eligibility criteria, that is, each study must include empirical data resulting from a comparison of an experimental group with a control group(s) or some comparison group(s); the size of the treatment and control populations must be of sufficient size to warrant reliable and valid outcome statements; and the empirical data must measure improvement in performance on some

dependent variable, including recidivism, drug or alcohol relapse, parole or probation performance, etc.

- Specifically excluded are after-only studies without comparison groups; case studies; studies with small groups; and anecdotal reports and clinical speculations about treatment success.
- Separately note the participation by and distinguishable outcomes for offenders with drug abuse histories.
- Critically evaluate the methodologies of the studies.
- Describe the policy implications of the results for correctional treatment programming, training, staffing, program implementation, programmatic evaluation and future research.
- Describe and analyze each of the modalities of correctional based treatment for offenders in detail in terms of size, variety, clientele, goals, staff, setting, degree of isolation, use of incentives, duration, frequency, intensity, priority, completeness of implementation, relationship to other concurrent and subsequent modalities, relationship to drug abuse, continuity of treatment, and outcome.
- Describe and analyze each outcome criterion (e.g., recidivism, employment, relapse to drug use) in terms of variety, relative precision, relationship to other criteria, and utility for evaluations of correctional treatment for non-drug abusing offenders as well as drug abusers.
- Assess the impact of the various treatments on several outcome measures, particularly recidivism and drug abuse.
- Perform a meta-analysis comparing (a) the absolute effect of each treatment on each of the outcome variables (for which data are available); (b) the relative effect sizes of all the treatments for each outcome variable; and (c) effect sizes for different population subsets (e.g., gender, age and race groupings); and perform regression analyses to assess the degree to which a variety of independent variables (e.g., treatment methods, program characteristics, client characteristics, research methodologies) have effects on evaluation findings.
- Disseminate the findings widely to practitioners, policy makers, legislators and the Federal government, as well as other scholars.
- Deposit the entire collection of articles, documents, etc., and annotations in a publicly accessible library.

THE EFFECTIVENESS OF CORRECTIONAL TREATMENT

It has been a quarter of a century since the 231 program evaluations surveyed in *The Effectiveness of Correctional Treatment: A Survey of*

Treatment Evaluation Studies (hereinafter, ECT) were completed. This book, published in 1975, systematically annotated evaluation studies of probation, imprisonment, parole, psychotherapy, group methods, and other correctional-based rehabilitation programs (written between 1945 and 1967) and assessed the relative effects of these treatments on recidivism, institutional adjustment, educational achievement, drug and alcohol readdiction, and other outcomes. As such, it has played a prominent role in the well publicized continuing controversy over whether anything works in correctional treatment.

Opponents of rehabilitation for criminal offenders were able to corroborate their deeply held beliefs regarding punishment, "just deserts" and general deterrence with scientific research findings, when, in 1974, Robert Martinson published a highly influential article in *The Public Interest* entitled, "What Works? Questions and Answers About Prison Reform." His central conclusion was that "with few and isolated exceptions, the rehabilitative efforts that have been reported so far have no appreciable effect on recidivism" (1974: 25). The phrase, "nothing works," became a watchword and entered the corrections vocabulary; it was treated as fact. The belief that "nothing works" still has widespread acceptance and is one of the main reasons treatment programs are given low priority despite high recidivism rates, especially among drug-abusing offenders.

Martinson's article was a more widely read popularization of ECT. The basic conclusion of ECT was that "the field of corrections has not as yet found satisfactory ways to reduce recidivism by significant amounts" (Lipton et al. 1975, 627). Other authors reviewing evaluation studies of rehabilitation programs came to essentially the same conclusion (Kirby 1954; Bailey 1966; Logan 1972). Many people who espoused the view that nothing works failed to grasp the less pessimistic, but guarded conclusion of ECT that left open the possibility that rehabilitation does work for some and could work for more if certain conditions were met.

So influential were ECT's research findings in the policy debate about sentencing reform and rehabilitation that they became the subject of a scholarly assessment by the National Academy of Sciences. The Panel on the Research on Rehabilitation Techniques that reviewed ECT was concerned about the validity of its conclusions (Sechrest et al.: 5). Did the authors portray the primary data (i.e., evaluation studies) fairly, and did they interpret the findings accurately? To answer this question, the Panel reevaluated a sample of the original studies

surveyed by Lipton et al. In "An Assessment of the Accuracy of *The ECT*," Fienberg and Grambsch drew two samples of studies surveyed in ECT. They prepared summaries and commentaries of each study and then compared ECT annotations with their own analyses. In the judgment of the Panel, "Lipton, Martinson, and Wilks were . . . accurate and fair in their appraisal of the rehabilitation literature . . ." (Sechrest et al.: 31). In general, the Panel concluded that research on correctional treatment was not adequate *then* for producing policy recommendations as to how to rehabilitate offenders. In its report, *The Rehabilitation of Criminal Offenders* (Sechrest et al. 1979: 3), the Academy tempered the assessment that nothing works by stating that ". . . we do not now know of any program or method of rehabilitation that could be guaranteed to reduce the criminal activity of released offenders." Rather, it raised the question of whether some programs might work for certain types of offenders. Since that time, a growing body of evaluation studies has come under careful scrutiny, and several authors have concluded that certain rehabilitation programs effectively reduce recidivism (Andrews et al. 1990; Gendreau and Ross 1987; Greenwood and Zimring 1985; Izzo and Ross 1990; Lipsey 1989, 1991; Palmer 1975; Wexler and Lipton 1988, 1990; Van Voorhis 1987); but some are pessimistic still (Lab and Whitehead 1988; Rosenbaum 1988; Whitehead and Lab 1989).

Ironically, a few years after publishing his "What Works?" article, Martinson revised his conclusion, based on further review of the research, in which he found that "some treatment programs do have an appreciable effect on recidivism" (1979: 244). As Cullen and Gendreau state, "the doctrine of nothing works is best seen as a socially constructed reality [rather than] an established scientific truth" (1989). The generalized belief that nothing works has been a major factor in the reluctance of many policy makers to support prison-based treatment.

Non-Rehabilitative Imprisonment

The belief that nothing works is used to justify a policy of Non-Rehabilitative Imprisonment (NRI) for convicted felons. For many, this policy is based on a retributive ideology, which stems fundamentally from a desire to see offenders receive their "just deserts." Policy makers who support NRI usually believe that the public wants offenders punished and that supporting treatment would be a show of leniency. This belief is buttressed by the argument that incarceration is the most, perhaps the only, effective means of controlling crime. Im-

prisonment, it is asserted, will keep criminals off the streets (the incapacitation argument) and prevent them from recidivating afterwards (individual deterrence); in addition, others will refrain from crime, fearing the consequences (general deterrence). Because longer and more certain sentences have led to increases in prison populations, because of significantly more public attention to the "drug problem," and because of court orders limiting overcrowding, more prisons have been built and cells added in the years since ECT was written than ever before, and as Reuter (1992) points out "there are no vacant cells." Popular support for harsher and longer sentences has been growing; "three strikes and you're out" is the current watchword for violent offenders, and is being suggested for even non-violent offenses as the anger and frustration of the general population washes over them. The current Federal Crime Bill seeks to codify this to constrain the courts and paroling authorities to hold onto persons convicted of crimes for longer periods. Another example of this is "truth in sentencing" requiring that inmates serve 85% of their sentence before release is possible.

CDATE will update ECT in the light of a reawakening during the last decade to the rehabilitative potential within the criminal justice system (Garrett 1985; Geismar and Wood 1985; Greenwood and Zimring 1985; Ross and Fabiano 1985; Lipsey 1989, 1991; Mayer et al. 1986; Palmer 1986; Basta and Davidson 1988; Currie 1989; Cullen and Gendreau 1989; Gendreau and Ross 1987; Lipton 1990; Andrews et al. 1990; Izzo and Ross 1990; Wexler 1991; Antonowicz and Ross 1992). A current view held by many is that "The effectiveness of correctional treatment is dependent upon what is delivered to whom in particular settings," a view asserted by Andrews et al. in several publications (1983, 1990), Cullen and Gendreau (1989), Gendreau and Ross (1979, 1981, 1987), Antonowicz and Ross (1992), and echoed by many others.

Critics of rehabilitation are not in short supply. However, as Walker asserts (1989: 231), "It is wishful thinking to believe that additional research is going to uncover a magic key that has somehow been overlooked for 150 years." This is echoed by Greenberg (1977) and Brody (1976). Whitehead and Lab (1989) are noteworthy for having reviewed "an impressively complete set of controlled evaluations of juvenile treatment for the years 1975 to 1984" (Andrews et al. 1990) from which they conclude that the "nothing works" belief with respect to recidivism for juvenile treatment is unfortunately still viable, although they are careful to deny their alliance with the "nothing works"

ideologues and assert their limited optimism (Lab and Whitehead, 1990). Others who have critically reviewed and/or meta-analyzed segments of the adult and juvenile correctional rehabilitation evaluation studies since ECT survey are Cullen and Gendreau 1989; Gendreau and Ross 1979, 1987; Basta and Davidson 1988; Garrett 1985; Greenwood and Zimring 1985; Izzo and Ross 1990; Lipsey 1989, 1991; Mayer et al. 1986; Ross and Fabiano 1985; Rosenbaum 1988; and Visser 1987, and their views collectively are less pessimistic than Whitehead and Lab's.

In the light of so many reviews of effectiveness studies, one might ask *why another study?* The answer is fourfold: first, most of these focused on a limited population—juveniles; second, none focused on drug abusers as a treatment sub-population; third, none are comprehensive—all examined only a limited number of studies, all from the published literature; fourth, the literature chosen for examination was chiefly from English speaking countries.

Moreover, Leukefeld and Tims (1990) after the NIDA Technical Review Meeting on Drug Abuse Treatment in Prisons and Jails in May, 1990 identified areas of agreement why it is important that this work continue: "A historical review of past programmatic efforts using meta-analytic procedures should be initiated to add clarity about the impact of correctional drug abuse treatment programs. . . ." and "A standardized correctional drug abuse treatment typology should be developed which incorporates uniform definitions of treatment and system components (i.e., assessment, education, intention, treatment, and continuity of care)," are just two of the cited reasons. Moreover, important changes have occurred, particularly in the last 10 years, that merit a re-evaluation of the evaluation research. Some of these changes include the following.

Alternatives for Young Offenders

Boot camps are becoming a popular alternative to long term sentences for young offenders, particularly crack users, and although preliminary data are intriguing, there appear to be too few careful evaluations from which to draw solid conclusions regarding this method's effectiveness (Parent 1988; U.S.G.A.O. 1988; MacKenzie and Ballow 1989; MacKenzie et al. 1989). Although they appear on the surface to be an effective response to prison crowding (MacKenzie and Shaw 1990; Florida Department of Corrections 1990), combinations of treatment methods within the boot camp setting require evaluation (Karacki

1989; MacKenzie and Shaw 1990; Morash and Rucker 1990; MacKenzie 1991; Osler 1991). Treatment for substance abuse for incarcerated felons with chronic drug use histories using therapeutic community methods has shown promise of being an effective means of reducing recidivism (Wexler et al. 1989; Field 1989; Lipton et al. 1992).

Findings with regard to intensive supervision probation (ISP) are inconclusive. Petersilia (1987) reported that Georgia's intensive supervision probation program was successful in reducing recidivism, while in three jurisdictions in California (Contra Costa, Los Angeles, Ventura), she showed intensive supervision probation was no more effective in reducing recidivism than regular probation (Petersilia and Turner 1992). Both Latessa in Ohio (1987) and Bennett in Wisconsin (1987) found no conclusive evidence of reduced recidivism. These and other findings will be examined as a group for specific effects with non-drug users and drug users alike and in the light of those ISPs which have been combined with other intervention methods, e.g., day-long milieu treatment, frequent urinalyses, vocational skill development.

Electronic monitoring, another alternative to incarceration, is expanding, and at this time there are only a few states not using it (Hofer and Meierhoefer 1987). Nevertheless, the question of whether electronic monitoring is an effective criminal justice tool to reduce recidivism, reduce illicit drug use and relapse, and deter crime has not yet been answered (Lilly et al. 1987; Schmidt 1989). Similarly, although educational deficiency and unemployment have long been associated with delinquency, criminal behavior and recidivism (De Lone 1992), the potential to reduce recidivism through education and vocational training of offenders is still apparently unclear. While it has been shown that unemployment is a predictor of post sentencing incarceration (Greenberg 1977; Box and Hale 1985), there is a body of research which challenges the assumption that unemployment is a causal factor in recidivism (Dickover et al. 1971; NCCD 1972). Linden and Perry (1982) found that although correctional educational programs might demonstrate effectiveness in terms of increased learning, there appeared to be no concurrent effectiveness in terms of reduced recidivism. In 1984, Linden and colleagues reported that participants in a prison education program were less likely to recidivate than controls, but the difference was not significant. Duguid (1981) provides contrasting findings: after developing a liberal arts curriculum with a cognitive-moral emphasis, he reported a 14% recidivism rate for par-

ticipants and a 51% rate for matched controls. Justifiably, then, there still is a need for assessing the relative importance of educational and vocational programming independently and in combination with other corrections-based treatment and intermediate sanctions.

Drug Abuse on an Epidemic Scale

Furthermore, there are many other pragmatic issues that will be assessed in this project. Since the time many earlier studies (pre-1980) were published, the ascendancy of cocaine and crack as drugs of abuse has altered the addiction of the populations served by correctional-based treatment programs. Can we generalize to cocaine (crack) addicts from findings about a program's rehabilitative success or lack thereof with heroin addicts? Does length of time in treatment relate to recidivism in a similar way for both groups?

The use of treatment programming always raises the issue of whether it ought to be mandatory, totally voluntary, or "stimulated." Research indicates that court-ordered referrals to treatment have outcomes virtually indistinguishable from voluntary admissions. Indeed, Wexler et al. (1985) reported that "residents who were sent to a program by the courts had a better success rate than volunteers." Likewise, Anglin and Hser (1990) concluded that "clients entering treatment under legal coercion do as well by most outcome criteria as volunteer clients and may stay in treatment longer. The evidence on treatment effectiveness suggests a social policy of expanded treatment capacities and options and increased attention to adequate implementation of treatment programs." Further, the creative use of incentives serving to stimulate offenders to enter programs appears to be a pragmatic middle ground. Some of the conclusions of studies with contingency contracting, token economies and other incentive systems (Magura et al. 1987, 1988) seem to point to their utility, while others remain somewhat equivocal (Antonowicz and Ross 1992).

In spite of tougher punishment, the magnitude of the crime problem over the last two decades has increased substantially and correctional populations, particularly drug-abusing offenders, have concomitantly increased (Prendergast 1992). The extent to which the decline in the role of rehabilitation may have contributed to the crime problem is unknown. Furthermore, increases in correctional populations may have made the rehabilitation of offenders more difficult than before.

Since the authors of ECT brought attention to the inadequate methodologies used in the studies they reviewed, advances have been made

in the state of the art of evaluation research. In addition, there has been an increased amount of research on correctional programs during the last decade, producing a body of findings about correctional treatment that some reviewers have attempted to examine, but they have either narrowly concentrated their focus—e.g., on juveniles, or on sex offenders—or their work has been methodologically flawed.

Clearly one does not have to read much about the criminal justice system and rehabilitation programs to recognize that the debate over whether corrections “works” is still wide open. The shifts in correctional policy, the changes in programs and the technology of human change, as well as the problems associated with large populations of untreated drug using felons strongly seem to indicate that a comprehensive reexamination of rehabilitation is needed now, especially in light of the Congress’ recent passage of legislation to enhance drug treatment for persons in state and local criminal justice systems (§110, Subtitle A, Title I, ADAMHA Reorganization Act of 1992), and Congress’ current Crime Bill with its provisions for life sentences without parole for three convictions for violent offenders, truth in sentencing, and treatment programs for substance abusing offenders in the Federal and state prison systems.

All these changes: the overcrowding of correctional facilities, the nature of the correctional population, the proliferation of drug offenders, and the instituting of new methods more than justify the updating of the original Survey of correctional evaluation research—and in light of the enormous proportion of drug users within the population in custody—to examine closely the effects of programming on them specifically.

RESEARCH DESIGN AND METHODS

The underlying premise of CDATE is that by assessing the state of knowledge about correctional treatment, policy choices can be informed. At the heart of the matter is the question of whether the pessimistic conclusions drawn two decades ago are still valid. The objective way to answer this question is to conduct a comprehensive search of the evaluation literature produced in the last 25 years, and systematically examine it bearing in mind the key contemporary criminal justice and drug abuse-related rehabilitation issues that have arisen in that period. Important policy determinations depend not only on program method and its implementation, but on quality of scientific

methodology—how were comparison groups selected, how long was the follow-up period, what definitions of recidivism and other outcome measures were used, and so forth. Given the potential influence of the survey on correctional policy, data reanalysis will be performed where inappropriate statistical techniques have been used and data are available. Data will be reanalyzed also when researchers did not examine differential outcomes for drug and non-drug abusers in their populations. Furthermore, new analytical techniques (meta-analysis and regression techniques) will be used and new methodological issues will be addressed.

Searching the Literature

The first phase of this effort is the literature search. The search will acquire and assess every evaluation study of correctional treatment completed between January 1, 1968 and December 31, 1994. The design for this phase is based on the design of ECT with a number of improvements both in techniques of meta-analysis and in electronic methods for accessing and retrieving documents from around the world. The data are the individual evaluation studies that have been completed since the beginning of 1968. We intend to obtain the universe of evaluations, rather than a sample. It is estimated that about 3,000 published and unpublished studies were produced in this 25-year period. After we screen these studies and apply our exclusion criteria, we estimate about 600 studies will remain to be annotated. Each annotation consists of a detailed summary of the research; descriptive data about the study, setting, sample and program; the relevant findings, and the annotator's commentary. The annotations serve as the data base for the analysis of the effectiveness of each treatment method on each outcome variable. Each annotation will be a reliable and accurate interpretation of the study, and will provide rich details about the variation in the treatment methods.

The treatment methods that were surveyed in ECT, which sufficed for the array of interventions studied prior to the 70s, included: Imprisonment, Probation and Parole, Individual Psychotherapy, Group Methods, Casework and Individual Counseling, Skill Development (vocational and educational programs), Milieu Therapy (TCs and similar methods), Medical Methods (surgery, pharmacotherapy), Partial Physical Custody (halfway houses and work release), and Leisure Time Activities (artistic, recreational and athletic programs). The outcome variables included: Recidivism, Institutional Adjustment, Drug and

Alcohol Addiction, Personality and Attitude Change, Vocational Adjustment, Educational Achievement, and Community Adjustment.

For this effort, new treatment categories have been added: cognitive skills training, therapeutic community, drug abuse treatment *per se*, anger or aggression management, wilderness or outdoor programming, contingency contracting/incentive methods, alternative medicine (e.g., acupuncture), family therapy, behavior modification including aversive conditioning, life skills training, transcendental meditation/relaxation methods, self help (e.g., AA, NA), restitution, shock incarceration, boot camps, electronic monitoring. The original outcome variable, Drug and Alcohol Addiction, will be divided into separate drug and alcohol relapse categories.

Inclusionary Criteria

All the evaluation studies that meet the inclusion criteria will be also classified according to the rigor of the scientific methodology employed in the research design. A hierarchy of methodological sophistication will be employed and studies will be ranked from 1 (excellent) to 5 (acceptable) by the annotators, and the criteria for this judgment will be described in a Manual. All annotators will undergo concordance testing so the potential for consensus judgments is maximized. The factors going into this important judgment include how subjects are selected, how subjects were allocated to experimental and control groups, the type of research design, its implementation, attrition of subjects, representativeness of the sample, the reliability and validity of independent and dependent measures, and the appropriateness of the statistical analyses. Other factors that may be used for these judgments include, for example, the quality of instruments and length of follow-up. Specific examples of studies at each of the five levels will be provided in the Manual.

Several quality control methods will be used. Where questionable annotation elements occur, a second annotator will be asked for review. Computers will scan the data for completeness. Reviewers will scan the data for reasonableness. Outliers or suspect data will be confirmed against the original source. We will make direct inquiries of the authors of the original studies in some cases, and seek the original data.

Modes of Analysis and Meta-Analysis

The analysis phase will primarily address two issues: First, the senior staff will examine the overall extent to which treatment works

using a powerful statistical analysis of all evaluation studies that are collected and annotated. The evaluation of treatment within any single study often has low to moderate statistical power due to limited sample size, or the actual magnitude of the effect is small, i.e., it accounts for a very small fraction of the variance. Hence, individual study results may indicate that a difference in outcomes between experimental and control populations is not statistically significant. However, by judiciously combining information across studies, the power of the evaluation is increased and the size of any improved outcome associated with treatment can be observed with greater precision. Second, the analysis will identify non-treatment differences between programs, i.e., in moderator variables, that are associated with variation in outcome success.

Projects like this one which analyze the effectiveness of many prior studies are typically referred to as meta-analyses. Meta-analyses also refers to the advanced statistical techniques developed to facilitate such analyses. The basic technique is to compare the relative magnitudes of Effect Size measures. Two important comparisons will be made. First, the effect of each treatment will be assessed on each of the outcome variables (for which data are available). What is the relative effect of Therapeutic Communities on Recidivism, Drug Relapse, etc.? What is the relative effect of Intensive Supervision Probation on these outcomes? Second, the relative effect sizes of all the treatments will be compared for each moderator variable. Does Electronic Monitoring differentially affect the recidivism rates of men and women? These and other important practitioner and policy-related questions can be answered by comparing the magnitude of the ESS. Thus, meta-analysis has the advantage of being able to address the issue of which programs should be offered to which offenders, at what age, for which gender, etc. (Tobler, 1986: 539).

Degrees of Effectiveness

Treatment programs vary in terms of effectiveness along a variety of dimensions that are associated with eventual outcome. This research effort will examine how these factors affect outcome. Some of these factors are: Program implementation variables—frequency of treatment, duration of treatment, setting; Research variables—duration of follow up, quality of the research design; Client variables—drug use, size of sample, age, race, gender, low risk vs. high risk offenders. These sorts of questions might be asked of the data: Which kind of program (e.g., Intensive Supervision Probation, Wilderness/Outdoor Programs, Boot

Camps, or Guided Group Interaction) has the greatest effect on drug relapse among juvenile offenders, on male vs. female offenders, on Hispanic offenders? Does Group Counseling have a significant impact on the recidivism of first offenders when combined with Boot Camp programs? Does increasing the time in similar drug treatment programs from 100 hours per year to 400 hours per year reduce recidivism more?

Univariate and Multivariate Analyses

Univariate analyses will first be used for each treatment method to determine the range of outcomes. The univariate analyses will allow staff to identify variations in the dependent variables which may be associated with variations in program, client and other variable categories. Clustering techniques will be employed to group together similar programs and identify the variation across such program types and within them. Annotations will be grouped for each intersection of method and outcome variables (e.g., boot camps on recidivism), and each group of studies will then be examined in terms of effects on recidivism. The program variables will then be assessed for their effects on institutional adjustment, drug use, alcohol use, vocational adjustment, educational achievement and the other outcome variables.

Regression analysis will be used to assess the degree to which a variety of independent variables (e.g., treatment methods, program characteristics, research methodologies, client characteristics) have effects on evaluation findings. For example, one can compare the relative effects of treatments on outcomes. This is accomplished by regressing the overall ES on each of the treatment variables singly and in combination with each other. Multiple regression will indicate which attributes account for the greatest proportion of the variation, simultaneously controlling for the influence of all other attributes.

The Final Report will include (1) the overall findings on the state of the art of correctional programming, for non-drug using offenders as well as drug-using offenders (crack users, heroin addicts, etc.), (2) the annotations and the aggregate findings, (3) the results of the meta-analyses, (4) the results of the regression analyses, and (5) summaries of findings in non technical terms for practitioners. The Appendix will contain the technical analyses. The study team will also prepare a "policy paper" that will summarize and interpret the findings for policy makers. This paper will emphasize: (1) salient findings of treatment outcomes, (2) problems encountered in implementation of correctional programs, (3) distinctions useful for correctional policy

formulation, and (4) findings relevant to correctional policy, drug abuse treatment, program implementation, and evaluation. The policy paper will focus on the distinctions among correctional treatment methods for non-drug and drug using offenders, among various measures of treatment outcome, among various treatment settings, and within the treated populations, as well as the relationships among these factors.

Upon completion of the research project, the collection will be transferred to a publicly accessible library—probably a university library where a major criminological center is located. This will be of considerable benefit to researchers and practitioners wishing to review any study of correctional rehabilitation. Practitioners, policy analysts, and evaluation researchers will benefit from having access to these extensive materials especially given the present difficulty in obtaining unpublished reports, and articles published in obscure journals or in foreign languages.

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