

EFFECTS OF COGNITIVE SKILLS TRAINING  
ON RECIDIVISM RATES ON A SAMPLE OF  
OF ADULT PROBATIONERS IN TEXAS

THESIS

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### Abstract

This study attempted to determine the effects of the Reasoning and Rehabilitation Cognitive Skills Training Program on recidivism rates on a sample of offenders serving probated terms. Twenty four subjects received the Cognitive Skills Training, 31 received the Crossroads Lifeskills Program and 15 received no treatment. Results showed no differences in recidivism rates overall nor by risk level between all three groups over a three month period. However, there was evidence the cognitive program was more effective with those subjects who evidenced Strategies for Case Supervision environmental structuring or casework control type characteristics. The analysis further revealed the group that was most deficient in social cognitive skills failed to complete the treatment. Suggestions are offered in response to the dropout problem as well as for future replications. Historical patterns of unemployment, limited vocational skills and illicit drug use were found to be associated with higher recidivism rates. Methodological limitations are also discussed.

Effects of Cognitive Skills Training  
on Recidivism Rates on a Sample of  
Adult Probationers in Texas

The State of Texas defines "Probation" as the "supervised release of a convicted defendant by a court under a continuum of programs and sanctions (Texas Code of Criminal Procedure, Art. 42.12, Sec. 2). The Legislature established Texas community service and correction's departments (hereafter referred to as probation departments) to provide supervision and rehabilitation of probationers (Texas Code of Criminal Procedure, Art. 42.131, Sec. 2). Probation departments have traditionally regarded their mission as twofold: (a) Rehabilitation of the offender, (b) with the consequential effect of protection of the public (Training, 1991). The agency created by the Legislature to, among other duties, establish minimum standards for probation department programs, the Community Justice Assistance Division of the Texas Department of Corrections, has officially adopted this mission in its Standards (Standards, Sec. 163.03). Correspondingly, most probation departments now offer, and in some cases require a defendant, through the authority of the probating court, to participate in various treatment programs which are intended to hopefully reduce the defendant's chance of re-offending.

Some treatment for defendants is mandated by law. For instance, the State of Texas requires all persons who are convicted for the first time for the offense of driving while intoxicated to complete a mandatory alcohol education program certified by the Texas Commission on Alcoholism and Drug Abuse (Texas Code of Criminal Procedure, Art. 42.12, Sec. 13). The Statute further provides all driving while intoxicated offenders must be evaluated by the probation department and a course of conduct be prescribed and carried out necessary for the rehabilitation of the defendant's drug or alcohol dependence (Texas Code of Criminal Procedure, Art. 42.12, Sec. 13[f]). The only other treatment program mandated by the Legislature is the requirement that all defendants attain an educational skill level of at least the sixth grade (Texas Code of Criminal Procedure, Art. 42.14, Sec. 11[g]). All other treatment designated by the Legislature is permissive only and includes the following: a repeat offenders program for multiple driving while intoxicated offenders (Texas Code of Criminal Procedure, Art. 42.12, Sec. 13[f]), psychological counselling for sex offenders (Texas Code of Criminal Procedure, Art. 42.12, Sec. 14[b]) and rehabilitation programs to enhance a probationer's vocational and educational skills (Texas Code of Criminal Procedure, Art. 42.12, Sec. 28).

Texas probation departments, therefore have considerable latitude in the type, extent and even quality of treatment programs they provide or require for a defendant placed on probation. Ideally, the treatment intervention should be designed to accomplish the ultimate objective of offender rehabilitation and as a consequence, reduce recidivism. In all probability, most developers of treatment programs do have such intentions or at minimum attempt to positively affect some aspect of the rehabilitative effort. However, good intentions do not necessarily mean the treatment program is actually accomplishing what it was designed to do. Unfortunately, the Texas Legislature, in all its efforts to provide for offender rehabilitation, did not furnish any means, incentives, or even a requirement that the treatment programs offered through the probation departments be evaluated for their effectiveness. A recent report from the Texas State Auditor's Office concluded the Texas Department of Criminal Justice does not know if probation programs are effective at punishing or rehabilitating the 468,000 defendants on probation. As a result, corrections personnel do not know and cannot easily determine what works to minimize the risk an offender poses to the public (Lawing, 1993). It seems then probation departments have discharged their legal responsibility of providing

rehabilitation services when the offender has been evaluated and appropriately referred and required to attend the recommended treatment even if the treatment providers don't know if the treatment will be effective. But does the responsibility really end there without having some sound empirical method to measure whether the treatment intervention is in fact achieving the goal of reducing recidivism? Regrettably, opinions of most corrections administrators on whether their treatment programs are working are based more upon intuitive feelings rather than upon firm empirical evidence (Harris, 1991, p. 1).

Historically, criminal justice researchers have been grappling for over the issue of whether rehabilitation treatment for criminal offenders is effective at reducing recidivism. There is still considerable debate on this issue. In 1974, after surveying the results of numerous research studies, Martinson (1979 p. 253) asserted: "with few and isolated exceptions, the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism." This much publicized "nothing works" opinion was initially counterproductive for the rehabilitation oriented sector of criminal justice and an atmosphere of cynicism and pessimism prevailed for several years thereafter (Palmer, 1991). However, unexpectedly, in the longer term, it proved to be

beneficial by motivating many criminal justice researchers to reexamine the evidence for and against treatment (Gendreau and Ross, 1983). Palmer (1975) was one of the first to dispute Martinson's findings. Palmer pointed out Martinson had ignored his own findings that there were some treatment programs that did work. Palmer argued Martinson was concerned only with the overall effects of treatment on the offender population as a whole and that no program under those exacting standards could be considered successful. The type of program and type of offender variables had been mistakenly ignored. Rather than ask what works, Palmer (p. 150) suggested that we must ask: "Which methods work best for which types of offenders, and under what conditions or in what types of settings." Martinson (1979, p. 254) later retreated from the "nothing works" position and concluded the most critical factors in effective treatment are the conditions under which the programs are delivered.

Gendreau and Ross (1979, 1987) also disputed the "nothing works" perspective. In their literature reviews, they reportedly found numerous effective treatment programs. The problem, they surmised, was not that treatment was ineffective, but that the conditions under which the principles of effective intervention could be implemented and maintained successfully had not yet been

learned (Gendreau and Ross, 1987).

During the 1980's, utilizing the relatively new technique of meta-analysis, many criminal justice researchers began to look at program effectiveness with respect to type of treatment and offender characteristics. The procedure of meta-analysis involves collecting relevant studies, using the summary statistics from each study as units of analysis, and then analyzing the aggregated data in a quantitative manner using statistical tests. A major contribution of this technique is its ability to provide a measure (the effect size) of how much change has taken place due to the treatment (Izzo and Ross, 1990; Garrett, 1985).

Garrett (1985) utilized meta-analysis in studying adjudicated juvenile delinquents and concluded, in general, treatment programs in institutional or community settings do work. In this study, all outcome measures, including recidivism, were grouped together and averaged. The most interesting finding was that of all the types of treatment studied, the cognitive-behavioral approach seemed to be more successful than any of the others. Garrett suggested this was attributable to the possibility the cognitive-behavioral approach gives the offender the generalizable ability to control both internal and external environments.

Andrews et al. (1990) also utilizing the meta-analysis technique on both juvenile and adult recidivism studies, concluded that some treatment intervention was effective but only if it included three psychological principles. First, the higher risk cases must have been targeted for intervention as opposed to the low risk type of offender. Second, criminogenic needs or those risk factors which could be changed must have been the objective of the treatment. This included changing antisocial behavior, attitudes, feelings and peer associations, as well as developing more prosocial skills, providing positive role models and increasing an offenders self control and self management skills. Third, they contended that effective service required that it match the client's need and learning styles. The most effective types of service, they concluded, involved the use of behavioral and social learning principles of interpersonal influence, skill enhancement, and cognitive change.

Following Garrett's (1985) study, an investigation of juvenile delinquents utilizing component analysis was conducted by Ross and Fabiano, (1985). Their examination revealed reduced recidivism was associated more with treatment that included a cognitive component than those that did not. In order to be classified as cognitive, the program description must have indicated the employment of

one or more of the following intervention modalities: modelling, negotiation skills training, problem solving, interpersonal skills training, role-playing, rational-emotive therapy and cognitive behavior modification. Fifteen of the 16 cognitive programs were found to be effective at reducing recidivism (94%), whereas only 10 of the 34 noncognitive programs were effective (29%).

In another meta-analysis involving 46 studies of juvenile delinquents, Izzo and Ross (1990) found programs that included a cognitive component were more than twice as effective at reducing recidivism than programs that did not. The cognitive component in this study was identical to that used in Ross and Fabiano's (1985) research.

Ross and Fabiano (1985) theorized, based on their search of the literature, many offenders lack certain cognitive skills which are essential for social competence and a deficiency in those skills leads to criminal behavior (Ross and Fabiano, 1985). These cognitive deficiencies include the following:

1. Self control/impulsivity. According to Ross and Fabiano, many offenders fail to stop and think before they act and consider the consequences. They also may have failed to think after they act and therefore, do not learn from the consequences of punishment. They have not learned

to use reflection or reasoning to guide their behavior.

2. Cognitive Style. Ross and Fabiano also found that many offenders believe they are powerless and unable to control what happens to them. Their locus of control is external rather than internal and what happens to them is the result of fate, chance or luck.

3. Concrete vs. abstract thinking. Because some offenders are concrete thinkers and lack abstract reasoning skills, Ross and Fabiano found they often do not understand reasons for rules, laws or justice and cannot understand the thoughts or feelings of others.

4. Conceptual rigidity. Ross maintained that many offenders were inflexible and dogmatic operating on the basis of absolute beliefs not allowing them to change unacceptable behavior. Practicing this cognitive style, the offender will be continually threatened by the contradictory beliefs of others not allowing them to adapt socially.

5. Interpersonal problem solving. Many offenders, according to Ross and Fabiano, have difficulty with thinking skills which are necessary for solving everyday problems. They have a limited ability to recognize the potential for problems to develop when people interact. They also exhibit inadequate skills in thinking of alternative solutions to such problems when they do occur

and the ability to conceptualize the step-by-step means to achieve one's goals in the situation. Finally, they do not anticipate the consequences of their behavior and neither do they understand the cause and effect relationships between one's actions and another's behavior.

6. Ego centrist. Some offenders, Ross found, see the world only from their perspective and have never learned to consider how other people think or feel. Many have acquired only a limited ability to use inferential thinking to comprehend the thoughts, feelings and motives of other people. 7. Values. Somewhat related to ego-centricity is the offender's lack of consideration for other people when deciding what is right. Even if an offender has adequate cognitive skills, an antisocial value system will lead to continual criminal involvement.

8. Critical reasoning. Ross concludes that many offender's thinking is irrational and illogical and lacks self-criticism. The result is that they are gullible and easily influenced by others (Ross and Fabiano, 1985).

Ross and Fabiano (1985) have suggested a deficiency in those cognitive skills will be manifested in the offender's inability to socially adapt. It is likely the offender will have major difficulties in relating to others including spouses, employers and those in a position of authority. They will experience significant difficulties

in school, both academically and socially. The offender's limited problem solving skills and means-end reasoning, lack of self control and failure to consider consequences may result in accepting risk-taking situations. Lack of critical reasoning skills may result in the acceptance of peer influence to commit criminal acts. The offender's poor reasoning skills may lead them to develop erroneous beliefs which may encourage criminal conduct. Finally, by virtue of their limited long-term planning skills, preoccupation with the present, and limited problem solving skills, it may be difficult for them to acquire vocational skills which would enable them to achieve satisfaction in life through prosocial activities.

Ross and Fabiano (1985 p. 34) emphasized cognition is not referring to intellectual cognitive ability, but rather the ability of persons to understand other people, or what is termed social cognition or empathy. More specifically, it refers to that "facet of thinking and perception which allows one to make inferences about others, to take the perspective of others, to understand the perceptions others have of oneself, and to understand social phenomena." It involves more than being able to understand what other persons feel; it involves the ability to understand how others think. It is not so much the content or what people think that is important, they

contend, but it is the persons cognitive skills or how well a person thinks that is most important.

Not all offenders exhibit these cognitive deficits according to Ross and Fabiano (1985). Those offenders that are more likely to lack social cognitive skills are the adolescent offenders, alcohol abusing offenders, violent offenders and sex offenders.

Criminal justice researchers are not uniformly convinced these meta-analysis studies are demonstrating offender rehabilitation is working. First, it should be mentioned there are some problems associated with meta-analysis techniques. As Palmer (1991, p. 338) points out, definitional variations have rendered some studies difficult to assess as to the nature and impact of various approaches even for those which were considered successful. Such definitional problems "highlight the limitations of existing meta-analysis" (Palmer, 1991, p. 338). Arguments persist over selection bias, classification techniques, the relative weighing of weak versus rigorously designed studies, and the determination and interpretation of the measure of the outcome effect size (Izzo and Ross, 1990).

Lab and Whitehead (1990) have argued success in criminal justice settings should be based on recidivism only and not qualitative improvements in the behavior of subjects as they claim other studies have emphasized. They

argued that positive findings in these meta-analysis were probably the result of some methodological artifact rather than the treatment itself. In one of their literature reviews they used a ballot-box approach rather than meta-analysis (Lab and Whitehead, 1988). According to Lab, this approach simply requires the researcher to tally successful and unsuccessful programs. After studying 55 research reports regarding juvenile correctional treatment they concluded that, in general, at least half of the studies reported negative or no impact on recidivism and that many of the positive findings were based on dubious subjective evaluations. A year later Whitehead and Lab (1989) conducted their own meta-analysis, again on juvenile delinquents, and concluded that some treatments seemed to work but their findings were far from encouraging for advocates of correctional rehabilitation as no single category of intervention displayed overwhelmingly positive results on recidivism (Lab and Whitehead, 1990, p. 406).

Palmer (1991) pointed out, in defense of treatment intervention, Whitehead and Lab (1989) focused exclusively on types or categories of intervention, viewed as undifferentiated entities and ignored results from the individual studies that comprise those approaches. If they had done so they would have reported positive results. He also contended their requirement that success be

"overwhelmingly positive" was too stringent. Finally, Palmer pointed out that Whitehead and Lab generalized from a set of studies that represented the main range of intervention approaches. The fact that 60% of the studies in the meta-analysis were juvenile system diversions weakened the generalizability of the conclusions.

Palmer (1990, p. 339), in an attempt to summarize the meta-analysis and literature reviews of the 1980's, concluded that "intervention has a widely recognized and generally accepted role with at least serious and repeat offenders. This role involves . . . complex psychological and skill development methods . . . focusing greater attention to offenders needs and characteristics." Though no generic treatment method or approach has been shown to be effective with all offenders, Palmer reported at least one intervention was usually regarded as most successful--cognitive-behavioral.

Based on their studies which seemed to indicate the cognitive component was the principle means to offender rehabilitation, Ross and Fabiano (1986) developed a multi-faceted program for teaching social cognitive skills, the Reasoning and Rehabilitation program. The program was designed to focus on modifying the impulsive, ego-centric, illogical and rigid thinking of offenders and on teaching them to stop and think before acting, consider the

consequences of their behavior, conceptualize alternative ways of responding to interpersonal problems and consider the impact of their behavior on other persons, particularly their victims.

The program was prefaced on the belief that cognitive skills can be taught and to that end the Reasoning and Rehabilitation program employs a mixture of didactic and Socratic teaching methods, seminars and group discussions, and audio visual aids. It further utilizes role playing, modeling and commercial games such as Pictionary and Scruples. It is designed to be delivered by line staff who are trained in the Reasoning and Rehabilitation methods. It consists of ten modules to be delivered in a specified sequence and includes problem solving, social skills, negotiation skills, management of emotions, creative thinking, values enhancement, critical reasoning, skills in review and cognitive exercises. A crucial element of this cognitive training is these various subskills are taught in such a way that new skills are introduced only after other skills have been taught. Trainers are responsible for establishing an atmosphere which is informal but highly task-oriented, thought provoking, and stimulating. Trainers are to remind the participants it is not the content of the exercises that is important, but rather the reasons for their responses. They are to reinforce

participants for both achievement and effort and they are to further increase motivation by encouraging the participants to share in discussion and teaching tasks. The participants are encouraged to practice the skills they have learned in the sessions in real life situations. Finally, a key component of this program is that after every session, the session is reviewed and evaluated by both the trainer and participants.

Ross et al. (1985, p. 14) emphasizes that though their appears to be an empirical relationship between cognitive deficits and crime, it in itself does not cause crime. It is also pointed out that to change the behavior of offenders is "an exceedingly difficult and complex task" and the R & R model may have value for a substantial number of offenders but it is not a "panacea."

In an attempt to assess the efficacy of the Reasoning and Rehabilitation program, an experiment was conducted utilizing high risk adult offenders serving probated sentences and who were on intensive supervision caseloads as subjects in Ontario, Canada (Ross, Fabiano, and Ewles, 1988). In this study, probationers were randomly assigned to one of three treatment groups: regular probation, regular probation plus life-skills training, and regular probation plus cognitive skills training (N = 62). The groups were conducted by probation officers trained at

seminars in Reasoning and Rehabilitation techniques. The only variable examined was the rate of recidivism within a nine-month period following the conclusion of the program. Recidivism was defined as subsequent convictions. The results revealed a recidivism rate of 69.5% for regular probation, 47.5% for those taught life-skills only, and 18.1% for those receiving cognitive training.

Another study conducted in Colorado on drug offenders found the probationers in an intensive supervision program who were trained using the Reasoning and Rehabilitation method rate of revocation was one-half that of those who received no program at all and were on regular probation. However, they found the revocation rate was nearly the same or only slightly better than those who were in an intensive supervision program without the cognitive program (Johnson and Hunter, 1992). Their data analysis led Johnson and Hunter to believe the cognitive program seemed to be more effective with those clients who were at least 30 years of age and had low to average psychiatric, sociopathic, or employment problems. The intensive supervision caseload without the cognitive program was more effective with those clients who were younger, had high psychiatric problem scores, had scored higher on the needs assessment instrument and was more effective with subjects classified as limit setters on the case classification. Also, they

found clients in the cognitive program demonstrated more pro social attitude improvements as evidenced by their scores on an attitude survey created by the researchers. This was especially evident for factors that reflected specific cognitive objectives such as increased problem solving ability and empathy and a decrease in their feeling of powerlessness and susceptibility to external influence.

It should be noted some methodological problems have recently been cited which, if correct, tend to minimize the credibility of the results in this study (American Probation and Parole Association, 1993). First of all, according to this critique, Johnson and Hunter's claim to random assignment was violated when they initially assigned proportionately more subjects to the two treatment programs prior to the no treatment group to ensure that those groups had appropriate numbers. Second, the questionnaire developed by the researchers for the project was not properly tested for reliability (tested it on college students rather than a probation population). The questionnaire also required subjects to respond to 20 questions regarding their criminal activity for the previous four months. It was questioned whether, despite the assurance of confidentiality, the subjects were honest in their responses. Finally, the research did not indicate whether the reported interaction effects such as age were

submitted to statistical significance tests of any kind as the published data was just presented in its descriptive form. Therefore, because of those deficiencies, it was concluded that Johnson and Hunter could not draw the conclusions they had reported in their evaluation.

The literature reveals additional studies conducted in Canada whose findings were somewhat positive for the cognitive skills program and whose method seemed sound (Research Brief, 1991). In 1988 and 1989, the Reasoning and Rehabilitation Program was implemented in several prisons in Canada. This pilot sample originally consisted of 47 program participants and 26 non participants (comparison group). All but ten had been released from prison and were being supervised on parole. The average follow-up period following their release was 19.7 months. Recidivism outcome measures were utilized which consisted of readmissions to prison because of new convictions, readmission because of technical violations of parole or no readmission. Results showed 20% of those who received the cognitive program were readmitted for a new conviction compared to 30.4% of the comparison group. Ten out of the 40 subjects (25%) in the cognitive group were readmitted for technical violations compared to 21.7% of the comparison. Overall, 55% of the cognitive group were still on parole compared to 47.9% of the comparison group. Their

research revealed the normative base rate for readmissions for new convictions was 52%. Statistical significance was not reported but a 7% difference was not particularly convincing. More importantly, the study found that the cognitive program seemed to be most effective with the high risk offender as only 18% of the high risk offenders in the cognitive group were readmitted for new convictions, but 42% of the high risk subjects in the comparison group were readmitted for new convictions. On the other hand, low risk offenders were more successful in the comparison group. The risk levels in that study used the Statistical Information on Recidivism Scale (SIR). This scale is a statistically derived instrument that combines measures of demographic characteristics and criminal history to predict the recidivism of offenders and is used in Canada in making parole release decisions.

As a result of these purported positive initial results from this pilot sample, the cognitive skills training program was implemented in 17 sites in both institutional and community corrections settings across Canada. In all, 146 offenders who were randomly assigned completed the cognitive skills training. The control group consisted of 54 offenders. Prior to the beginning of the cognitive skills training, all subjects were administered a battery of measures designed to assess their level of

cognitive skills and their attitudes toward criminal behavior. Following completion of the program, these same tests were administered to measure any changes in either direction. Their findings revealed the subjects who received the training showed significant positive changes on nine out of ten scales designed to measure cognitive skills. These subjects showed more pro social attitudes toward the law, the courts, and the police following program completion. They also expressed less identification with criminal peers, showed less tolerance for law violations and were more empathetic towards victims. The comparison group, on the other hand, only improved on three of the ten scales and those improvements were not as great as the treatment group. To date, recidivism rates from this project have not been published.

Certainly, the primary goal of a corrections agency such as a probation department should be to reduce or prevent recidivism (Harris, 1991). If Ross and Fabiano's (1986) program is as effective as it is promoted to be, and as some research seems to demonstrate, then correctional agencies should seriously consider implementing such a program. In fact, many corrections departments across the nation have instituted this program and it seems to be the new trend in rehabilitation. The National Institute of Corrections Academy even offers training for corrections

personnel in cognitive rehabilitation methods based on the Reasoning and Rehabilitation program (NIC Academy Schedule, 1993). However, the research is as yet still much too meager to justify the expense and effort required to initiate such a program let alone to rely on it as a criminal justice panacea. More studies still need to be conducted to determine whether the Reasoning and Rehabilitation Program does positively impact recidivism and if so, with which type of subject. That is the primary objective of this study.

#### Hypothesis 1

The research suggests programs using the cognitive element are more effective at reducing recidivism than programs which do not. More specifically, research conducted on the Reasoning and Rehabilitation program indicate it has been effective at reducing recidivism in some populations of offenders. Therefore, the principal hypothesis of this study is that those subjects who receive the Reasoning and Rehabilitation program will recidivate at a lesser rate and demonstrate more prosocial values, attitudes and certain cognitive skills than a similar group of subjects who do not receive the cognitive training.

#### Hypothesis 2

It was hypothesized, based on the Ross et al. (1988) study, those subjects who received cognitive skills

training through the Reasoning and Rehabilitation method and who were classified as high risk by the Case Classification instruments would recidivate at a lesser rate than high risk offenders in the group that receives no treatment. Conversely, low risk offenders who receive the cognitive treatment would recidivate at a greater rate than the groups not receiving cognitive skills training.

### Hypothesis 3

Third, it was expected the subjects who received the Reasoning and Rehabilitation training, as opposed to those who did not, would demonstrate, through their attitudes and beliefs, the following: (a) more self control and less impulsivity (b) more of an internal rather than an external locus of control and consequently a greater self esteem (c) better reasoning skills (d) less rigidity in their beliefs (e) more empathy towards others (f) less ego centric thinking and (g) a more prosocial value system.

### Exploratory

Fourth, many researchers have expressed a need to examine relationships between various subgroups and responsiveness to treatment (Palmer, 1991; Andrews et al, 1990; Ross and Fabiano, 1985). In an effort to uncover possible significant relationships between different offender types and success, exploratory research was conducted. Efforts were made to examine the relationships

between commonly utilized community service assessment instruments and various attributes, behaviors, and attitudes of subjects who completed the treatment programs or were terminated from the treatment programs prematurely. Andrews (1990) suggests that comparisons of clients who do not complete treatment with those who do may be very valuable. In addition, the relationships between these groups, as well as the total sample, and the propensity to recidivate and the nature and seriousness of the violations was examined.

In order to effectively tests these hypotheses, another treatment intervention program needed to be chosen primarily as an attention control group similar to the lifeskills program used by Ross, Fabiano and Ewles (1988). The program needed to be similar in length to the Reasoning and Rehabilitation program, multi-faceted, and have been designed with the intended outcome of reducing recidivism in adult probationers. The program chosen was developed approximately ten years ago by the National Corrective Training Institute entitled "Crossroads." The program is widely used by various probation departments including the three departments used in this study. Despite assertions the program has a positive impact on rehabilitation, the efficacy of this program has apparently not been tested, but the developers of the program claim their theory is

supported by research (Townsend, D.R. personal communication, July 6, 1993 and NCTI Master Training Guide, Rev.1989).

Both the Reasoning and Rehabilitation program and the Crossroads program were designed to reduce recidivism. There are some fundamental differences in methods and content. First, the Crossroads program is taught in two hour sessions for a total of 32 to a maximum of 50 hours of training and is presumed to be appropriate for groups up to 30 subjects (NCTI Master Training Guide, Rev. 1989 & NCTI Adult Crossroads, 1987). In contrast, the Reasoning and Rehabilitation Program developers recommend the group consist of between four to eight subjects and the material be presented in 35 two hour sessions, preferably three to four times per week. Both programs require only one trainer.

In addition, the content of both programs is markedly diverse. The Crossroads Program tends to focus on an offender's thoughts about their behavior rather than thinking skills and relies substantially on group discussion to encourage that process. The theory underlying this program is that positively changing criminal behavior requires changing the criminals negative value system (NCTI Master Training Guide, Rev. 1989). This can be accomplished by first changing the

probationer's behavior which then creates a change in conscious thoughts or attitudes and this in turn will positively change values. For those whose value system is already positive, the idea is to change their behavior to match their value system. The key to changing behavior involves the simultaneous interaction of eight principles and includes the following:

1. The client must understand the relationship between values, attitudes and behavior. If someone is going to change their behavior, it must be for something they believe in;

2. The client must acquire an intrinsic commitment to change. They must be helped to understand why they might want to change;

3. The clients self-worth must be increased through building self-esteem which in turn results in an increase in learning potential;

4. The facilitator must build a supportive environment of rapport and trust. Clients will not risk changing behavior in a setting without these present;

5. The client must actively participate in the change process. No one will be allowed to just observe--they must participate;

6. The client must learn appropriate motives and true principles of growth and change;

7. The client must focus on behavioral skill acquisition. They will not be lectured but rather will practice behavior change;

8. The facilitator will promote individualized learning and communication in accordance with the clients individual learning style and personality (NCTI Facilitator Training Materials, 1991 & Townsend, D.R., personal communication, July 6, 1993).

These principles are accomplished in part through group discussion on topics provided with each lesson plan. Most of these discussions take place in small groups with the trainer providing guidance as needed. Facilitation by the group leader rather than lecturing or counselling is emphasized. Group discussion provides the catalyst for change in thinking and behavior and relies heavily on the ability of the trainer and to some extent on the knowledge, motivation and abilities of the participants. These discussions urge the participants to take a self inventory of themselves on the topic being discussed.

Between each class the participant is required to complete a goal-setting form related to the previously introduced topic. This form requires the participant to write down a specific goal and then share that goal with another person. It also asks the participant to write down the rewards that person will give to themselves for

achieving the goal; the length of time it will take to work on the goal; the steps required to achieve the goal; and the benefits they will receive from fulfilling the goal. Lessons cover lifeskill topics and include alcohol and drugs, control and success in life, staying in control, manners and appearance, work history, acceptance of self and others, relationships, family responsibilities, wants vs. needs, financial matters, time management, freedom and responsibility, problem solving, and setting future goals.

#### Methodology

##### Subjects

Probation officers in Comal, Hays and Caldwell County, Texas were requested to select felony and misdemeanor probationers being supervised on their caseloads who met the following criteria:

1. The last risk score on the case classification instrument must have been at least eight or higher. Therefore only probationers who were at least a medium risk or greater were to be included. Officers were encouraged to give maximum risk clients precedence;
2. The subjects must have been all males;
3. The subjects selected could not have already participated in a Crossroads and/or Reasoning and Rehabilitation program or other cognitive-behavioral type program;

4. For a period of at least twelve months after the program was scheduled to be completed, the subjects could not be assigned to any other cognitive-behavioral type programs; and

5. Subjects scheduled date of discharge from their probated sentence must not precede the 12 month anniversary of the completion of the program.

Fifty-six subjects were initially assigned in Comal County, 36 in Hays County and 24 in Caldwell County. There were a total of 21 subjects who failed to report for the testing.

#### Trainers

All of the group trainers/facilitators were formally trained and certified in accordance with their respective program guidelines. There were two trainers for the Reasoning and Rehabilitation program in Hays County, and both had previously facilitated a Reasoning and Rehabilitation program in the past. The two trainers in the other two counties had been trained the month before, and this was their first experience. All three trainers for the Crossroads groups had extensive experience in facilitating the Crossroads Program.

#### Procedure

The supervising officers were to select appropriate subjects per the criteria and assign them to a pool for

each county. Neither the subjects nor the officers were aware at the time of the assignment which program they would be participating in. All of the subjects in each county were scheduled to attend the first session where the pretests were conducted which was approximately one week prior to the first actual program session.

As each client entered the testing room for the first meeting (all testing was conducted in the same room for each county) they were provided a card with a different number on it to be used as an Id and then instructed to be seated. Once the session began, they were given instructions on the purpose and importance of the programs but they were not informed that they were involved in a research project or that there was more than one program involved. Instead, they were led to believe only one program was being offered but in two different groups.

In an attempt to disassociate this project from the probation department, all testing at that stage was administered by this researcher and members of the program's department only. To that end, no subject was court-ordered to participate. Instructions for completing each questionnaire were provided by the research staff. In addition, the subjects were advised that the purpose of the questionnaires they were to complete was to assist the program's department in the development of their treatment

programs with the ultimate objective to benefit the probationers. They were not informed of the posttesting that was to be conducted in four months. It was emphasized all of the subject's responses would be confidential and only the personnel of the program's department would view them. Further, the subjects were told that the program's personnel would not be concerned with individual responses but only group responses. In order to reassure them, the subjects were instructed not to write their names on the questionnaires but instead to write their Id number assigned to them.

As the subjects were in the process of completing the tests, those who appeared to be having difficulty reading were removed from the group and had the questions verbally read to them by one of the assistants from the program's department. There were a total of eight subjects who met this criteria.

At the pretesting, the subjects were assigned a number and while they are being tested, the assignments to the groups were accomplished by assigning every third number (beginning with number one) to the Reasoning and Rehabilitation program and all others to Crossroads until 10 subjects had been assigned to the Reasoning and Rehabilitation program. Thereafter, every other subject was assigned to either of the two programs. This was done

in an attempt to maintain a group size equivalent to what each program was capable of handling according to the developers. This resulted in initial groups which were larger than recommended in preparation for expected attrition. Regrettably, a randomly selected control group that would get no treatment was not possible because the supervisors of the departments did not feel it would be ethical to deny a group of subjects who may be in need of an intervention program. Further, it was felt it would be more difficult to solicit the probation officer's cooperation if a randomly assigned control group was used. Rather, a comparison group was developed which was composed of subjects who were otherwise eligible and met the criteria for inclusion in the study but who were not able to attend because of conflicts with their work schedule or transportation problems. A total of 15 subjects meeting this criteria were assigned to the group receiving no treatment.

### Groups

The R & R group was assigned 32 subjects of which 24 completed the program for a mortality rate of 25%. The final count for each group was Comal 11, Hays 7, and Caldwell 6. Only the Comal group was larger than the recommendation made by Ross et al. (1986).

The Crossroads group was initially assigned 42

subjects of which 11 terminated prior to completion for a mortality rate of 26%. Individual group numbers were as follows: Comal 13, Hays 9 and Caldwell 9. These numbers were well within the recommended maximum (NCTI Master Training Guide, Rev. 1989).

The No Treatment group consisted of 15 subjects. Not all were posttested because they did not show, leaving only 11 who participated in the attitude testing. All 15 were considered in the recidivism analysis.

A total of 24 subjects did not complete either of the two treatment programs. Five of these terminated because of events beyond their control or they had permission to drop from the programs. These five subjects were not considered in any of the data analysis. The remaining nineteen subjects constituted what was entitled the Incomplete group. In order to be classified as Incomplete the subject was required to meet at least one of the following criteria: (a) they absconded probation prior to completing the program, (b) or they had been assigned to attend one of the programs but terminated early without prior permission from their probation officer. The study of this group was considered critical. First of all, other researchers have recommended that this group be analyzed (Andrews et al., 1990). Secondly, if under more typical circumstances, these subjects would have been court ordered

to complete the program then failed to do so, this would constitute a violation of probation and could result in harsh sanctions. In this study, since they were not court ordered, failure to attend was not considered recidivism. Thirdly, both programs require a commitment of attendance and participation over a four month period of time. This is relatively long-term compared to many other treatment programs. If the subject refused to attend it would be an indication of unwillingness to sustain that level of commitment necessary for many pro social endeavors such as employment, educational and vocational enhancement, successful completion of probation, etc.

#### Program

One Reasoning and Rehabilitation (hereinafter referred to as the R & R) and one Crossroads program was conducted in each county for a total of six treatment groups. Each program began within approximately three weeks of each other. The Crossroads program was conducted in sessions of two hours each once each week from 6:30 p.m. until 8:30 p.m. The R & R groups were conducted in sessions from 6:30 to 8:30 p.m. twice each week. Each program instructor was admonished to strictly follow the guidelines set out in the respective training manuals. Each trainer was required to keep a record entitled "program journal" on every activity from each session

including the time spent on the topics and any deviations from the specified routine as well as any other comments thought to be pertinent. One R & R instructor did not keep a journal, but all of them claimed to have implemented the program as recommended. Attendance was to be mandatory, but if absences did occur, the subjects were to make it up through additional classes to prevent any of the participants from completing the program without being exposed to all the information.

### Measurement

#### Hypothesis 1

In order to test the hypothesis that those subjects who received the R & R training would recidivate at a lesser rate, a definition of recidivism was necessary. Typically, recidivism is defined as new arrests, convictions or incarcerations following treatment (Harris, 1991). The research conducted in Canada utilized reincarceration rates following parole violations either because of new convictions or technical violations. The research conducted in Colorado used revocation of probation rates for their outcome studies (Johnson and Hunter, 1991). Ross and Fabiano (1988) used the conviction rate over a nine month period following treatment for their outcome measure.

However, rearrests or new convictions alone are

probably not comprehensive enough in assessing the successful outcomes of subjects serving probated sentences because they do not take into account revocation of probations for technical violations of conditions not involving a new arrest or conviction which is of great concern to the probation officer. Reasons for revocation could be failing to report or make court ordered payments, use of illegal drugs, absconding probation or failing to attend court ordered treatment or not maintaining employment, etc. Further, conviction rates, especially in short term follow up periods, may not be a suitable measure of recidivism either. First of all, there is usually a delay of several months before a case may be resolved in court. In a follow-up period of nine months, subjects who are arrested at any time in that period would not be counted as having recidivated unless they were also convicted during that period. Moreover, the final result in the court process may not be representative of what actually transpired. For instance, an offender could be arrested for a new offense and truly guilty but through plea bargaining procedures accepts a pre-trial intervention or a deferred adjudication with no conviction. This offender would not be considered to have recidivated since the arrest did not terminate in a conviction. In addition, an offense may have been committed but for some reason the

prosecuting attorney may not accept the case for prosecution. On the other hand, revocation rates alone are not appropriate outcome measures either. The rates of revocation can be influenced by the policies of the court and/or the probation department, attitude of the probation officer and possibly the probationer. For example, under some jurisdictions, technical violations such as failing to make payments may be considered serious enough to warrant revocation while in others it may not. Revocation rates vary considerably across the State of Texas by departments.

In an attempt to avoid problems associated with the more traditional classifications of recidivism, for purposes of this study, recidivism was grouped into four classifications as follows from most serious to least serious: (a) Class 1 = any felony or class A or class B misdemeanor arrest; (b) Class 2 = a violation notice was filed with the Court requesting revocation of probation or a serious sanction for technical violations of probation such as absconding; (c) Class 3 = a class C misdemeanor arrest that could involve a jail sentence if convicted and/or continued violations noted by the probation officer but no violation notice filed or planned for the near future. This could include positive urine specimens for controlled substance use (posttest urinalysis results were included in this category). It also could include failing

to report consistently to the probation department or to court ordered treatment (missed at least 1/3 or more of their scheduled meetings during the three month period following treatment) or failure to make payments if financially able (must have been delinquent at least three or more months); (d) Class 4 = subject cannot be classified in any of the three previous categories but continues to remain unmotivated and exhibits few positive changes towards prosocial attitudes such as remaining unemployed or doing just enough to avoid sanctions. This was the most subjective of the four categories and required an opinion based upon the written file record. Even though Class 4 violations were not recidivism per se, it is indicative of potential recidivistic behavior. This was considered important in view of the relatively short follow-up period used in this study.

A subject would be classified into one of these four classes if the violations or the behavior occurred, or the violation notices were filed, for violations that occurred between June 1, 1993 and September 1, 1993 (Violations for those who terminated the programs prematurely may have occurred in the three month period prior to this.) Also, most of the urine specimens were taken on the last day of each program which could have been as early as May 5, 1993 for the Comal county Crossroads group. This covered an

approximate three month period following the completion of all the treatment programs. This time frame was chosen with objective of assessing immediate effects of the programs thus limiting possible confounding in a longer follow-up period.

Arrest information was gathered from criminal histories provided by the Texas Department of Public Safety in addition to checking local law enforcement arrest records for each county. Further, each file on every subject was analyzed including a thorough examination of the chronological entries provided by the supervising probation officer. In general, the officers were not consulted for their verbal input except to make clarifications in an effort to enhance the objectivity of the observations.

### Hypothesis 2

The second hypothesis necessitated that the subjects be differentiated into high and low risk groups. The Case Classification risk assessment instrument was utilized for this purpose. All subjects whose last risk score was 11 or less were placed in one group and those whose risk score was greater than 12 were place in another group. This resulted in a low risk group ( $n = 34$ ,  $\underline{M} = 8.35$ ,  $SD = 2.0$ ) and a high risk group ( $n = 36$ ,  $\underline{M} = 17.72$ ,  $SD = 4.5$ ).

### Hypothesis 3

Several instruments were selected to test the hypothesis respecting the subject's attitudes and beliefs. These questionnaires were initially given to the subjects to examine the groups for possible pretest differences. They included:

1. Colorado Questionnaire (CQ). This questionnaire was developed by the University of Colorado Center for Action Research in 1991 specifically for cognitive group testing. It was designed to measure a number of attitudes, beliefs and cognitive deficits thought to be related to criminal behavior (Johnson and Hunter, 1992). It was tested on college students to assess the clarity and the ability of the items to differentiate among respondents, and to construct multiple-item scales having acceptable properties (e.g., reliability levels and item-scale correlations). The instrument was composed of 120 questions, however, 20 of those questions dealt with self reported criminal behavior. Those questions were deleted from this study since it was felt that despite the assurance of confidentiality not all subjects would be willing to admit to continuing criminal behavior while on probation. The remaining 100 questions were measures of 20 variables containing from three to eight items each. They were selected either due to their relevance to the program

objectives; had shown by previous research to predict drug use and/or other criminal behaviors; had a basis in crime and delinquency theory for associates with criminal behaviors; or were logically associated with socially acceptable lifestyles. Variables included self control, normlessness/accepting illegitimate means, susceptibility to peer influence toward deviance, general susceptibility to external influence, sense of powerlessness/fatalism, problem solving ability, attachment to probation officer, rigidity/closemindedness, empathy, favorable attitudes toward police, acceptance of rationalizations for criminal behavior, tolerance for drug use, awareness of victims, favorable attitudes toward courts and judges, criminal access, commitment to socially acceptable goals, perceived access to socially acceptable goals, positive labeling, attitudes against criminal behavior, and exposure to criminal peers. Most of the questions required responses on Likert type scales such as strongly agree, agree, neither agree or disagree, disagree or strongly disagree. For purposes of this study, the responses were weighted so that the higher the tabulated score in each category, the greater the indicator of the desired effect or desired attitude.

## 2. Internal-External Control Index (ICI).

This instrument was designed to measure where a

person expects to obtain reinforcement, externally or internally (Duttweiler, 1984). Those with an internal locus of control believe that reinforcement is based on their behavior while those with an external locus tend to believe that reinforcement is based on chance or luck. Locus of control is viewed as a personality trait that influences human behavior across a wide range of situations related to learning and achievement. Ross and Fabiano (1985) assert that those persons with an external locus of control are the target of the R & R Program. Scores can range from 28-140 with the higher scores reflecting a higher internal locus of control.

### 3. Index of Self-Esteem (ISE).

This instrument was chosen because both treatment programs claim to impact self esteem. It is a 25 item scale designed to measure the degree, severity, or magnitude of a problem the subject has with self-esteem (Hudson, 1982). Responses are made on a Likert scale of one to five. Scoring ranges from 0-100 with scores higher than 30 indicating problems with self-esteem.

### 4. Problem Solving Inventory (PSI).

This is a 35 item instrument designed to measure how the subjects believe they generally react to personal problems in their daily lives (Heppner & Peterson, 1982). Scores range from 35 to 175 with the higher scores

indicative of greater perceived problem solving abilities. The original test had a six-item Likert scale for responses. For this study, the scale was reduced to five for simplicity.

#### Exploratory

The final objective of this study was to attempt to establish what subject attributes, attitudes and behaviors, if any, were associated with lower recidivism rates by the treatment groups and which were associated with differences between those who completed the programs and those who terminated from treatment prematurely. Several subject descriptive variables found in the case files were chosen for this purpose and they included as follows: age, ethnicity (Caucasian, African-American or Hispanic), education level, marital status (married, living together, single, divorced or separated), offense type (personal [including physical assaults and sex offenses], property [such as burglary and theft] or substance abuse [including driving while intoxicated and possession or delivery of controlled substances], vocational skill level (unskilled, semi-skilled, skilled/white-collar or student), employment history (history of working less than 50% of their working lives, working 50-90% or working over 90%), self support (history of being able to support themselves less than 50% of their lives, 50-90% or over 90%), criminal histories

(number of felony or misdemeanor arrests) and employment status when the treatment began (full-time [40 or more hours per week], part-time [20-40 hours per week] or unemployed).

Several assessment/evaluation instruments were chosen for this research, most of which are commonly utilized by probation departments. They included:

1. Case Classification.

The Texas Department of Corrections requires all probationers be assessed using the Case Classification System (Standards, 1993). It consists of four components: the Risk Assessment and Needs Assessment used at intake and the Risk and Need Reassessment instruments. The Risk instruments are designed to measure the amount of risk the offender poses to the community in terms of likelihood of re-offending. The higher the score the greater the risk. It also categorizes the offenders into maximum (15 or greater), medium (8-14) and minimum (0-7) categories. The needs instrument serves as a useful guide providing insight into the particular service needs of each offender and the amount of time an officer can be expected to expend on each case. The higher the score the greater the need. The categories are maximum (greater than 30), medium (15-29) and minimum (less than 15).

The extent and nature of the supervision required of

each probationer depends in part on the level of classification. A maximum level corresponds to more probation officer/probationer contacts than a medium or minimum level. The number of contacts are set by each departments policies.

## 2. Strategies for Case Supervision (SCS).

This instrument was designed to assist criminal justice practitioners in the management of offenders under their supervision (Strategies, 1991). The purpose was to categorize offenders into one of five strategy groups based on individual characteristics. The five groups are Selective Intervention-Situational (SI-S), Selective Intervention-Treatment (SI-T), Casework Control (CC), Environmental Structuring (ES) and Limit Setting (LS).

Subjects classified as SI generally have prosocial value orientation, generally stable life styles, minimal prior criminal involvement and lower recidivism rates. The offense for those who are classified as SI-S is usually motivated by some crisis and is temporary, while SI-T offenses are motivated by some neurotic problem. Those classified as CC are generally unstable, lack goal directedness, have emotional problems, a chaotic lifestyle and numerous personal problems. Offenders classified as ES tend to lack social and vocational skills, have intellectual deficits, are easily influenced, lack insight,

hindsight and foresight, are impulsive and generally have an inability to perceive the motives and concerns of others. Finally, LS offenders generally have a criminally oriented value system. Their crimes are motivated by power, materialism or excitement. They tend to have a callous disregard for others a need to be in control and evade responsibility. They will have good social skills but are superficially conforming.

The assessment is conducted in an individual interview format and consists of 56 questions about the offenders attitudes about the offense, offense patterns, school adjustment, vocational and residential adjustment, family attitudes, inter-personal relations, feelings, plans and problems and objective background items. The interviewer then rates the offender on eight behavioral observations and finally ranks seven factors in regards to each factors contribution to the offenders criminal activities. For purposes of this study, the raw scores in each of the five strategy groups were tabulated and used in the analysis along with the assigned group. Also, the data regarding vocational skills, history of self support and percentage of life working for later analysis were obtained from this instrument. The SCS is required on all felony probationers in the representative counties, and therefore, some files already contained the scores (Caldwell, 1993).

For those that did not, interviews were conducted within the first month of the study.

### 3. Substance Abuse Subtle Screening Inventory.

The primary objective of the SASSI was to serve as a screening tool to differentiate substance abusers from non-abusers (Miller, 1988). The instrument was composed of two parts with no time limit for completion and is self-administered. The first part consisted of 54 questions which are answered as true or false. The second part consists of 26 questions which have to do with admissions to drug and alcohol abuse. There are eight scales on this assessment and the score total on each scale in relation to other scales determines the assessment outcome. Two of scales were termed Face Valid Alcohol (FVA) and Face Valid Drug (FVOD) scales. Scores on these scales measured whether the client was willing to admit to having a problem with substance abuse. The Obvious Attributes Scale (OAT) measures the amount of pain a person is experiencing in their life due to substance abuse. On the other hand, the Subtle Attribute Scale (SAT) measures the amount of pain a person was experiencing in their life but at a deeper level than the OAT. It was measuring the client's values, attitudes and ways of thinking and dealing with feelings and relationships. The higher the score on this scale the longer the term of treatment it will take

for recovery.

There were two defensive scales (DEF and DEF2) which when taken together could determine the existence of denial. The ALD Scale measured the substance preferences of the client. A high score indicated an alcohol preference and a low score a drug preference. Finally, high scores on the FAM scale are an indicator of co-dependency problems. The scores from each scale were tabulated and the subject categorized as chemically dependent, likely an abuser, a non-abuser, or defensive and then differentiated between drugs and alcohol.

#### 4. Adult Placement Indicator (API).

This instrument was designed to measure the subjects reading ability through a comprehension and vocabulary test (Copeman & Ribarchik, 1986). The first part consisted of 50 vocabulary questions ranging from simple to difficult. The second consisted of 17 paragraphs, each followed by three questions concerning the content of the paragraph. Similar to part one, the questions become progressively more difficult. Scoring the instrument resulted in a comprehending and a vocabulary raw score, a reading ability grade level from 2-9 for each category and a combined grade level from 2-9.

#### 5. Shipley Institute of Living Scale (SHIPLEY).

This instrument was chosen because of its ease of

application in group settings (Zachary, 1991). It was designed to provide the abstract reasoning and vocabulary abilities of the subjects as well as a WAIS Full Scale IQ stratified by age. It consisted of two parts. The first part contained 40 words with each word followed by four adjacent words and the subject was to choose which of the four words meant the same as the word in question. Each target word became progressively more difficult. The vocabulary raw score was the sum of all words that were correctly identified.

The second part consisted of 20 abstract reasoning problems, each succeeding problem becoming progressively more difficult. The right responses were then summed and multiplied by two for an abstract raw score. An estimated Full Scale verbal IQ score adjusted for age could be determined from the two raw scores. This instrument was recognized to have its limitations (Zachary, 1991, p. 3). For instance, a low score on the abstract test may be indicative of a lack of motivation rather than an actual inability to think. But for this study it was used simply as a guide to intellectual functioning. Whether it was a motivational problem or cognitive problem was not considered important. The SHIPLEY was administered in each individual treatment group about a month after the programs had begun and therefore was not available for those

subjects who had previously terminated from treatment.

Finally, each subject was required to provide a urine specimen at the first session. Each sample was then analyzed by a professional laboratory to detect for recent use of amphetamines, cocaine, marijuana and opiates. A urine specimen was categorized as positive if any of the above substances were detected and negative if they were not.

#### Posttesting

Posttesting was conducted in the last session of each of the six treatment groups. The No Treatment group subjects were tested individually during the same time frame as the treatment groups. This period was approximately four months in duration. Testing procedures were the same as with the pretesting. The Colorado Questionnaire, Internal Control Index and the Index of Self Esteem were all used again for the posttesting. The Problem Solving Index was not used at this juncture for two reasons. First of all, from pretesting experience, it was felt the amount of time and effort involved in completing the number of questionnaires during one session was too demanding on many of the subjects. Secondly, pretest results had indicated the PSI was highly correlated with both the ISE and ICI and therefore considered unnecessary.

Urine specimens were also obtained on all subjects in

the treatment programs during the last session. Specimens were gathered from the No Treatment subjects within the same time frame.

#### Statistical Procedures

An Analysis of Variance (ANOVA) procedure was used in most cases to analyze the interval level variables for statistically significant differences. However, in view of the fact that the No Treatment group was not randomly assigned, an Analysis of Covariance (ANCOVA) method was considered more appropriate than an ANOVA for the attitude tests used in the measurement of Hypothesis 2. Cook and Campbell (1979, p. 152) assert that if groups are not randomly assigned, then an ANOVA model does not take into account selection differences associated with group non-equivalence even if there were no pretest differences as in the instant case. They argue that an ANCOVA model is more appropriate because it adjusts for any pretest differences between groups. In situations where there were more than two groups being compared, the Tukey multiple comparison test was utilized to discern significant differences. Nominal level variables were computed into contingency tables with the Pearson Chi Square test of significance being employed. If more than 20% of the cell had less than five minimum expected frequencies then the results were generally not reported. Tables not meeting

this criteria but included in this report were labelled as such. Differences were considered significant at the .05 level or less for all statistical procedures.

## Results

### Group Equivalency

One of the first procedures in this investigation was to examine whether the two treatment groups and the group receiving the treatment matched closely on a number of variables. As can be seen in Table 1, the three groups seemed to equate well on nearly every variable measured. An ANOVA revealed no significant differences between the

Table 1  
Characteristics of the Treatment  
and No Treatment Groups

| Behavior/Attribute        | R & R<br>$\bar{n} = 24$ |     | Crossroads<br>$\bar{n} = 31$ |     | No Treatment<br>$\bar{n} = 15$ |     |
|---------------------------|-------------------------|-----|------------------------------|-----|--------------------------------|-----|
|                           | Mean                    | %   | Mean                         | %   | Mean                           | %   |
| Age                       | 30.6                    |     | 29.9                         |     | 30.5                           |     |
| Prior Felony Arrests      | .3                      |     | .2                           |     | .5                             |     |
| Prior Misdemeanor Arrests | 3.0                     |     | 2.1                          |     | 2.3                            |     |
| Ethnicity                 |                         |     |                              |     |                                |     |
| Anglo                     |                         | 38% |                              | 52% |                                | 47% |
| Hispanic                  |                         | 54  |                              | 42  |                                | 47  |
| Black                     |                         | 8   |                              | 6   |                                | 7   |

|                                |      |      |      |
|--------------------------------|------|------|------|
| <b>Education</b>               |      |      |      |
| Less than H.S.<br>& no GED     | 42%  | 42   | 50   |
| GED                            | 21   | 16   | 15   |
| H.S. Diploma                   | 33   | 42   | 36   |
| <b>Grade Level Completed</b>   |      |      |      |
|                                | 10.7 | 10.7 | 10.6 |
| <b>% of Life Working</b>       |      |      |      |
| Over 90%                       | 71%  | 74%  | 39%  |
| 50-90%                         | 25   | 23   | 46   |
| Less than 50%                  | 4    | 3    | 13   |
| <b>Ability to Support Self</b> |      |      |      |
| Usually Able                   | 50%  | 68%  | 38%  |
| Sometimes Unable               | 46   | 29   | 39   |
| Usually Unable                 | 4    | 3    | 23   |
| <b>Vocational Skills</b>       |      |      |      |
| Unskilled                      | 25%  | 16%  | 50%  |
| Semi-Skilled                   | 50   | 52   | 33   |
| Skilled/White Collar           | 21   | 19   | 8    |
| Student                        | 4    | 13   | 8    |
| <b>Marital Status</b>          |      |      |      |
| Single                         | 25%  | 48%  | 40%  |
| Married                        | 29   | 19   | 33   |
| Co-habiting                    | 33   | 19   | 7    |
| Married/Separated              | 4    | 7    | 13   |
| Divorced                       | 8    | 7    | 7    |
| <b>Urinalysis Results</b>      |      |      |      |
| Positive                       | 21%  | 13%  | 17%  |
| Negative                       | 80   | 87   | 83   |

Assessment Instrument

|                  |      |      |      |
|------------------|------|------|------|
| API Grade Level  | 7.7  | 7.7  | 7.8  |
| Shipley Abstract | 17.0 | 21.4 | 20.2 |
| Shipley IQ       | 91.0 | 96.1 | 98.0 |

|                     |     |     |     |
|---------------------|-----|-----|-----|
| SASSI               |     |     |     |
| Dependent           | 42% | 8%  | 33% |
| Likely an Abuser    | 12  | 32  | 20  |
| Defensive           | 17  | 6   | 20  |
| Non-Dependent       | 29  | 35  | 27  |
| SCS Classifications |     |     |     |
| Situational         |     |     |     |
| Intervention        | 63% | 74% | 46% |
| Casework Control    | 29  | 6   | 39  |
| Limit Setter        | 4   | 3   | 0   |
| Environmental       |     |     |     |
| Structuring         | 4   | 16  | 15  |
| SCS Raw Scores      |     |     |     |
| Situational         |     |     |     |
| Intervention        | 65  | 67  | 52  |
| Casework Control    | 49  | 47  | 42  |
| Limit Setter        | 41  | 42  | 44  |
| Environmental       |     |     |     |
| Structuring         | 41  | 43  | 46  |
| Risk Scores         | 13  | 14  | 12  |
| Need Scores         | 17  | 14  | 15  |

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these groups on any of the interval level variables including: age, prior convictions, API grade level, educational grade level, Shipley Abstract and IQ scores, SCS and SASSI raw scores, and risk and need scores from the case classifications. A Pearson Chi-Square revealed no significant differences for any of the nominal level variables including: ethnicity, education, work and self support history, vocational skills, marital status and urinalysis results. The three categories of offenses, personal, property and substance abuse, though not significantly different, were not evenly divided across all

groups. Offenders who committed offenses against the person such as assault were assigned in proportionately larger numbers to the Crossroads group (82%) than the No Treatment group (18%) and the R & R, which had none. Further, only one in seven of the ES subjects was assigned to the R & R while the Crossroads had five. This may explain the differences in offense categories since the ES subjects were primarily responsible for the assaultive offenses. The only other variable that appeared to differ substantially was history of self support but it was not a statistically significant difference,  $\chi^2(4) = 8.106, p < .087$ .

Treatment group absences were analyzed and as shown in Table 2, even though the mean number of absences for the

Table 2  
Absences by Treatment Group

| Group      | Mean Absences | % of Classes Missed |
|------------|---------------|---------------------|
| R & R      | 4.2           | 12%                 |
| Crossroads | 1.5           | 10                  |

R & R (4.16) was greater than Crossroads (1.54), the percentages of classes missed were nearly the same (R & R = 12%; Crossroads = 10%). Only one of the R & R subjects attended all of the sessions compared to six of the Crossroads subjects. Further, only 46% of the subjects in

the R & R group missed four or less sessions (11% of the total number of classes) whereas 87.2% of the subjects in the Crossroads missed two or less sessions (12% of the total number of sessions). At least three of the R & R subjects missed eight or more. The group leaders required a makeup session for all of those subjects who missed more than two sessions. By far the greatest absentee rate for all groups was the R & R in Comal County at 17%.

### Hypothesis 1

The four classes of violations were analyzed across all three groups and are presented in Table 3.

Table 3  
Post Treatment--Violations by Groups

| Group        | None | n    | Violation Class 1       |     |
|--------------|------|------|-------------------------|-----|
|              |      |      |                         | n   |
| R & R        | 96%  | (23) | 4%                      | (1) |
| Crossroads   | 93   | (29) | 7                       | (2) |
| No Treatment | 93   | (14) | 7                       | (1) |
| -----        |      |      |                         |     |
|              |      |      | Violation Class (1,2)   |     |
| R & R        | 96%  | (23) | 4%                      | (1) |
| Crossroads   | 87   | (27) | 13                      | (4) |
| No Treatment | 87   | (13) | 13                      | (2) |
| -----        |      |      |                         |     |
|              |      |      | Violation Class (1,2,3) |     |
| R & R        | 75%  | (18) | 25%                     | (6) |
| Crossroads   | 71   | (22) | 29                      | (9) |
| No Treatment | 67   | (10) | 33                      | (5) |

|              | Violation<br>Class<br>(1,2,3,4) |      |     |      |
|--------------|---------------------------------|------|-----|------|
| R & R        | 58%                             | (14) | 42% | (10) |
| Crossroads   | 58                              | (18) | 42  | (13) |
| No Treatment | 60                              | (9)  | 40  | (6)  |

If only Class 1 violations are considered, all three groups were very successful, with less than 7% rearrested in any one group. However, when Class 2 violations are added, the Crossroads and the No Treatment group success rates drop to 87% while the R & R group rate remained at 93%. The addition of Class 3 violations reduced the success rate for the R & R group to 75%, the Crossroads group to 74% and the No Treatment group to 67%. Finally, combining all four classes of violations resulted in a 58% success rate for both the R & R and Crossroads, and 60% for the No Treatment group. No significant Pearson Chi-Squares were found for these three groups.

#### Hypothesis 2

Class (1,2,3) violations were utilized for this analysis. The results showed the recidivism for the low risk subjects was around 10% for all three groups, which was not the result expected. However, the R & R group recidivism rate for the high risk subjects was 36% compared

to 67% for the No Treatment group. The Crossroads group recidivism rate was 44% (see Table 4). The group sizes were too small to make any definitive conclusions, but these figures could be pointing to the possibility the R & R program was more effective with the higher risk clients. However, because the Crossroads Group recidivism

Table 4  
Proportion of Class (1,2,3) Violations by Level of Risk

| Group        | Low Risk  |      |                  |      |
|--------------|-----------|------|------------------|------|
|              | None      | n    | Class<br>(1,2,3) | n    |
| R & R        | 90%       | (9)  | 10%              | (1)  |
| Crossroads   | 87        | (13) | 13               | (2)  |
| No Treatment | 89        | (8)  | 11               | (11) |
|              |           |      |                  |      |
| Group        | High Risk |      |                  |      |
|              | None      | n    | Class<br>(1,2,3) | n    |
| R & R        | 64%       | (9)  | 36%              | (5)  |
| Crossroads   | 56        | (7)  | 44               | (7)  |
| No Treatment | 33        | (2)  | 67               | (4)  |

rate for the high risk subject was only slightly client. higher than the R & R, this would seem to suggest both treatments were equally effective at reaching the high risk

### Hypothesis 3

Table 5 reveals pre and posttest means on the three attitude surveys. The Crossroads mean (375) on the Colorado Questionnaire total score was greater than the R & R (362) and No Treatment groups (358). The No Treatment

Table 5  
Mean Scores on Attitude Surveys

| Group        | Attitude Survey        |            |                         |             |                         |             |
|--------------|------------------------|------------|-------------------------|-------------|-------------------------|-------------|
|              | CQ <sup>a</sup><br>Pre | CQ<br>Post | ICI <sup>b</sup><br>Pre | ICI<br>Post | ISE <sup>c</sup><br>Pre | ISE<br>Post |
| R & R        | 357                    | 362        | 101                     | 108         | 29                      | 24          |
| Crossroads   | 366                    | 375        | 105                     | 106         | 24                      | 20          |
| No Treatment | 356                    | 358        | 101                     | 110         | 27                      | 23          |

<sup>a</sup>Colorado Attitude Survey

<sup>b</sup>Internal Control Index

<sup>c</sup>Inventory of Self Esteem

group's mean (110) on the Internal Control Index was greater than the other two groups (R & R = 108 & Crossroads = 106). Finally, the Crossroads group's mean (20) on the Inventory of Self Esteem was lower (indicating more self esteem) than the other two groups (R & R = 24 & No Treatment = 23). However, using an ANCOVA with the respective pretests as the covariants, no significant differences were found between the three groups posttest mean scores on any of the attitude surveys. Further, all 18 individual items on the Colorado Questionnaire were subjected to an ANCOVA using the respective pretests as the covariants and no significant differences were found between the groups on any of the items.

### Exploratory

#### Incomplete Group Analysis

There were some unique characteristics distinguishing

those subjects who left the treatment program unsuccessfully ( $n = 19$ ) and those who continued on and finished either the R & R or Crossroads programs ( $n = 55$ ). Those who aborted early had a much greater chance of recidivism than those who completed the programs. In fact, 13 out of the 19 or 32% committed a Class (1,2,3) violation compared to 73% who completed,  $\chi^2(1) = 16.63$ ,  $p < .000$  (See Table 6). If all four classes are regarded, only one out of 19 (5%) did not recidivate compared to 32 out of 55

Table 6  
Comparison of Class (1,2,3) Violations  
by Dropped/Completed Treatment

| Group     | Violation Class (1,2,3) |                 |     |                 |
|-----------|-------------------------|-----------------|-----|-----------------|
|           | None                    | $\underline{n}$ |     | $\underline{n}$ |
| Dropped   | 32%                     | (8)             | 68% | (11)            |
| Completed | 72                      | (40)            | 27  | (15)            |

| Group     | Class (1,2) |                 | Class (3,4)     |                 |
|-----------|-------------|-----------------|-----------------|-----------------|
|           | None        | $\underline{n}$ | $\underline{n}$ | $\underline{n}$ |
| Dropped   | 5%          | (1)             | 58%             | (11)            |
| Completed | 58          | (32)            | 9               | (5)             |

| Group     | Class (1,2,3,4) |                 |
|-----------|-----------------|-----------------|
|           | None            | $\underline{n}$ |
| Dropped   | 5%              | (1)             |
| Completed | 58              | (32)            |

(56%) who completed,  $\chi^2(2) = 16.00$ ,  $p < .000$ .

Further, Table 6 reveals those who failed to finish tended

to commit a larger proportion of the more serious violations (Class 1,2) as 58% of the Incomplete group violated in that class as opposed to only 11% for the group that completed,  $\chi^2(2) = 22.59, p < .000$ .

In an attempt to distinguish the characteristics of the subjects in the Incomplete group, all interval level data was submitted to an ANOVA with the two factor variable, completed or did not complete treatment the independent variable, by various subject attributes, attitudes, behaviors and assessment instrument scores as the dependent variables. Those resulting in significant differences are presented in Table 7 in descending

Table 7  
Mean Scores for Completed/Dropped Treatment  
by Different Subject Characteristics

|                              | Group                 |                     |
|------------------------------|-----------------------|---------------------|
|                              | Completed<br>$n = 55$ | Dropped<br>$n = 19$ |
| <u>Behavior/Attributes</u>   |                       |                     |
| Prior Felony Arrests         | 0.2                   | 1.4                 |
| Prior Misdemeanor Arrest     | 2.5                   | 4.6                 |
| <u>Assessment Instrument</u> |                       |                     |
| SCS: Selective Intervention  | 66                    | 44                  |
| SCS: Limit Setter            | 42                    | 48                  |
| Risk Score                   | 13                    | 19                  |
| Need Score                   | 15                    | 21                  |
| SASSI Alcohol v. Drug        | 4.6                   | 5.4                 |
| SCS: Casework Control        | 48                    | 52                  |

order of significance levels. Not surprisingly, the Incomplete group evidenced a significantly higher number of prior felony arrests ( $M = 1.36$ ) than those who completed ( $m = .24$ ),  $F(1, 73) = 18.01$ ,  $p < .000$  and a significantly higher number of misdemeanor arrests ( $M = 4.6$  &  $2.5$  respectfully)  $F(1, 73) = 4.15$ ,  $p < .045$ .

Some of the assessment classification scores showed significant differences as well. (see Table 7, the SCS Selective Intervention Situational and Treatment classifications were combined since there were an insignificant number classified as situational). The SCS selective intervention mean was 66 for the completed group and 44 for the Incomplete group,  $F(1, 72) = 23.02$ ,  $p < .000$ . The SCS limit setter mean for the completed group was 41 compared to the Incomplete group mean of 48,  $F(1, 72) = 14.04$ ,  $p < .000$ . The SCS casework control mean was significant between the two groups as the completed group mean was 52 as opposed to the Incomplete group mean of 48,  $F(1, 72) = 4.20$ ,  $p < .044$ . The SCS environmental structuring mean was not significantly different between the two groups.

The risk and need case classification scores were also successful at distinguishing between the two groups. The mean risk score for the completed group was 13

contrasted with 19 for the Incomplete group,  $F(1, 73) = 10.23$ ,  $p < .002$ . The completed group mean need score was 15 and the Incomplete group mean need score was 21,  $F(1, 73) = 8.30$ ,  $p < .005$ . These results underscore the ability of these assessment tools to predict recidivistic behavior.

The nominal level variables were tabulated into frequency tables and those with significant Pearson Chi-Squares are presented in Table 8 in descending order of significance. Whether the subject discontinued

Table 8  
Proportion of Completed/Dropped Treatment  
with Different Subject Characteristics

| Behavior/Attribute             | Group       |      |           |      |
|--------------------------------|-------------|------|-----------|------|
|                                | % Completed | n    | % Dropped | n    |
| <b>% Life Working</b>          |             |      |           |      |
| Less than 50%                  | 29%         | (2)  | 71%       | (5)  |
| 50-90%                         | 59          | (13) | 41        | (9)  |
| Over 90%                       | 91          | (40) | 9         | (4)  |
| <b>Ability to Support Self</b> |             |      |           |      |
| Usually Unable                 | 29%         | (2)  | 71%       | (5)  |
| Sometimes Unable               | 71          | (20) | 29        | (8)  |
| Usually Able                   | 87          | (33) | 13        | (5)  |
| <b>*Employment</b>             |             |      |           |      |
| Unemployed                     | 44%         | (4)  | 56%       | (5)  |
| Part-time                      | 44          | (4)  | 56        | (5)  |
| Full-time                      | 84          | (47) | 16        | (9)  |
| <b>**Vocational Skills</b>     |             |      |           |      |
| Unskilled                      | 50%         | (11) | 50%       | (11) |
| Semi-skilled                   | 85          | (28) | 15        | (5)  |
| Skilled/White Collar           | 85          | (11) | 15        | (2)  |

|                                  |     |      |     |      |
|----------------------------------|-----|------|-----|------|
| Student                          | 100 | (5)  | 0   | (0)  |
| Prior Arrests                    |     |      |     |      |
| One or more                      | 67% | (36) | 33% | (18) |
| None                             | 95  | (19) | 5   | (1)  |
| Educational Status               |     |      |     |      |
| No high school diploma<br>or GED | 64% | (23) | 36% | (13) |
| High school diploma<br>or GED    | 84  | (32) | 16  | (6)  |

---

treatment prematurely or not seemed to be most closely related to their patterns of behavior connected with employment. As can be observed, only 29% of those who had a history of working less than 50% of their working lives completed the programs, while 91% of those who had worked over 90% of their lives completed,  $\chi^2(2) = 17.10$ ,  $p < .000$ . Closely related to work history, the ability to support oneself was significant across groups as 87% of those who usually were able to support themselves completed compared to 29% for those who usually were unable,  $\chi^2(2) = 11.18$ ,  $p < .004$ .

Whether or not the subject was employed full time when the study commenced also was significant. Only 44% of those who reported part time employment or were unemployed completed compared to 84% of those employed full time,  $\chi^2(2) = 11.13$ ,  $p < .004$ . The subjects vocational skill level also seemed related to whether the subject dropped out prematurely as 85% of the skilled/white collar workers

and semi-skilled workers completed contrasted with 50% of the unskilled workers,  $\chi^2(3) = 11.45, p < .010$ .

The subjects educational attainment level was also significant but only when those who obtained GED's and high school diplomas were grouped in the same categories,  $\chi^2(1) = 4.0, p < .045$ . The Shipley tests were not available prior to these subjects terminating, therefore, significance of IQ scores was not analyzed for this group.

Two other variables seemed to have some relationship, but not at the .05 significance level. Of those who had tested positive for illegal drug use at the pretest, only 56% completed as opposed to 79% who were negative,  $\chi^2(1) = 3.49, p < .061$ . Also, those who were either divorced or separated at the pretest tended to drop out (50%) in comparison with those who were in more stable relationships (82%) or were single (78%),  $\chi^2(2) = 15.54, p < .064$ .

Variables that did not show significant differences included age, API total raw scores, ethnicity and all SASSI categories. In addition, no significant differences were found between the two groups on all of the attitude surveys including the ISE, ICI, PSI and all 18 individual categories on the CQ survey. The Shipley test was not available when these subjects were tested.

This data seems to suggest there was a motivation and a desire to achieve factor underlying a subject's

propensity to complete the programming. On the other hand, the subject's educational ability level, at least with respect to vocabulary and reading comprehension was not a factor. Also, it would seem the lack of an historical pattern of pro social behavior was more indicative of whether a subject would complete such treatment than were self perceived deficits in pro social attitudes and certain cognitive skills.

#### Completed Treatment Analysis

The next step in the analysis was to attempt to determine whether there were any characteristics unique to those subjects who completed treatment yet still recidivated. For this investigation, Class (1,2,3) violations were used. All interval level data was submitted to an ANOVA with the two factor variable, completed/no violations and completed/violated, as the independent variable by various subject attributes, attitudes, behaviors and assessment instrument scores as the dependent variables. The results of this analysis are displayed in Table 9 in descending order of significance levels. The Case Classification instruments risk and need scores were able to distinguish between those who violated and those who did not. Mean need scores for those who did not violate were 14, compared to 19 for those who did,  $F(1, 53) = 5.27, p < .026$  and mean risk scores for

Table 9  
Assessment Classification Mean Scores  
for Class 1,2,3 Violations--Completed Treatment

| Assessment Instrument             | Violation      |                            |
|-----------------------------------|----------------|----------------------------|
|                                   | None<br>n = 32 | Class<br>(1,2,3)<br>n = 23 |
| Need Score                        | 14             | 19                         |
| Risk Score                        | 12             | 16                         |
| Sassi Subtle Attributes           | 3.4            | 4.1                        |
| Shipley IQ Score                  | 91             | 102                        |
| SASSI Def v Dep/<br>Def v Non-Dep | 6.9            | 8.9                        |
| Shipley Vocabulary                | 21             | 25                         |
| SASSI Fva                         | 3.6            | 5.9                        |

those who did not violate or violated were 12 and 16 respectively,  $F(1, 53) = 4.96, p < .030$ . The SCS instrument scores for all scales did not significantly differentiate between the two groups. However, although the numbers are too small to make any statistical inferences, the data does show that of the six subjects classified as ES four recidivated compared to a 23% recidivism rate for SI and CC classifications. When Class 4 violations were added, the mean for the non recidivist's was 42 and the recidivists mean was 48. This was significantly different,  $F(1, 53) = 4.80, p < .033$ . Further, Table 10 presents the mean SCS scores for each category by completed treatment and recidivated or did not

Table 10  
Mean SCS Scores for Class (1,2,3) Violations  
by Recidivated or did not Recidivate--  
Completed Treatment

| SCS Classification |    |    |    |    |
|--------------------|----|----|----|----|
| Group              | CC | ES | LS | SI |
| Recdivated         | 51 | 48 | 40 | 66 |
| Did Not Recidivate | 47 | 44 | 42 | 66 |

recidivate. As can be seen, the completed treatment group mean SCS primary classification was situational intervention ( $\bar{M}$  = 66) for both recidivist and non-recidivists groups. However, the secondary classification for the no recidivism group was casework control ( $\bar{M}$  = 51) with environmental structuring as the secondary classification for the recidivated group ( $\bar{M}$  = 48).

Those subjects with environmental structuring characteristics were the exception to the overall composition of the group that completed treatment along a number of variables. None of them earned a high school diploma, but three did obtain a GED. They also were more likely to be classified as high risk and high need. Though they had a history of working full time, they also had a history of not being able to support themselves as readily as the other SCS classifications and they tended to have fewer vocational skills. This would suggest these subjects

were probably employed but at lower level minimum wage type jobs.

Returning to Table 9, two of the SASSI scales showed a significant difference between the two groups. The Def 2 scale mean for those who did not violate was 6.9 compared to 8.8 for those who did violate,  $F(1, 53) = 4.6$ ,  $p < .037$  and on the Subtle Attribute scale, the mean for those who did violate was 4.1 compared to 3.6 for those who did not violate,  $F(1, 53) = 4.87$ ,  $p < .032$ . Though not showing significance at the .05 level, those who scored higher on the Face Valid Alcohol Scale ( $M = 5.9$ ) tended to recidivate more than those who scored lower ( $M = 3.6$ ),  $F(1, 53) = 3.0$ ,  $p < .088$ . If only Class (1,2) violations were considered, the differences did become significant ( $M$  recidivists = 9.4,  $M = 3.7$  for non recidivists),  $F(1, 53) = 8.13$ ,  $p < .006$ .

Inquiring further into the substance abuse data, the results of the urinalysis were tabulated into a frequency table and the outcome showed a significant Pearson Chi-Square (67% of the positives recidivated in contrast to only 20% of the negatives),  $\chi^2(1) = 8.4$ ,  $p < .004$  (See Table 11).

Exploring the issue of substance abuse further, the four SASSI classifications were divided into two categories: chemically dependent and likely an abuser subjects were

Table 11  
Proportion of Class (1,2,3) Violations  
with Different Subject Characteristics--  
Completed/Dropped Treatment

| Behavior/Attribute | Violation |          |                  |          |
|--------------------|-----------|----------|------------------|----------|
|                    | None      | <u>n</u> | Class<br>(1,2,3) | <u>n</u> |
| <hr/>              |           |          |                  |          |
| Urinalysis Results |           |          |                  |          |
| Positive           | 33%       | (3)      | 67%              | (6)      |
| Negative           | 93%       | (37)     | 33               | (7);     |
| *Offense Category  |           |          |                  |          |
| Personal           | 22%       | (2)      | 78%              | (8)      |
| Property           | 81        | (13)     | 19               | (3)      |
| Substance Abuse    | 81        | (22)     | 19               | (5)      |

\*33% of cells have a minimum expected frequency of less than five.

combined. This data was then tabulated into a frequency table and the results showed 35% of the chemically dependent and likely abusers recidivated compared to 17% of the defensive and non abusers. Though this was not significantly different, it, along with the other results would seem to be suggesting those who completed treatment but recidivated had a greater propensity for abusing substances and that such persons will most likely require long term treatment.

The self reported data on the SASSI questionnaire indicated that alcohol is abused more than other controlled substances for those who recidivated. This may be more a

result of the subjects willingness to admit to alcohol use as opposed to illegal drug use. In any case, the mean score on the Face Valid Alcohol Scale for those who were positive for drug use and recidivated was 7.17 ( $SD = 5.15$ ) compared to 6.33 ( $SD = 7.00$ ) on the Face Valid Drug Scale, suggesting those who abuse drugs tended to abuse alcohol also and probably more often. Those who were negative for drug use but recidivated scored very low, as expected, on the Face Valid Drug Scale ( $M = .89$ ,  $SD = 1.05$ ), but the Face Valid Alcohol scale indicated alcohol was abused ( $M = 5.11$ ,  $SD = 4.04$ ). Therefore, this data seems to be indicating there were at least two classes of substance abusers, those who abused both drugs and alcohol and those who primarily abused alcohol and that both tended to lead to recidivistic behavior.

Finally, the Shipley IQ scale revealed a significantly higher mean score for those who completed but recidivated ( $M = 102$ ) than those who completed but did not recidivate ( $M = 91$ ),  $F(1, 52) = 4.62$ ,  $p < .036$  (See Table 9). This is difficult to explain, however, when the data is analyzed further. The nine subjects who were classified as situational intervention mean IQ was 108 compared to 93 for those that did not recidivate. Additionally, when Class 3 violations were removed from the analysis, IQ was no longer significant as the mean for both groups was 94

indicating those with higher Shipley IQ's were responsible for more Class 3 violations than the more serious Class (1,2). Overall, this data seems to suggest deficits in verbal intellectual ability, at least for those persons with more pro social behaviors, is not necessarily an indicator of recidivism. Unfortunately, IQ assessments were not available for those who failed to complete treatment.

All nominal level data was tabulated into frequency tables and other than the previously reported urinalysis results, only one significant Pearson Chi-Square was found (presented in Table 11). Of the nine subjects who committed offenses against the person, 78% recidivated,  $\chi^2(3) = 14.34, p < .003$ . This data must be interpreted taking into account that none of these subjects had been assigned to the R & R program. Most of these offenses involved physically assaultive behavior and 50% were committed by subjects classified as environmental structuring offender types. As previously noted, five out of the seven thus classified were in the Crossroads group.

Similar to the Incomplete group, no significant differences were found between the two groups on any of the attitude surveys, API grade level, ethnicity and age. However, distinguishable from the Incomplete group, certain prosocial behaviors did not seem to differentiate between

the two groups including: marital stability, educational achievement, historical patterns of employment and ability to support oneself, and the employment status at the time of the pretest.

These findings, in addition to the findings in the Incomplete group analysis, seem to indicate the probationers educational skill level, at least with respect to reading comprehension and vocabulary ability was not a factor in recidivism rates. Furthermore, the findings seem to be indicating a probationer's self reported perceptions of their prosocial attitudes, values, certain cognitive skills, self esteem and sense of control over external events will not necessarily be manifested in lower recidivism rates. Most significantly, the analysis seems to be suggesting that there were two groups of offenders who completed the programming but recidivated. One group consisted of subjects with SCS situational intervention characteristics who evidenced substance abuse problems. The other group seemed to be composed of offenders who embodied environmental structuring characteristics.

#### Summary

In summary, the analysis of the two groups-- those who completed the treatment and those that did not complete the treatment--seems to be suggesting they were composed of subjects with distinctive characteristics along a number of

variables. The majority of those who did complete exhibited significantly more prosocial behaviors and a motivation to succeed on probation. They had demonstrated an historical desire to maintain stability in their lifestyles related to employment, the ability to support themselves financially and marital relations. They tended to have developed marketable job skills and they had achieved higher grade levels in their school career. Finally, they had committed fewer criminal offenses and posed less risk of committing further violations. These are characteristics of the SCS situational intervention class of offenders. Not surprisingly, those who completed treatment in this study were primarily classified as situational intervention (69%). However, there also appears to be distinctive class of subjects who completed treatment but did not demonstrate as many of the prosocial behaviors as the others and these were the environmental structuring type offenders. These subjects attended the programs but did not appear to benefit. The other group of subjects who tended to recidivate were otherwise classified as situational intervention but were identified as substance abusers.

Those who failed to complete the treatment, on the other hand, tended to exhibit far fewer prosocial behaviors and manifested minimal desire to succeed on probation.

They posed a greater risk of re-offending and had committed more prior criminal offenses especially the more serious felonies. These subjects were classified by the SCS instrument more as limit setters and casework control type offenders.

Finally, an offenders self reported perception of their prosocial attitudes, values and certain cognitive skills did not seem to be related to whether a subject completed programming and recidivated or whether they failed to complete the treatment. Also, educational skill level abilities were not related to recidivism but the level of educational achievement was related.

### Discussion

#### Effectiveness

##### Hypothesis 1

Based on these findings, the principal hypothesis in this study--that the subjects in the Reasoning and Rehabilitation group would recidivate at a lesser rate than those subjects who did not receive the program--must be rejected. There is some indication the R & R group subjects were less likely to commit the more serious violations than the other two groups and this is similar to the finding in the Canadian Study (Research Brief, 1991). However, the numbers are not sufficient enough to warrant a definitive conclusion.

The implications of this result is the R & R probably should not be utilized as a generic treatment program for all probationers. The amount of time, money and effort involved in providing this treatment would not be warranted.

#### Hypothesis 2

There is some indication the hypothesis that the higher risk R & R subjects would recidivate at a lesser rate than high risk subjects receiving no treatment group could be accepted. However, this is mitigated somewhat by the only slightly higher Crossroads group recidivism rate and the finding that the recidivism rate for low risk subjects did not differ between groups. The implications of this are that the Case Classification risk level alone may not be the most appropriate indicator of the subjects best-suited for cognitive training.

#### Hypothesis 3

The hypothesis that the R & R group would demonstrate more post treatment prosocial attitudes, values and beliefs and cognitive skills than the groups not receiving the cognitive treatment must also be rejected. However, this finding could have been arrived at by having utilized instruments that were not competent for the task of properly measuring these variables. The other possibility is that the attitudes expressed by the subjects were not

particularly reliable at predicting successful achievement in treatment. Regardless, even if the R & R had been shown to be effective at influencing the subject to express more prosocial attitudes, unless this is strongly correlated with prosocial behaviors, then it is meaningless in the corrections field. The only meaningful measurement of success in correctional treatment should be behaviors related to recidivism.

#### Explanations

The findings in this study should not be taken to imply that the R & R program was not effective at reducing recidivism. There may be a reason why the outcomes in this study do not seem to correspond with the findings in the Ross et al. (1988) study and the Canadian study (Research Brief, 1991). First of all Ross' recidivism variable was rate of convictions. As noted previously, this is not an all inclusive indicator of actual violations nor was it very informative for the reader. Further, the published report indicated that only three subject descriptors were utilized as follows: age, number of previous convictions and risk level. It is therefore impossible to compare effectiveness of the program among other important subgroups such as SCS classifications. In the current study, the three month follow-up period was not sufficient to consider convictions. Plans are to continue this study

and conviction rates will be analyzed at the nine month period only for comparison purposes with the Ross study.

The Canadian study (Research Brief, 1991) involved a different population of subjects along a number of variables. The subjects in that study were all prison inmates who received the treatment prior to being paroled. The SCS classifications showed that their treatment group was composed of 47% casework control and 39% limit setter subjects. The remaining 14% were evenly divided between environmental structuring and situational intervention subjects. The comparison group was only slightly different. Proportionately, this is probably typical for a prison population. In evident contrast, the subjects who remained in this study, whether treatment or no treatment, were classified as 65% situational intervention, 21% casework control, 12% environmental structuring and only 4% were classified as limit setters. The group that dropped out of treatment in this study seems to more closely resemble the prison population in the Canadian study as 39% were classified as casework control, 33% as limit setters, 28% as situational intervention and there were no environmental structuring subjects. What this seems to suggest is that the population of high risk subjects that may have benefited more from the programming, according to the Canadian study, were the subjects who did not receive

it because they terminated prior to completing the treatment.

This data also seems to be suggesting that the subject's SCS classification may be a superior determinate of program effectiveness or ineffectiveness than the subject's risk level. In order to examine this premise, since the actual SCS classifications were not evenly divided between the three groups, it was necessary to create two categories within each SCS classification utilizing the raw scores. One category within each classification would consist of subjects possessing a significantly greater number of characteristics defining that particular classification than the other group. This resulted in a division within the classifications as presented in Table 12. An ANOVA revealed no significant differences between the R & R, Crossroads and No Treatment groups on any of the high and low categories within each SCS classification. These classifications were then crosstabulated with Class (1,2,3,4) violations and the results are presented in Figures 1-4.

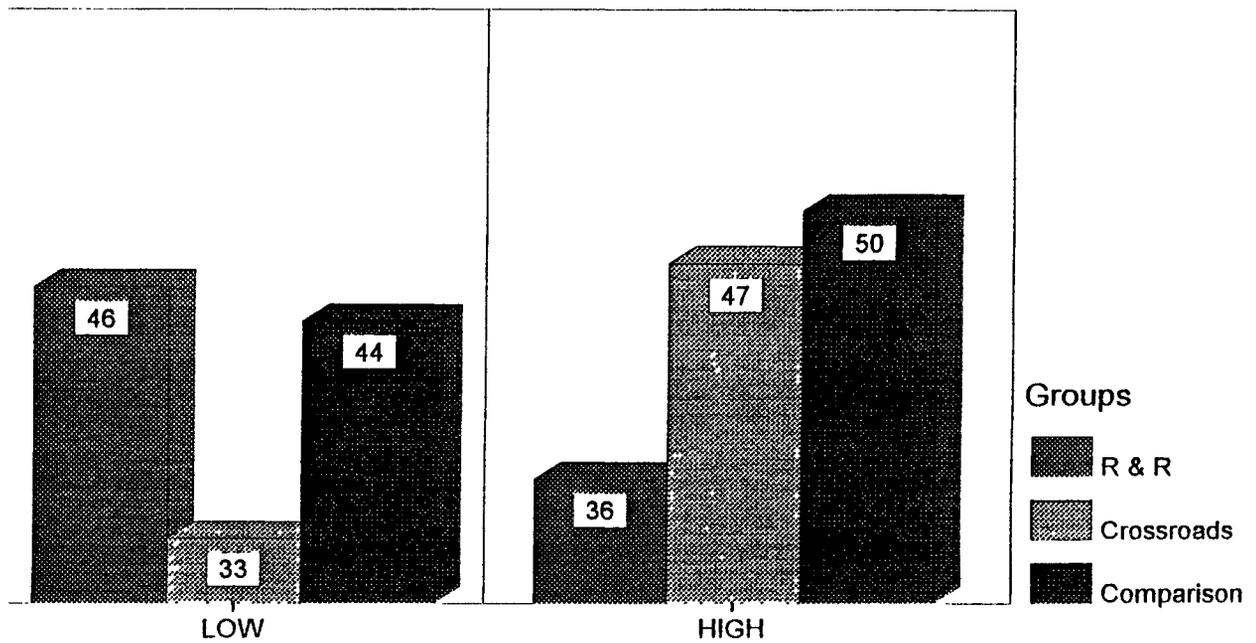
Table 12  
SCS Characteristics by High and Low Groups

| Group | <u>M</u> | SD   | <u>n</u> |
|-------|----------|------|----------|
| SI    |          |      |          |
| High  | 74       | 10.7 | 44       |
| Low   | 43       | 10.9 | 24       |
| CC    |          |      |          |
| High  | 55       | 4.8  | 30       |
| Low   | 42       | 4.7  | 38       |
| ES    |          |      |          |
| High  | 52       | 8.9  | 34       |
| Low   | 36       | 4.6  | 34       |
| LS    |          |      |          |
| High  | 47       | 3.7  | 30       |
| Low   | 38       | 2.7  | 30       |

## FIGURE 1

## RECIDIVISM RATE BY SCS

## ENVIRONMENTAL STRUCTURING CHARACTERISTICS

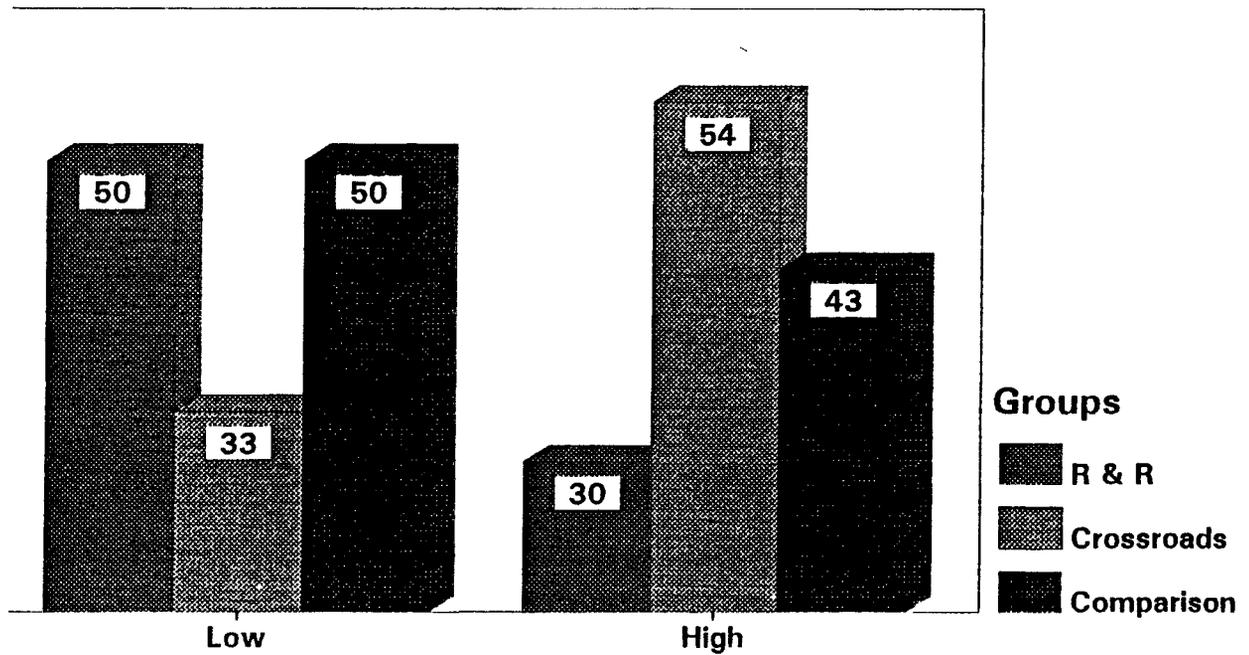


## SCS ENVIRONMENTAL STRUCTURING CATEGORIES

Low Mean = 36 (n = 44, SD = 4.8)

High Mean = 52 (n = 47, SD = 8.5)

**FIGURE 2**  
**RECIDIVISM RATE BY SCS**  
**CASEWORK CONTROL CHARACTERISTICS**

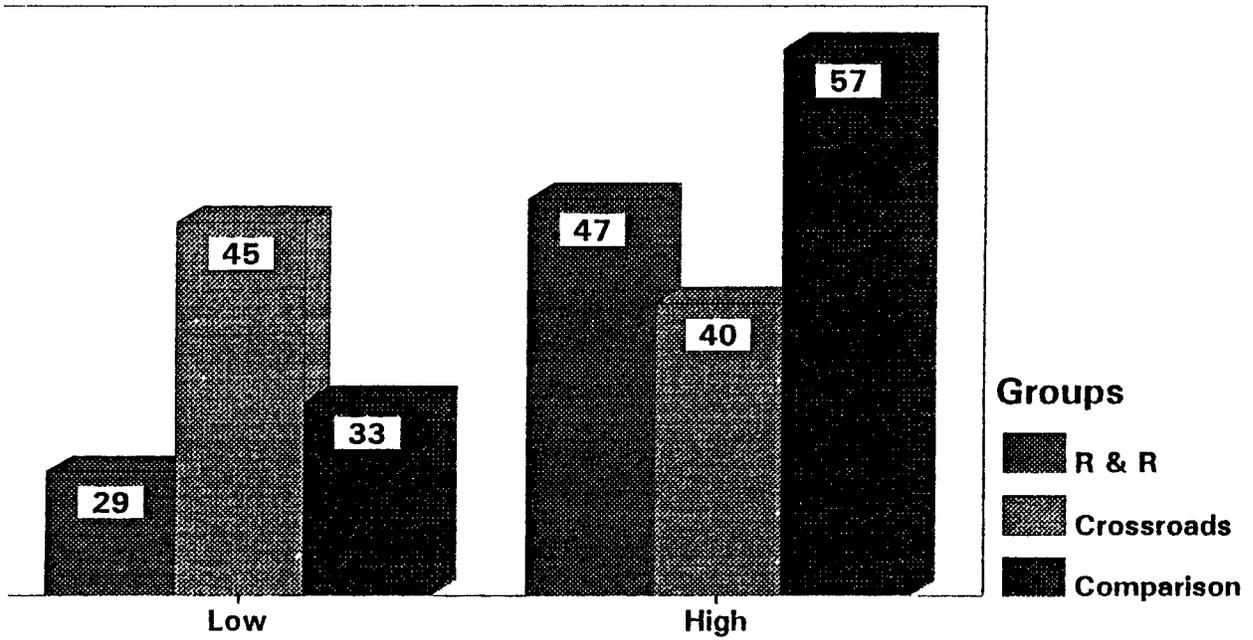


**Casework Control Categories**

Low Mean = 43 (n = 45, SD = 4.5)

High Mean = 55 (n = 46, SD = 5)

**FIGURE 3**  
**RECIDIVISM RATE BY SCS**  
**SITUATIONAL INTERVENTION CHARACTERISTICS**

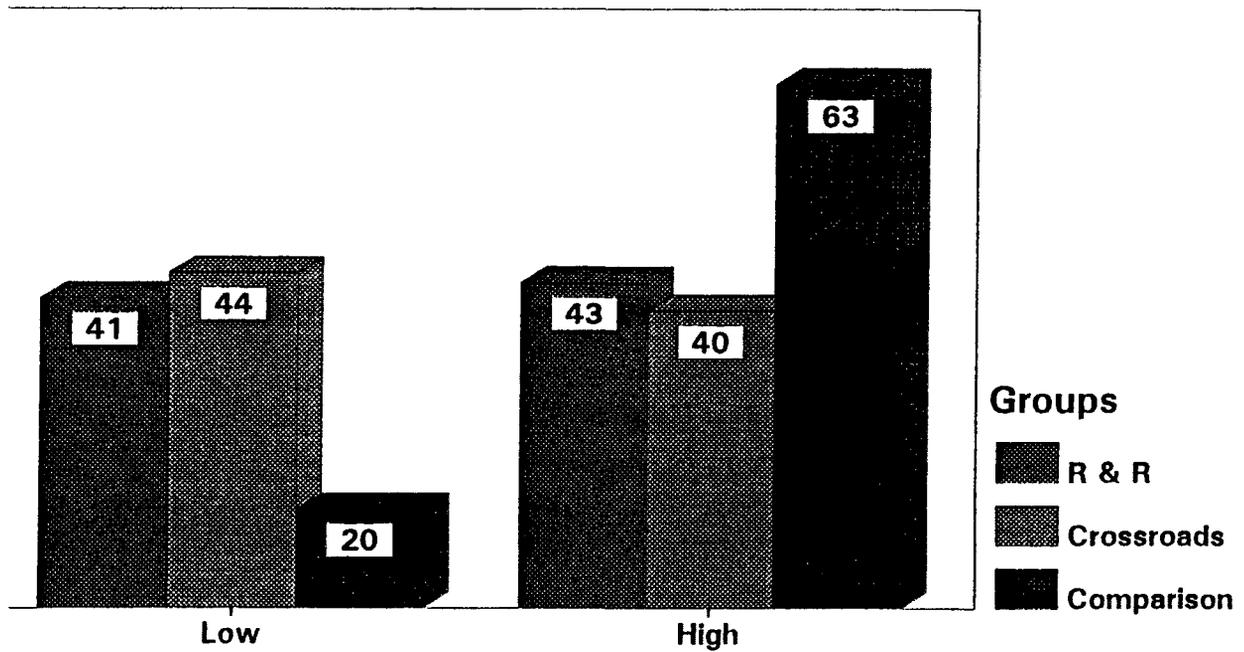


**Situational Intervention Category**

Low Mean = 36 (n = 42, SD = 11)

High Mean = 74 (n = 48, SD = 10)

**FIGURE 4**  
**RECIDIVISM RATE BY SCS**  
**LIMIT SETTER CHARACTERISTICS**



**Limit Setter Category**

Low Mean = 38 (n = 44, SD = 3)

High Mean = 48 (n = 43, SD = 1.5)

presented in Table 12. An ANOVA revealed no significant differences between the R & R, Crossroads and No Treatment groups on any of the high and low categories within each SCS classification. These classifications were then crosstabulated with Class (1,2,3,4) violations and the results are presented in Figures 1-4.

As can be seen in Figure 1, the R & R program was more effective with those subjects exhibiting more ES characteristics as 46% of those subjects recidivated compared to 36% of the subjects displaying less ES attributes. On the other hand, the Crossroads group produced the opposite result. Those subjects demonstrating more ES characteristics recidivated at a greater rate (47%) than the group showing less ES characteristics (33%). The CC classification produced even more distinctive results between the two groups. As revealed in Figure 2, only 30% of those subjects evidencing a greater number of CC characteristics recidivated compared to 50% for those with less CC properties. Conversely, the subjects in the Crossroads group who manifested more of the CC traits recidivated at a greater rate (54%) than those that did not (33%). Further, as presented in Figure 3, those subjects in the R & R group who possessed an historical pattern of more pro-social behaviors tended to recidivate at a greater rate (47%) than those that did not (29%). The Crossroads

group was similarly effective for both categories. Interestingly, 57% of those subjects exhibiting those SI characteristics recidivated in the No Treatment group compared to 33% who were lacking in SI traits. The recidivism rates of the two treatment groups did not differ on the LS characteristics. However, those who received no treatment and evidenced more LS characteristics recidivated at a much greater rate (63%) than those with fewer LS features (20%) implying that LS subjects fared better in some kind of treatment rather than none at all.

These results would seem to provide support for the hypothesis the R & R program is most effective with those subjects who evidence a deficiency in social cognitive skills. Furthermore, it would appear the SCS instrument is quite effective at ascertaining a subject's social cognitive skill level abilities. In fact, one of the predominant characteristics of the SCS environmental structuring type subject is a deficiency in social skills. These subjects, as previously mentioned, are easily influenced by criminal others. They tend to not have the foresight to be able to predict the impact or consequences of their behavior nor are they able to easily develop insight into their behavior after the fact, nor learn from their mistakes. Consequently, they tend to be impulsive and often become involved in assaultive behavior

(Strategies, 1991). These characteristics are nearly identical to the characteristics of the subjects Ross and Fabiano (1986) have targeted for the R & R program.

On the other hand, those subjects who had demonstrated an historical pattern of more prosocial type behaviors may also possess sufficiently high cognitive skill level abilities. This only stands to reason for if an individual exhibits an ability to function in society relatively successfully and is able to maintain stability in a number of social activities it would seem that these individual's cognitive skill abilities are superior to those whose behavior is opposite. If this is true, then the inclusion of these subjects who had already demonstrated sufficient cognitive skills in the cognitive skills training may have been more harmful than beneficial. Most of these subjects exhibiting prosocial behaviors were classified as situational intervention by the SCS. Harris (1993 p. 28) found that in a study on specialized probation intensive supervision caseloads, the SI's fared much worse in the presence of frequent supervision than in its absence. Harris asserted this could be the result of a failure to provide proper substance abuse treatment. Similarly, the subjects in this study evidencing SI attributes did not do well in the more intense R & R group and in fact did better without attending either of the

programs. The SI's in this study who recidivated were primarily substance abusers who apparently were not receiving immediate benefit from the programs and probably would have been better-suited for treatment that specifically targeted substance abuse.

In summary, through attrition, the two treatment groups were left with a preponderance of individuals who manifested adequate prosocial cognitive skills. The great majority of those who were lacking these characteristics terminated from the programming and received no treatment and nearly all recidivated. The SCS classification system was able to distinguish those subjects who are deficient in social cognitive skills from those who were not. Subjects who possess characteristics associated with the ES category tend to be deficient in social skills and those subjects who embody SI traits are not. Finally, the R & R program seemed to be most effective with the ES and CC subjects and was least effective with the SI subjects who already possessed sufficient social cognitive skills.

#### Recommendations

In a prison population, there is probably more incentive to remain in and complete a treatment program. It may be in the prisoner's view a tool in which to help them effect release. It may also be more desirable because it would take little effort to attend in the prison and

there would be few attractive alternatives. In addition, the prison population is under more control than a probation population and could be more easily manipulated in attending and participating. The incentives for probation subjects with similar characteristics of a prison population to attend and participate probably are not substantial enough. These subjects generally have less investment in their community and family and seem to exhibit a lack of motivation to achieve or be successful in any of their prosocial type endeavors such as education, employment and marital relations, let alone completing probation successfully. The data does not seem to suggest their attitudes and beliefs about their values and cognitive skills or their learning abilities are any different than those who were successful, but it is quite clear that their behaviors are significantly different. The issue then becomes how to compel unwilling subjects to participate in treatment. This is a pervasive and troublesome aspect of probation services.

Based on these findings and other research, implications for correctional service agencies are that the utilization of the SCS and Case Classification instruments should be strongly emphasized in their case management procedures, as both of these instruments were quite successful at distinguishing between those who recidivated

and those that did not. However, the instruments should be used in conjunction with each other, not separately. The findings in this study regarding the effectiveness the SCS assessment are quite similar to the findings of Harris (1993). Harris determined that selective intervention probationers, though constituting 43% of the high risk cases involved in the study, were responsible for only 18.5% of the revocations. Though the risk and needs was very effective at predicting recidivism overall, it was much less effective at predicting recidivism within each SCS classification. The implication is that high risk subjects within each SCS Classification are not and should not necessarily be treated as if they were synonymous. Consequently, Harris strongly recommended probation officers should increase their reliance on the SCS as a management tool.

The results of this study support Harris (1993). As suggested previously, subjects classified as SI, unless they are borderline or exhibit serious social cognitive deficits, should not be assigned to cognitive skills training. If they are, the officer should expect no appreciable affect on their behavior related to recidivism if it is used exclusively. Secondly, any high risk ES subject would probably be an excellent candidate for the training unless they otherwise do not qualify such as the

mentally retarded individual. It would be especially important for those probationers who are identified as high risk and score comparatively high on the limit setter or casework control scales to be court ordered to attend and participate in treatment.

The most difficult aspect of treating these types of offenders is prevailing upon them the necessity of attending and completing the treatment. Therefore, their attendance should be closely monitored and any absence should be swiftly responded to. If the subject is terminated prematurely because of attendance problems the consequential sanctions should be appropriately expedient and harsh enough to make the failure to attend an unattractive alternative. For instance, motions to revoke and warrants could be issued for the violation of failing to attend treatment. If the probationer remains on probation they should be court ordered to attend again and again until they do successfully complete or are otherwise discharged unsuccessfully. If a probation department has a day care type facility, the court could order that the probationer be released to that agency to participate in the training and then return immediately to the jail after the program.

The R & R program did not seem to be particularly effective with those subjects who demonstrated a continued

propensity to abuse substances. If they were using alcohol or drugs prior to treatment, the chances were that they were using after treatment. Of course, longer term impact needs to be examined but the implication is that the R & R program should not be utilized as a substitute for more traditional therapeutic substance abuse treatment regimens. It may be that the R & R program could be utilized in conjunction with other treatment. Possibly, if the R & R precedes other treatment, it may have more impact on them than if they are not trained in cognitive skills and this is suggested for a future study. Ross and Fabiano (1985, p. 200-1) proposed that limiting intervention programs to cognitive training alone would not be sufficient to effect a change in criminal behavior. Instead, it is suggested cognitive training is an essential component of rehabilitation but to be successful at impacting recidivism the treatment must be multi-faceted. With respect to alcohol abuse, Ross and Fabiano (p. 192) contend there is a possibility the impairment of the alcohol abusers cognitive skills has a severe impact on their judgment, not because of their abuse of alcohol, but because their cognitive skills were not developed in the first place. Ross and Fabiano maintain the alcohol abusing offender with the help of cognitive skills training can learn to moderate or control their use.

### Limitations

There are some methodological problems associated with this study that could have some impact on any conclusions. The sample size is small though it is probably sufficient to make inferences when analyzing the two treatment groups. However, the No Treatment group was not nearly as large as it should have been and any results must be weighed in consideration of this. Further, when interactive effects were analyzed along with certain subgroup populations, the numbers were such that any conclusions may be suspect though should not be totally ignored because they may be indicative of a trend.

Secondly, the fact the No Treatment group was not randomly assigned weakens the power of this study to make inferences. It should be noted, however, even though the No treatment group subjects were not randomly selected, this group did not significantly differ along any of the variables tested from the other two groups. Further, the use of an ANCOVA tends to minimize any affects of the nonrandom assignment.

Another possible defect in this study is the instruments used to measure the subjects attitudes, beliefs, values and cognitive skills may not have been appropriate. As mentioned in the Methodology, the CQ questionnaire was not properly validated or tested for

reliability and may not be measuring what it is intended to measure. Further, the ISE, PSI and ICI instruments have been validated and tested for reliability but not on probation subjects and therefore these too may not have been appropriate.

Because of the method used for exploring possible relationships between various subject characteristics, there is always the possibility of Type I error where a significant difference is claimed but there really is no difference. According to Cook and Campbell (1979, p. 42), the likelihood of concluding that there is a significant difference when there really is none increases when multiple comparisons are made of mean differences without recognizing that a certain proportion of the comparisons will be significantly different by chance alone. In this study, all of the variables associated with the subjects were submitted to tests of significance with only a small proportion showing significant differences. If the variable had multiple factors, then the Tukey multiple comparison test was used reducing the likelihood of error. In each case where a significant difference was found, the difference had to have a logical explanation and if it did not, it was not considered meaningful and was ignored. Hopefully, this method lessened the possibility of Type I errors.

### Replications

Ross and Fabiano (1985) asserted it was not what an offender thinks but how the offender thinks or the ability of the offender to think that is important. Therefore, Ross and Fabiano (p. 298) recommend several assessment instruments which primarily test cognitive skill level abilities rather than self reported attitudes about cognitive skills and these are suggested for any future studies.

One area not assessed in this study was the motivational level of the subject to change behavior. If an individual does not think there is a problem that needs to be corrected then it is most probable that no treatment program will be successful. Prochaska, DiClemente and Norcross (1992) proposed individuals with addictive behaviors will go through five different stages of motivation, from denial to maintenance. What stage a person may be at when the program commences can have a great impact on the success of the program. Therefore, in future replications it is suggested the subjects be pre-tested to determine their stage of motivation and to examine motivation as a correlate of recidivism.

It is further suggested in a replication study only those subjects who score comparatively high on the SCS ES or CC scale or score comparatively low on the SI scale be

assigned to the program to assess the effectiveness of the R & R program with these types of characteristics. Another replication of interest would be assessing the effects of the R & R on a substance abusing subject prior to entry into a substance abuse treatment program or in conjunction with it.

This study is not complete. Plans are to continue to examine the recidivism of these subjects at intervals of six, nine and twelve months past the date of treatment.

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seminars in Reasoning and Rehabilitation techniques. The only variable examined was the rate of recidivism within a nine-month period following the conclusion of the program. Recidivism was defined as subsequent convictions. The results revealed a recidivism rate of 69.5% for regular probation, 47.5% for those taught life-skills only, and 18.1% for those receiving cognitive training.

Another study conducted in Colorado on drug offenders found the probationers in an intensive supervision program who were trained using the Reasoning and Rehabilitation method rate of revocation was one-half that of those who received no program at all and were on regular probation. However, they found the revocation rate was nearly the same or only slightly better than those who were in an intensive supervision program without the cognitive program (Johnson and Hunter, 1992). Their data analysis led Johnson and Hunter to believe the cognitive program seemed to be more effective with those clients who were at least 30 years of age and had low to average psychiatric, sociopathic, or employment problems. The intensive supervision caseload without the cognitive program was more effective with those clients who were younger, had high psychiatric problem scores, had scored higher on the needs assessment instrument and was more effective with subjects classified as limit setters on the case classification. Also, they