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Cognitive-Behavioral Treatment of Offenders: A Comprehensive Review of MRT[®] Outcome Research

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Summary — Outcome research from 78 published reports investigating the effects of MRT on offender and high-risk populations are reviewed. These reports include 14,623 MRT-treated individuals and 72,898 individuals forming control and comparison groups. Thirty-one studies have evaluated the effect of MRT-treatment on adult inmate recidivism after their release. All of these found that MRT leads to lower rearrest and reincarceration rates for time periods up to a full 10 years after treatment and release. Other outcome research with adult offenders consistently indicates that MRT leads to reduced disciplinary problems in participants, enhanced employment, and lower recidivism rates with probationers, parolees, and drug court participants. Numerous studies indicate that MRT treatment leads to beneficial changes in a host of personality measures including the development of higher moral reasoning. Emerging research also shows that MRT leads to lower recidivism rates with juvenile offenders, however, this area of research may be beset by researcher bias. Perhaps the most significant research reviewed resulted from an independent cost-benefit analysis from Washington State showing that MRT produces the greatest cost-benefit savings of any offender treatment. For each \$1 spent on MRT treatment, the cost savings in criminal justice related costs was \$11.48. The next best program (job placement) showed a savings of \$4.

Background

Moral Reconciliation Therapy (MRT[®]) is a unique, cognitive-behavioral treatment approach initially designed to be utilized within a prison-based drug treatment therapeutic community. The first published report on MRT appeared in 1988 (Little & Robinson, 1988), however, the initial development and testing of the method occurred between 1979-1983 at the Federal Correctional Institute in Memphis when the present author conducted a series of proto-MRT group programs while serving as a drug program consultant. Several large trials were conducted on both inmates and staff at this facility, and the initial draft of the basic MRT workbook was completed and utilized in these trials. In 1985, after becoming Director of the Memphis-based Shelby County Correction Center's Drug Abuse Programs, the author moved to implement the program in a then 30-bed program housing adult male offenders. At that time, Dr. Ken Robinson, who worked in the facility's Mental Health Unit, assisted in developing and finalizing the written materials for the program and Ms. Kathy Burnette played a key role in implementing MRT within the existing, prison-based drug therapeutic community. E. Stephen Swan was also involved in the implementation of MRT serving as the Administrator of Programs for the institution.

The rapid success of the new program produced a great deal of publicity and recognition. These factors led to the establishment of a new 40-bed program in 1988 and the addition of a new 40-bed DWI facility at the same time. In 1990, the program was expanded to 240 beds. Today, virtually all of the programs at that institution continue to use MRT.

The MRT program materials were refined essentially through trial and error, inmate input, and ongoing research. The adult, offender workbook of MRT was subsequently published in 1986.¹ The system was federally trademarked in the early 1990's and all of its workbooks and materials are copyrighted. Correctional Counseling, Inc. of Memphis, TN holds an exclusive contract for the sales and distribution of MRT materials until 2004.

MRT Expansions Into Other Treatment Areas

While the approach was first designed as a criminal justice-based drug treatment method, a host of other treatment adaptations have been made. These include DWI treatment, domestic violence, educational uses, and various problem-specific materials. Parenting, job attitude, sex offender, treatment readiness, antisocial thinking, juvenile, and educational versions of MRT have been widely employed.

MRT programs utilize workbooks designed for the specific type of client and particular program characteristics. Programs utilizing MRT typically use counselors or teachers as MRT group facilitators after a 32 hour training in the method. MRT is conducted in open-ended, ongoing groups where participants present a series of homework assignments outlined in the specific MRT workbook utilized. Clients can enter ongoing groups at any time.

Contrary to various published reports, MRT does not employ moral dilemmas and extended discussions with participants. Nor does it require extensive reading or high levels of mental functioning. Clients typically make drawings or write very short answers to specific requirements from the workbooks. The essential "treatment" takes place when the participant "shares" his or her work with the group. The trained facilitator is responsible for ensuring that specific questions are asked about various exercises.

Depending on the specific program's focus and purpose, MRT groups meet a minimum of once per month to 5 times per week. For example, some probation programs may meet monthly while prison-based therapeutic communities may meet each week-day. MRT groups typically meet twice weekly for about 1.5 hours per meeting. Group sizes vary from 5-6 clients to some groups with 20 members or more. Facilitators of MRT groups maintain a focus on clients completing and presenting MRT steps or modules in the group and decide on the suitability of a client's work based on objective criteria outlined in MRT training. A group begins with clients on the lowest program step or module presenting his or her work first and sequentially progressing through clients on higher steps. Each group is designed to allow all participants the opportunity to present his or her step materials. As a client completes the program, a new client is entered. Thus, participants work at their own pace and are exposed to both beginning and advanced participants in each group.

1. *How To Escape Your Prison* (1986) has been revised numerous times since the initial draft was produced in the early 1980s.

Theoretical Background & Assumptions

MRT is based, in part, upon the assumption that offenders and drug abusers have relatively low moral reasoning as defined by Kohlberg's theory (Kohlberg, 1980). The moral component of MRT seeks to increase participants' reasoning levels from hedonistic, self-centered concerns to levels that involve concern for the welfare of others. In general, it is assumed that drug usage is mediated by pleasure/pain-based hedonism and many decisions made by offenders are based upon seeking pleasure, avoiding pain, manipulating others for personal gain, and seeking approval from others who may be able to provide rewards. Higher reasoning levels based upon societal rules and laws, social responsibility, and conscience are rarely observed in these clients.

The term *reconation* is derived from *conation*: "the aspect of personality characterized by a conscious willing..." (Wolman, 1973). Conation was a popular term in psychology until ego processes and cognitive terminology gradually replaced it. MRT detractors, primarily academics in criminal justice, have derided the term conation as a misspelling, however, the term has a long background in psychology. The term was specifically chosen so that clients would not develop preconceived notions. *Reconation* implies that MRT attempts to facilitate a change in the client's process of conscious decision-making. Thus, MRT seeks to increase a client's awareness of decision-making and to enhance appropriate behavior through development of higher moral reasoning.

As a cognitive-behavioral approach, MRT assumes that clients have a host of faulty beliefs. Faulty beliefs are addressed in each MRT step and through various program exercises.

MRT Research

MRT outcome research has been published since 1988. The present author has been involved in a substantial amount of this research as well as assisting in the implementation of the method in numerous states. MRT is currently in use in over 40 states. Since the initial publication on MRT, the present author has collected virtually all of the published material on the method. A 1999 summary of MRT (Little & Robinson, 1999) prepared for a law-oriented journal stated that over 60 outcome studies on MRT had been published with data coming from approximately 20,000 treated subjects and 65,000 non-treated controls. Outcome data cited in this review include over 88,000 individuals.

MRT outcome data has evaluated completion rates and treatment attrition, changes in moral reasoning, a host of personality characteristics, client compliance and disciplinary infractions, completion of work release status, employment, and recidivism. Recidivism data on MRT-treated offenders has come from prisons, jails, parole and probation, community corrections, drug courts, juvenile programs, and domestic violence treatment programs. In addition, several cost-effectiveness reports have been published. Each of these areas is addressed separately. It should be noted that some reports cited contained similar data published in different venues. In tables, these are signified with an asterisk (*) after the reference. In most of these duplicated reports, some type of additional finding was reported. Data is presented from the most recent or the most extensive and detailed report.

A total of 78 published reports are included in this review. The primary criteria for inclusion herein was that objective outcome data was collected on treated subjects and that an appropriate comparison group was included if available. For some research (e.g.

personality variable changes as a consequence of treatment), it was required that both pretest and posttest data was obtained and reported. Reports were only included if officially published by a governmental body, journal, or in a compendium of research typically published by an association. Approximately 45 other published papers, articles, and reports on MRT were not included because they only concerned program information on implementation or did not contain outcome data. These studies are not included in the references, however, the 78 that did meet the criteria are referenced.

MRT Program Completion & Attrition Research

Table 1 summarizes MRT studies on program attrition and completion rates. A total of 10 published studies have addressed this issue. Four of these reported essentially the same research data (Little & Robinson, 1988; Freeman, Little, Robinson, & Swan, 1990; Robinson, 1994c; Robinson, 1994b) based upon the initial MRT implementation at the Shelby County Correction Center's prison therapeutic community (TC) in Memphis, TN. During the 4-year period preceding MRT implementation, the TC program's completion rate for all participants (N = 424) was 30%. The program completion rate (N = 180) during the initial 2-year period of MRT's use in the program was 50%. During this time period the completion rate for minority participants doubled from the prior rate.

Waggoner (1994) reported on staff implementation of MRT following training as possible MRT group facilitators in the Oklahoma Department of Correction. Oklahoma began a system-wide implementation of MRT in 1993. In 1994, about 50% of the 250 trained staff voluntarily began MRT groups following their training session. These staff operated 90 separate MRT groups in state facilities and had 600 offenders participating. Waggoner reported that potential group participant waiting lists had been established at correctional facilities in the state.

Hobler (1995) reported the first data from the Delaware Department of Correction's system-wide MRT implementation through the educational department's Life Skills Program. The Delaware implementation of MRT in its four prisons has received considerable national attention due to its success. Teachers trained as MRT facilitators conducted MRT groups as part of a comprehensive offender treatment curriculum. Results showed

Reference	Site	N	N	Outcome
		MRT	cont.	
Little & Robinson, 1988	prison TC	180	424	Increase from 30% to 50%
Freeman, Little, Robinson, & Swan, 1990	*			
Robinson, 1994c	*			
Robinson, 1994b	*			
Waggoner, 1994	Okla. DOC	600	NA	50% of trained staff started groups
Hobler, 1995	Del. DOC	138		84% completion rate
Fann & Stapleton, 1995	parole/prob.	72	NA	78% "success rate"
Fann & Stapleton, 1998	parole/prob.	283	NA	98.8% of successful discharges completed 5 or more MRT steps
Grandberry, 1998	WA DOC	109	101	Females and those completing >5 MRT steps most successful
Finn, 1998	Del. DOC	826		85% completion rate

that during the first 4-month “instructional cycle” of the program, 84% of the 138 participants completed the program. A 1998 report on the Delaware program published by the National Institute of Justice (Finn, 1998) reported that, of the program’s initial 826 participants (between 1994-1996), 85% graduated. Only 7% of the “nongraduates” dropped out or were expelled. This was considered to be an exceptional result.

Fann & Stapleton (1995; 1998) reported on offender completion of a community corrections-based (probation/parole) MRT program. Results showed that 78% of all participants managed to complete the restrictive program. A unique analysis of successful participants indicated that 98.8% of them completed at least 5 MRT steps while 62.4% of those who were “unsuccessful” (terminated, absconded, violated) completed less than 2 MRT steps.

Grandberry (1998) reported on the system-wide implementation in the Washington State Department of Correction begun in 1994 and continuing to the present. Comparisons of the 109 initial MRT participants to 101 controls showed that the MRT participants began with a higher severity of problems including drug usage and prior failures to conform to supervision requirements. Female MRT participants tended to reduce drug usage more than males and those who completed more than 5 MRT steps were the most successful.

Summary. Data on MRT attrition and program completion is scant with the possible exception of the Delaware Life Skills Program. Only the initial implementation of MRT included an analysis of client attrition and program completion rates after MRT implementation with a comparison to similar data prior to MRT. Those results showed that MRT greatly facilitated minority participation and modestly increased program participation by Whites. Observations published from Oklahoma and Washington appear to support this finding with the formation of waiting lists of offenders volunteering for the program. Inmate enthusiasm for the MRT program — especially in large, system-wide implementations — has consistently exceeded that of staff. This may be due to the perception that the formation and ongoing responsibility of operating a regular group is simply an added burden to staff. Waggoner (1994) stressed that staff trained in the method should be encouraged by the possible beneficial effects on inmate compliance and reduced recidivism. Many long-term staff in correctional departments have become skeptical of program implementations and see new programs as futile.

When conducted as an “educational program,” as in the Delaware study, completion rates are extremely high. MRT implementations in schools and colleges (addressed in later sections) have all shown very high completion rates.

Many analyses have focused on the number of MRT steps completed and client success. All of this research indicates that the more steps that are completed, the greater the odds of client success in showing lower recidivism. Data from community corrections and prison-based implementations have shown that completion of MRT steps 5 or 6 represents a significant “break point” indicating probable success.

Post-MRT Moral Reasoning Changes

Pre- and posttest research on moral reasoning level changes as a result of MRT participation have been reported in 8 studies (see Table 2). All of these studies have utilized the Defining Issues Test (DIT), an objective measure of the percentage of reasoning an individual employs on 5 of Kohlberg’s 6 levels. The test comes from the University of Minnesota Center for Ethical Research.

Four of these reports (Little & Robinson, 1988; Little & Robinson, 1989a; Little & Robinson, 1989c; Freeman, Little, Robinson, & Swan 1990) documented DIT results in drug offenders and DWI offenders who participated in MRT at the Shelby County Correction Center in Memphis, TN. Results from these studies showed that both felony drug offenders and multiple-DWI offenders showed significant increases in reasoning in Kohlberg's higher reasoning levels and significant declines in the lower (hedonistic) levels of reasoning after an average of 6 months MRT participation. One-year DWI recidivism of released MRT participants was significantly correlated to Kohlberg's highest moral reasoning level. Results showed the lower the individual's level of reasoning in stage 6 (universal-ethical, principled reasoning) the greater the odds of a new DWI arrest during the first year following release.

Grandberry (1998) reported on the DIT pre- and post-test scores of 37 Washington state offenders participating in MRT. Only 13 post-tests were available for analysis. The percentage of principled reasoning increased from 31 to 35 after MRT participation but a statistical analysis was not performed.

Gilreath (1995) and Sandhu (1999a) evaluated moral reasoning changes in females participating in MRT in a specialized residential program designed for drug abusing mothers. Gilreath reported a 54% increase in principled reasoning in 65 program graduates. Sandhu reported on pre- and post-test moral reasoning results in 27 females in the same program. Moderate — but nonsignificant — increases in moral reasoning were found in principled reasoning and Kohlberg's level 4 (rule orientation).

Sandhu (1998) also conducted a large study on 266 male inmates participating in MRT in an Oklahoma prison. Pre- and posttest DIT results showed a moderate — but nonsignificant — increase in principled reasoning and a significant — and moderately large — increase in rule orientation reasoning.

Summary. Moral reasoning changes following MRT participation have been reported in 8 studies containing 549 participant subjects. All of the reported data show decreases in the lower stages of moral reasoning with increases in higher stages following MRT participation. These findings are consistent with MRT's stated focus: to increase moral reasoning levels. Most of these studies report statistical significance, however, even in those reports showing nonsignificance, the data consistently trends strongly in the expected and desired direction. In summary, it can be stated that MRT does, in fact, increase levels of moral reasoning.

TABLE 2
MRT MORAL REASONING RESEARCH

Reference	Site	N	Outcome
Little & Robinson, 1989a	prison TC/DWI unit	39	moral reasoning sig. increased
Little & Robinson, 1989c	DWI's	115	DWI rearrests sig. related to moral reasoning
Freeman, Little, Robinson, & Swan 1990	*		
Little & Robinson, 1988	*		
Grandberry, 1998	WA DOC	37	MRT increased moral reasoning
Gilreath, 1995	residential/females	65	54% increase in principled reas.
Sandhu, 1999a	residential/females	27	NS increases in principled reasoning and rule orientation
Sandhu, 1998	OK prison	266	NS increase in principled reas.; sig. increase in rules orientation

The most consistent problem cited in these studies is the collection of invalid DIT results. Programs relying on clients to correctly complete the tests on their own — and then using computer scoring — tend to obtain a high percentage of invalid tests. Grandberry (1998) observed that the average reasoning level of Washington State inmates who completed valid tests was at the high school level. However, half of all tests were incomplete and invalid. Lack of testing supervision was cited as the most likely explanation for this finding. Those wishing to utilize objective tests on drug abusing populations should understand that staff supervision and support should be utilized during all testing procedures.

MRT Effects On Personality Variables: Self-Esteem, Life Purpose, Anger

Eleven published reports have evaluated the effect of MRT on a number of personality variables. Table 3 summarizes the results from this research. Little & Robinson (1988; 1989a) and Freeman, Little, Robinson, & Swan (1990) reported significant increases in the Purpose In Life (PIL) questionnaire following MRT treatment in both DWI and felony drug offenders. A correlational study on 115 DWI offenders' post-release DWI rearrests (Little & Robinson, 1989c) showed that MacAndrew pretest scores were significantly related to post-release rearrests. Sensation Seeking (SS) scores approached significance but no correlation was found between PIL or SS scores and DWI rearrests.

A small study (Correctional Counseling, Inc., 1993b) reported on personality variable changes in 26 substance abusers in a hospital-based MRT program. Following MRT participation, PIL scores significantly increased and SS scores (an indicator of thrill-seeking) significantly decreased.

A number of studies have investigated self-esteem changes in MRT participants. Hobler (1995) and Miller (1997) evaluated 102 and 591 Delaware MRT-Life Skills participants at entry and completion with the Rosenberg Self-Esteem Inventory. Both studies showed significant increases in self-esteem following MRT completion. Miller

Reference	Site	N	Outcome
Little & Robinson, 1989a	prison TC/DWI	75	PIL scores significantly increased.
Freeman, Little, Robinson, & Swan 1990	*		
Little & Robinson, 1988	*		
Little & Robinson, 1989c	DWI's	115	DWI rearrests sig. related to MAC pretest, SS appr. sig., PIL unrelated.
Correctional Counseling, Inc., 1993b	Hospital Unit	26	PIL sig. inc.; SS scores sig. dec.
Hobler, 1995	Del. DOC	102	Sig. increase in self-esteem
Miller, 1997	Del. DOC	591	Sig. increase in self-esteem
Gilreath, 1995	residential/fem.	65	54% increase in principled reas.
Sandhu, 1998	OK Prison	266	Sig. inc. in self-esteem & PIL.
Sandhu, 1999a	residential/fem.	27	NS increases in principled reasoning and rule orientation
Sandhu, 1999b	drug court	19	NS increase in principled reas.; sig. increase in rules orientation

also showed that the MRT participants' anger expression (as measured by the STAIX Anger Expression Inventory) was significantly lower following treatment.

Gilreath (1995) and Sandhu (1999a) also utilized the Rosenberg Self-Esteem Inventory with groups of 65 and 27 female MRT participants in residential treatment. Both studies found significant increases in self-esteem following MRT participation. In addition, these studies reported significant reductions in pre- to posttest results on sensation seeking and Beck Depression scores and significant increases in life purpose.

Sandhu (1999b) evaluated 19 graduates of an MRT-based drug court program. Both Life Purpose and Self-Esteem scores increased following MRT participation. In another study of 266 offenders in a prison based MRT program, Sandhu (1998) reported significant increases in Life Purpose and Self-Esteem scores and near significant decreases in sensation seeking.

Summary. MRT participation significantly enhances self-esteem and perceived life purpose in participants. Depression and anger expression also appear to be significantly lessened although there are few studies investigating these variables. In addition, thrill-seeking is generally lower following MRT participation. In some samples, thrill-seeking is significantly lower (hospital programs and females in residential treatment), however, in male offenders, thrill seeking reductions only approach significance.

MRT Effects Upon Misconducts (Disciplinary Infractions) in Prison, Parole, & Probation

One of the most important outcomes in criminal justice treatment is the effect of program participation on offender conduct within the criminal justice system. Eight studies have addressed the effect of MRT on disciplinary infractions and misconducts after offenders enter (and/or complete) treatment. Table 4 summarizes these results. Hobler (1995) reported on the post-MRT rules violation rate of 138 Delaware life skills participants compared to 21 controls. MRT participants showed a violation rate (15.7%) only half that of appropriate controls (33.3%).

TABLE 4 DISCIPLINARY INFRACTIONS & MRT				
Reference	Site	N	N	Outcome
		MRT	cont.	
Hobler, 1995	Del. DOC	138	21	MRT violations sig. lower
Brame, MacKenzie, Waggoner, & Robinson, 1996	OK prob.	2,865	40,904	MRT group significantly lower
MacKenzie, Brame, Waggoner, & Robinson, 1995	OK DOC	2,721	9,896	MRT group significantly lower
Grandberry, 1998	WA pro/pa	109	101	MRT completers sig. lower, all MRT participants higher.
Sandhu, 1998	OK prison	266	•	3.8% had "dirty" urine screens; 12.8% had disc. infractions
Lindholm, 1998	TX Rest.	12	•	Pre-MRT rate was 5; post-MRT rate was 1.
Black, 2000	TX Rest.	60	•	Pre-MRT infractions 178; post-MRT infractions 83.
Suitt, 2001	TX Rest.	119	50	Pre-MRT infractions 60; post-MRT infractions 17.

In two related reports (Brame, MacKenzie, Waggoner, & Robinson, 1996; MacKenzie, Brame, Waggoner, & Robinson, 1995), offender misconduct reports were analyzed in 2,721 MRT participants in Oklahoma Department of Correction prisons and compared to 9,896 inmates in other DOC programs. MRT participants showed significantly fewer misconducts than all DOC inmates and significantly fewer misconducts in comparison to other program participants. The relative misconduct rate of all MRT participants was 28% lower than other inmates. MRT graduates showed a 40% lower misconduct rate. These studies also analyzed misconduct rates in 2,865 MRT participants on probation compared to 40,904 other probationers. MRT completers showed a statistically significant misconduct rate 40% lower than other probationers. All MRT probation participants showed a 7% lower misconduct rate as compared to others.

Grandberry (1998) evaluated misconducts in 109 MRT participants in Washington state's parole/probation community corrections program and compared it to 101 controls. Results were difficult to interpret because many MRT participants were entered into the program because of misconduct problems and a demonstrated need for treatment. Results showed that MRT completers had a lower misconduct rate while all MRT participants had a higher, but nonsignificant, misconduct rate than controls.

Sandhu (1998) reported on the results of 800 drug usage urine screens from 266 prison inmates in MRT-based drug treatment but did not have access to comparison data. Only 10 (3.8%) of the 266 inmates had a "dirty" drug screen. Of the 266 inmates, 12.8% had at least one disciplinary infraction while participating in MRT.

Lindholm (1998) performed a preliminary analysis on the pre- and post-MRT disciplinary infraction rate in 12 offenders in a Texas restitution center. These offenders were entered into MRT because of their high rate of disciplinary problems. The subjects showed a pre-MRT disciplinary infraction rate of 5 per week compared to only 1 per week post-MRT.

Black (2000) also analyzed disciplinary infractions at a different Texas restitution center. MRT was implemented in this center because of disciplinary problems. The 60 inmates in the center received 178 disciplinary infractions during a 4-month period prior to MRT. The same 4-month period after MRT implementation showed only 83 infractions.

Suitt (2001) evaluated disciplinary infractions, program completions, and unauthorized absences before and after MRT implementation at the Jefferson County Resitution Center in Texas. Prior to MRT's use in the program, the yearly infraction rate was 60. During the 2-year period after MRT was implemented, the infraction rate averaged 16.66. Suitt also found that the rate of successful program completions also increased by 19% and the number of unauthorized absences declined in the program by 22.5%.

Summary. All studies on MRT's effect on disciplinary infractions with offenders housed in prisons or community corrections facilities have shown significant declines in the number and rate of infractions after MRT implementation. These studies included 6,296 MRT participants and 50,972 controls. In general, the disciplinary rate falls by 28% to 50% after MRT is implemented. Results on probation implementations of MRT are more difficult to analyze because MRT participation is often required as a result of an infraction pattern. Probationers who complete MRT consistently show a lower infraction rate, however, those who do not complete MRT generally do not. As was shown in the large Oklahoma study, when probationers are assigned to MRT, it is because they have demonstrated a high risk. These high-risk offenders who complete MRT show lower disciplinary infraction rates.

MRT Effects On Work Release & Employment Success

A few studies have evaluated the success of MRT participants on work release and employment success. Miller & Hobler (1996) and Miller (1997) evaluated the successful completion of Delaware DOC work release in MRT life-skills participants in comparison to other work release participants. They found that MRT participants had a significantly higher work release success rate (75.9% to 51.7%).

Grandberry (1998) found that MRT participants in Washington state's community corrections program were 84% employed compared to a 75% employment rate in controls. Shields (1999) reported on employment success in a community-based MRT offender services program in Oregon. The 40 MRT participants placed in jobs showed a 78% job retention rate after 90 days as compared to an expected rate of 70%.

In a unique application of MRT, Boughton (2001) reported on the use of a nonoffender version of the method with "resistant" clients. Beginning in 1997, the Tidewater (VA) Community College utilized MRT as the primary component in their welfare to work program. The program treated 300 individuals (virtually all on welfare) with 84% graduating (completing). In 2001, 94% of the graduates had obtained employment and 92% had already transitioned from short-term employment to long-term, permanent jobs. The report cited the national average of similar programs as 28%.

Post-Incarceration Recidivism Following MRT Treatment During Incarceration

By far, the most important — and most researched — outcome in the treatment of offender populations is recidivism. A total of 30 studies have reported on rearrests, reconvictions, and reincarceration of treated offenders after MRT participation. Table 5 summarizes these results.

Fourteen studies have been published on the recidivism of MRT-treated felony drug-abusing offenders housed at the Shelby County Correction Center in Memphis. These studies reported on the rearrests, reincarcerations, and days of additional sentence in 1,052 male offenders at periods of 6 months to 10 years after treatment and institutional release. The initial 70 felony offenders treated with MRT while participating in the prison's TC have been studied separately over their 10 years of release. This series of reports included appropriate controls and most closely approximates an experiment with randomly assigned treatment and control groups. Figure 1 summarizes the reincarceration rates of treated and control offenders at each year from one to ten years following release. Results include reincarcerations for all offenses including misdemeanors and felonies. MRT-treated offenders showed a statistically significant lower reincarceration rate at each year of data collection. In general, MRT-treated offenders showed a relative reincarceration rate 25%-35% lower than nontreated controls at each data collection point from 2-10 years post-release. In the initial year of release, MRT-treated offenders showed a relative reincarceration rate 75% lower than controls. Other data collected on these groups have shown that treated offenders have a significantly higher rate of "clean records" (no rearrests for any offense), lower mean numbers of rearrests, and fewer days of additional sentence in those who are reconvicted of a new offense. Thus, even with MRT-treated offenders who do eventually recidivate, it is likely that their severity of new offenses is lessened.

TABLE 5
OFFENDER RECIDIVISM FOLLOWING
MRT TREATMENT DURING INCARCERATION

Reference	Site	N MRT	N cont.	Time	Outcome
Little & Robinson, 1989a	TC	103	•	6 mo.	7.8% rein. MRT; 16% expected
Little & Robinson, 1990	TC	103	•	9 mo.	8% rein. MRT; 16% expected
Freeman, Little, Robinson, & Swan 1990	*				
Little, Robinson, & Burnette, 1991b	TC	70	82	1 yr.	24.3% MRT rein.; 36.6% cont.
Little, Robinson, & Burnette, 1992	*				
Correctional Counseling, Inc., 1992	prison	828	244	1-3 yr.	MRT gps. sig. lower at all yrs.
Robinson, & Ming, 1992	*				
Correctional Counseling, Inc., 1993a	*				
Little, Robinson, & Burnette, 1993	TC	70	82	5 yr.	37.1% MRT rein.; 54.9% cont.
Little, Robinson, & Burnette, 1994	prison	1,052	329	3.5 yr.	33.1% MRT rein.; 48.9% cont.
Robinson, 1994c	*				
Little, Robinson, Burnette, & Swan, 1995	TC	70	82	6 yr.	42.9% MRT rein.; 58.8% cont.
Little, Robinson, Burnette, & Swan, 1996	TC	70	82	7 yr.	42.9% MRT rein.; 60% cont.
Little, Robinson, Burnette, & Swan, 1999a	prison	1052	329	1-10 yr.	MRT sig. lower each year
Seales, 1990	OK	42	DOC	1 yr.	6.38% 1-year MRT rein. rate, 9.6% others.
Sandhu, 1998	OK DOC	345	•	•	3.19% reconvicted
Brame, MacKenzie, Waggoner, & Robinson, 1996	OK DOC	2,814	5,222	•	MRT treated sig. lower
MacKenzie, Brame, Waggoner, & Robinson, 1995	*				
Hobler, 1995	Del. DOC	138	21	12 wk.	MRT sig. lower
Miller, 1996	Del. DOC	83	355	12 mo.	MRT sig. lower
Miller, & Hobler, 1996	*				
Miller, 1997	Del. DOC	83	355	24 mo.	MRT sig. lower
Finn, 1998	*				
Godwin, Stone, & Hambrock, 1995	FL Jail	98	5,119	1-2 yr.	MRT groups sig lower
Krueger, 1993	Ohio Jail	62	NA	•	3% rearrested
Krueger, 1995	Ohio Jail	221	NA	•	Number of MRT sessions corr. with low rearrests.
Krueger, 1996	Ohio Jail	309	6,727	1-4 yr.	MRT groups sig. lower 1 to 4 years.
Kreuger, 1997	Ohio Jail	401	6,727	1-5 yr.	MRT groups sig. lower 1 to 5 years.
Hanson, 2000 year 1 & 2 are rearrests; year 3 is reincarceration	WA DOC	175	96	1 yr. 2 yr. 3 yr.	MRT = 19%; cont = 29% MRT = 26%; cont = 38% MRT = 23%; cont = 35%

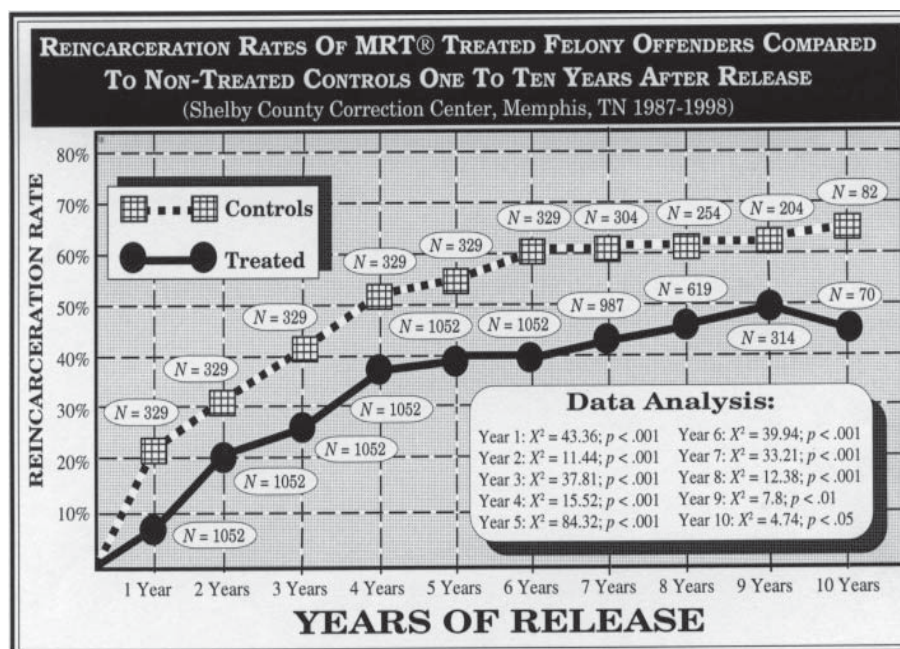
Four recidivism studies on MRT-treated inmates have been published from Oklahoma. Seales (1990) compared the one-year reincarceration rate of 46 MRT-treated offenders in an alternative incarceration setting (6.38%) to offenders treated in Oklahoma Department of Corrections' non-MRT programs (9.6%) and all DOC inmates (14.7%). It should be noted that these data only included recidivism back into a state facility and did not include local institutions, other states' institutions, or the Federal system. Sandhu (1998) evaluated the recidivism status of 345 offenders released from a prison-based MRT program after varying (short) amounts of time. His study showed that only 3.19% had been rearrested and reconvicted. No comparative data was included in that study.

By far, the largest and most extensive MRT recidivism study was conducted on Oklahoma offenders (Brame, MacKenzie, Waggoner, & Robinson, 1996; MacKenzie, Brame, Waggoner, & Robinson, 1995). This analysis looked at the relative rate of a "recidivism incident" (rearrest, violation, etc.) during each 30 day period following offenders' release from prison. The study included 2,814 MRT participants and 5,222 participants in other DOC programs. An analysis showed that inmates participating in MRT showed the highest risk for recidivism prior to MRT participation (nearly double the risk). This result was interpreted as meaning inmates with the most severe problems were placed into MRT. Offenders who subsequently participated in MRT then showed a significant and substantial decline in relative recidivism risk (declining by 75% from the expected rate). In addition, the MRT participants showed a recidivism rate significantly lower (40%) of that found in all other DOC programs. Subsequent analyses showed that offenders completing MRT steps 3, 6, and 9 showed progressive declines in recidivism risk.

Five recidivism studies have been conducted on Delaware DOC life skills participants. Hobler (1995) cited 18-week post-release rearrest rates on 138 MRT participants compared to 21 controls. The MRT group showed a 1.4% rearrest rate compared to 9.5% for controls. Miller (1996) reported on the one-year rearrest rate of the life skills participants. An 8.1% rearrest rate in 62 males and a 0% rearrest rate for 21 females — all of whom had participated in MRT — was found to be statistically lower than the respective 34.9% and 41.2% rearrest rates for appropriate controls. In a more detailed analysis, Miller (1997) reported two-year recidivism on these subjects. Results showed a 20% rearrest rate for MRT participants and a 50% rate for controls. A later report on the Delaware program (Finn, 1998) replicated Miller's earlier findings.

Five studies have evaluated recidivism in jail inmates participating in MRT. Godwin, Stone, & Hambrook (1995) collected the 12- and 24-month rearrest rates of 98 MRT participants at the Lake County (FL) Detention Center and compared it to the rearrest rates over the same time period in 5,119 nontreated jail inmates. Both 12- and 24-month MRT rearrest rates were significantly lower than that in controls. The one-year MRT rearrest rate was 11.25% compared to 29.7% for controls; the two-year MRT rearrest rate was 25.3% compared to 37.4% for controls.

In a series of reports, Krueger (1993, 1995, 1996, 1997) tracked rearrests of MRT-participating inmates at the Wayne County (Ohio) jail. The initial report indicated that the program had become popular with inmates and that a waiting list quickly formed. Subsequent studies compared the one, two, three, four and five year rearrest rates of participants to all jail inmates and a small group of randomly chosen controls. A total of 401 MRT participants showed a one-year rearrest rate of 7.8% compared to the entire jail population's one-year rearrest rate of 51.7%. A total of 82 MRT participants had been



released for 5 years at the time of the latest study. These participants showed a 62% rearrest rate over all 5 years as compared to a 95% rate for controls.

A recent study prepared by the Washington State Department of Corrections (Hanson, 2000) evaluated an institutional drug treatment program designed for inmates with less than two years to serve. The study made random assignments of drug offenders to the treatment program or to a nontreated control group. Three years of postrelease recidivism data were collected. During their first year of release, 19% of the ($N = 175$) treated offenders were rearrested as compared to 29% of ($N = 96$) controls. After 2 years of release, 26% of the treated group had been rearrested compared to 38% of controls. Data collected at the third year of release involved actual reincarceration: 23% of the treated group had returned to prison as compared to 35% of controls.

Meta-analysis of One-Year Post-Incarceration Recidivism of MRT-Treated Adult Offenders

Little (2001) performed a meta-analysis on outcome studies presenting one-year recidivism rates of adult offenders who had been treated with MRT during incarceration and then released. Seven studies were included in the analysis with only one of these by the developers of MRT. Results of the meta-analysis showed a significant effect size of .2295. Since the rate of control recidivism was approximately 40%, the results showed that MRT led to a decline in recidivism of about half of what was expected.

Summary. All of the MRT-treated inmate recidivism studies making comparisons to control groups or inmate populations have found that MRT participants consistently show significantly lower recidivism. These reports have come from prisons and jails using MRT in several states and locations. Several of these large reports resulted from independent evaluations funded by specialized federal grants. A compilation of recidivism data on treated inmates shows that 5,148 individuals were included and compared

to a total of 17,869 inmates who served as comparison controls. Several of these studies were conducted as experiments and appear to be highly reliable especially in view of the consistency and similarity of findings from studies from different locations and different investigators — including independent evaluators. The largest differences between MRT-treated inmates and nontreated controls' recidivism rates come during the first two years of observation with the treated groups showing relative recidivism rates at least 75% lower than controls. The years 3 to 10 after inmates' MRT treatment and release result in lower relative recidivism rates averaging between 25%-30%.

MRT & Drug Court Recidivism

MRT has been utilized in numerous adult drug court programs, however, few recidivism outcome evaluations have been published that focused on MRT's effect. Three small studies have come from a drug court in Oklahoma that utilized MRT. Anderson (1995) summarized preliminary data on the Payne County (OK) drug court program's implementation. During the court's first 18 months of operation, none of the 13 graduates reoffended. Huddleston (1996; 1997) reported on an independent study by the Oklahoma State Bureau of Investigation on the Payne County's first 48 program graduates. Only 4% of those MRT participants were rearrested and reconvicted during their initial 18 month period. Several other reports have come from juvenile drug courts. These are reviewed in the juvenile section.

MRT & DWI Recidivism

Table 6 summarizes the 15 studies on DWI offender recidivism following MRT treatment. All of the 15 published reports on the effect of MRT treatment on DWI offenders have come from the developer's initial use of MRT on the Alcohol Treatment Unit, a specialized 40-bed treatment unit at the Shelby County Correction Center in Memphis. Little & Robinson (1989a; 1989b) initially reported a 0% rearrest rate in the first 18 released offenders after an average of 6 months of release. When the initial 115 MRT participants had been released for 6 months, a 20% rearrest rate (for any offense) was found in the treated group compared to a 27.6% rearrest rate in 65 appropriate controls. Alcohol-related charges were found in 8.7% of treated clients and 10.8% of controls. Several subsequent reports presented various aspects of this recidivism data and tracked these 115 MRT-treated DWI offenders and nontreated controls for a 10 year period after release.

Little, Robinson, & Burnette (1990) reported a 13.9% reincarceration rate for treated offenders after 18 months of release as compared to 21.5% in controls. During this time period, 61% of treated subjects showed no arrests as compared to 54% in controls. The treated group showed a 4.2% rearrest rate for new DWI offenses as compared to 15.4% in controls. After 30 months of release (Little, Robinson, & Burnette, 1991a) the treated group showed a 22.6% reincarceration rate, a 45.2% rearrest rate, and a 18.3% rearrest rate for DWI. By comparison, controls showed a 36.9% reincarceration rate, 61.5% rearrest rate, and 16.9% rearrest rate for DWI.

Additional studies tracked the recidivism of these groups at 42 months (Little, Robinson, & Burnette, 1992; Correctional Counseling, Inc., 1993c) and for 5 years (Little, Robinson, Burnette, & Swan, 1995). Reincarceration rates for the treated DWI offenders were consistently lower than controls in all categories *except* DWI offenses.

At all subsequent data collection points, the treated and control group's *DWI rearrest rates* were essentially equal.

Ten-year recidivism outcome data on the initial 115 MRT-treated DWI offenders (Little, Robinson, Burnette, & Swan 1999b) showed that the treated group had a significantly lower reincarceration rate (44.35% to 61.54%), a significantly higher percentage of "clean records" — no rearrests for any offense (25.2% to 13.8%), a lower rearrest rate for non-DWI offenses (66.1% to 73.1%), but virtually identical DWI rearrest rates (37.4% to 36.9%).

Summary. The research on these 115 MRT-treated DWI offenders and 65 controls is extensive and long-term. However, no other reports have appeared in the literature on the use of MRT on alcohol offenders. The results from the present research are promising and thought-provoking. The MRT-treated DWI offenders showed a significantly lower reincarceration rate, lower rates of arrest for non-DWI offenses, but identical DWI rearrest rates (beginning at the 30-month period). MRT did appear to reduce DWI offending for the initial two years of an offender's release, however, after that point DWI arrests reached the same level as nontreated controls. Thus, it could be concluded that *MRT treatment produced a significant long-term decline in criminal behavior for everything but DWI*. DWI treatment data is seldom reported and recidivism appears to

TABLE 6
RECIDIVISM IN MRT-TREATED DWI OFFENDERS

Reference	Site	MRT N	Con. N	Time	Outcome
Little & Robinson, 1989a	TN	18	NA	6 mo.	0% recidivism
Little & Robinson, 1989b	TN	115	65	6 mo.	MRT 20% recid., cont. 27.6%
Little & Robinson, 1989c	*				
Little & Robinson, 1990	*				
Little, 1990	*				
Freeman, Little, Robinson, & Swan 1990	*				
Little, Robinson, & Burnette, 1990	TN	115	65	18 mo.	Treated group lower in all recidivism categories
Little, Robinson, & Burnette, 1991a	TN	115	65	30 mo.	Treated group lower in reinc., and rearrests
Little, Robinson, & Burnette, 1992	TN	115	65	42 mo.	Treated group lower in all areas
Robinson, & Ming, 1992	*				
Correctional Counseling, Inc., 1993c	*				
Robinson, 1994c	*				
Little, Robinson, Burnette, & Swan, 1995	TN	115	65	5.5 yr.	Treated group lower in all categories but DWI arrests.
Robinson, 1995	*				
Little, Robinson, Burnette, & Swan, 1999b	TN	115	65	10 yr.	MRT group sig. lower reinc., sig. higher rate of no arrests, fewer non-DWI arrests, identical rates of DWI arrests.

be extremely high. The reluctance of alcohol treatment programs to implement MRT (or other cognitive-behavioral programs) may be due to skepticism about the usefulness of outcome data and adherence to a 12-Step (AA) treatment tradition.

MRT & Recidivism in Parole/Probation

Recidivism in MRT-treated parolees and probationers has been evaluated in three locations. These studies are presented in Table 7. Two studies (MacKenzie, Brame, Waggoner, & Robinson, 1995; Brame, MacKenzie, Waggoner, & Robinson, 1996) compiled the risk of a recidivism incident in each 30-day period of all 41,087 Oklahoma probationers' probation sentences. The study evaluated the effects of all Oklahoma programs offered to probationers. The study first found that probationers who were referred to programs represented the highest risk offenders. *Offenders assigned to MRT programming showed the highest risk of recidivism at the initiation of treatment.* Results showed that 560 MRT-treated probationers displayed a significantly lowered recidivism risk following MRT participation approximating that of probationers not assigned to any programming. Offenders assigned to other probation programs (non-MRT) showed a greatly escalated recidivism risk (more than doubled). A further analysis compared the recidivism risk of a group of MRT-treated probationers who had substance abuse treatment needs (N = 430) to a group (N = 481) of probationers who had non-MRT substance abuse treatment. Results showed the MRT group's recidivism risk declined by over 60% while the non-MRT treated group actually showed an escalated recidivism risk more than double the risk expected without treatment. The implications of this research are rather profound. Drug-abusing probationers treated by the traditional 12-Step model actually were worsened by the treatment while those assigned to the MRT model substantially lowered their risks.

In another study, Burnett (1997) matched two groups of 30 parolees in Washington state parole field offices and assigned one group to MRT and the other to standard supervision. After 7 months he found a 10% rearrest rate in the MRT group and a 20% rearrest rate in the controls.

Grandberry (1998) compared a group of 109 Washington state community corrections offenders participating in MRT to a group of 101 demographically similar offenders not participating in MRT. Pretreatment differences in the groups were identified: the MRT group had more substance abuse problems and a much higher rate

TABLE 7
PROBATION/PAROLE RECIDIVISM IN MRT-TREATED OFFENDERS

Reference	Site	N		Outcome
		MRT	cont.	
MacKenzie, Brame, Waggoner, & Robinson, 1995	OK	560	2588	MRT recidivism sig. lower
Brame, MacKenzie, Waggoner, & Robinson, 1996	OK	430	481	MRT recid. risk sig. lower than drug treatment, all other prog. sig. higher
Burnett, 1997	WA	30	30	MRT rec. 10%, Con. rec. 20%
Grandberry, 1998	WA	109	101	MRT 44% rearrested, 1.8 offenses on average; controls 40% rearrested 2.1 offenses on average
Boston, 2001	OR	68	68	MRT 3% rearrested, controls 13%

of prior probation violations indicating that the offenders referred to MRT had more preexisting behavior problems. The one-year arrest rate for the MRT group was 44% compared to 40% of controls, however, the MRT group showed an average of 1.8 arrests compared to 2.1 for controls.

Boston (2001) evaluated a voluntary counseling program in Portland, Oregon designed to assist offenders and probationers to obtain and retain employment. The study looked at rearrests, reindictments, and reincarcerations in 68 clients who attended the program and 68 who had applied voluntarily but did not attend. Results from all three types of “recidivism” were consistent between the treated and nontreated groups. Six months after entry, 3% of the treated group had rearrests compared to 12% of controls.

Summary. Studies investigating the effects of MRT on probation/parole recidivism are relatively few and complicated by the difficulty of forming comparable control groups. MRT has been used to treat probation/parole offenders who display problem behaviors (drug abuse, disciplinary infractions) and who are at the greatest risk for recidivism, thus, comparisons to other probationers are difficult to interpret. The studies reviewed have used 767 MRT-treated probationers and made comparisons to 3,268 other probationers. In three of the four studies, MRT-treated probationers showed significantly fewer rearrests and lower reincarceration than comparison groups. Oklahoma’s extensive study found that, out of all the programs available to probationers, only MRT reduced recidivism risk. (That study also evaluated the recidivism of 2,588 probationers assigned to non-MRT programs. Participation and completion of all these other programs significantly and greatly escalated recidivism risk. This is a curious, yet important, finding.)

MRT & Domestic Violence Treatment

MRT has a specialized program designed for perpetrators of domestic violence. The program has been in use since 1995. While many treatment sites have utilized the program, scant outcome research has been published. Fann, & Watson (1999) found a 64% completion rate of the program by domestic violence perpetrators in a community treatment program in Tennessee. A 7.3% rearrest rate was reported for these completers over approximately one year. By comparison, 35% of the noncompleters were rearrested.

Leonardson (2000) reported on outcomes in 175 domestic violence perpetrators referred to the specialized MRT program in Montana. A 60% completion rate was found for perpetrators who also participated in a concurrent chemical dependency program. Only 22.6% of participants who had a restraining order completed the program. One and two-year rearrest rates were reported. MRT program completers showed a 29.4% one year arrest rate (for any offense) and a 48.6% two-year rearrest rate. Dropouts showed a 60% and 74.2% rearrest rate for one and two years, respectively. Untreated perpetrators showed rearrest rates of 50.6% and 58.7%. MRT completers also showed the lowest rearrest rates for domestic violence offenses in both the one and two-year periods (7.8%; 10.8%). Dropouts’ rates (13.3%; 22.6%) were higher than completers but lower than the untreated group (19%; 39.1%).

MRT & Treating Juvenile Offenders and At-Risk Youth

Specialized MRT programming also exists for youthful offenders and youth in educational programs, boot camps, juvenile facilities, and schools. This area of MRT research has spurred the most controversy and questionable ethics on the part of researchers.

Clark (1995) cited preliminary research showing improved retention in at-risk youth in a vocational training program in Puerto Rico. Lasater & Robinson (2001) cited data collected from an implementation of juvenile MRT on high school students in Montana who were facing suspension. During the first two years of the program, 83 students entered the MRT program and 60.2% of them completed it, thus, avoiding suspension. School officials partly credited the program with reducing the school's dropout rate from 10% to 3%. The report cited a substantial cost-effectiveness on using MRT on at-risk students.

Two related studies (Petry, Bowman, Douzenis, Kenney, & Bolding, 1992; Petry, & Kenney, 1995) investigated the effectiveness of MRT on treating 218 delinquent males participating in a boot camp. Rearrest rates (37%) were quoted as being low following treatment, however, comparable data was not supplied to the university evaluators performing the study. One significant finding showed that, in those juveniles who did reoffend following treatment, the severity of crime was lessened. The failure of juvenile authorities to supply comparative data for this program is one example of questionable ethics and motives. It was apparent at the beginning of the program that the juvenile court did not want to provide data that could be used for evaluations or comparisons.

Wallace (2000) reported on the implementation of MRT in a juvenile drug court in Las Cruces, NM. The drug court's adult program reported that their success in treating 56 adults spurred an effort to implement MRT with juveniles. While no comparative data was cited, the report stated that 21 juveniles had completed their program and that only 35% had reoffended.

In a follow-up study, Wallace (2001) reported a 17.5% rearrest rate in the 40 graduates of the Las Cruces drug court compared to an arrest rate of 44% in 39 graduates who participated in the program prior to MRT.

Two of the most interesting research reports on treating juvenile offenders with MRT may show how preconceived notions and researcher bias affects outcomes and conclusions. Armstrong (2000) purported to perform a completely randomized experiment on the effects of MRT with juveniles at the Montgomery County Detention Center (Maryland). The "juveniles" mean age was 20. A 40-bed treatment program within the institution utilized MRT. A total of 256 residents were "randomly assigned" to the MRT-treated (N=129) or a nontreated (N=127) control group. Rearrest data was collected in mid-1999 with treatment occurring sometime between 1997-1998. Total recidivism for the MRT-treated group (64.54%) was identical to the control group (64.71%). The author concluded, "This work finds the MRT program lacks portability. While it is important to note that this is but one trial of the MRT program, it is also important to note that this trial casts doubt on the wisdom of this program's widespread implementation."

While Armstrong posted his summary abstract on the internet and widely disseminated his conclusions, the actual study is worthy of further explanation. The author's abstract failed to acknowledge a host of problems with the "randomization" and that substantial differences were found between the treated and control groups prior to the

study. While the abstract makes no mention of these problems, the article states: “These limitations include the attenuation of treatment and control group differences and a lack of fidelity to randomization.” In brief, 19 of the study’s “randomly assigned” MRT-treated subjects *never entered treatment* and 25 of his control subjects were treated with MRT! In addition, the treated and nontreated groups significantly differed in racial composition. The treated group contained 67% African Americans and 22% Whites while the control group had 41% Whites and 48% African Americans.

As a final note, the author wrote and posted on the internet that only “two studies” had been published on MRT, and that these were questionable because they had been conducted by the developers of MRT. He questioned whether the method could be employed successfully in other settings other than by the program’s developers. Armstrong, of Arizona State University - West, based on his biographical listing, is primarily interested in “traditional” explanations of juvenile delinquency.

In contrast to the previous study, Deschamps (1998) began her study on MRT with open skepticism: “It was hypothesized that MRT would have little effect on recidivism because it does not adequately address the social control bonds...” (p. iii). As a Master’s thesis at the University of Windsor in Canada, Deschamps compared recidivism of 134 juvenile offenders treated with MRT at the Windsor New Beginnings Program to 134 randomly selected controls who served time at a similar non-MRT facility (Wycliffe Booth House) during the same time period. The author expressed surprise as the treated group showed significantly lower rearrests than the nontreated controls (46% and 57%, respectively). A host of other analyses were done to indicate whether the differences in recidivism were due to MRT or other factors. All of these analyses indicated that the differences were, indeed, due to MRT treatment.

Cost-Effectiveness

One of the most important methods of evaluating the effectiveness of a treatment is in its cost-effectiveness. MRT has had two cost-benefit analyses. The first analysis (Correctional Counseling, Inc., 1992) was performed for Shelby County Government to evaluate the MRT implementation at the county-operated Correction Center. This highly-conservative and narrow analysis was done on direct and actual costs of inmate treatment over a 3-year period, known arrest costs, and actual incarceration costs per day. No “estimated” benefits were included. The days of incarceration saved by treatment was calculated and added to actual arrest cost savings. The analysis showed that Shelby County saved \$1.71 in inmate housing and arrest costs (over 3 years) for each \$1 in MRT treatment cost.

A recent independent cost-benefit analysis was performed by the Washington State Institute for Public Policy (Aos, Phipps, Barnoski, & Lieb, 1999; Planning and Research Forum, 1999) on 18 adult offender treatment programs utilized nationally. MRT was one of the 18 programs evaluated in this extensive analysis. MRT showed the highest cost-benefit of all programs. For each \$1 spent on treatment, MRT returned \$11.48 in eventual criminal justice and other related costs. The second best program was job counseling/search programs for inmates leaving prisons (saving \$4.00 for each \$1 spent). The analysis also showed that many programs are not effective from a cost-benefit perspective.

Conclusions

Data presented in this review of MRT research comes from 14,623 MRT-treated individuals and 72,898 individuals forming control and comparison groups. Perhaps the most significant conclusion comes from the independent cost-benefit analysis from Washington State showing that MRT is — by far — the one program that produces the greatest cost-benefit. All other research supports this cost-benefit conclusion. Thirty-one studies have evaluated the effect of MRT on inmate recidivism. All of these studies have found that MRT leads to lower rearrests and reincarceration rates for time periods up to a full 10 years after treatment and release. Nearly 5,000 MRT-treated offender's post-release recidivism has been tracked by these studies. In addition, meta-analysis of one-year MRT results shows that expected rearrest rates are cut by half. More than 18 additional studies have shown consistently reduced recidivism in DWI offenders, domestic violence perpetrators, and in community corrections. In addition, research consistently shows that MRT treatment leads to a rapid and significant decline in incarcerated offender misconduct and disciplinary problems. MRT treatment also generally leads to reduced recidivism risk in probationers as well as in lower misconduct rates in some probation groups. Results from research on the effects of MRT treatment on personality variables is also consistent and lends insight into some possible factors leading to MRT's success. MRT leads to significant increases in moral reasoning as well producing as a host of other beneficial changes in personality measures. These include enhanced self-esteem, lower depression levels, lower anger levels, increased life purpose, and lower sensation seeking. Correlational research suggests that the beneficial effect of MRT on offender recidivism is due, in part, on some of these personality variable changes.

Few treatment approaches have been researched as extensively as MRT has been. While it has been established that MRT treatment leads to reduced recidivism, the effects of combining MRT with other programs has been largely unresearched. In addition, research should delineate exactly what types of offenders are most responsive to MRT.

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