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Final Report

Comparison of Community-Based Models for Youth Offenders

Part I: Program Effectiveness and cost-effectiveness

Prepared For:
The National
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EXECUTIVE SUMMARY

The purpose of this five year project is to evaluate the programmatic effectiveness and cost effectiveness of two intensive interventions as compared to regular probation in reducing recidivism and substance use among juvenile offenders in Mississippi.

A quasi-experimental design was employed. Instead of random selection to treatment conditions, youth entering one of three county youth courts were recruited into the study if a.) the juvenile used alcohol or other drugs, b.) the juvenile was placed on probation by the court, and c.) the juvenile and their parent/guardian provided written consent. Madison, Forrest, and Lowndes County Youth Courts were selected as research sites because they served demographically similar youth populations and because the judges were willing to comply with institutional policies governing research involving human subjects. A cognitive-behavioral (CB) treatment approach was implemented at a mental health center that accepted referrals from Forrest County Youth Court. A correctional intervention known as Intensive Supervision and Monitoring (ISM) was implemented in Lowndes County Youth Court. Madison County Youth Court was selected as the control condition and juveniles there received standard probationary supervision. The intervention period lasted approximately six months and subjects were tracked for one year after intervention.

Three hundred nine (309) substance abusing adolescents, ages 11 to 17, were recruited into the study. Two hundred ninety-three (293) juvenile offenders completed intervention or at least six months of probation and 226 of them were retained during the follow-up period. The overall retention rate was 73%.

At the time of referral to youth court, youth were assessed for their potential risk for recidivism or re-offending. Before intervention and at six, 12, and 18 months post-intervention, subjects were assessed on their use of alcohol and other drugs and were asked about antisocial, illegal, and prosocial behavior, such as school attendance and employment, over the previous 6 month period. In addition, youth court case records were reviewed for number of referrals/arrests to court, number of times detained, and total number of days detained during a 6 month period.

Key findings of the program effectiveness evaluation were:

Participants of regular probation and ISM were twice as likely to be arrested during the 12 month period following intervention than participants of the cognitive-behavioral treatment.

Participants of regular probation were two times more likely to be incarcerated and ISM participants were almost four times more likely to be incarcerated than participants of the cognitive-behavioral treatment, even after controlling for gender, race and delinquency risk.

Self-reported violent behavior and general delinquency significantly decreased over time for all three groups.

Family relations significantly improved for cognitive-behavioral treatment participants.

Impulse control improved in all three groups, but the greatest gain occurred in the cognitive-behavioral group.

Subjects in all three groups reported increases in the number of hours of employment.

All three groups reported a decrease in alcohol and marijuana use. Cocaine use substantially decreased in the ISM group and increased among juveniles in regular probation.

The cognitive-behavioral group had the lowest proportion of positive drug tests during the follow-up period.

Alcohol and other drug (AOD) problem severity scores also decreased for all three groups during intervention, meaning that the juveniles were reporting fewer problems as a result of substance use. However, in the follow-up phase, the AOD problem severity scores continued to decrease only for the cognitive-behavioral group. Scores for the other two groups began to return to baseline levels.

In summary, most study participants, regardless of group assignment, reported decreases in antisocial and problem behaviors over time and increases in impulse control and constructive or prosocial behaviors over time, suggesting developmental maturation. However, juvenile offenders receiving cognitive-behavioral treatment were less likely to recidivate, i.e., to be arrested and incarcerated during the 12 month follow-up period. The cognitive-behavioral intervention also appears to have had a positive impact on juvenile substance use.

The cost-effectiveness analysis only examined juvenile justice costs based on 1996 state and county expenditures for youth court processing, community supervision, and average daily youth detention costs plus state and federal grant funding for the intervention alternatives, i.e., ISM and cognitive-behavioral treatment (CB) at a local mental health center. Cost-effectiveness was measured in terms of the difference in total juvenile justice costs per youth (intervention costs plus incarceration costs during the one-year period following intervention) for ISM and CB relative to regular probation (RP). Neither ISM nor CB is cost efficient compared to RP for low risk for recidivism offenders. The public, however, may be willing to pay the additional costs for ISM for high risk offenders to be more closely monitored in the community. Although CB is the most expensive of the three community-based juvenile delinquency interventions studied, it saved the state just over $600 in total costs per youth due to the lower post-intervention incarceration rate. Greater savings are possible if placement into intensive intervention programs is based on delinquency risk classification. If cognitive-behavioral treatment is provided to high risk offenders only, the state could save $2,722 per youth compared to the intervention and recidivism costs of high risk offenders in regular probation. The cognitive-behavioral approach is the most cost-effective option from the stand point of the juvenile justice system.

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PROJECT DESCRIPTION

Specific Aims

There is overwhelming evidence of a relationship between adolescent alcohol/drug use and criminal behavior (Greenberg, & Adler, 1974; Gandossy, Williams, Cohen, & Harwood, 1980; Ball, Shaffer, & Nurco 1983, U. S. Dept. of Justice, National Institute of Justice, March/April 1988;Wish, & Johnson, 1986). Over half (51%) of inmates surveyed in State and Federal Correctional facilities reported the use of alcohol or drugs while committing their crimes (Mumola, 1999). Hair assay for drug use revealed that 57 percent of juveniles arrested and detained in Cleveland during a two month period had used cocaine (Feucht, Stephens, & Walker, 1994). The good news is that there are successful programs for juvenile offenders (Gendreau, & Ross, 1979; Quay, 1987). Reviews of the correctional treatment literature found that successful intervention programs include a cognitive-behavioral component (Antonowicz, & Ross, 1994; Izzo, & Ross, 1990; Little, & Robinson, 1994; Palmer, 1991). A recent meta-analysis of juvenile delinquency treatments also found that behavioral, skill-oriented, and multi-modal treatment was associated with larger effect sizes than other treatment approaches (Lipsy, 1992).

The aim of this study is to determine if intensive community-based intervention utilizing cognitive-behavioral techniques can be effective in decreasing both substance use and recidivism. It is also the intent of this study to determine cost effective intervention methods that can be easily replicated in a primarily rural and poor state, such as Mississippi.

Research Design

Assignment to control or experimental groups depended upon county of residence rather than random assignment. A quasi-experimental design was chosen because there is only one Youth Court jurisdiction within the state that has a large enough volume of potentially eligible youth and that court was unsuitable for purposes of this research project. The following youth court jurisdictions were

selected as study sites because demographically these youth courts serve very similar adolescent populations, and because each Youth Court Judge was willing to comply with an Assurance of Compliance with DHHS Regulations for the Protection of Human Research Subjects. Madison County Youth Court provided the control condition, regular probation. One experimental condition was implemented in Lowndes County Youth Court, Intensive Supervision and Monitoring (ISM). The other experimental condition was located in Forrest County because the local mental health center had a special behavioral treatment program for youth court referrals and was willing to add a cognitive training component to it. Descriptions of each intervention are provided below.

To be eligible for study participation, youths had to be between the ages of 11 and 17 years, use alcohol or other drugs, and placed on probation for at least six months. All youth who entered the three participating youth courts were screened to determine if they were using alcohol or drugs. If appropriate for this study, the youth was recruited to participate after the disposition hearing. Written informed consent was obtained from both the youth and their parent/guardian. The Youth Court Judge was **not** informed about whether a youth was either a candidate for the study or a participant in the study.

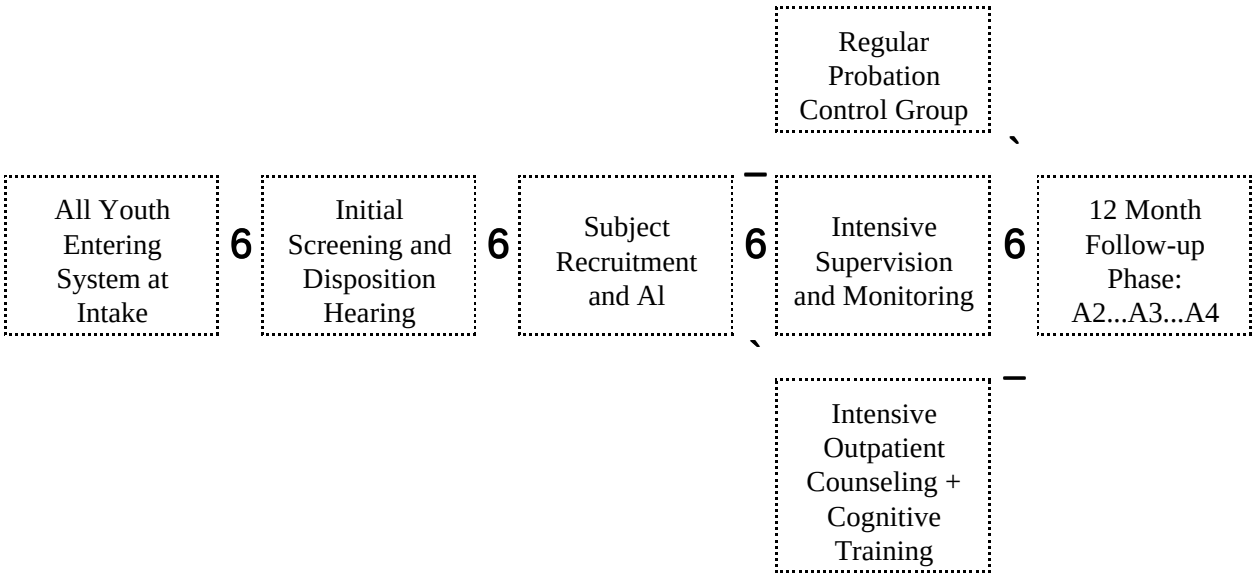
Subjects entered the study throughout the year beginning in July, 1995 and were recruited continuously until the end of 1996 to obtain sufficient numbers. Intervention began soon after recruitment. As soon as the participants completed the cognitive-behavioral intervention, which lasted approximately six months or after six months of regular probation or intensive supervision and monitoring, they entered the follow-up phase of the study which lasted for 12 months.

The primary outcome measure or dependent variable was recidivism. Recidivism can be measured in a number of ways. From official Youth Court records, we obtained the number of delinquent referrals/arrests, the number of times detained, and the total days detained in a state training school,

youth detention center, or adult jail. Any arrest or referral for violation of probation and incarceration for any length of time during the follow-up period was counted as recidivism.

The second measure of intervention effectiveness was use of alcohol and other drugs (AOD). Subjects' use of alcohol and drugs was also examined in multiple ways. Urine specimens were collected to test for the presence of drugs. A measure of AOD problem severity was utilized as well as self-reports of the frequency of use of nine substances: alcohol, marijuana, inhalants, hallucinogens, amphetamines, central nervous system depressants, narcotics, anti-anxiety medication, and crack or cocaine.

The experimental design is schematically depicted below.



(Note: A = Assessment, A1 = baseline or pre-intervention, A2 = approximately 6 months post-baseline, A3 = approximately 12 months post-baseline, A4 = approximately 18 months post-baseline)

- **Subject Recruitment**

Youths between the ages of 11 and 17 years who were referred to one of three Mississippi Youth Courts for a status offense (i.e. truancy, runaway or ungovernable behavior) or delinquent offense were eligible for participation in the study if there was evidence or self-report of substance use and if youth and parental permission was obtained. Three hundred nine (309) youths were recruited into the study.

Subjects dropped out over the course of the study so that 293 youths completed intervention/probation which lasted for approximately six months. Over half (54.7%) of the project participants were referred to the Youth Court for a serious offense. The primary reason for referral was an alcohol or drug related offense in 41.3% of the cases, a violent act (13.7%), theft (20.8%) or a status/minor delinquent offense (21.8%).

Information was not collected on the numbers of youth who refused to participate in the study when initially approached. Therefore, a number of comparisons between characteristics of the sample of project participants in each youth court and the 1997 Mississippi youth court population were conducted to determine if the participants were truly representative of juvenile offenders in these courts. The results are presented in Table 1. Statewide, 71 percent of the juveniles referred to youth courts are males compared with the study population of 80.9% male. With respect to gender, the difference between the sample and the county youth court population is statistically significant in two of the three courts. The proportion of male subjects in Regular Probation or Control and ISM is higher than the proportion of males in the respective county Youth Court populations. With respect to racial (white vs nonwhite) differences between the sample and youth court population, 64 percent of juveniles involved in the Mississippi juvenile justice system are nonwhite, largely African Americans, and the study population consisted of 64.5 percent nonwhite. Only one group, the cognitive-behavioral group, had a higher proportion of white youth than that of the Forrest County Youth Court composition. The proportion of subjects below expected academic grade level in all three experimental groups was significantly different than the participating courts and statewide populations. Also, with respect to the proportion receiving public assistance, we find that in two courts, CB and Control, the proportion of subjects is significantly higher than that of the respective court populations. Based on these findings, we concluded that the study sample is different from the youth court population from which it was drawn. However, the selection process appears to have resulted in the sample having higher, rather than

lower, "criminogenic needs" (Andrews, 1983), that is, factors such as low educational achievement and substance abuse that are known to be linked with recidivism. This is important because one of the major sources of variation in criminal recidivism is the pre-service characteristics of offenders (Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990). Studies of adult inmates consistently found that high-risk individuals re-offend at significantly higher rates following release than low-risk individuals (Hoffman, 1994; Walters, & McDonough, 1988). This is also relevant from an economic standpoint. It makes sense to reserve intensive and costly correctional treatment programs for high-risk cases who have the greatest impact on subsequent criminal justice costs. There is some evidence that the effects of correctional treatment are greater among higher risk cases than among lower risk cases (Andrews, Bonta, & Hoge, 1990). So although we hoped to obtained a representative sample of Mississippi juvenile offenders, by making substance use an eligibility criteria for subject selection, we may have obtained a group of study participants who were both in need of more intensive intervention/treatment services than regular probation and more difficult to treat effectively.

Table 1 Characteristics of the Sample Compared to the 1997 Youth Court Population[1]

Variable	Percentage						
	CB		Control (RP)		ISM		Statewide
	Ss (n = 85)	YC pop (N = 790)	Ss (n= 99)	YC pop (N = 537)	Ss (n= 109)	YC pop (N = 705)	(N = 23,597)
Gender - male	67	68	85***	65	88**	71	71
Race - white	41*	31	29	35	37	26	36
Below expected grade level	53*	40	58***	38	52***	27	38
Receiving public assistance	55*	45	38*	31	43	51	36.5

[1] *The proportion observed in each sample was compared to the proportion of the respective county youth court population using a one sample z test.*

*p < .05
**p < .01
*** p< .001

" Data Collection and Measures

Self-administered questionnaires (SAQ) are recommended for the collection of sensitive or incriminating information to reduce the respondent's desire to give socially desirable answers and to increase candid responses (Sonenstein, 1997), although more omissions and non-responses are obtained with SAQ than other methods (Sudman, & Bradburn, 1974). Aquilino (1994) studied the impact of interview mode on adult respondents' willingness to reveal illicit or undesirable behavior. He found that admission of illicit drug use and alcohol use was most likely in what he calls the personal mode with self-administered questionnaires and what this author calls "assisted". An assisted self-administered questionnaire method of data collection was used. In other words, a project staff person was present while the subject completed the questionnaire to keep the youth on task, assuage any confidentiality concerns, and assist in other ways as needed. An audiotape of the questions and a portable tape player were provided. Subjects were instructed to place the completed questionnaire in an envelope and seal it.

The project staff also collected a urine specimen at the same time as the paper and pencil measures. A code was placed on all forms and urine specimen. The urine specimen was sent directly to a lab, which forwarded the results to the Principal Investigator (PI) and the questionnaire was mailed directly to the PI. Subjects were repeatedly assured that neither the court nor his/her parents would be told his/her responses or drug screen results. Subjects were paid $20 for each post intervention assessment.

The data collection measures consisted of the Millon Adolescent Personality Inventory (MAPI) (Millon, Green, & Meagher, 1982), a Behavior History Form; the Personal Experience Screening Questionnaire (PESQ) (Winters, 1991), an adolescent substance abuse screening measure; a urine drug test; and a review of the subject's Youth Court record for number of arrests and days incarcerated in the past six months. Information was collected from each subject four times over an eighteen month period.

The assessment packet was collected at baseline when the subject was recruited into the project, and at six (upon completion of intervention phase), twelve, and eighteen months thereafter.

Millon Adolescent Personality Inventory (MAPI)

The MAPI is a 150-item measure of adolescent concerns and problems that is geared to the sixth grade reading level. Only two MAPI scales were utilized for this report: Family Rapport and Impulse Control. The higher the scale score, the greater the likelihood the adolescent has a problem in the area measured by the scale. Scale score cut points of 75 and 85 are used to identify "presence" and "prominence" of the personality characteristic or problem area, respectively (Millon, Green, & Meagher, 1982, p. 19). The Family Rapport scale consists of 25 items measuring the teenager's feelings about and perceptions of his relationship to his family. The youth's responses may not actually reflect what is objectively real with regards to family interactions. The Impulse Control scale utilizes 35 items to measure the youth's capacity to maintain self control of behavior and the adolescent's ability or willingness to comply with societal regulations.

Personal Experience Screening Questionnaire (PESQ)

The PESQ questionnaire consists of 40 items that measure psychological distress, alcohol and drug problem severity, and drug use history. The Problem Severity scale measures the extent to which the adolescent is psychologically and behaviorally involved with alcohol, drugs, or both. A Problem Severity score of 30 or higher indicates drug use far above the average of a general school sample and suggests the need for a more complete drug abuse assessment (Winters, 1991). The PESQ also includes eight yes/no items that assess personal and environmental problems often associated with adolescent substance abuse, such as suicidal ideation and physical or sexual abuse. The sum of the yes responses forms the measure of psychological distress.

Behavior History Form

The Behavior History Form, modeled after a measure used to evaluate the Treatment Alternatives to Street Crime (TASC) program, collects alcohol and other drug use frequency as well as the frequency of both prosocial and antisocial behaviors. Delinquency scales were developed from responses to the Behavior History items to which respondents reported the number of times he/she had engaged in a particular behavior during the preceding six month period.

A violence scale was constructed by summing the responses to the following items: "I threatened an adult," "I hit an adult," "I tried to beat somebody up or threaten somebody with a weapon, even if no one was hurt," and "I have been in gang fights." Internal consistency reliability coefficients for the violence scale ranged from .69 to .73 depending on the data collection point, e.g. baseline, six, 12, 18 months after baseline. Because the frequency distribution of self-reported violent behaviors was badly skewed (for example, one youth reported 450 violent acts in a six month period or 2.5 violent acts per day), the frequency per item was capped at five or more.

A general delinquency scale was constructed by summing the responses to the following items: "I ran away overnight," "I damaged or set fire to property," "I broke into a house, building, or car in order to take something," "I robbed a person (mugging, purse snatching) or a place of business (shoplifting)," "I stole a car, truck or motorcycle," and "I used checks or credit cards illegally (without permission)." Internal consistency reliability coefficients for the general delinquency scale ranged from .62 to .76.

Other measures of delinquency on the Behavior History Form included in the analyses were drug selling and the use of alcohol, marijuana, or cocaine. Self-report drug selling behavior consisted of the response to one item: "I sold drugs _____ days in the past six months." Respondents were asked to report the frequency of drug use. Respondents were provided six response choices for each substance ranging from "never" to "every day."

Prosocial items on the Behavior History form included participation in sports, employment, and church attendance. Only the finding regarding work are reported herein. The number of hours employed during the 30 day period prior to assessment was calculated by multiplying the responses to the following two questions: "In the past 30 days, I did chores or a job for money ____days." and "I usually work ____" with response choices "less than 1 hour per day" coded as .5 hours, "1 to 2 hours per day" coded as 1 hour, "2 to 3 hours per day" coded as 2.5 hours, "3 to 4 hours per day" coded as 3.5 hours, "5 to 6 hours per day" coded as 5 hours, "6 to 8 hours per day" coded as 7 hours, "more than 8 hours per day" coded as 8.5 hours.

Delinquency Risk Assessment (DRA)

Delinquency Risk Assessment (DRA) is designed to predict future delinquency based on past behavior. A body of literature describes the development of risk assessment instruments for offender classification in juvenile corrections (Baird, 1984; Guarino-Ghezzi, & Byrne, 1989; Howell, & Bilchik, 1995; Krisberg et al., 1993). There has been increased interest in developing instruments or protocols to aid disposition planning in the Juvenile Court (Towberman, 1992). Some 27 states, including the neighboring states Alabama and Louisiana, use some systematic classification guidelines for disposition determination and/or placement decisions based upon assessment of risk for future offending.

Research has repeatedly identified the following predictors of recidivism: age at first referral or adjudication; number of prior referrals or arrests; number of out-of-home placements or institutional commitments; school behavior and attendance; substance abuse; family stability; parental control; and peer relationships; among others (Howell, & Bilchik, 1995). The Principal Investigator collected and studied DRA instruments from several states and developed a Mississippi DRA based on items from the Michigan and Indiana DRA instruments. Youth Court Counselors familiar with the youth and his or her family scored each subject on the basis of items such as age of first adjudication, total number

of referrals to Youth Court, level of parental control and supervision, peer relations and school behavior (A copy of the Delinquency Risk Assessment scale is included in the Appendix). The higher the total score, the greater the chance that the youth will re-offend. Youth with high DRA scores may need more intensive supervision by juvenile justice personnel or more intensive services by social services or mental health providers. The Mississippi DRA score was added to the information collected on each subject at baseline for use in data analysis to determine if level of delinquency risk is a factor in treatment effectiveness.

The Mississippi Delinquency Risk Assessment scale consists of eight items. The highest possible score is 19. A score of seven or less indicates low risk for continued involvement in the juvenile justice system; a score in the range of 8 to 13 indicates moderate risk and scores above 13 indicate high risk for future offending. Overall reliability is .75 (Cronbach's alpha). This measure positively correlates with subsequent arrests or referrals back to Youth Court during a one year period ($\underline{r} = .33$, $\underline{p} < .01$). A method of examining the overall predictive efficacy of utilizing the Mississippi DRA score is the Area Under the Operator Receiver Characteristic Curve or C (Kraemer, 1988; Leshowitz, & Meyers, 1996). The C statistic indicates that predicting recidivism category using the DRA scale will result in a correct prediction 67.6 % of the time.

- **Intervention Procedures**

Regular Probation (RP). The control group consisted of youths involved with the Madison County (MS) Youth Court. Regular probation consisted of weekly to monthly face-to-face contact with the youth at the Youth Court Counselor's office; monthly or less frequent contact with the parent/guardian by the Youth Court Counselor, which could take place via telephone or as a home visit; monthly or less frequent contacts with school personnel or employers by the Youth Court Counselor (collateral contacts); and at least three urine drug screens during a six month probationary period. A Youth Court

Counselor typically maintains a caseload of 80 to 100 juveniles. There were 99 juveniles who participated in the study in the control group.

Intensive Supervision and Monitoring (ISM). This experimental group consisted of youths involved with the Lowndes County (MS) Youth Court. Two Youth Court Counselors were added to the court staff so that the ISM Youth Court Counselor's could maintain a smaller caseload (20 to 30 youths). The ISM Youth Court Counselors were expected to have much more frequent contact with the youth, parents and other adults such as teachers and/or employers, than the regular probation Youth Court Counselor. Youths in this condition were also expected to have at least three probationary urine drug tests. The ISM Youth Court Counselors provided group supervision to maximize time efficiency and performed curfew checks. High intensity of supervision (several contacts per week) was maintained for at least the first three months and could be tapered off to contact rates of regular probation if the youth was cooperative and had no technical or other violations of the law or probation/parole conditions. Over one hundred (109) juveniles participated in the ISM intervention.

Cognitive-Behavioral Treatment (CB). This experimental group consisted of youths involved with the Forrest County (MS) Youth Court. These youths were assigned to a Youth Court Counselor, and were mandated to participate in an intensive outpatient counseling program in addition to regular probation. The outpatient counseling program was held at the local mental health center. The outpatient counselor provided to groups of 10 to12 youths: (a.) 60 hours of cognitive skills training classes; (b.) 24 hours of group therapy for participants; and (c.) 24 hours of group therapy for parents during the six month intervention period.

The *Reasoning and Rehabilitation: A Handbook for Teaching Cognitive Skills* (T3 Associates Training and Consulting Inc.) was utilized for the cognitive skills training classes. This training program is specifically designed for offenders and consists of lessons on problem solving, social skills, negotiation skills, management of emotion, and values enhancement. Individual counseling, collateral

contacts and probation urine drug testing period were also provided. One hundred one juveniles were recruited into this intervention and 85 of them attended a third or more of the cognitive training classes.

A parent counseling and training component was included because reviews of family interventions with juvenile offenders have demonstrated reductions in recidivism particularly when the intervention utilized behavioral management techniques and family systems therapy (Gendreau, & Ross, 1979; Gordan, & Arbutnot, 1987). The goals of the parent group were to increase parenting skills such as behavior monitoring, assertive communication, active listening skills, problem solving, and behavioral contracting.

- **Analysis of Intervention Implementation**

Analyses were conducted to verify: (a.) whether project staff in each experimental conditions met their minimum contact goals; and (b.) whether service provision and contact rates differed between experimental conditions. Univariate analyses of variance were computed to assess whether there were statistically significant differences in the frequency of contacts among the Regular Probation (RP), Intensive Supervision and Monitoring (ISM), and Cognitive-Behavioral (CB) conditions. Statistically significant univariate results were followed by post hoc Tukey HSD tests to clarify the pattern of significant between-group differences (see Table 2). Within a row, groups with the same superscript are not significantly different based on the Tukey HSD test.

The univariate ANOVAs revealed that for every type of contact (youth contacts, family contacts, collateral contacts, urinalyses performed, and curfew checks) the ISM participants had significantly higher means than Regular Probation youth (all $p < .001$), supporting that experimental manipulation took place as designed. Youth in the CB group had significantly more total youth contacts (individual contacts plus cognitive classes plus group counseling sessions) than those youth ins the ISM group. Youths who attended at least 10 cognitive classes received an average of 52.59 hours of cognitive classes and 20.69 hours of group therapy.

The amount of participation in the family treatment program offered to parents of youths in the CB condition was disappointing. Group therapy for parents was available one night per week and the goal was to provide 24 hours of parent group counseling over the six month intervention. The Youth Court Counselor and the Mental Health Counselor averaged nine contacts with parents of youths in the CB group. ISM staff had the highest number of contacts with parents (mean = 16.39), but CB staff had more counseling time spent with parents (CB = 7.85 hours vs ISM = 5.38 hours). The Youth Court Counselor in the control court averaged 3.62 family contacts for an average of 1.51 hours over the six month intervention period. In general, the less time spent by the counselor in actual contact with the family, the weaker the treatment results (Eyeberg, & Johnson, 1974; Kent, & O'Leary, 1976).

Table 2: Mean Contact/Service Rate by Group during the Intervention

	Means				
Type of Contact	CB	Control (RP)	ISM	F	p <
# Youth Contacts	9.00[a]	6.05[b]	18.89[c]	64.74	0.001
Time with Youth	6.19[a]	3.64[b]	7.00[c]	22.80	0.001
# Family Contacts	9.00[a]	3.62[b]	16.39[c]	55.29	0.001
Time with Family	7.85[a]	1.51[b]	5.38[c]	39.19	0.001
# Collateral	3.67[a]	1.08[b]	10.59[c]	65.74	0.001
Time with Collaterals	1.59[a]	0.38[b]	3.20[c]	40.21	0.001
# Urine Drug Tests	2.09[a]	1.26[b]	2.18[a]	21.47	0.001
# Curfew Checks	0.37[b]	0.22[b]	12.24[a]	147.79	0.001
# Cognitive Classes	27	0	0		
Time in Cognitive Classes	52.59	0	0		
# Group Counseling or Supervision	11.62	0	7.75		
Time in Groups	20.69	0	4.46		
Total Youth Contacts	47.43[a]	6.05[b]	26.57[c]	245.08	0.001
Total Time with Youth	79.24[a]	3.63[b]	11.42[c]	777.92	0.001

Notes: CB = Cognitive-behavioral intervention, Control = Regular Probation, ISM = Intensive Supervision and Monitoring
Time is measured in hours. Superscripts denote significant differences between groups on Tukey post hoc tests. Within row, groups with same superscript are not significantly different.

PROGRAM EFFECTIVENESS

- **Data Analysis**

In this report, we tested the hypothesis that there will be reductions in recidivism and substance use in both experimental groups, i.e. ISM and CB, during the one year follow-up period, while, the CB group will show superior outcomes in all measures due to the combination of cognitive-behavior skills training, group therapy and parent/guardian involvement in treatment. A significance level of .05 was used in all analyses.

- **Analyses of Group Equivalence at Baseline**

Random assignment to intervention conditions was not possible. Therefore, multivariate analysis of variance (MANOVA) assessed whether there were significant differences between conditions at baseline on the following measures: (a) age; (b) Delinquency Risk Assessment (DRA) score; (c) PESQ Problem Severity score; (d) self-reported number of days drug selling, self-reported violent behavior and (e) all MAPI scales. Then univariate follow-up tests were used to assess differences between groups on significant variables. See Table 3.

Family income was assessed as a nominal variable categorized as "receiving public assistance" or "not receiving public assistance." Race was dichotomized into white and nonwhite because there were only two subjects in other racial categories. Family income, race and gender variables were subjected to Chi squared tests of independence. See Table 3.

Youths in the CB condition were slightly younger than youths in the other two groups. The ISM condition had significantly more males than the other conditions. The differences in family income was statistically significant, P^2 (2, 282) = 6.25, $p<0.05$. A greater proportion of the families in the CB condition were receiving public assistance at the beginning of the study than in the other two groups. The groups were not statistically significantly different on the basis of race.

In terms of delinquency variables, the groups were equivalent at baseline with one exception. The ISM group had a significantly higher mean delinquency risk score. There were no statistically significant group differences for the number of days of drug selling in the six month period prior to the study. When self-reported violent behavior was examined with the original frequency variable, i.e. the sum of responses to four Behavioral History items, significant group differences were found. However, four subjects with reports of 240 or more violent acts were all in the control group making the group mean significantly higher than that of the other two groups. When the violent behavior scale items were capped at a frequency of five or more per item, then group differences disappeared.

There were no statistically significant differences in terms of PESQ Problem Severity. The mean PESQ Problem Severity scores for all groups slightly exceeded 30, indicating risk for substance abuse and the need for further drug abuse assessment (Winters, 1991). MAPI Family Rapport was found statistically significant in the MANOVA, but was not in the one-way ANOVA. The mean Family Rapport score for the cognitive-behavioral group is 72.25, which is very close to the cut score of 75 for the presences of family relationship problems.

The above set of analyses were conducted because random assignment to treatment conditions was not possible. Random assignment increases the likelihood of equivalent groups, but does not guarantee it. In terms of factors that may explain the variance in recidivism, e.g. age, gender, race, and DRA score, we found some evidence that the groups were not equivalent prior to the intervention. The ISM group had a larger proportion of males and a higher mean DRA score than the other two groups. These factors are related in that males in the sample obtained a higher DRA score (M = 9.16) than females (M = 8.58). Youths in the CB group were younger and a greater proportion of their families were receiving public assistance than the other two groups. Of these two variables, age is probably more relevant. Age is inversely related to criminality (Farrington, 1986; Gottfredson & Hirshi, 1990; Siegel & Senna, 1991) and age at first arrest is inversely related to recidivism (Robertson & Anderson, 1999).

The groups were equivalent with regards to race, selected delinquent behaviors (drug selling and violence), and substance use problem severity. The effects of age, gender, race and DRA score will be controlled in program effectiveness analyses.

Table 3: Differences Among Groups at Baseline

	Frequency				
Variable	CB (n = 85)	Control (RP) (n= 99)	ISM (n= 109)	Chi-square	p <
Gender - Male	57	84	96	15.16	0.001
- Female	28	15	13		
Race - white	35	29	40	2.93	ns
- nonwhite	50	70	69		
Receiving Public assistance	58.0%	40.4%	43.0%	6.25	0.05

	Means (SD)				
Variable	CB	Control (RP)	ISM	F	p <
Age (Range 11 - 17)	14.68[b] (1.33)	15.46[a] (1.13)	15.24[a] (1.12)	10.37	0.001
Risk Score (Range 1 - 17)	8.14[a] (2.62)	8.79[a] (3.25)	9.89[b] (3.17)	8.25	0.001
Drug Selling Days in six month period	5.52 (24.07)	15.45 (37.75)	8.36 (28.63)	2.55	ns
Capped Violent Behavior Scale	3.16 (4.55)	3.75 (5.41)	2.21 (4.28)	2.72	ns
AOD Problem Severity Score (PESQ)	31.05 (11.38)	32.24 (10.36)	32.06 (8.95)	0.35	ns
MAPI Family Rapport	72.25 (26.14)	63.52 (27.08)	64.77 (29.70)	2.59	ns

" Analyses of Group Differences Across Time

Attrition

Three hundred nine (309) youths were recruited to participate in the study and by the end of the study data were collected on 226 youths for an overall retention rate of 73%. It should also be noted

that 85 out of 101 youths recruited into the cognitive-behavioral intervention actually completed the training. Chi squared analyses for group membership, gender, and race revealed that there were no statistically significant differences in terms of attrition. A MANOVA test of age, prior delinquent referrals, Delinquency Risk Assessment, several measures of alcohol and drug use, a measure of psychological distress, and Millon Adolescent Personality Inventory subscales revealed that the only statistically significant difference between those lost and those retained was on the PESQ measure of psychological distress, $F(1, 294) = 4.635$, $p < .05$. Those subjects that were lost over the course of the study endorsed at baseline more of the eight items indicating psychological distress ($M = 2.8$) than those retained ($M = 1.8$).

Recidivism

Delinquent Referrals/Arrests in the Year Post-Intervention

Adolescents can come to the attention of the Youth Court two ways; by referral or arrest. Parents, school officials, or social agency personnel can refer a truant, an incorrigible youth, or a child in need of supervision to the Youth Court. Adolescents also come to the attention of Youth Court by police arrest. Once placed under Youth Court supervision, Youth Court Counselors can make referrals to the court for any probation/parole violation. Thirty-seven (37%) percent of subjects had at least one referral or arrest during the one year follow-up period. Group differences in the percent of youth who recidivated is statistically significant (Pearson $P^2 = 6.42$, $df = 2$, $p < .05$) and the group percentages are: 36.5% of control (RP), 40.7% of ISM, and 23.3% of CB.

Logistic regression was also used to determine if there were group differences in whether or not a youth was referred/arrested for a delinquent act during the one year period following the end of the treatment/intervention phase. When the three intervention groups were compared directly, a statistically significant effect was found (model $P^2 = 6.62$, $df = 2$, $p < .05$). Compared to the cognitive-behavioral group, youths on regular probation were 2.1 times more likely to be arrested for a delinquent act during

follow-up and youths in ISM were 2.2 times more likely to be arrested for a delinquent act during follow-up. There was no statistically significant difference between the control and ISM groups.

When other variables, i.e. age, gender, race, Delinquency Risk Assessment (DRA) score at baseline, and MAPI Impulse Control score at baseline, were added to the model, group differences disappeared. In the full model (model $P^2 = 47.88$, $\underline{df} = 7$, $\underline{p} < .001$), gender, race, and DRA score were statistically significant predictors of delinquent arrests during the one year follow-up (see Table 4). Males were 3.6 times more likely to be arrested for a delinquent act during follow-up than females, when controlling for the other independent variables in the model. This is consistent with the literature that characterizes delinquency as a male phenomenon, particularly for serious or violent offenses (Sarri, 1983; Siegel & Senna, 1991; White & LaGrange, 1987; Williams & Gold, 1972). In 1995, males accounted for 76% of person offenses, 78% of property offenses, and 86% of drug law violations (Stahl, 1998). Minority youths were 2.7 times more likely to be arrested for a delinquent act during follow-up than white youths, when controlling for the other independent variables in the model. Nationally, juvenile arrests disproportionally involve minorities (Snyder, 1997) and in Mississippi, where just under half of the youth population is African American, 63 percent of the Youth Court cases in 1997 involved African American youths (Mississippi Department of Human Services, 1997). For every unit increase in the DRA score, the expected odds of being arrested or referred for a delinquent act increased by a factor of 1.19, when controlling for effects of the other independent variables in the model.

Table 4: Logistic Regression of Two Measures of Recidivism for 12 months after Intervention (N = 233)

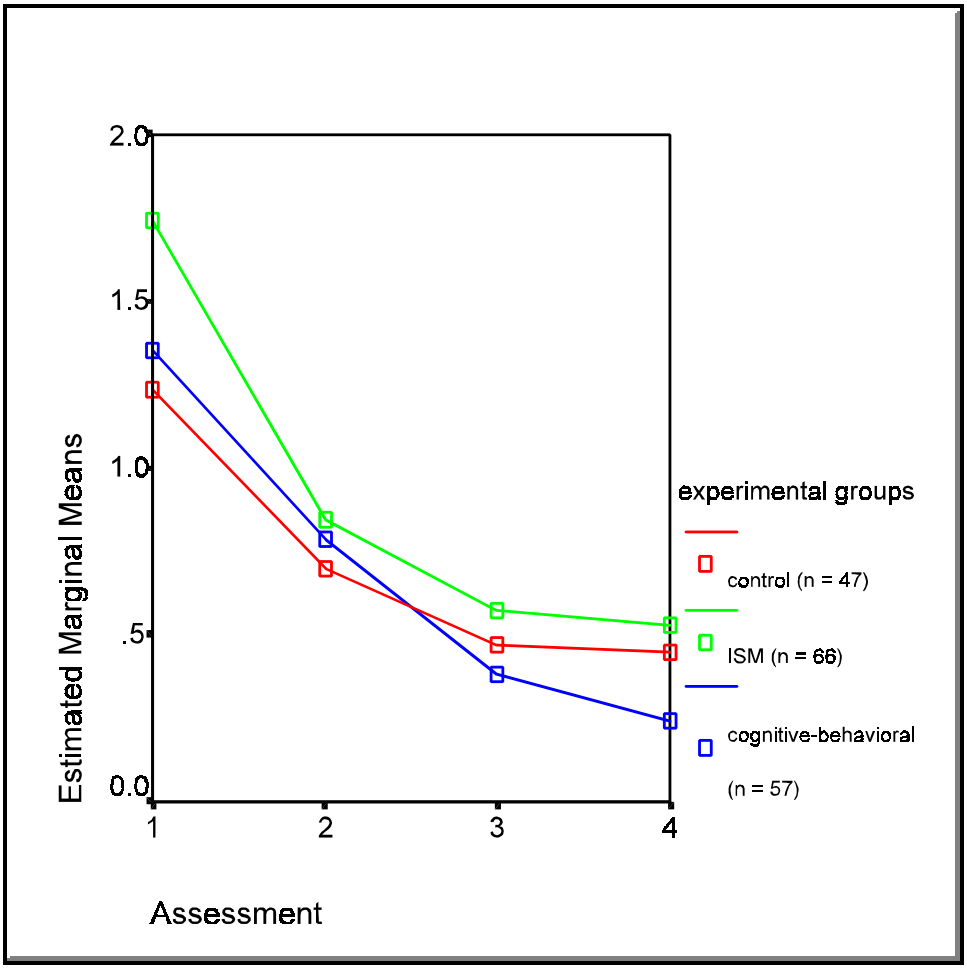
	Delinquent Referral/Arrest				Incarceration			
	Group Only		Full Model		Group Only		Full Model	
Independent Variables	**B**	**Exp(B)**	**B**	**Exp(B)**	**B**	**Exp(B)**	**B**	**Exp(B)**
Group[1]								
Regular Probation	.737	2.091*	0.431	1.538	1.080	2.946**	0.763	2.1438
ISM	.7914	2.2065*	0.453	1.573	1.495	4.460***	1.310	3.708**
Age			-.161	0.852			-.199	0.820
Gender[2]			1.294	3.646**			1.890	6.618***
Race[3]			1.008	2.720**			1.366	3.920**
Delinquency Risk			0.171	1.186***			0.177	1.194***
Impulse Control[4]			0.011	1.011			0.014	1.014*
Model P^2	6.62*		47.88***		18.67***		72.99***	

* Significant at .05 level
**Significant at .01 level
***Significant at .001 level

1 Reference group Cognitive-behavioral intervention.
2 Reference group female.
3 Reference group white.
4 The higher the score on the Impulse Control scale the more likely the youth has a problem with self control.

Another method of examining the group differences in arrests or referrals to Youth Court is to see how the group means change over time. The total number of status and delinquent referrals are displayed in Figure 1 for the more restricted sample for which we have complete data (n = 180). Assessment one provides the total arrests and referrals during the 6 months prior to intervention, the second shows the arrests/referrals during the intervention period, assessment three covers the first 6 month period post-intervention and assessment 4 the 6 to 12 months post-intervention. As can be seen in the graph, the mean number of referrals/arrests decreases over time for all three groups.

Figure 1: Changes in the Number of Arrests/Referrals by Group



Incarceration in the Year Post-Intervention

Group differences were observed for incarceration during the one year follow-up period (Pearson $P^2 = 17.722$, $\underline{df} = 2$, $\underline{p} < .001$). Almost half (48.2%) of the subjects in ISM were detained for at least one day, 34.9% of the youth in the regular probation or control group were detained for at least one day and 16.9% of the participants in the cognitive behavioral intervention were detained for at least one day. The percent of subjects detained in the ISM group exceeds the proportion arrested or referred at least once during the same time period (35 subjects were arrested or referred at least once during follow-up, yet 40 subjects were detained). This finding is baffling. Possible explanations include data recording or collection errors as information regarding arrests and days detained came from the official Youth Court record. All arrests and probation violations may not have been documented or the research field staff may have made mistakes when collecting the data from court records. Another possibility is that some of these youth were arrested/referred during the intervention period, but were not detained until the follow-up period.

Table 4 also displays the logistic regression results for group differences in whether or not a youth was incarcerated during the one year post-intervention period. When intervention group was the only independent variable in this analysis, a statistically significant effect was found (model $P^2 = 18.67$, $\underline{df} = 2$, $\underline{p} < .001$). In comparison with the cognitive-behavioral group, subjects in both the control group and the ISM group were far more likely to be detained. In the full model, group effects remained statistically significant (model $P^2 = 72.99$, $\underline{df} = 7$, $\underline{p} < .001$). Gender and race were the strongest predictors of incarceration. Males were 6.6 times more likely to be detained than females and nonwhites were 3.9 times more likely to be detained than white subjects.

Disproportionate minority incarceration is well documented (Hsia & Hamparian, 1998; Secret & Johnson, 1997; Wordes, Bynum & Corley, 1994). Although minority youths constituted about 32 percent of the youth population in the United States in 1995, they represented 68 percent of the juvenile

population in detention centers and training schools (Sickmund, Snyder, & Poe-Yamagata, 1997). A study of a proposed juvenile classification system in Mississippi found that even when "objective" criteria were used in making disposition recommendations to the Youth Court, African American youths were more likely to be given a training school disposition than white juvenile offenders (Robertson, & Dunaway, 1998).

The Delinquency Risk Assessment (DRA) score also predicts a youth's likelihood of incarceration. The DRA logistic regression coefficients and odds ratio for delinquent referral/arrest and incarceration were very similar. For every unit increase in DRA score, the expected odds of being incarcerated increased by a factor of 1.194 when controlling for effects of the other independent variables in the model. Impulse control was not a significant predictor of delinquent referral/arrest, but higher Impulse Control scores, indicating problems in this area, were associated with likelihood of incarceration.

Total Days Incarcerated in the Year Post-Intervention

The number of days incarcerated during the year following intervention ranged from zero to 365. Univariate ANOVA was used to compare the number of days incarcerated by group controlling for differences in age, gender, race, DRA score, Impulse Control, and number of days detained during the six month period prior to study participation score at baseline. The model was statistically significant (F 8, 224 = 14.499, $p < .001$). Group assignment, Impulse Control score, gender and age were not significantly related to days incarcerated. Race, DRA score, and prior incarceration were each significantly associated with the number of days incarcerated. Previous incarceration is the factor with the strongest association to incarceration during follow-up (F 1, 224 = 34.265, $p <.001$). The mean number of days detained during the one year follow-up period for subjects in the cognitive-behavior group was 7.64 compared to 39.83 for the ISM group and 40.62 for regular probation. These group differences in average number of days incarcerated are statistically significantly different, however,

when prior number of days incarcerated is controlled, the effect of group assignment is lost. This is because the cognitive-behavioral group started the study with a history of fewer times detained and fewer total days detained than the other two groups.

Veracity of Self-reported Delinquent Behavior

Use of the self-report method to study drug use and delinquency among adolescents is practical and efficient. Since Short and Nye (1957) introduced the self-report method of measuring delinquent behavior, it has become the dominant method of measurement in the etiology of delinquency (Hindelang, Hirschi, & Weis, 1981). Notwithstanding the popularity and usefulness of self-reports, there have been criticisms.

The issue of the reliability and validity of delinquency and drug use self-reports will be briefly examined given the evidence that some subjects may have exaggerated reports of antisocial behavior. Also concerns have been raised that drug use self-reports are unreliable (Fendrich & Vaughn,1994; Kleiman, 1986; Mieczkowski, 1996). Valid outcome data is critical to delinquency rehabilitation program evaluation and improvement efforts.

Unfortunately, the veracity of delinquency self-reports is more difficult to determine than that of drug use where self-report can be compared to urinalysis results. Respondents may intentionally falsify information, give socially desirable responses or provide inaccurate answers due to recall errors (Weis, 1986). Memory was examined by correlating self-report and official report of number of days incarcerated assuming that such an event would be salient. Social desirability bias was tested by correlating the rank order of percent admitting various offenses and the severity ranking of that offense as determined by the MS Division of Youth Services. If social desirability bias is operating, one might expect that the more serious the offense, the less likely a youth would admit to it.

Another method of validating delinquency self-reports involves comparing groups differentiated on the basis of official records, such as delinquents vs non-delinquents, to see if self-report data

discriminates between the groups (Hindelang et al., 1981; Lipsey, 1982). Since all the youths in this study are Youth Court involved, the sample was divided on the basis of the number of prior arrests/referrals. Those subjects with two or fewer prior referrals were placed into the low offending group and those with three or more priors were placed into the high offending group. In this analysis, self-report delinquency is the sum of the original frequency response (not capped) to ten delinquent items from the Behavior History form. If the juvenile offenders are reporting their delinquent acts relatively honestly, then we would expect the high risk group to report a greater frequency of engaging in delinquency.

Memory or Recall Ability

To test recall ability, subjects were asked how many days they were incarcerated during a six month period and their answers were compared to official records. According to official records, 59.5 percent of the 309 youth entering the study had been incarcerated one or more times during the six months prior to recruitment into the study for a average of 19.5 days. The correlation between official records and subject report is strong, positive and statistically significant ($r = .712$, $p < .001$). This suggests that study participants can recall delinquent activities over a six month period with reasonable accuracy.

Social Desirability Bias

All delinquency self-report items are listed in Table 5 with the percent admitting to engaging in the behavior at least once during a six month period. Also listed in the table is the Division of Youth Services classification of offense seriousness. The seriousness rating is based on the potential adverse consequence to the offender. Items classified as one are status or minor, two is moderate, three is serious, and four is very serious. An aggravated assault is serious, while simple assault is considered moderate. Joyriding, or taking a car without permission, is classified as motor vehicle theft, but is rated as moderate as the offense usually involves the taking of the family vehicle. Any other motor vehicle

theft is rated as a serious offense. Items that could be classified as two or three were coded 2.5. A correlation between the percent admitting to each self-report item and the level of severity of the offense was obtained to test for social desirability bias. Spearman's rho is -.578 ($p = .015$) which means that the more serious the offense the lower the percent reporting the behavior. This finding indicates that social desirability bias is a factor in reporting delinquent behaviors.

A closer examination of Table 5 indicates that the admission of delinquent acts cannot be explained by social desirability bias alone. A very small percentage of respondents (5.6%) reported fraudulent use of checks or credit cards, an offense that is rated as less serious than other forms of theft, while 17.6 percent of the sample admitted to larceny. The most likely explanation for this finding is that these juveniles have fewer opportunities to obtain credit cards/checks than they do to shoplift. Drug selling and weapons charges are serious offenses which usually result in incarceration or commitment to one of the state's training schools, yet 25.5 percent and 27.9 percent respectively admitted to these behaviors. In a random sample of youths, approximately ten percent reported selling drugs among friends and relatives and only six percent were intensely involved in dealing (Carpenter, Glassner, Johnson, & Loughlin, 1988). So it certainly seems reasonable to believe that at least a quarter of these substance abusing juvenile offenders would be dealing drugs. The greater proportions admitting to the trivial offenses, such as truancy and driving without a license, may be because these youths perceive little stigma attached to them *and* because they regularly engage in such behavior.

Table 5: Self-report items from the Behavior History form and Mississippi Division of Youth Services Classification of Offense Severity

Self-Report Item	Percent reporting engaging in behavior at least once	Offense Seriousness Rating
Running away	22.2	1
Expelled or suspended from school	53.1	1
Truancy	43.7	1
Drunk or high at school	22.3	2
Driving without license	53.3	1
Threatened an adult	28.6	2
Hit an adult	20.5	2 - 3 (lower rating for simple assault)
Vandalism/arson	12.8	3
Breaking & entering	17.3	3
Larceny	17.6	3
Motor vehicle theft	12.4	2 - 3 (lower rating for joyriding)
Threatened with weapon	27.9	3
Gang fights	24.7	2 - 3 (depending whether weapon involved)
Illegal use of checks/credit cards	5.6	2
Rape	2.6	4
Providing sex for money or drugs	3.3	3
Drug sales	25.5	3

Note: status or minor = 1, moderate = 2, serious = 3, very serious = 4

Lastly, some juvenile offenders may exaggerate their reports of deviant behavior rather than give socially desirable answers. Recall that a violence scale was constructed by summing the responses to four items involving threatening and assaultive behaviors, use of weapons and gang fighting. Nine cases out of 305 cases with a violence scale score had a score two or more standard deviations above the mean. It seems very likely that these nine youth were exaggerating. As expected from the rank correlation, the smallest percentage of offenders (2.6%) admitted to the most serious of charges on the self-report questionnaire, that of rape. Eight males reported attempting or committing rape one or more times. We wondered whether the juveniles who admitted to rape were among those exaggerating their

violent behaviors. Of those subjects who reported rape, only one had a violence scale score two standard deviations above the mean. And the eight other cases with outlier scores on the violence scale reported zero frequency for rape. In other words, of the small subset of the sample that readily admitted to engaging in frequent violence, perhaps even exaggerating their violent behavior, only one also reported attempting or committing rape.

Higher proportions of the sample admitted to status and minor offenses than admitted to serious offenses as expected based upon the assumption of socially desirable reporting. Nevertheless, substance abusing juvenile offenders in this study did report disgraceful, even loathsome behavior: property crimes, drug selling, violent crimes, and rape. While the accuracy of specific delinquent behavior frequency is questionable, the subjects' willingness to admit involvement in delinquent activities is not.

Comparison of Self-reports based on Prior Arrest

The validity of self-reports of delinquency were also examined by dividing the sample into two groups on the basis of offending prior to entering the study. Prior arrests are frequently included in recidivism prediction models used to classify offenders (Baird,1984; Clear, 1988; Howell, & Bilchik, 1995). The number of prior arrest/referrals for the sample ranged from zero to 22.

Youths with two or less prior arrest/referrals were placed in the low offending group (n = 203) and those with three or more were placed in the high offending group (n = 106). Using oneway ANOVA to test for group differences on the total number of delinquent events reported (the sum of the frequency of ten self-report items), a statistically significant difference was found ($F_{1, 304} = 4.192$, $p < .05$). The mean number of delinquent events in a six month period for the low offending group was 15.9 (SD = 45.33) and the mean for the high offending group was 30.7 (SD = 81.2). Both low and high offending juveniles were reporting more delinquent acts than referrals/arrests noted in official records. The mean number of delinquent referrals and status referrals for the low offending group was 0.97 and 0.26 respectively. The mean number of delinquent referrals and status referrals for the high offending

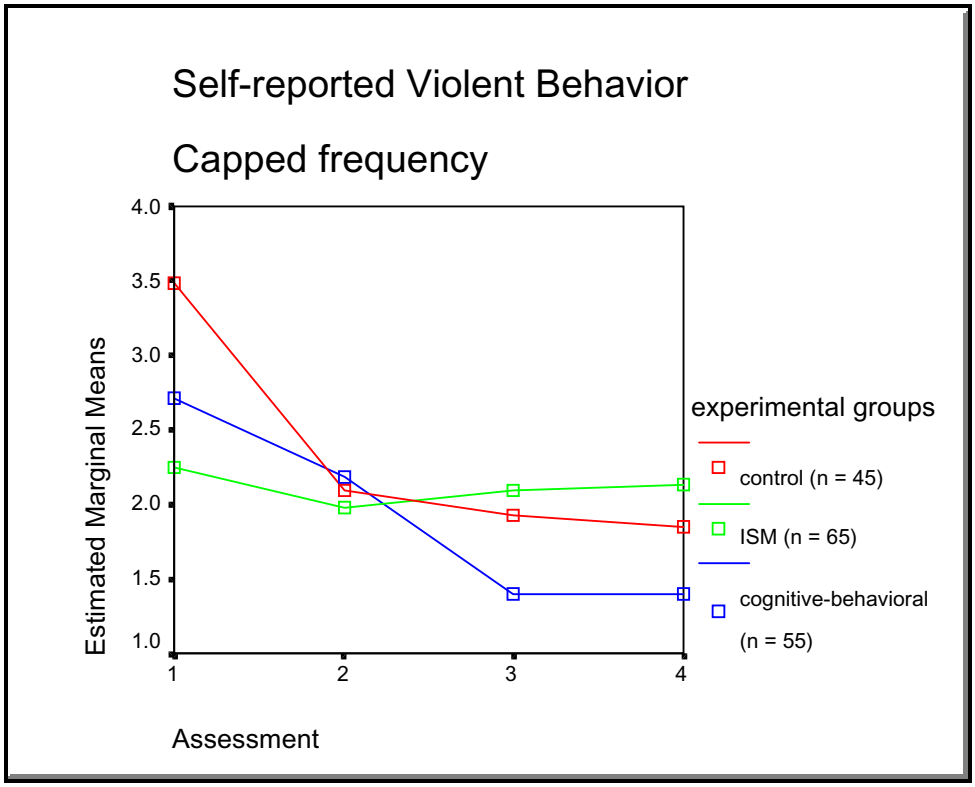
group was 1.41 and 0.41 respectively. This is consistent with Williams and Gold's (1972) findings that juveniles with arrest records were caught for only three percent of their total chargeable offenses over a three year period. Given their history of offending based on official records, we would expect the high offending group to be more criminally involved than the low offending group and indeed they reported twice as many delinquent acts.

Triangulation was used to gauge the accuracy and honesty of delinquency self-reports. Subjects demonstrated the ability to recall the number of days incarcerated with sufficient accuracy to suggest that they could also remember the frequency of delinquent acts. Subjects admitted to engaging in very serious criminal offenses, such as rape. And subjects reported more offenses than arrests/referrals in official records. Taken together, tests of memory and social desirability and comparisons of reporting by high rate versus low rate offenders, these findings increase our confidence in the honesty of delinquent self-reports.

Self-reported Delinquent and Pro-social Behavior

Repeated measures ANOVA was used to determine if there were group differences over time on self-report measures of violence, general delinquency, and drug selling. Subject reports of violent behaviors (summed frequency of threatening an adult, hitting an adult, use of weapon, gang fights) decreased significantly over time (F 3, 486 = 4.48, $p < .01$). There were no statistically significant group differences or group by time interaction. As can be seen in Figure 2, the mean violent behavior score for regular probation, the control and the cognitive-behavioral group dropped from baseline to six months after intervention. Mean reported violent behavior essentially did not change for the ISM group. For all three groups there is no change in the amount of violent behaviors reported during the period from six to twelve months post-intervention.

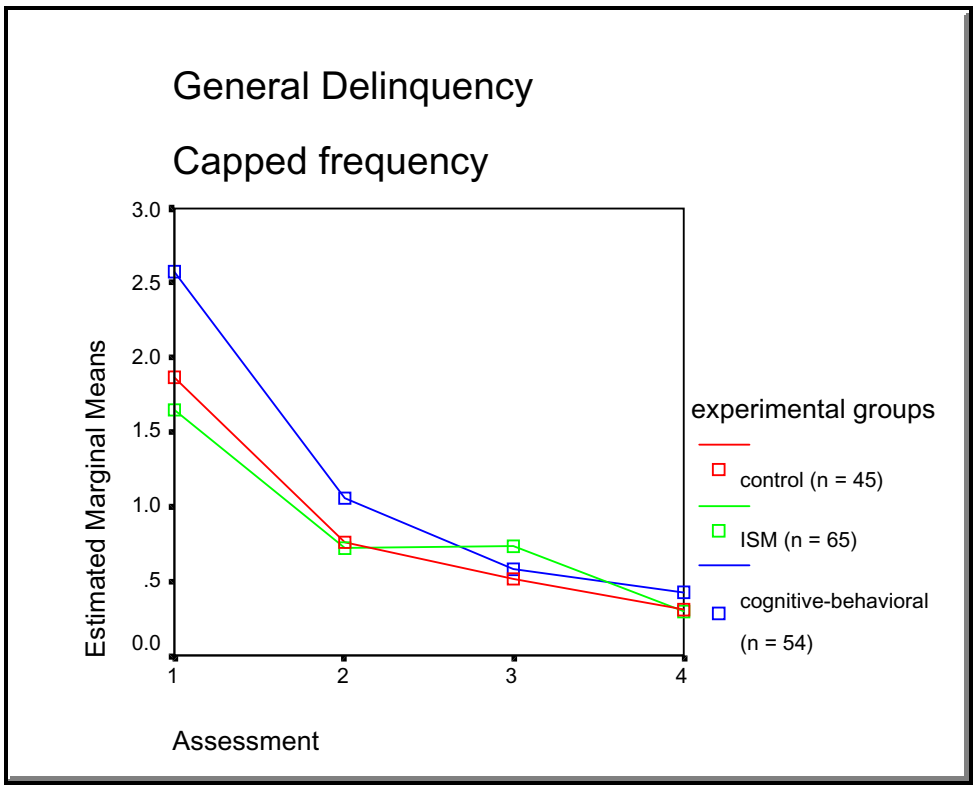
Figure 2: Changes in Self-reported Violent Behavior by Group



Assessment 1 = baseline, 6 months prior to intervention
Assessment 2 = immediately post-intervention
Assessment 3 = 6 months post-intervention
Assessment 4 = 12 months post-intervention

The general delinquency scale included: running away overnight, vandalism, arson, burglary, robbery, and other theft. All three groups reported less involvement in general delinquency over time (F 3, 483 = 19.48, $p < .001$) with the sharpest drop in reported behavior occurring during intervention. The results of changes in general delinquency are graphically displayed in Figure 3. Again there were no statistically significant group or group by time interaction effects.

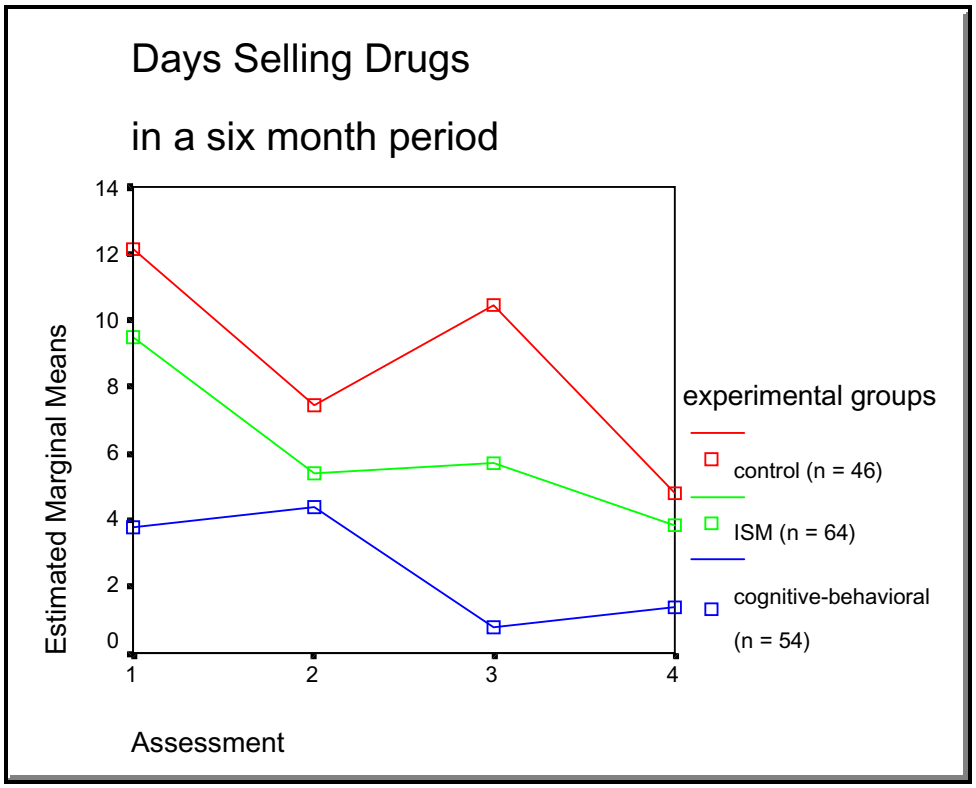
Figure 3: Changes in Self-reported General Delinquency by Group



Assessment 1 = baseline, 6 months prior to intervention
Assessment 2 = immediately post-intervention
Assessment 3 = 6 months post-intervention
Assessment 4 = 12 months post-intervention

Lastly, drug selling was analyzed by group across time. No statistically significant effects were found. Subjects in regular probation group reported more drug selling days per six month period throughout the study. By the end of the study, the mean number of drug selling days was half of that at baseline for the control group (see Figure 4).

Figure 4: Changes in the Number of Drug Selling Days by Group

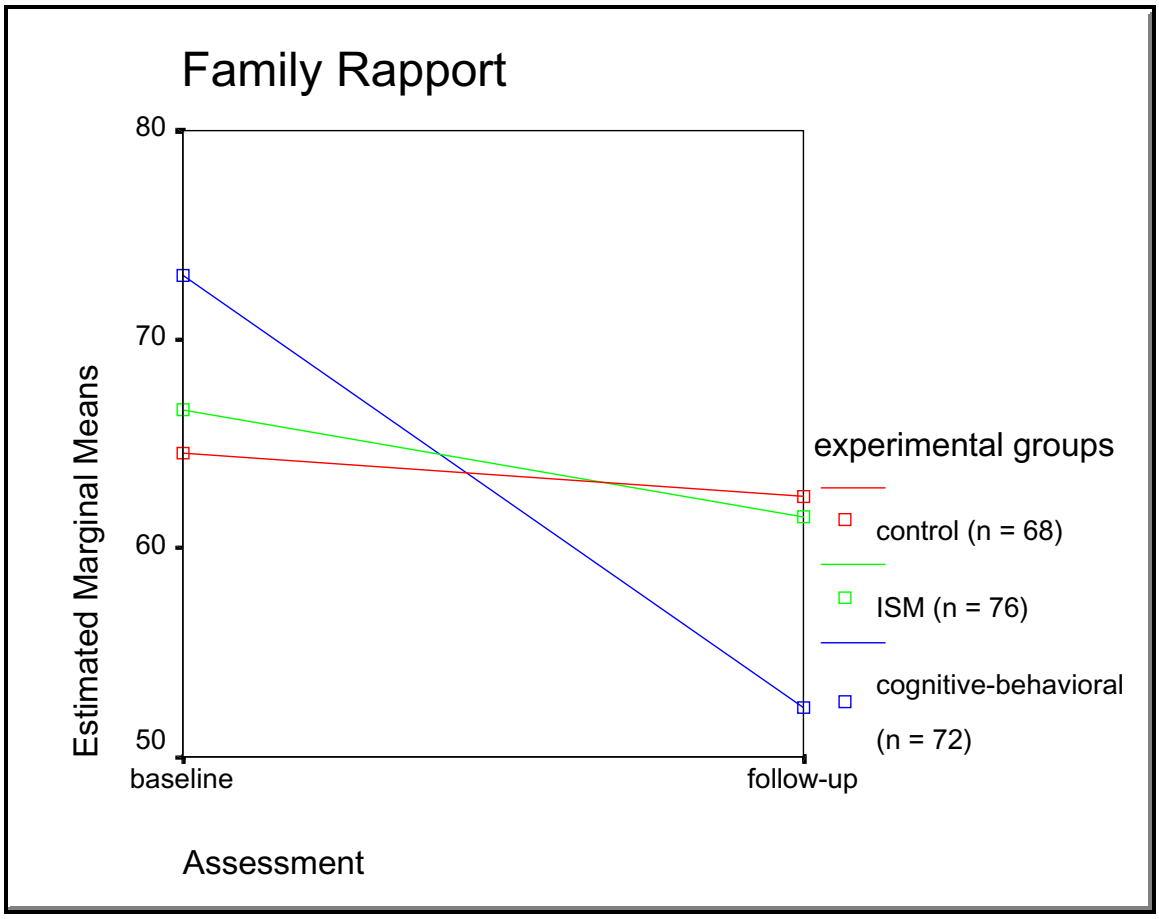


Assessment 1 = baseline, 6 months prior to intervention
Assessment 2 = immediately post-intervention
Assessment 3 = 6 months post-intervention
Assessment 4 = 12 months post-intervention

Generally all three groups reported decreasing delinquent behavior over time. Possible explanations for these findings are maturation and/or changing social situations. Age is inversely related to criminality (Farrington, 1986; Gottfredson, & Hirshi, 1990; Siegel, & Senna, 1991). A longitudinal national study of high school seniors found that self reported rates for delinquent offenses declined substantially between the ages of 17 and 23 years (Osgood, O'Malley, Bachman, & Johnston, 1989). Youths may simply "age-out" of crime as they mature and take on adult roles. Some have argued that employment, marriage, and other "sources of achievement and social satisfaction" lead to the decline in crime (Trasler, 1980; Sampsom, & Laub, 1992).

If study participants matured out of delinquency, we would expect to find other evidence of maturity such as lower scores on the MAPI Family Rapport and Impulse Control scales across time indicating improvement in these areas. The MAPI Family Rapport score obtained prior to intervention was compared with the score obtained 12 months post-intervention. A statistically significant time effect found (F 1, 213 = 14.52, $p < .001$). Also a statistically significant interaction effect between group and Family Rapport was found (F 2, 213 = 5.54, $p < .01$). The mean Family Rapport score for the cognitive-behavioral group sharply declined, indicating improvement in perception of family relations, while the mean scores for the other two groups stayed essentially the same (see Figure 5). Analysis of covariance using baseline Family Rapport as the covariate revealed a statistically significant group effect (F 2, 212 = 3.74, $p = .025$). The adjusted means for Family Rapport were 63.24 control, 61.84 ISM, and 51.26 CB. Higher MAPI scores indicated greater likelihood of problems in the subscale domain. In this case, the youth of cognitive-behavioral group perceive their family relations to have improved over time much more so than the youth in regular probation and ISM.

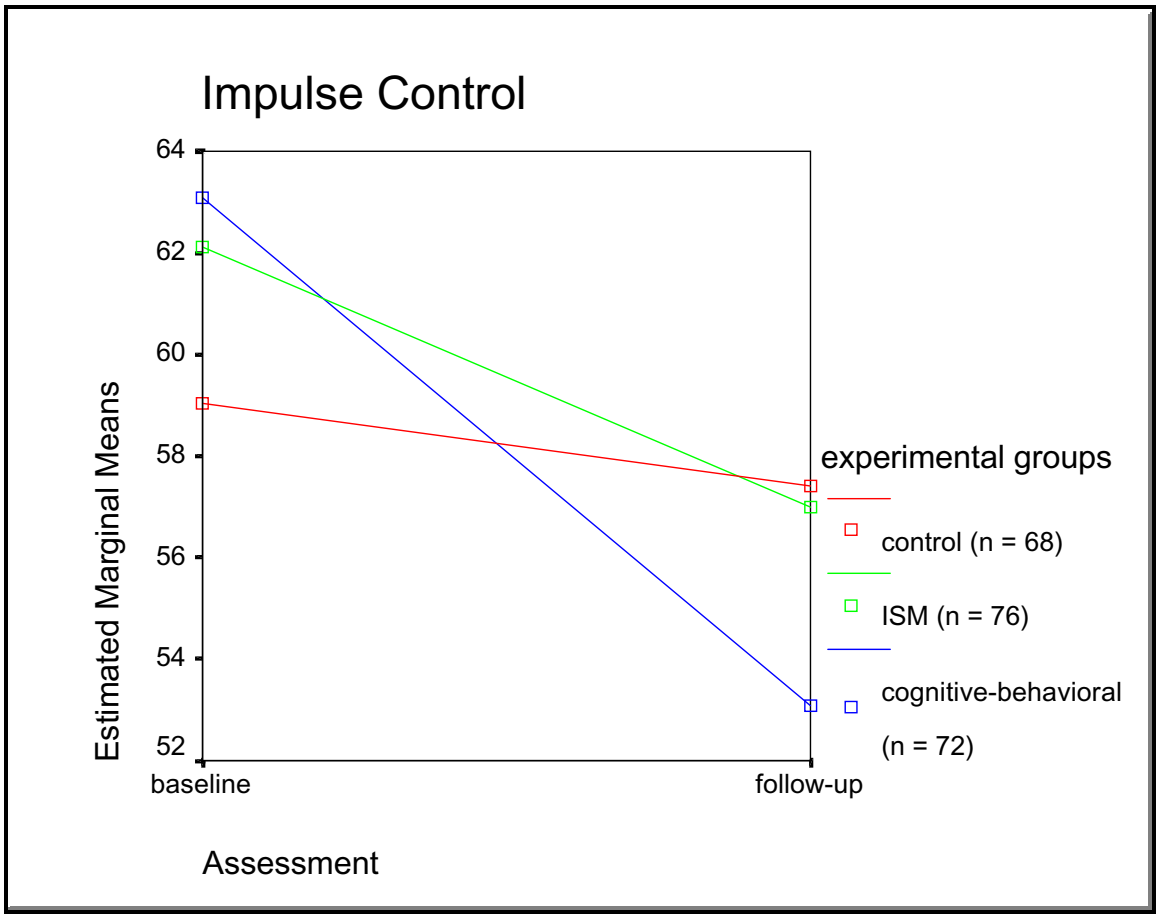
Figure 5: Changes in MAPI Family Rapport subscale score by Group



Baseline - MAPI administered prior to intervention.
Follow-up - MAPI administered 12 months post-intervention.

Changes in MAPI Impulse Control was examined in the same manner as Family Rapport. Mean Impulse Control scores did decrease over time for the ISM and CB groups ($\underline{F}$ 1, 213 = 7.81, $\underline{p} < .01$), which indicates better impulse control for these groups. Although the group by time interaction and group effects were not statistically significant for Impulse Control, the cognitive-behavioral group had the greatest decrease in mean score. (see Figure 6).

Figure 6: Changes in MAPI Impulse Control subscale score by Group

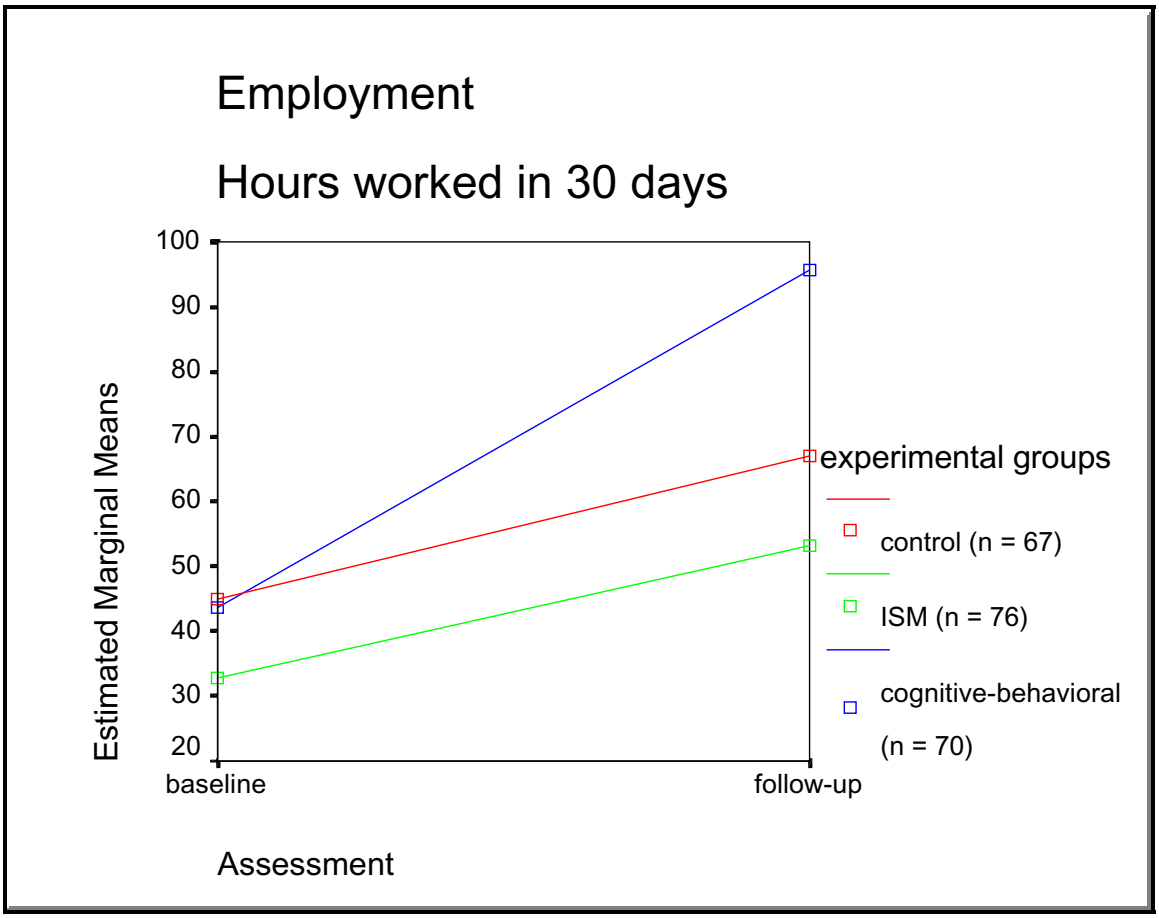


Baseline - MAPI administered prior to intervention.
Follow-up - MAPI administered 12 months post-intervention

If these youths are taking on adult roles, we might expect to find increases in hours of employment across time. Subjects were asked to report the number of hours that they performed chores or a job for money in the previous 30 days. Reports at baseline were compared to that at the end of the study period. The number of hours that participants reported working significantly increased over time (F 1, 210 = 22.35, $p < .001$) and statistically significant group differences were found (F 2, 210 = 4.56, $p = .012$) (see Figure 7). The CB group reported that they worked more hours per month than the other two groups. The adjusted means for follow-up employment were 66.5 for the control condition, 54.1 for the ISM youth, and 95.2 for the CB group. Thus in each variable examined: family relations; impulse control; and employment, the CB group seems to have demonstrated more improvement or "maturity"

than the other two groups. This finding, however, does not clarify the lack of significant group differences in self-reported delinquency.

Figure 7: Changes in Self-reported Number of Hours Employed by Group



Baseline - MAPI administered prior to intervention.
Follow-up - MAPI administered 12 months post-intervention.

Alcohol and Other Drug (AOD) Use

Subjects' use of alcohol and drugs was examined in multiple ways. Urine specimens were collected to test for the presence of drugs. AOD problem severity was measured by the PESQ (Winter, 1991). Self-report of the frequency of use of alcohol and other drugs was collected. Regardless of the measure of AOD use, we found a decline in substance use and AOD problem severity for all three groups that persisted in the follow-up phase for the cognitive-behavioral group.

EMIT (Enzyme Multiplied Immunoassay), verified by FPIA (Fluorescence Polarization Immunoassay) was the method employed to test urine for the presences of drugs. EMIT is 97.5 to 98 percent accurate for marijuana, opiates, and cocaine (Visher, 1991), but the window of detection is limited to two to three days for cocaine and up to four weeks for regular marijuana users (Schwartz & Hawks, 1985). Urinalysis tested for the presence of the following drugs: amphetamines, barbiturates, benzodiazepines, cocaine, opiates, phencyclidine and marijuana. At baseline, there were 134 positive results out of 287 urine specimens collected. Most (83.6%) of the positive drug tests were for marijuana, 11.2% of the positive drug tests were for cocaine and the remaining 5.2% of the positive drug tests were positive for amphetamines, barbiturates, benzodiazepines and opiates. Twenty-two drug tests were positive for two drugs and two tests were positive for three drugs.

Honesty regarding drug use was gauged by comparing self-report with urinalysis. The concordance between self-reported use of marijuana and cocaine and the results of urinalysis are displayed in a 2x2 table. Table columns are denial or admission of any drug use during the preceding six months. Table rows indicate whether the urine specimen tested positive or negative for the drug. The values of the diagonal summed data (denied use-tested negative plus admitted use-tested positive) is used to calculate the percent of concordant responses. The percent of falsifiers (denied use-tested positive) will also be used as a measure of validity because concordance rate does not take into consideration those subjects who admit to drug use, but test negative. It is very unlikely that offenders would falsely admit to drug use, thus these admissions should be included with valid responses.

Table 6 presents the urinalysis self-report comparison for marijuana. The congruence or concordance between the two measures of marijuana use is 58.8 percent. This is somewhat lower than Harrison (1995) study of arrestees, which was 79%. It should be noted, however, that respondents in the Harrison study were asked to report their drug use for the three day period prior to arrest. Given the much shorter recall period (3 days vs 6 months), greater concordance is expected. The large number

of youths (102) admitting to use, but testing negative indicates that they used outside of the detection period and reported honestly. Perhaps a better indicator of the honesty of marijuana use reporting is the percent of those who tested positive, but denied use. Given the accuracy of urinalysis, these youth are clearly dishonest or falsifiers. Only 14.4 percent of those who tested positive and 6.5 percent of the total sample lied about their use of marijuana.

Table 7 presents the urinalysis self-report comparison for cocaine. The concordance for cocaine is 88 percent, compared to 72 percent in Harrison's study. Most youths denied cocaine use and most of the tests were negative. The percent of cocaine falsifiers (70.5%) is much greater than marijuana (14.4%). This certainly seems to suggest that study participants perceive more disgrace or stigma attached to cocaine use than marijuana use.

Table 6: Comparison of Urinalysis Results with Self-reported Use of Marijuana

	Self-Report (percent)	
Urinalysis	denied use	admitted use
negative	60 (20.4)	102 (34.7)
positive	19 (6.5)	113 (38.4)

Note: *N = 294*
Concordance: (60 + 113)/294 = 58.8%
Falsifiers: 19/132 = 14.4%

Table 7: Comparison of Urinalysis Results with Self-reported Use of Cocaine

	Self-Report (percent)	
Urinalysis	denied use	admitted use
negative	254 (86.4)	23 (7.8)
positive	12 (4.1)	5 (1.7)

Note: *N = 294*
Concordance: (254 + 5)/294 = 88%
Falsifiers: 12/17 = 70.5%

Group differences in the percent who tested positive for a drug are displayed in Table 8 for the 133 participants for whom complete data were available. There was a 26.3 percent reduction in positive drug tests for those youths who completed the cognitive-behavioral intervention (39.6% at baseline and 29.2% 18 months later). This suggests that the cognitive-behavioral intervention may have had a positive impact on drug use. The percent of positive drug tests for the control and ISM groups also decreased immediately after intervention, but returned to baseline levels in the follow-up phase. Group differences were assessed at each data collection point using chi-squared tests of independence. Although there were no statistically significant differences among the three groups at any single time period, when the control and ISM groups were combined and compared to the CB group, the percent of positive drug tests was significantly lower for the CB group during the follow-up period.

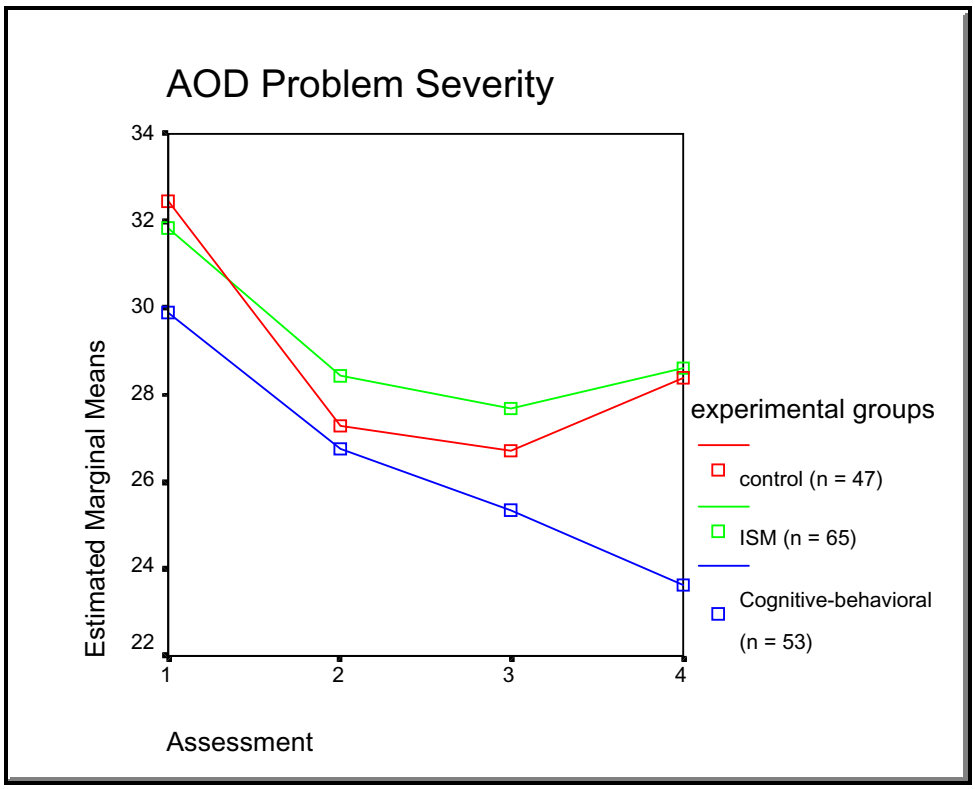
Table 8: Group Differences over Time in the Percent of Youth Testing Positive for Drugs (N = 133)[1]

	Percent Positive			
Group	baseline	6 months	12 months	18 months
RP	47.4	44.7	50.0	52.6
ISM	46.8	29.8	48.9	46.8
CB	39.6	39.6	29.2	29.2
P^2 (2df)[2]	0.70	2.13	5.17	5.45
P^2 (1df)[3]			5.16*	5.16*

[1] *Urinalysis tested for the presence of the following drugs: amphetamines, barbiturates, benzodiazepines, cocaine, opiates, phencyclidine and marijuana.*
[2] *All three groups were compared.*
[3] *RP and ISM were combined and compared to the cognitive-behavioral group.*
* $p < .05$

Repeated measures analysis of variance was used to assess differences among the three groups over time on the PESQ alcohol and other drug (AOD) problem severity score. No statistically significant group or group by time interaction effect was found. However, the total number of cases in this analysis was only 165 and post hoc tests revealed differences between group means at the assessment that took place 18 months after baseline. The average AOD problem severity score was significantly lower for the cognitive-behavioral group (23.6) than the other two groups (ISM = 28.6, RP = 28.4). The changes in the mean AOD problem severity score for each group over time are displayed in Figure 8.

Figure 8: Changes in PESQ Problem Severity Score by Group



Assessment 1 = PESQ collected at baseline
Assessment 2 = PESQ collected immediately post-intervention
Assessment 3 = PESQ collected 6 months post-intervention
Assessment 4 = PESQ collected 12 months post-intervention

Lastly, subject admissions of any use of alcohol, marijuana, and cocaine, as reported on the Behavior History form, were examined for the 133 subjects who also had urine drug test results (see Table 9). Alcohol is a drug used by many Mississippi adolescents. A Mississippi High School Survey (Dunaway et al., 1997) found that 65% of 10th through 12th graders admitted to using alcohol in the previous year. The percent of juvenile offenders in this study who admitted to use of alcohol at the beginning of the study ranged from 62.5% of those in the cognitive-behavioral group to 78.7% of those in ISM. By the end of the study, the percent of participants admitting to alcohol use had decreased for all three groups.

The Mississippi High School Survey found that only 26% of 10th through 12th graders admitted to using marijuana in the previous year (Dunaway et al., 1997) . The majority of juvenile offenders

in this study admitted to marijuana use; by group, the results ranged from 60.5% of the cognitive-behavioral (CB) group to 76.3% of the control (RP) group. The percent admitting to marijuana use decreased for all three groups; however, the drop from baseline to 18 months later for both CB and regular probation was twice that of the ISM group (see Table 9).

Cocaine or crack use is rarely reported among Mississippi high school students, only 4.6% of those surveyed admitted to any use of the drug in the preceding year (Dunaway et al., 1997). Nationally, 3.1% of high school students, 9th through 12th grades, admitted to cocaine use (CDC, 1996). Nineteen percent of youths in the ISM condition admitted to cocaine/crack use at baseline and the percent reporting any use of cocaine dramatically decreased by the end of the study to 4.3 percent. The percent of participants in the control group who admitted to cocaine use almost doubled over the course of the study, from 5.3 percent admitting to cocaine use at baseline to 10.5 percent admitting to cocaine use 18 months later. The percent of CB participants admitting to cocaine slightly decreased from 6.2 percent to 4.2 percent.

Table 9: Percent of Participants Admitting to Alcohol and Drug Use by Group (N = 133)

	Alcohol		Marijuana		Cocaine	
Group	% at baseline	% 18 months later	% at baseline	% 18 months later	% at baseline	% 18 months later
Regular Probation	76.3	63.1	76.3	55.3	5.3	10.5
ISM	78.7	57.5	72.3	61.7	19.1	4.3
Cognitive-behavioral	62.5	54.2	60.5	39.6	6.2	4.2

Summary

It was hypothesized that both the intensive supervision and monitoring (ISM) group and the cognitive-behavioral (CB) group would have reductions in delinquency recidivism and substance use during the one year post intervention period as compared to regular probation (RP), the control group. However, the cognitive-behavioral intervention was also hypothesized to produce superior outcomes on all measures relative to ISM and the control (RP) group. In general, the second hypothesis was supported. Recidivism outcomes for the ISM group were typically no better than those of regular probation and may have been made worse by the closer monitoring. That is, because the ISM Youth Court Counselors had more frequent contact with collaterals such as teachers, principals and the police, and because they conducted more curfew checks and drug tests than Regular Probation Counselors, ISM youths were more likely to be caught for violations of probation, referred back to the court and/or detained.

The CB group had fewer arrests or referrals back to the justice system during the follow-up period than either ISM or RP. The ISM and RP groups were detained about five times as many days as the CB group. Although there were no statistically significant group differences on self-reported delinquent behaviors, youth in both the RP and CB groups reported fewer violent behaviors and the RP group reported a dramatic decrease in the number of days that they sold drugs. The CB group had a statistically significant improvement in family relations. Impulse control improved for both ISM and CB youths; however, the effect was not statistically significant. Participants of the cognitive-behavioral intervention reported working significantly more hours during the follow-up period than participants of the other two interventions.

Finally, regarding alcohol and other drug use, the percent of the CB group testing positive on the drug urinalysis was significantly lower than ISM and RP, and the CB group also reported fewer problems as a result of their substance use. Actual frequency of use varied by the drug. All three groups

reported less use of alcohol as compared to their baseline levels, yet continued to use alcohol during the follow-up period. The CB and RP groups reported less marijuana use than the ISM group. The ISM group greatly decreased their use of cocaine; the control group (RP) use reported increased cocaine use, while the CB group's use of cocaine, which was low to begin with, decreased slightly.

Although the cognitive-behavioral intervention was not specifically designed to address substance abuse, it appears to have had a modest effect. Speculating beyond the data, the problem solving and other social skills training in the cognitive classes may be helpful to juvenile offenders in modifying their use of alcohol and other drugs. It also appears that intensive supervision and monitoring was beneficial for cocaine users. Close monitoring of behavior and drug tested backed by sanctions does seem to reduce cocaine use. However, neither cognitive-behavioral intervention nor intensive supervision and monitoring is a substitute for treatment for juvenile offenders with substance abuse and dependence disorders.

COST EFFECTIVENESS

Juvenile courts in the United States processed nearly 1.8 million delinquency cases in 1996, an increase of 49 percent since 1987 (Office of Juvenile Justice and Delinquency Prevention, 1999). Although only a small proportion of juvenile offenders commit most serious and violent crimes (Howell, 1995), these youngsters tend to continue antisocial behavior into adulthood (Hamparian, *et. al.*, 1985; Shannon, 1985). According to Chaiken and Johnson (1988), those most likely to continue criminal activities into adulthood had other family members involved in the criminal justice system, began using drugs and committing delinquent acts at an early age, used multiple drugs, and committed frequent crimes. Therefore, the incentive to undertake effective intervention measures is high - successful intervention results in lowering today's costs imposed by delinquent behavior and lowering tomorrow's costs associated with adult criminal activity. The sum of these costs to society over time is significant. In fact, a recent study has estimated that the discounted monetary value of "saving" one average high-risk youth lies between $1.7 and $2.3 million (Cohen, 1998).

In this study two intensive interventions, cognitive-behavioral treatment, and intensive supervision and monitoring, were compared with regular probation to determine the relative program effectiveness and cost-effectiveness. To the extent that any delinquency intervention program reduces antisocial or criminal behavior, the program trims justice system expenditures and lowers external societal costs, in both the short- and long-run. From an economic perspective, to be cost-effective it is not necessary for an intervention program to save millions of dollars over the life of a "saved" juvenile offender; it is only necessary that the marginal benefits to society outweigh the marginal costs of intervention.

" Evaluation of Short-Run Cost-effectiveness

Currently there is no standard method of calculating the costs and benefits of substance abuse interventions (French, 1995). McDonald (1989) presents a very complex and comprehensive measure of costs which involves direct and indirect governmental costs including the cost of not being able to use correctional resources for other purposes. Benefits of effective intervention can also be measured comprehensively. For example, reduction in costs to victims of crime, reduction in welfare administration when offenders are employed and supporting themselves and their families (Cartwright, 1998; Rajkumar, & French, 1997). In this paper, a simple evaluation of cost-effectiveness is taken to provide practical information to juvenile justice administrators. This evaluation only involves calculating intervention costs and incarceration costs during the one year period following intervention. Since recent research has found that intensive drug treatment services has the largest economic impact among high-risk adult parolees (Griffith, Hiller, Knight, & Simpson, 1999), risk classification level is considered in determining costs.

A definition of treatment costs, the average cost of care across participants for units of care provided by the facility (Holder, Longabaugh, Miller, & Rubonis, 1991), was used to determine juvenile justice costs. Thus, using 1996 State expenditures for Division of Youth Services Community Support Services to county youth courts and the total number of cases handled by all youth courts in 1996, it was determined that the State of Mississippi spent $153.65 per case handled. In the same year, a sample of 16 counties spent an average of $520.32 per case. Therefore, the total per case cost for court processing and community supervision was estimated to be $673.97. This figure represents the cost of subjects on regular probation. Additional staff were needed to implement the intensive supervision and monitoring (ISM) program adding approximately $59,835 per year to the county court budget. There were 109 subjects in the ISM intervention over a two year period. Thus the cost per youth was $1097.89 plus $673.97 for case handling equals a total cost of $1,771.86 per youth. The cognitive-behavioral

intervention was even more expensive. State and federal grants to Pinebelt Mental Health Center which operated the Adolescent Offender Program totaled $212,083.50 per year. An average of 142 youths per year were served by this program during the study period. Cognitive-behavioral treatment costs were added to court handling and regular probation costs resulting in an estimated cost of $2,167.52 per youth.

The average number of days detained in the one year follow-up period by intervention group is reported in Table 10. Offenders were divided into high and low risk based on Delinquency Risk Assessment scale score. Those scoring below the median of 9 were placed into the low risk group and those scoring 9 or above were designated as high risk. The average number of days detained by risk classification is also reported in Table 10. High risk offenders regardless of intervention were detained from about eight times as many days as low risk offenders.

Juvenile incarceration cost in Mississippi was calculated by averaging the per diem for the state's training schools and county juvenile detention center costs in 1996 which equaled $64 per day. The number of days detained for each intervention group and risk level was multiplied by the $64 and displayed in Table 11. Post-intervention incarceration costs exceed intervention costs for regular probation and Intensive Supervision and Monitoring. Incarceration costs are added to the community juvenile justice costs per intervention to derive a total cost (See Table 11).

Table 10: Mean Days Detained by Intervention Group and Risk Classification

	All Subjects	High Risk Subjects	Low Risk Subjects
Intervention Group	Mean Days (n)	Mean Days (n)	Mean Days (n)
Regular Probation	40.62 (74)	68.19 (42)	4.44 (32)
ISM	39.83 (81)	59.30 (50)	8.42 (31)
Cognitive Behavioral	7.64 (78)	10.43 (37)	5.12 (41)

Table 12: Total Costs by Intervention Group and Risk Classification

	All Subjects		High Risk Subjects		Low Risk Subjects	
Intervention Cost per youth	Incarceration Costs	Total Costs	Incarceration Costs	Total Costs	Incarceration Costs	Total Costs
Regular Probation - $673.97	$2599.68	$3273.65	$4364.16	$5038.13	$284.16	$958.13
ISM - $1,761.85	$2,549.12	$4310.97	3,795.20	$5557.05	$538.88	$2300.73
Cognitive Behavioral - $2,167.52	$488.96	$2656.48	667.52	$2835.04	$327.68	$2495.52

Incarceration costs are calculated by multiplying the mean days detained by $64. Total costs = Intervention costs + Incarceration costs.

Cost-effectiveness in this simplified analysis is the total costs of the alterative intervention relative to regular probation. For example, the total cost per youth for ISM exceeds that of regular probation for high risk offenders by $528.93, and for low risk and all offenders by $1352.61, and $1047.33 respectively. ISM is not cost efficient compared to regular probation especially for low risk offenders. This is consist with the findings of Turner et al. (1992) on adult intensive supervision probation/parole (ISP). Adult ISP is more expensive than routine supervision. ISP offenders had more technical violations (primarily for drug use) and consequently, more ISP offenders had been placed in jail or prison during a one year follow-up than their counterparts on routine probation/parole. ISM is clearly not appropriate or cost-effective for all juvenile offenders. However, the public may be willing to pay more for high risk juvenile offenders to be closely monitored in the community, particularly in light of the fact that ISM subjects in this study substantially decreased their use of cocaine while on probation.

The cognitive-behavioral intervention saved the state $617.17 in total costs per youth relative to regular probation. If this alternative is provided only to high risk offenders, the state could save $2722.01 per youth compared to total costs of providing regular probation to high risk offenders. Cognitive-behavioral programing is not cost-effective for low risk offenders, costing the state $1537.39 more than regular probation for low risk offenders.

" Conclusions

The results show that intensive community intervention programs that include cognitive skills training can be cost-effective in the short-run for local justice systems. This conclusion is based on a simple analysis of intervention and incarceration costs to the state and local government. The primary factor underlying this conclusion is the cost-savings due to the fewer number of days served in detention facilities by youth offenders who complete a cognitive-behavioral treatment program.

While these results are encouraging, caution should be applied. The experiment reported here was conducted within the institutional framework of Mississippi in three mid-size communities. To what extent the results are driven by local institutional and community forces is unknown. Also, the analysis employs a very narrow definition of costs and benefits. It is well known that there are a wide variety of indirect and long-run costs derive from delinquent behaviors, crimes, and their treatments. (See Harwood, et. al., 1998 and Cartwright & Kaple, 1991 for overviews of the major problems in estimating the total true costs.) In fact, the literature suggests that the majority of total costs caused by delinquency and crime are the indirect external costs imposed on society which occur over the life of an offender. An effective treatment which "saves" a juvenile offender eliminates these costs from the social ledger. The current analysis overlooks these potential long-run societal benefits because it was beyond the scope and practical limits of the experiment to measure the spillover effects of intervention on societal outcomes. By focusing on only the direct short-run costs incurred by the local justice system our results provide a conservative estimate of cost-effectiveness. However, this perspective of cost-effectiveness is central to the public debate – taxpayers who financially support intervention programs demand immediate and observable results. Programs that demonstrate clearly measurable results which lower public expenditures are more likely to be supported by taxpayers than programs which are only cost-effective in the long-run when aggregated over vaguely defined societal outcomes.

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APPENDIX

Delinquency Risk Assessment

Behavior History Form

Case Record Review

Delinquency Risk Assessment Scale

Youth's Name:_____ Child No. _____

Counselor's Name:_____ Date Completed:_____

___ 1. Age of first adjudication or informal sanction for delinquent offense
3 = 11 or under
2 = 12 - 14
1 = 15
0 = 16 or over

___ 2. Number of referrals to youth court
0 = none
1 = one or two
2 = three or more

___ 3. Number of prior out-of-home placements
0 = none or one
2 = two or more

___ 4. History of substance abuse
0 = no known use
1 = experimental use
2 = regular use

___ 5. Current school status
0 = attending regularly or graduated/GED
1 = dropped out of school
2 = expelled, major behavior problems or habitually truant

___ 6. Number of grades behind in school
0 = one or fewer
1 = two or three
2 = four or more

___ 7. Level of parental/guardian control and supervision
0 = Effective: Parent(s) or guardian(s) are concerned and expect the child to attend school, obey the law, and take responsibility for his/her actions. Parents communicate their expectations and provide sanctions for misbehavior and rewards for good behavior.
1 = Inconsistent or ineffective: Parents have expectations for good behavior, but do not provide sanctions for misbehavior or they are inconsistent when they do. Or, the discipline is excessive and does not reasonably address the problem. Includes juveniles who move frequently in and out of foster care or move frequently between foster care parents.
2 = No supervision: Parent(s) are uninvolved and allow the minor to function on his/her own
3 = Contributes to delinquency: The family has a history of involvement in the justice system. Parents resist outside intervention from public agencies. Parents contribute to delinquency by being involved in antisocial behavior themselves. Parents are overprotective and blame other's for the minor's delinquent behavior.

___ 8. Peer relationships
0 = good support and influence; associates with non-delinquent friends
2 = not peer oriented or some companions with delinquent orientation
3 = most companions involved in delinquent behavior or gang involvement

___ TOTAL RISK SCORE Risk Assessment: 0 - 7 = low risk, 8 - 13 = moderate risk, 14 - 19= high risk

BEHAVIOR HISTORY FORM

Participant code: _____ Time: 1 2 3 4 Site: M F L

Please be honest. Remember your name does not appear anywhere on the form. Your answers are completely confidential.

Mark the answer that best describes your use of alcohol/drugs during the past 6 months.

1. During the past 6 months, I used alcohol:
   _____ every day
   _____ several times a week
   _____ one or two times a week
   _____ one or two times a month
   _____ at least once
   _____ never

2. During the past 6 months, I used marijuana:
   _____ every day
   _____ several times a week
   _____ one or two times a week
   _____ one or two times a month
   _____ at least once
   _____ never

3. During the past 6 months, I breathed in or sniffed the fumes of inhalants (poppers, glue, gasoline, spray cans) to get high:
   _____ every day
   _____ several times a week
   _____ one or two times a week
   _____ one or two times a month
   _____ at least once
   _____ never

4. During the past 6 months, I used hallucinogens, drugs that make me see or hear things that are not really there (LSD, angel dust):
   _____ every day
   _____ several times a week
   _____ one or two times a week
   _____ one or two times a month
   _____ at least once
   _____ never

5. During the past 6 months, I used uppers or speed, drugs that make me feel “hyper” (diet pills):
   _____ every day
   _____ several times a week
   _____ one or two times a week
   _____ one or two times a month
   _____ at least once
   _____ never

6. During the past 6 months, I used downers, drugs that slow me down like sleeping pills:
   _____ every day
   _____ several times a week
   _____ one or two times a week
   _____ one or two times a month
   _____ at least once
   _____ never

7. During the past 6 months, I used narcotics without a prescription (pain medicine, heroin, codeine, dermerol):
   _____ every day
   _____ several times a week
   _____ one or two times a week
   _____ one or two times a month
   _____ at least once
   _____ never

8. During the past 6 months, I used antianxiety or tranquilizing drugs without a prescription (Valium, Librium, Xanax):
   _____ every day
   _____ several times a week
   _____ one or two times a week
   _____ one or two times a month
   _____ at least once
   _____ never

9. During the past 6 months, I used crack or cocaine:
   _____ every day
   _____ several times a week
   _____ one or two times a week
   _____ one or two times a month
   _____ at least once
   _____ never

10. During the past 6 months, I used some other medicine, drug or substance not mentioned above for the purpose of getting high:
    _____ every day
    _____ several times a week
    _____ one or two times a week
    _____ one or two times a month
    _____ at least once
    _____ never

Questions 11 to 20 ask about ways that you have fun that do not get you into trouble with your family or the law. Mark the number of times that you did the activity in the blank. If you do the activity everyday, put 30 in the blank. If you have not done the activity, put zero in the blank.

11. In the past 30 days, I played sports, such as basketball, baseball, volleyball, or tennis _____ days.

12. When I play sports, I usually spend... (Check only one of the following answers.)
    _____ less than 15 minutes
    _____ 15 to 30 minutes
    _____ 30 minutes to 1 hour
    _____ 1 to 2 hours
    _____ 2 to 3 hours
    _____ more than 3 hours

13. In the past 30 days, I did other kinds of physical activities, such as roller skating, swimming, lifting weights, exercising, bicycle riding, dancing _____ days.

14. When I do these activities, I usually spend... (check only one)
    _____ less than 15 minutes
    _____ 15 to 30 minutes
    _____ 30 minutes to 1 hour
    _____ 1 to 2 hours
    _____ 2 to 3 hours
    _____ more than 3 hours

15. In the past 30 days, I played games with other people, such as card games, board games such as Scrabble or Monopoly, or even video games _____ days.

16. When I play games with others we usually play for..... (check only one)
    _____ less than 15 minutes
    _____ 15 to 30 minutes
    _____ 30 minutes to 1 hour
    _____ 1 to 2 hours
    _____ 2 to 3 hours
    _____ more than 3 hours

17. In the past 30 days, I played a game by myself or I spent time alone reading drawing, or playing a musical instrument, playing a guitar or piano _____ days.

18. When I spend time doing activities by myself, I usually spend (check only one)
    _____ less than 15 minutes
    _____ 15 to 30 minutes
    _____ 30 minutes to 1 hour
    _____ 1 to 2 hours
    _____ 2 to 3 hours
    _____ more than 3 hours

19. In the past 30 days, I watched television or went to the movies_____ days.

20. When I watch television or a movie, I usually spend (check only one)
    _____ less than 15 minutes
    _____ 15 to 30 minutes
    _____ 30 minutes to 1 hour
    _____ 1 to 2 hours
    _____ 2 to 3 hours
    _____ more than 3 hours

Questions 21 to 24 ask about the time you spend working. Mark the number of days worked in the blank, then check the answer that best describes how much time you spend working a day.

21. In the past 30 days, I did chores or a job for money _____ days.

22. I usually work (Mark only one answer)
    _____ less than one hour per day
    _____ 1 to 2 hours per day
    _____ 2 to 3 hours per day
    _____ 3 to 4 hours a day
    _____ 5 to 6 hours a day
    _____ 6 to 8 hours a day
    _____ more than 8 hours a day.

23. In the past 30 days, I did chores or work voluntarily, (without pay) _____ days.

24. I usually do unpaid work for (Mark only one answer)
    _____ less than one hour per day
    _____ 1 to 2 hours per day
    _____ 2 to 3 hours per day
    _____ 3 to 4 hours a day
    _____ 5 to 6 hours a day
    _____ 6 to 8 hours a day
    _____ more than 8 hours a day.

25. I dropped out or refused to attend school in the past 6 months. (Circle the answer.)
    Yes No

Write down the number of times you did the activity in the blank. If your answer is none or never, put 0 in the blank. Remember your answers are confidential. It is o. k. to ask for help or to use a calculator to get an accurate answer.

26. I ran away over night, I ran away for 24 hours or longer _____ times in the past 6 months.

27. I got expelled or suspended from school _____ times in the past 6 months.

28. I skipped school without an excuse _____ times in the past 6 months.

29. I got drunk or high in school _____ times in the past 6 months.

30. I drove without a license or a permit _____ times in the past 6 months.

31. I threatened an adult _____ times in the past 6 months.

32. I hit an adult _____ times in the past 6 months.

33. I damaged or set fire to property _____ times in the past 6 months.

34. I broke into a house, building or car in order to take something _____ times in the past 6 months.

35. I robbed a person, that would be like a mugging or a purse snatching, or I robbed a place of business like shoplifting _____ times in the past 6 months.

36. I stole a car, truck or motorcycle _____ times in the past 6 months.

37. I tried to beat somebody up or threaten somebody with a weapon, even if no one was hurt _____ times.

38. I have been in gang fights _____ times in the past 6 months.

39. I used checks or credit cards illegally, that mean without the permission of the cardholder, _____ times in the past 6 months.

40. I committed or attempted rape, that is sex by force, _____ times in the past 6 months.

41. I provided sex for money or drugs (prostitution or pimping) _____ times in the past 6 months.

42. I sold drugs _____ days in the past 6 months. (Think of 30 days in a month. How many days in a month did you sell drugs? How many months in the past 6 months did you sell drugs? For example, if you sold drugs every day for the past 6 months, put 180 in the blank. It is o. k. to ask for help or to use a calculator to get an accurate answer. Please be honest.)

43. I have been in jail, detention, or training school _____ days in the past 6 months. (Think of every time that you have been in jail, detention, or training school and mark in the blank the total number of days.)

44. I made $_____ (cash) from illegal activities in the past 30 days.

45. I attended church _____ times in the past 30 days.

CASE RECORD REVIEW

Subject Name: _____ Child Number: _____

Disposition Status: (check one) ___ informal adjustment, ___probation, ___parole
Length of Supervision (in months): _____ and date supervision started: _____

Check One: ___ A1. Baseline (6 months preceding and ending on date of consent)

___ A2. 6 Month Assessment (period from date of consent to end of 6 months)

___ A3. 12 Month Assessment (period from 6 to 12 months after consent)

___ A4. 18 Month Assessment (period from 12 to 18 months after consent)

Provide the following information for the period indicated above:

Number of Delinquent Referrals in the past 6 months ___

Number of Status Referrals in the past 6 months ___

Number of Times Detained (training school, detention or jail) in the past 6 months ___

Total Days detained in the past 6 months ___

Total Number of Days in Inpatient or Residential
Chemical Dependency Treatment in past 6 months ___

For assessments 2 through 4 only, note any changes in disposition status during past six months by checking appropriate blank(s).

___ no change in disposition
___ changed to formal probation/parole (indicate above)
___ length of supervision has been extended to a total of _____ months
___ certified as adult and transferred to adult court
___ cased closed on date: _____