



An Outcome Evaluation of Juvenile Drug Court Using the Child and Adolescent Functional Assessment Scale

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Executive Summary

This study sought to determine the effectiveness of treatment for substance abusing juveniles. More specifically, this study assessed whether there existed treatment progress differences between juvenile drug court participants and substance abusing juveniles not exposed to drug court. Juvenile drug courts should theoretically improve treatment outcomes for juveniles through more intensive supervision and higher level accountability.

One hundred ninety juveniles were included in the study. Subjects included juvenile drug court graduates, terminated drug court participants, and a comparison group. Licensed addiction counselors (LAC's) employed by substance abuse treatment facilities completed a Child and Adolescent Functional Assessment scale (CAFAS) on each juvenile participating in treatment. The CAFAS is used to assess the effect of symptoms in children and adolescents with emotional, behavioral, or substance use disorders. Seven of the nine subscales were employed in this study: (1) School Performance, (2) Home Functioning, (3) Delinquency, (4) Behavior toward others, (5) Moods/emotions, (6) Substance use, and (7) Family/Social Support.

Data show that all three groups make substantial progress on all of the subscale domains during the first 90 days of treatment. Following 90 days, drug court graduates continue to make substantial treatment gains. Comparison group subjects exhibit modest gains and terminated participants tend to either stall in treatment progress or regress. Explanations for the lack of progress exhibited by terminated participants are offered in the report. Being dual diagnosed had only a weak impact on the course of treatment outcome.

Several recommendations emerge from this study:

1. Think about some different treatment strategies for juveniles who, upon intake demonstrate little family support and exhibit widespread family conflict. These juveniles tend to make little treatment progress. This could include extending the range of services to the family unit and extending intensive treatment for this group.
2. Find a vehicle for providing juveniles with additional academic support after 90 days of treatment. Some juveniles in treatment exhibit school surrender behaviors following 90 days of treatment. Perhaps additional school resources like tutoring help or structured study time would prevent some of this academic relapse.
3. Think about extending intensive treatment beyond 90 days for juveniles who score high at intake on the home impairment and family support subscale and exhibit higher than average mood scores.
4. Continue to fund juvenile drug courts. For those who complete the program, treatment is clearly effective. The additional accountability, supervision, and additional programming options in drug court facilitate treatment outcomes for these juveniles.

Background Introduction

Juvenile drug courts are intensive treatment programs governed by juvenile courts to provide specialized services for substance abusing juveniles (Cooper, 2001). In late 1998, authorities in the state of North Dakota recognized that existing services were inadequate for treating substance abusing juveniles. Consequently, in May of 2000 a juvenile drug court (JDC) was implemented in the East Central Judicial District (hereafter EC) and Northeast Central Judicial District (hereafter NEC). The planning effort began with a statewide Juvenile Drug Court Study Committee in the fall of 1998, commissioned by the Juvenile Policy Board. This committee was chaired by Justice Mary Muehlen Maring and consisted of representatives from juvenile court, law enforcement, the Department of Public Instruction, the Department of Human Services, the Division of Juvenile Services, the Department of Corrections, and the Turtle Mountain Adult and Juvenile Drug Courts.

The Study Committee recommended that a juvenile drug court be planned and implemented in North Dakota. Following this recommendation, the North Dakota Supreme Court applied for and received a planning grant from the Office of Justice, Drug Courts Program Office. This grant facilitated training for a juvenile drug court team. This second planning and implementation team was comprised of representatives from the schools, juvenile court, treatment agencies, the state court administrator's office, academia, the judiciary, public defenders office, and the state's attorney's office. A project coordinator assisted Justice Maring in coordinating the meetings and workshops for the drug court planning committee. Planning team members attended a number of federally planned and sponsored workshops throughout the year in order to properly implement the juvenile drug court. In addition, staff from both judicial districts observed and interacted with a mentor court in Las Cruces, New Mexico in February of 2001.

On May 1, 2000, the first juveniles appeared in drug court. In the EC Judicial District, participation in drug court was initially voluntary. After receiving participation refusals from at least half of all eligible juveniles, the EC district began court-ordering juveniles into the program in February of 2001. In the NEC Judicial District, juveniles were court-ordered into the program. In both judicial districts, the drug court process/model was explained to each juvenile and his/her guardian(s). Juveniles participating in drug court signed a juvenile drug court contract, a consent for disclosure of confidential substance abuse information, and a confidentiality notification of alcohol and drug abuse patient records agreement. In October of 2002, a third juvenile drug court commenced in Bismarck. Provisions for funding for the three courts were assumed by the North Dakota Legislature in 2005 at roughly \$65,000 per court.

Since drug courts are treatment courts, the process of delivering quality treatment to substance abusing juveniles is vital to their recovery. Consequently, it is important to know whether juveniles are making progress while in treatment. Progress is largely assessed by how well juveniles make strides toward changing the following: (1)

maintaining a sober and drug free lifestyle; (2) improving their academic performance and conduct behaviors in school; (3) improved role performance in the home; (4) reduced delinquency and anti-social behavior; (5) reduced impulsive behavior; and (6) reduced mood disorder symptoms. In addition, parental involvement in drug court should reduce family conflict and increase parental support.

Structure of the North Dakota Juvenile Drug Court

The JDC is structured similarly to other JDC models. The JDC team is composed of a judge, treatment provider, school representative, probation officer, drug court coordinator, defense counsel, law enforcement representative, and states' attorney.

In the EC and SC court, three paths were established to allow juveniles to progress after meeting certain JDC requirement criteria. It was estimated that a juvenile meeting all JDC requirements could graduate from drug court after 9-12 months. The NEC district required participants to move through four paths, spending roughly the same amount of time in drug court after meeting all criteria for graduation. Sanctions and incentives were established to motivate juveniles. Each path carried different expectations.

Juveniles were required to attend school while school is in session or complete summer school requirements. Juveniles who dropped out of school were encouraged by the judge to pursue a GED. Those who dropped out were required to discuss their employment progress with the judge. Juveniles were required to undergo random drug/alcohol screens and maintain contact 1-2 times per week with their probation officer. Community service was ordered as part of participation in drug court.

It was decided that the JDC staff would hold weekly meetings to staff JDC cases. At staffing, new cases were scrutinized and discussed and established cases reviewed. Review hearings were then held immediately following staffing. The review hearings included the parent(s) as well as the participant.

The courts maintained a drug court coordinator whose chief task involved information processing. The coordinators were responsible for providing the drug court teams with sufficient information regarding the progress of drug court participants. In so doing, they were responsible for maintaining adequate files and ensuring that proper services were rendered to participants.

As part of their participation in drug court, all juveniles were required to participate in treatment. By law, juveniles and their families who were unable to afford treatment from a private facility were afforded treatment services through a state financed treatment agency. A large majority of juveniles entered drug court through a public treatment agency. Juveniles were seen once a week by a licensed addiction counselor. In some instances, services were scheduled for the family when lingering family issues potentially impeded recovery.

Selection Process/Criteria

The JDC planning team established eligibility criteria for drug court (targeting). These guidelines are consistent with those recommended by federal authorities. In order to be eligible for drug court, juveniles had to meet the criteria below:

1. Referring offense may be either drug or non-drug related. (There are no restrictions on the number of prior offenses or convictions.)
2. Juvenile must be between the ages of 13 and 17.
3. No prior violent felony level adjudications or pending petitions alleging violent felony level delinquent acts.
4. No previous referral to JDC.
5. No prior or pending charges of selling and/or manufacturing controlled substances.
6. Admission to the offense and/or a court order to the program.
7. An assessment must be completed indicating a drug and/or alcohol abuse problem.
8. The JDC team has some flexibility as to who is eligible depending on their age, drug and/or alcohol history and nature of their prior convictions, to enter the JDC program.

Prior to acceptance into the program, the juvenile and his/her parents were notified of the process and structure of juvenile drug court. Parental participation in the drug court process is critical to the child's recovery. The drug court team determined eligibility for drug court on the basis of the eight criteria listed above, as well as some qualitative criteria such as level of parental involvement and severity of dual diagnosis. Upon selecting the juvenile for drug court, the participant and parent signed appropriate disclosure and confidentiality forms.

JDC is a post petition/post adjudication program and the judge has the option of dismissing the current offense contingent upon the juvenile remaining offense free for six months following drug court graduation.

Treatment

In January 1997, the U.S. Department of Justice issued a report detailing the key components of a drug court. Among the ten key components identified by a committee of experts, three refer specifically to the importance of quality treatment. These components are:

1. Drug courts integrate alcohol and other drug treatment services with justice system case processing.
2. Drug courts provide access to a continuum of alcohol, drug, and related treatment and rehabilitation services.
3. Abstinence is monitored by frequent alcohol and other drug testing.

A national report card on drug courts issued in 2004 further discussed the importance of the role of treatment. Data from this report showed that treatment, when completed, is effective (Huddleston et al., 2004). Further, the report noted that court ordering participants into treatment produced better results than scenarios where participants enter treatment voluntarily. The reason being that court ordered treatment requires the participant to remain in treatment for a lengthier period of time and retention in treatment is critical to recovery (Simpson and Sells, 1983; Center for Substance Abuse Treatment, 1996).

In North Dakota, the bulk of juveniles participating in drug court entered a public treatment facility. Treatment largely consisted of weekly meetings with a licensed addiction counselor following the development of a treatment plan with input from the juvenile and his/her parents. Treatment providers provided the drug court team with weekly brief reports about treatment progress.

Treatment consisted of both primary and aftercare treatment. Three levels of treatment were available for participants. These included residential treatment in which the participant attended a group session two times a day with a LAC. Intensive outpatient treatment (IOP) in which the participant attended sessions three times per week. And low IOP which consisted of 1-2 sessions a week. Primary treatment lasted from 6 - 12 weeks, depending on the level of care. Once a participant completed primary treatment, they transitioned to aftercare treatment which consisted of a weekly group or individual session that lasted from 1 hour to 1.5 hours per session. Aftercare treatment averaged 16- 20 weeks in duration.

The Present Study

This study assesses the role of drug court in treatment progress. Specifically, one of the arguments for funding juvenile drug courts is that these courts theoretically should improve treatment outcomes for juveniles. Exposing drug court participants to weekly sessions in front of a judge who holds them accountable for treatment progress, school grades, family functioning, community service, meetings with probation officers, and appropriate behavior toward others should enhance treatment outcomes relative to non-drug court participation.

Drug courts add another layer to the treatment process by (1) providing the substance abusing juvenile with more intensive and continuous judicial supervision, (2) providing coordinated and supervised delivery of an array of support services to address the problems of chemical abuse, delinquency, and unruliness (Cooper, 2001), (3) facilitating more immediate sanctions and incentives for negative and positive behavior. (4) focusing on a strengths based approach whereby offenders are reintegrated into a caring community. and (5) providing for a more creative and diverse array of programs that allows the juvenile to express him/herself (e.g., writing workshops, music lessons). To that end, juveniles participating in drug court ought to make greater treatment progress than juveniles participating in treatment who are not court ordered into drug court.

Research Design

Licensed addiction counselors (LAC's) employed by substance abuse treatment facilities were required by the state to complete a Child and Adolescent Functional Assessment scale (CAFAS) on each juvenile participating in treatment. The CAFAS is used to assess the effect of symptoms in children and adolescents with emotional, behavioral, or substance use disorders. It is widely regarded as being scientifically reliable and valid. The CAFAS measures adolescent functioning with respect to eight subscales: (1) School Performance, (2) Home Functioning, (3) Delinquency, (4) Behavior toward others, (5) Moods/emotions, (6) Self-Harmful Behavior, (7) Substance use, and (8) Thinking. For purposes of this study, we also elected to assess Caregiver Resources using the Family/Social Support Subscale. There were no or few juveniles in the study who scored severely or moderately on the Thinking and Self-Harm Subscale. Thus, these subscales were not employed in the study.

The CAFAS allows qualified raters to assess impairment among substance abusing juveniles along a quantitative and qualitative dimension. The two dimensions are interrelated in that there exist qualitative categories within the four impairment categories of (1) severe – severe disruption or incapacitation (score of 30), (2) moderate – major or persistent disruption (score of 20), (3) mild – significant problems or distress (score of 10), and (4) minimal or no impairment – no disruption of functioning (score of 0). Raters scored juveniles first along the degree of impairment and then circled a qualitative category indicating the specific features of the impairment. For instance, a juvenile with severe impairment on the School Subscale might have code 004 circled under the Severe Impairment dimension, indicating that the child had harmed or made a serious threat to hurt a teacher. A juvenile being scored on the Home Subscale might have 052 circled under the Moderate Impairment dimension indicating frequent use of swear words to household members. Each severity dimension contained between 2-10 qualitative categories that specifically described the child's behavior in each domain. The most severe category was used for each assessment. For purposes of this study, the severity dimension alone was used to assess treatment progress.

In order to administer the CAFAS, licensed addiction counselors were required to complete a self study on test administration. This process included reading the CAFAS manual and completing CAFAS scores on the practice case studies included in the self study guide. LAC's were then required to complete ten vignettes using CAFAS scoring which were then reviewed by a CAFAS trainer for accuracy and competency. LAC's needed to demonstrate competency with consistent scoring. To achieve a satisfactory reliability rating, a LAC had to make fewer than three errors on each scale in order to conduct CAFAS scoring independently. Any LAC not meeting this criteria was asked to review the scoring instructions and rescore the scales or vignettes on which they made errors either for the specific subscale (e.g., School) or for the entire vignette if there were too many errors. If the CAFAS trainer was satisfied that the LAC had met the criteria for satisfactory reliability, they were approved to conduct scoring.

CAFAS ratings were conducted by LAC's by reviewing information contained in the juvenile's file. Ratings were assessed at three intervals, where feasible: At intake, when the juvenile initially entered treatment, 90 days following treatment, and at discharge. Discharge varied between 6-9 months following admission. Because all juveniles entering public treatment were required to have CAFAS scores, a comparison group was available. CAFAS scores were available from drug court subjects beginning in the early part of 2002. Thus, we were able to gather data extending back over four years.

Study Participants

Subjects for this study consisted of 190 juveniles undergoing substance abuse treatment. Ninety-six subjects (51%) comprised the drug court group. Forty-nine of these subjects had graduated from drug court. Forty-seven had been terminated from the program. Ninety-four subjects (49%) comprised the comparison group.

Comparison group subjects were selected for the study by the LAC. Each LAC at four different treatment sites was asked to pull between 20-30 files of juveniles who were undergoing treatment during the last three years. Each of these subjects was assessed using the CAFAS. The research evaluator eliminated several files from the comparison group when they did not meet criteria for the study (e.g., no CAFAS available, no substance abuse diagnosis apparent). Comparison group members included juveniles who were 14-17 years of age and met a substance abuse diagnosis but were not admitted to drug court on several grounds. Some of these juveniles lived outside of the urban area housing the drug court, producing transportation obstacles that would have made it unfeasible for them to regularly attend court and participate in drug court functions (e.g., community service). A second group of juveniles were not admitted to drug court because they had a court history of violent conduct. On most dimensions, the comparison group resembled the drug court group in that they came under the custody and control of the juvenile court, met a substance abuse diagnosis, were undergoing treatment, and experienced many of the same issues as drug court participants (e.g., problems in school, family functioning issues, mood disorders, delinquency).

Because some juveniles entered private treatment, it became important to be able to gather CAFAS data on this group to avoid a study that focused only on public treatment outcomes. Thus, one of the private treatment providers at one of the sites assessed CAFAS scores on subjects coming through their facility. This treatment provider also agreed to pull treatment files on non-drug court juveniles and complete CAFAS scores on this group as well, much like the public treatment providers. In Grand Forks, juveniles participating in private treatment had CAFAS scores completed by a qualified LAC rater at the public treatment facility. Thus, we were able to gather CAFAS data on most of the juveniles admitted to drug court over the past four years. Some study participants received treatment at multiple sites (e.g., Fargo and Grand Forks). Thus, it would be misleading to use site as a variable since some participants would have multiple codes.

The protocol for this project was approved by the North Dakota Department of Human Services Institutional Review Board in August of 2005.

Analyses

Following a description of study subjects, CAFAS scores were compared for three groups: (1) drug court graduates, (2) terminated drug court participants and (3) the comparison group. Approximately one half of all drug court participants were terminated from the program due to mainly non-compliance with program objectives. We would predict that terminated clients would exhibit poorer treatment progress than drug court graduates. We would also predict that due to the more intensive structure of drug court, that graduates would exhibit greater treatment progress than the comparison group. A second set of analyses was planned to address the impact of dual diagnosis on treatment outcome. Approximately half of all subjects met criteria for a dual diagnosis (e.g., anxiety disorder, ADHD). In examining treatment outcomes however there were very small mean differences on all of the subscales comparing single and dual diagnosed subjects. The only meaningful difference was observed for the Moods/Emotions Subscale. Consequently, no further analyses were conducted with the dual diagnosis variable in mind since it did not have a major impact on treatment progress.

Results

Demographic Characteristics

Table 1 displays the characteristics for all subjects. Sixty-seven percent of the study subjects were male and thirty-three percent were female. A large majority of the subjects were classified as Caucasian (80%) with Native Americans forming the largest ethnic minority group (12%). The average age of subjects as of July 27, 2006 was 18.7 years of age. All of them were of course minors when a CAFAS score was assessed.

Table 1. Gender and Racial Characteristics of Study Subjects (N = 190).

GENDER	
MALE	127 (67%)
FEMALE	63 (33%)
RACIAL/ETHNIC STATUS*	
WHITE	119 (80%)
NATIVE AMERICAN	18 (12%)
HISPANIC	9 (6%)
BLACK	2 (1%)
OTHER	1 (.5%)
*Racial/ethnic data were not available on all study participants	

Treatment Characteristics

Seventy-three percent of the study subjects had completed treatment. Eleven percent did not complete treatment and 16% were currently in treatment. Terminated participants were more likely than subjects from the other two groups to not complete treatment.

Seventy-seven percent of the study subjects entered a public treatment facility and 23% entered a private treatment facility. Treatment providers tracked whether juveniles met criteria for a dual diagnosis. Among study subjects, 49.5% were dual diagnosed, meaning that a second diagnosis (e.g., depression, anxiety disorder) showed up in their treatment file in addition to the substance abuse diagnosis. Terminated participants were slightly more likely than drug court graduates or comparison group subjects to be dual diagnosed. However, analyses revealed that dual diagnosis was only partially associated with treatment progress and its effects were weak enough to account for only a modest amount of the differences we observed in this study.

Court History

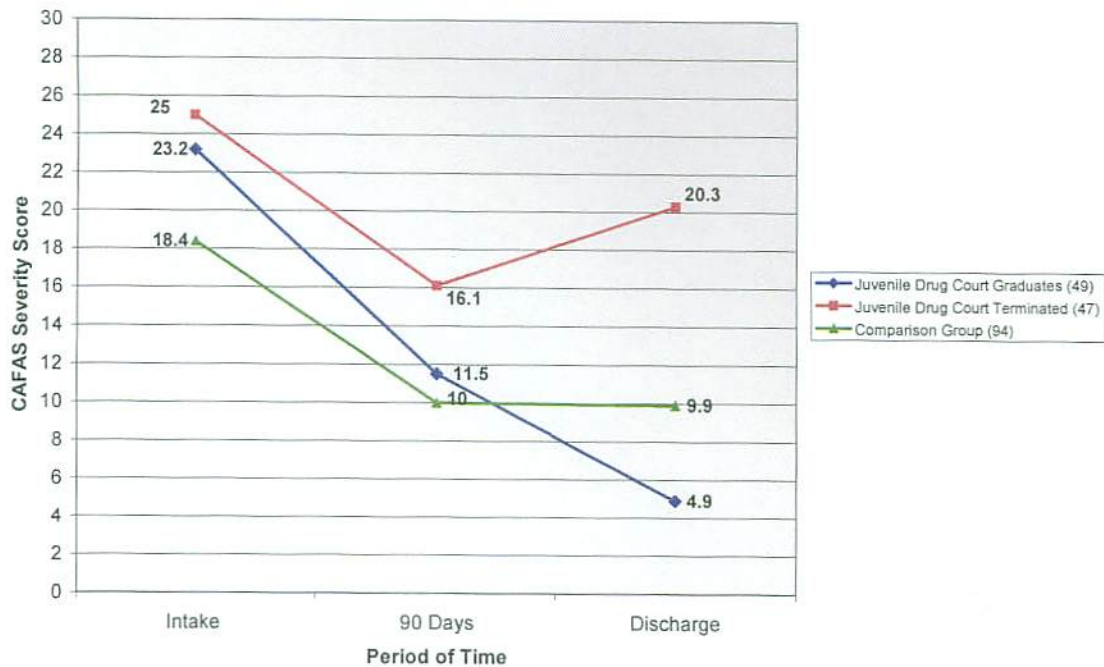
Court history information was only available for drug court participants. The average age of first juvenile court referral was 13.8 for this group. Roughly two and a half years separated the first juvenile court referral from the initial drug court appearance. Thus, juveniles on average were about 16 ½ years of age when they commenced drug court. The average number of referrals per juvenile was 6.2 (including the referring offense to drug court), meaning that juveniles on average had been taken into custody over six times by the time they began drug court.

School/Work Subscale

The School/Work Subscale assesses the juvenile's degree of impairment in school or on the job. Qualitative assessments include unruliness in school, truancy, failing grades, poor attention level, and other miscellaneous behaviors.

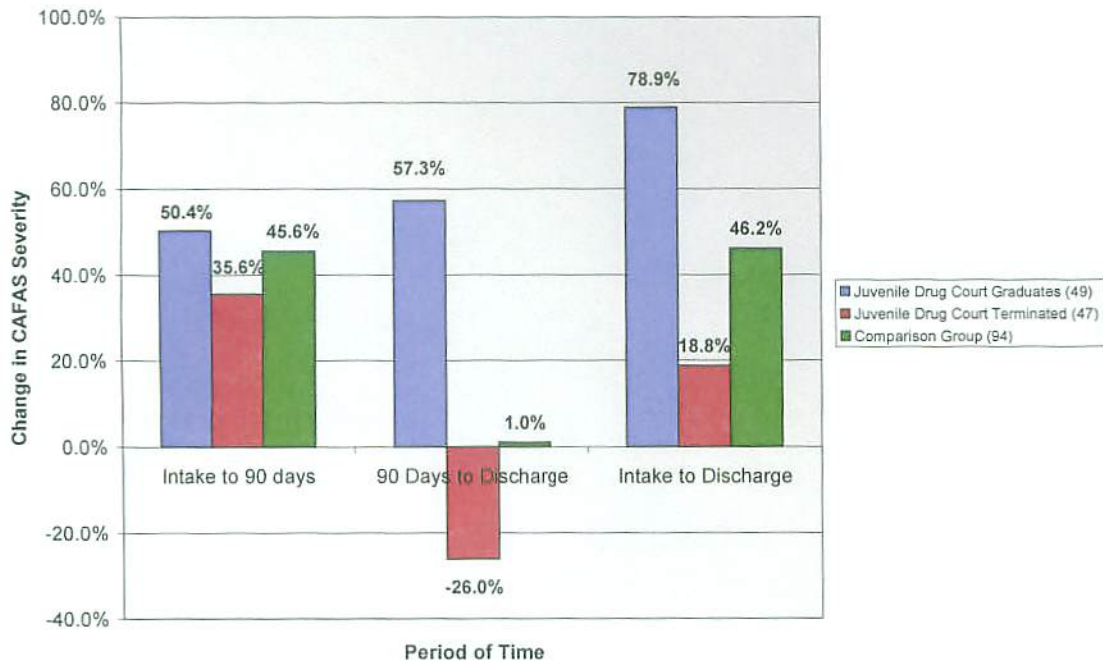
Figure 1 displays the results of the School/Work subscale. A score of 30 indicates severe impairment while a score of 0 is equivalent to minimal or no impairment. The data show that at intake, drug court graduates (Mean = 23.2) and termed participants (Mean = 25.0) scored somewhere between moderate and severe on the impairment scale. Comparison group subjects were not as impaired at intake with a mean scale score of 18.4.

Figure 1. CAFAS Severity Scores-School Subscale



From intake to 90 days all three groups showed marked school functioning improvement. Figure 2 displays this data as the difference in score from intake to 90 days and 90 days to discharge. School/work scale scores from intake to 90 days showed that all three groups reduced the level of their impairment. However, improvements were most noticeable among drug court graduates. The mean scores for this group were reduced by 50% from intake to 90 days. This means that the rater assessed the average drug court graduate as being 50% less impaired in school than when they entered treatment. Terminated participants scale scores were reduced by less at 36%. Comparison group subjects also benefited from treatment with scale scores being reduced by 46%. Thus, it is evident that treatment is effective in terms of reducing school impairment for all three groups after the first 90 days.

Figure 2. Percent Change in CAFAS Severity Scores-School Subscale



Following 90 days, school impairment appears to worsen however for terminated participants while drug court graduates continue to improve and comparison group subjects do not change. Graduates' ratings improve by 57% from 90 days to discharge while terminated participants decrease by 26%. It may be that terminated participants are removed from drug court during this period of time because they are making poor progress in school and not complying with drug court program objectives regarding school performance. Overall, graduates improve their school functioning by 79% from intake to discharge. By chance, we would anticipate a reduction without drug court of 46% as indicated by the comparison group scores.

A summary description of the School/Work subscale would indicate the following:

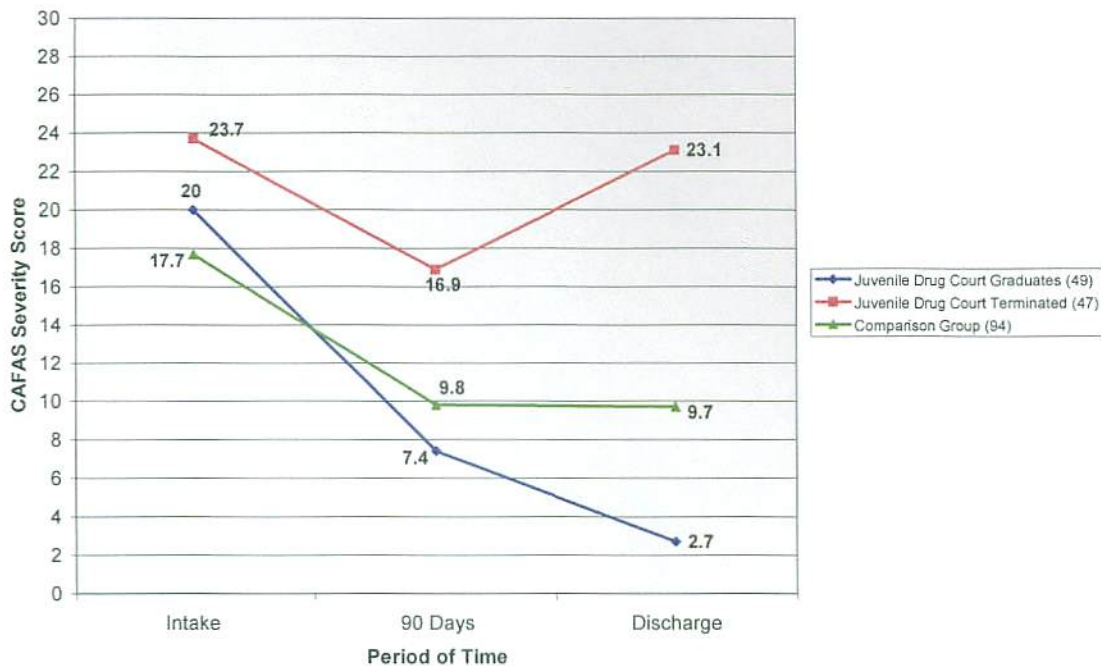
- 1) treatment appears to be effective for all subjects during the first 90 days.
- 2) treatment during the first 90 days is most effective for subjects who eventually graduate from drug court.
- 3) terminated participants school/work scores appear to worsen after 90 days.
- 4) the net effect of treatment on school functioning for drug court graduates appears to be around 32% (difference between graduates and comparison group).

Home Subscale

The Home Subscale measures the juveniles' functioning in the home environment. The scale assesses the level of management required to control and regulate the child's behavior, unwillingness to comply with parental rules, resistance to conducting home duties, and purposeful conflict with parents, amongst other behaviors.

Figure 3 shows that the terminated group (Mean = 23.7) commenced treatment with more severe home dysfunction than the other two groups. The group with the lowest level of home impairment at the beginning of treatment was the comparison group (Mean = 17.7) followed by drug court graduates (Mean = 20.0). Following 90 days of treatment, all three groups were rated as having less home impairment relative to the beginning of treatment. The group that improved the most was drug court graduates. Their level of home impairment was reduced by 63% after 90 days (Figure 4). The comparison group reduced their impairment by 45% while the terminated group reduced their level by 29% (Figure 4). Thus, the home environment tends to improve for all three groups following the first 90 days of treatment.

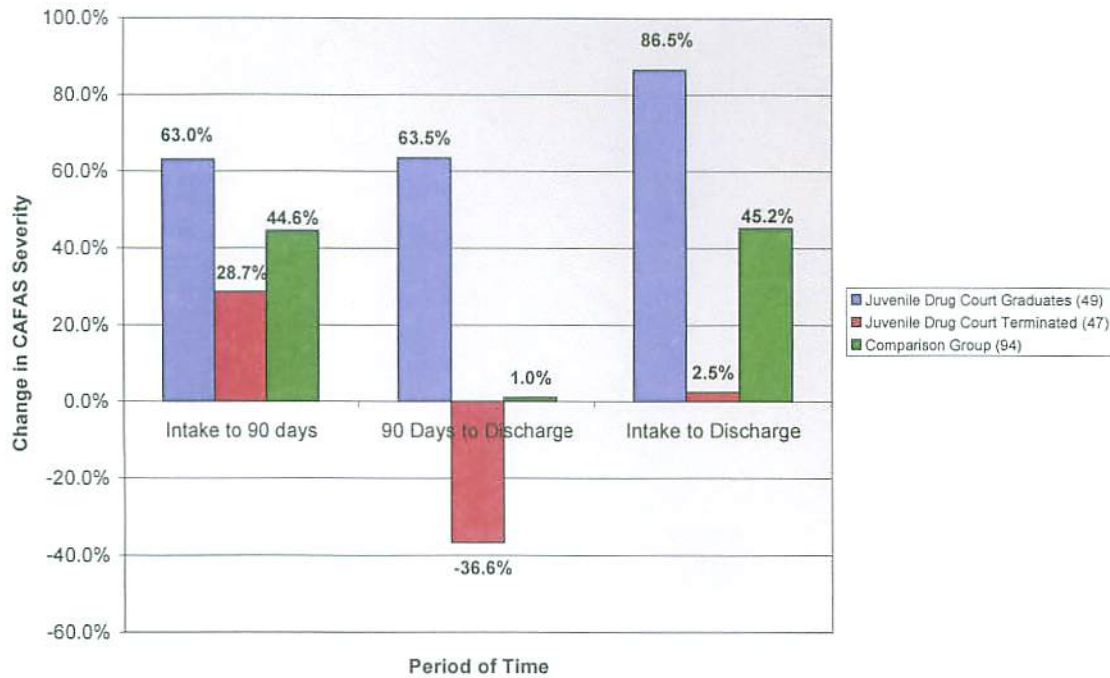
Figure 3. CAFAS Severity Scores-Home Subscale



Following 90 days, the only group that continued to reduce their level of home impairment was drug court graduates. From 90 days to discharge, their home impairment mean score was reduced by an additional 63%. Overall, their home functioning impairment score was reduced by 86% from intake to discharge. Again, terminated participants struggled with home functioning issues after 90 days. The mean score for this group actually worsened by 37% following 90 days after intake. Comparison group subjects improved their home functioning from intake to discharge by 45%. This again

represents the level of reduction we would expect by chance for the drug court groups. Since drug court graduates' level of functioning improved by 86%, we can cautiously argue that being a drug court graduate improves home functioning by roughly 41% over not being in drug court.

Figure 4. Percent Change in CAFAS Severity Scores-Home Subscale



A summary description of the Home Subscale would indicate the following:

- 1) treatment appears to be effective for all subjects during the first 90 days.
- 2) treatment during the first 90 days is most effective for subjects who eventually graduate from drug court.
- 3) terminated participants home functioning scores appear to worsen after 90 days.
- 4) the net effect of treatment on home functioning for drug court graduates appears to be around 41% (difference between graduates and comparison group).

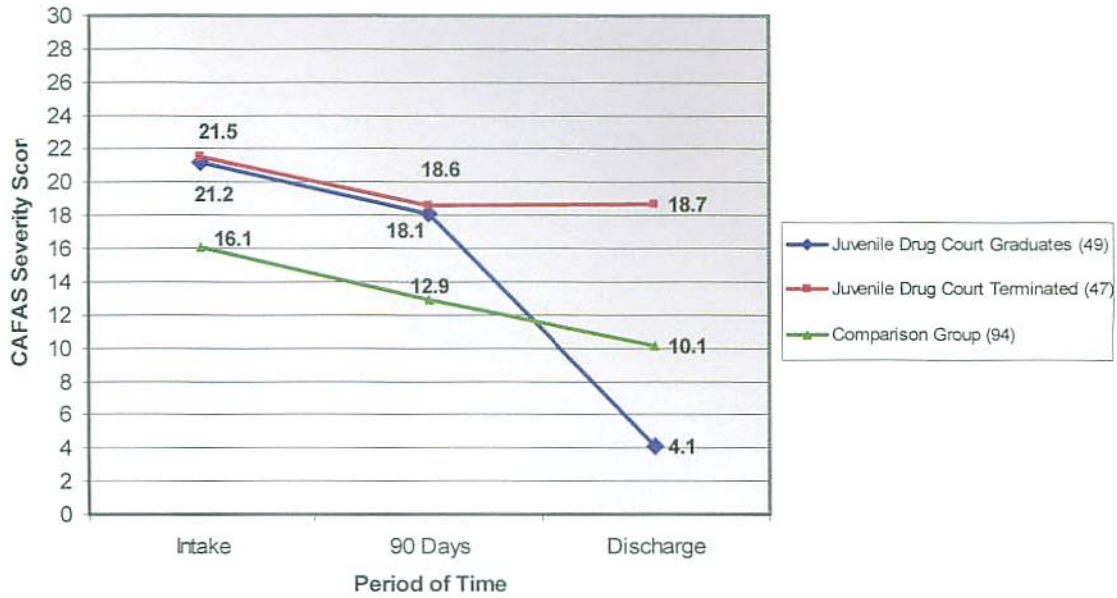
Community Subscale

The Community Subscale addresses delinquent and unruly conduct. This scale assesses violent conduct, property violations, adjudication for various offenses, sexually inappropriate behavior, and serious traffic infractions.

Figure 5 shows that delinquency levels for the two drug court groups were quite high at intake (Mean over 21.0). Following 90 days of treatment, both groups were rated as having made small downward adjustments in their delinquency levels, each declining by about 13-14% (Figure 6). From 90 days to discharge however, drug court graduates were rated as having between minimal and mild impairment in their delinquency levels

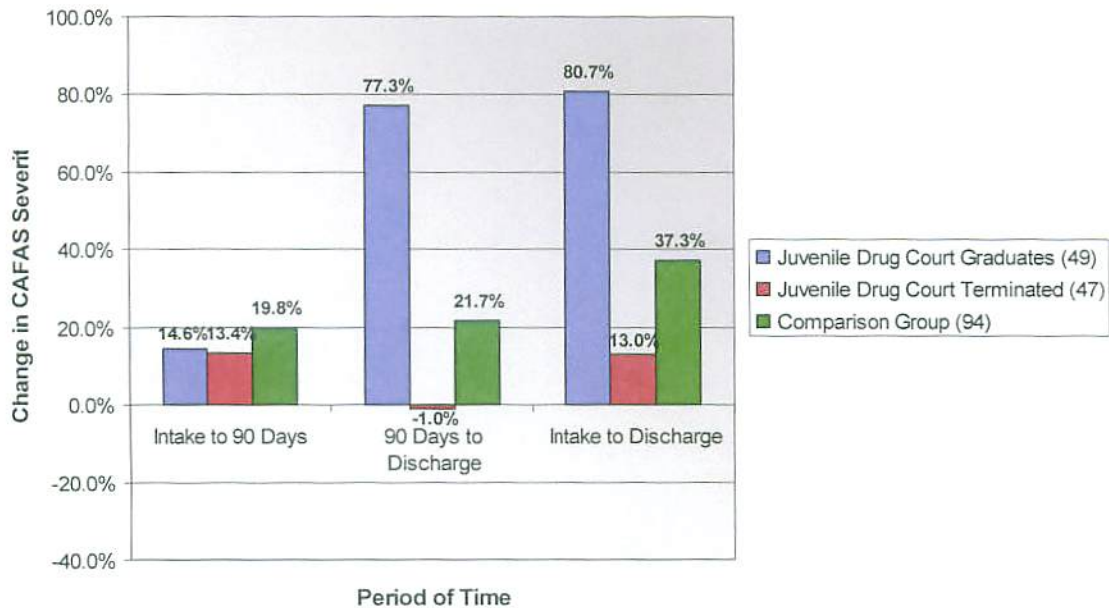
(Mean = 4.1) while the terminated group did not change from 90 days to discharge (Mean = 18.7).

Figure 5. CAFAS Severity Scores - Community Behavior Subscale



Comparison group subjects were rated as steadily declining in their delinquency levels over the course of treatment. Overall, they were rated as having declined by 37% from intake to discharge (Figure 6). This would be the level of decline we would expect by chance from the drug court graduates. Since their levels declined overall by 81%, we can surmise that drug court reduced delinquency scores by 44% over and above traditional treatment.

Figure 6. Percent Change in CAFAS Severity Scores - Community Behavior Subscale



A summary description of the Community Behavior Subscale would indicate the following:

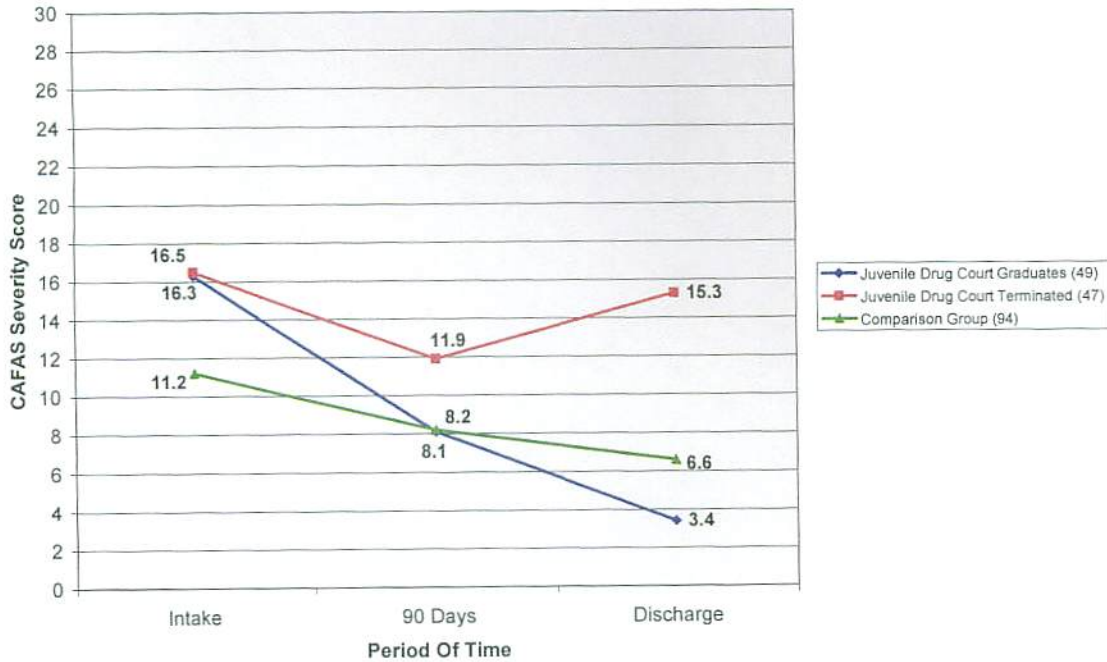
- 1) treatment appears to be effective for all subjects during the first 90 days.
- 2) treatment during the first 90 days is slightly less effective for drug court subjects than the comparison group.
- 3) terminated participants delinquency scores do not change much from 90 days to discharge
- 4) the net effect of treatment on delinquency scores for drug court graduates appears to be around 44% (difference between graduates and comparison group).

Behavior toward Others Subscale

The Behavior toward Others Subscale measures inappropriate behavior as displayed by the juvenile to others. Measures include sexual assault, spiteful and vindictive behavior, frequent displays of anger, persistent relational problems with peers, rejection by peers, and other miscellaneous conduct.

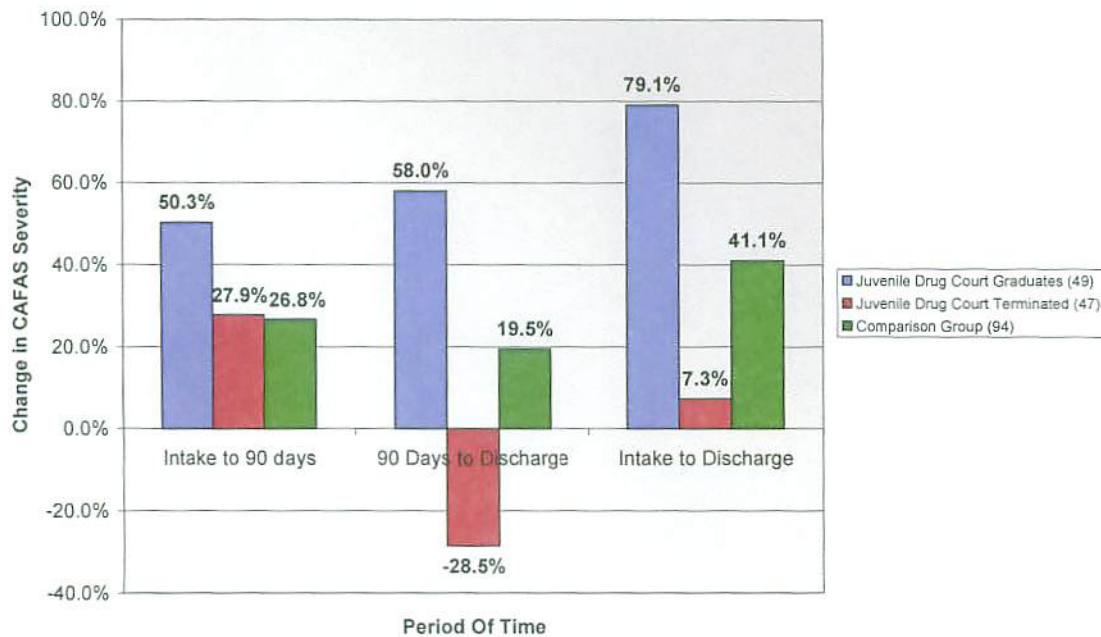
Figure 7 shows that the two drug court groups commenced treatment at markedly higher levels than the comparison group. The average score of the drug court groups ranged between mild and moderate (Mean = around 16) on the CAFAS rating for these behaviors compared to a rating of 11.2 for the comparison group. After 90 days of treatment, all three groups made substantial progress in their relational functioning. The terminated group ratings changed from a mean of 16.5 to 11.9 or a decrease of 28% in impairment (Figure 8). The drug court graduates changed their ratings from 16.3 to 8.1; a reduction in impairment of 50%. The comparison group also improved, moving from a rating of 11.2 to 8.2 for a reduction of 27%.

Figure 7. CAFAS Severity Scores-Behavior Toward Others Subscale



Following 90 days, terminated participants ratings worsened. Their average rating increased from 11.9 to 15.3, suggesting that their relations with others tended to worsen after 3 months in treatment. Both the drug court graduates and the comparison group continued to improve. Drug court graduates' ratings moved from 8.1 to 3.4 for an improvement of 58%. The comparison group subjects' ratings changed from 8.2 to 6.6, representing a 19% reduction. Overall, drug court graduates behavior toward others ratings improved by 78% over the course of treatment while the ratings for the terminated group improved by only 7%.

Figure 8. Percent Change in CAFAS Severity Scores- Behavior Toward Others Subscale



A summary description of the Behavior toward Others Subscale would indicate the following:

- 1) treatment appears to be effective for all subjects during the first 90 days.
- 2) treatment during the first 90 days is most effective for drug court graduates.
- 3) terminated participants ratings of behavior toward others worsen 90 days to discharge
- 4) the net effect of treatment on behavior toward others scores for drug court graduates appears to be around 38% (difference between graduates and comparison group).

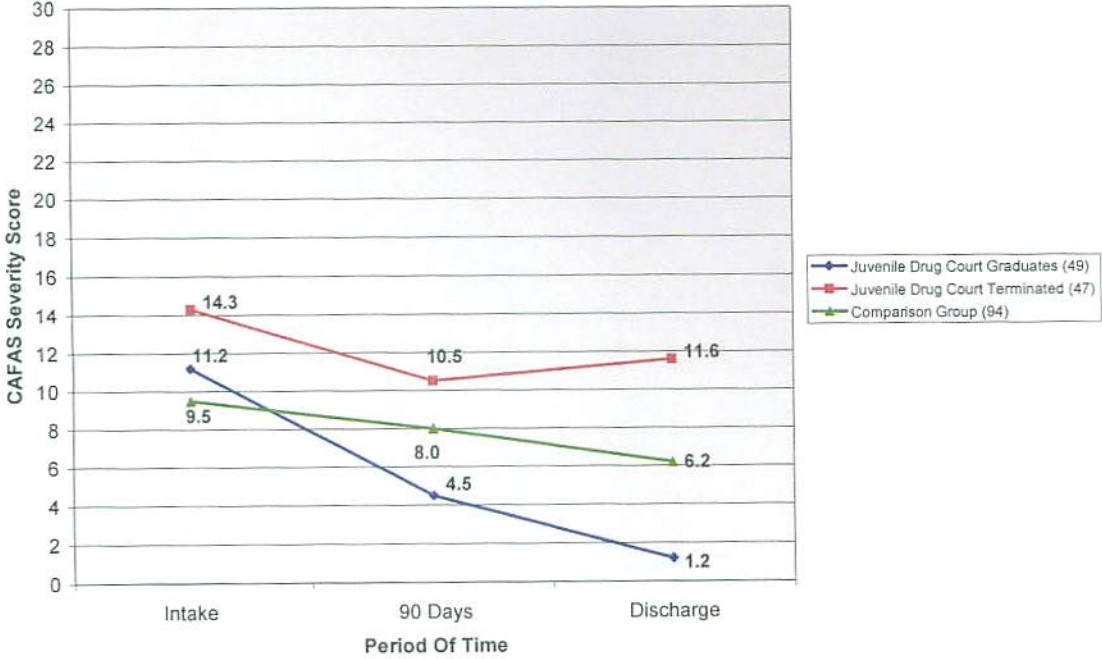
Moods/Emotions Subscale

The Moods/Emotions Subscale assesses anxieties, fears, and swings in moods that can interfere with normal functioning. Measures include depression, marked and abrupt changes in moods, excessive worrying, disproportionate fears and anxieties, and expression difficulty, amongst other measures.

Figure 9 shows changes from intake to discharge in the Moods/Emotions Subscale ratings. Like the other subscales, drug court participants commenced treatment at slightly higher impairment levels than the comparison group. Terminated participants commenced treatment with a Mean score of 14.3, indicating that as a group, they were somewhere between mildly and moderately impaired. Graduates scored 11.2 at intake indicating mild impairment while the comparison group scored 9.5. At 90 days, all three groups made progress toward reducing moods/emotions impairment. Drug court graduates reduced their impairment by 60% (Figure 10) at 90 days, moving from a rating

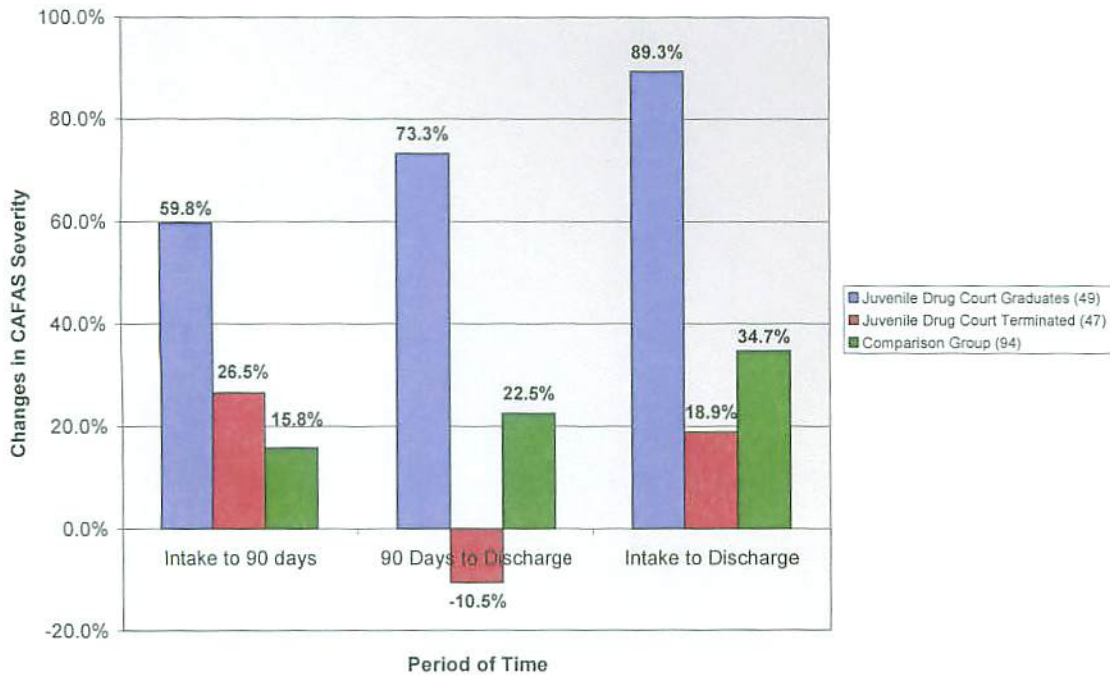
of 11.2 to 4.5. Terminated participants reduced their impairment by 26% and comparison group subjects reduced their impairment by 16%.

Figure 9. CAFAS Severity Scores-Moods/Emotions Subscale



Following 90 days, we see a similar pattern as we did with the other subscales. Terminated participants again regressed by exhibiting slightly greater moods/emotions impairment between 90 days and discharge. On average, this group regressed 10%. Drug court graduates reduced their impairment further after 90 days by 73%, moving from an average rating of 4.5 to 1.2. Comparison group subjects also reduced their impairment, changing from a rating of 8.0 to 6.2

Figure 10. Percent Change in CAFAS Severity Scores-Moods-Emotion Subscale



A summary description of the Moods/Emotions Subscale would indicate the following:

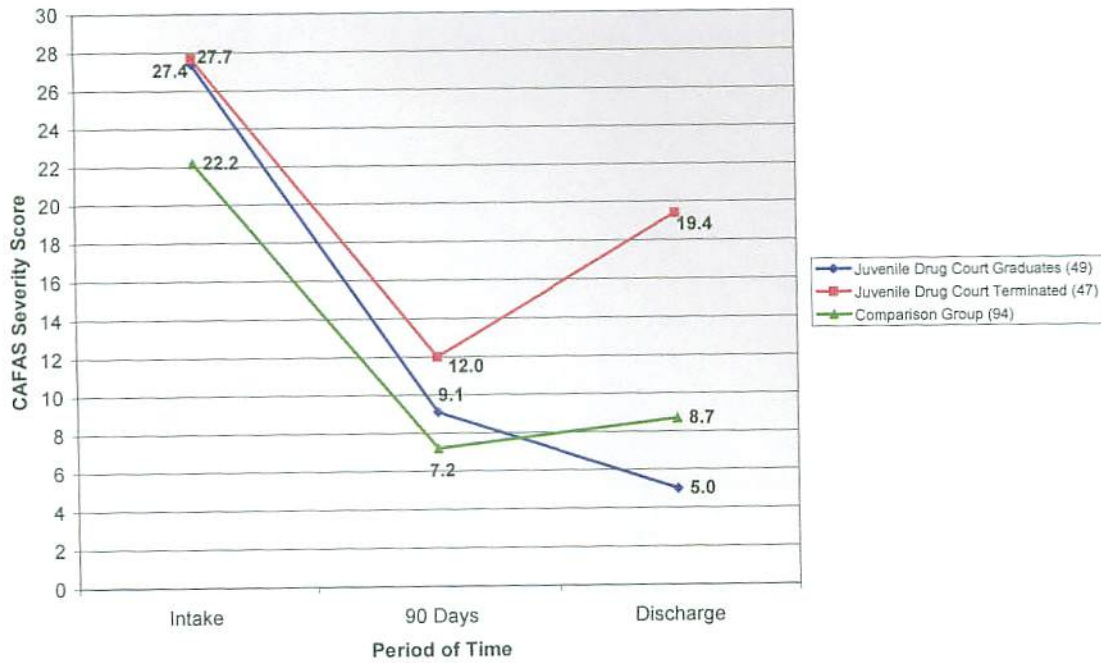
- 1) treatment appears to be effective for all subjects during the first 90 days.
- 2) following 90 days, terminated subjects' impairment levels tend to worsen.
- 3) the group whose moods/emotions benefit the most from treatment are drug court graduates.
- 4) the net effect of treatment on delinquency scores for drug court graduates appears to be around 54% (difference between graduates and comparison group).

Substance Use Subscale

The Substance use Subscale measures quantity-frequency of drug use, negative consequences from drug use, endangerment related to drug use, and dependence.

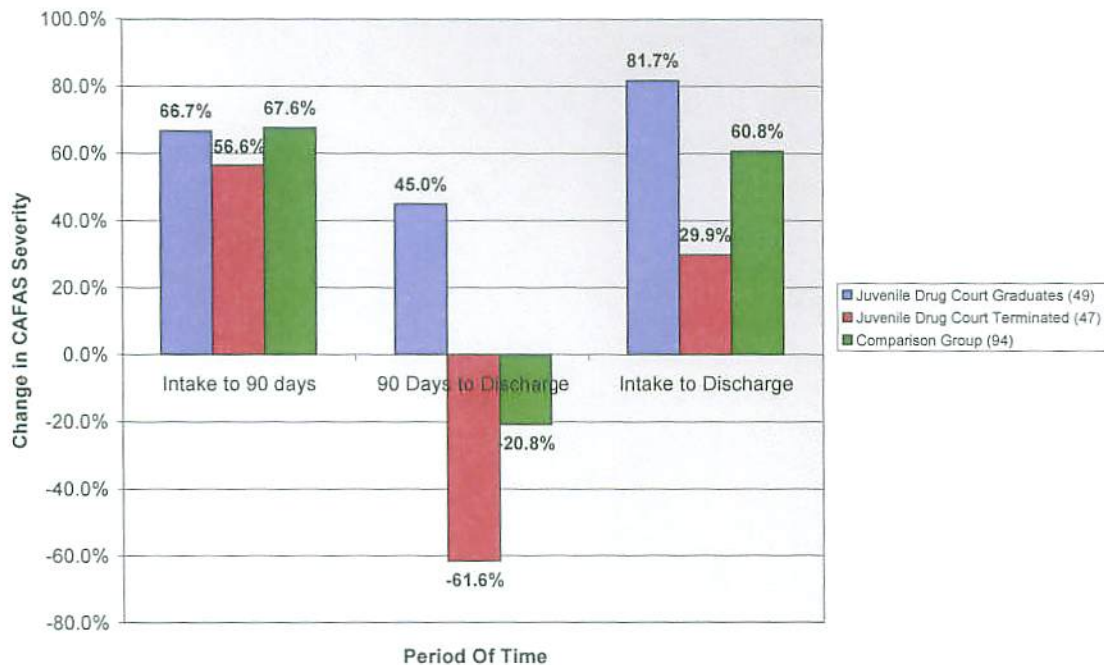
One of the chief questions of this study is how well treatment facilitates the progression from a severe substance abusing juvenile to use that is less severe. These juveniles are obviously in treatment because they met criteria for a substance abuse diagnosis, indicating that they have used chemicals in a manner that came to the attention of authorities and posed a risk to him/her in some way. This assumption is supported by Figure 11. Clearly, the drug court participants in this study were almost all at the severe level of impairment at intake with both terminated participants and graduates scoring over 27 on this scale. Comparison group subjects were also at least moderately impaired, averaging a score of 22 on this subscale.

Figure 11. CAFAS Severity Scores-Substance Use Subscale



From intake to 90 days, all three groups reduced their level of substance use impairment according to LAC ratings (Figure 12). On average, drug court graduates reduced their substance use ratings by 67%. A similar level of reduction was noted for the comparison group at 90 days. Terminated participants were also rated lower by 57%. Thus, all three groups were rated as showing marked improvement toward sobriety/drug free lifestyle after intake.

Figure 12. Percent Change in CAFAS Severity Scores-Substance Use Subscale



Following 90 days, drug court graduates continued to reduce their substance use impairment. From 90 days to discharge, graduates' levels were reduced by 45%. Terminated subjects fared worse after 90 days however. Their ratings changed from 12.0 to 19.4, worsening by 62%. Comparison group subjects impairment levels were also rated higher at discharge than at 90 days by 21%. However, overall, all three groups made a substantial improvement toward reducing their substance use levels and consequences associated with substance use. Graduates were rated 82% lower on this subscale at discharge while terminated participants and comparison group subjects were rated lower by 30% and 61%, respectively.

A summary description of the Substance Use Subscale would indicate the following:

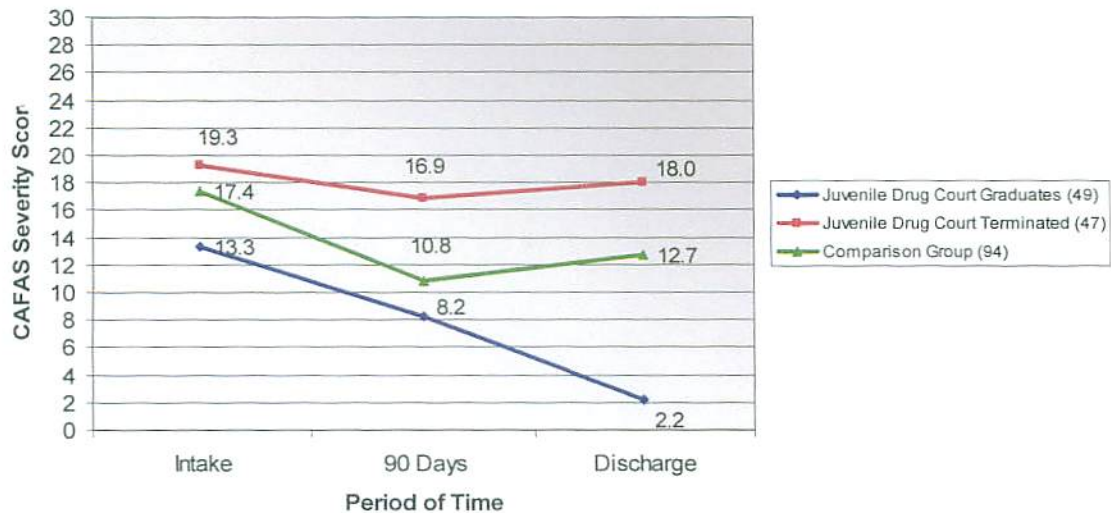
- 1) treatment appears to be effective for all subjects during the first 90 days.
- 2) from 90 days to discharge, terminated and comparison group subjects' impairment levels tend to worsen.
- 3) drug court graduates ratings of substance use decline by 82% over the course of their treatment.
- 4) the net effect of treatment on substance use scores for drug court graduates appears to be around 21% (difference between graduates and comparison group).

Caregiver Resources – Family/Social Support Subscale

The Family/Social Support Subscale assesses impairment in caregiver functioning in the home as well failure to provide a home environment that is marked by safety. Measures include hostility in the home, rejection by caregiver, lack of parental supervision, domestic violence, and inability to attend to the youth's developmental needs, amongst others.

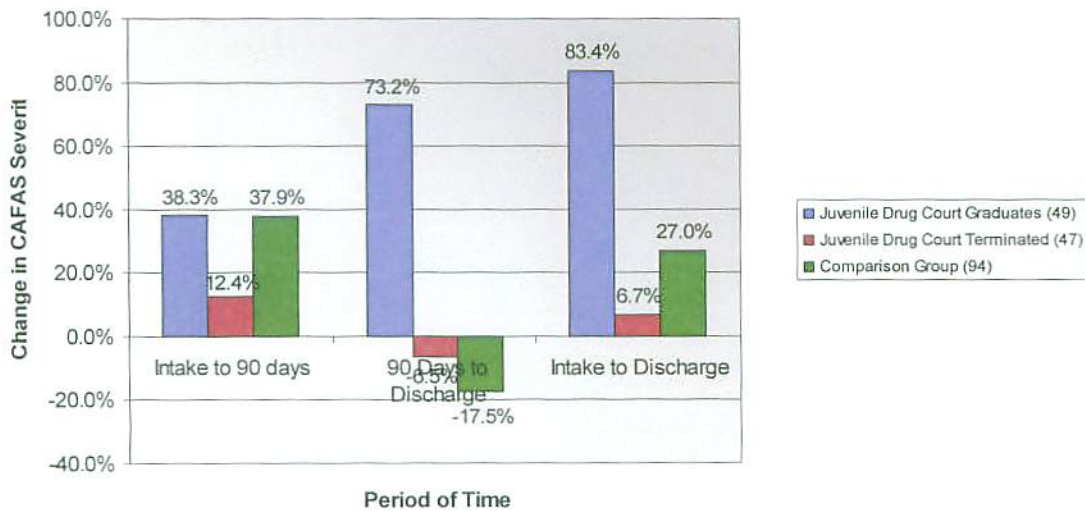
Figure 13 displays the results for the Family/Support subscale for all three groups. Terminated participants average ratings were the highest at intake at 19.3. This score indicates that at intake, family support was moderately impaired for this group. Comparison group subjects recorded the next highest intake rating at 17.4 while drug court graduates were somewhat lower with a rating of 13.3. Thus, all three groups at intake were somewhere between mildly and moderately impaired regarding family support. It is clear at intake that terminated participants commence treatment with slightly more home baggage than the other two groups. This could partly contribute to the patterns we have observed thus far that shows less treatment progress among this group.

Figure 13. Percent Change in Family/Social Support CAFAS Ratings



From intake to 90 days, family support changes in a beneficial way for all three groups (Figure 14). Specifically, ratings for drug court graduates and the comparison group change by 38% from intake to 90 days. Terminated participants' scores changed as well moving from a mean of 19.3 to 16.9 for a reduction of 12%. From 90 days to discharge, family support scores improved only among drug court graduates. Their scores changed from 8.2 to 2.2 for a reduction of 73%. Both the terminated participants and the comparison group exhibited a decrease in functioning (increase in impairment) after 90 days.

Figure 14. Percent Change in Family/Social Support CAFAS Ratings



Overall, drug court graduates family support ratings changed by 83% from intake to discharge. This group commenced treatment with mild impairment in family support and are discharged from treatment with minimal or no impairment. This suggests that treatment for the child can also benefit the parents or guardians. Some of this improvement could be a function of less impairment exhibited by the juvenile which in turn reduces the level of family conflict in the home. This is what developmental psychologists refer to as reactive genetics/environment correlation in which family members respond to the individual on the basis of his or her evocative behavior.

A summary description of the Family/Social Support Subscale would indicate the following:

- 1) treatment appears to improve the home environment for all subjects during the first 90 days.
- 2) from 90 days to discharge, terminated and comparison group subjects' family support levels tend to worsen.
- 3) ratings of family support among drug court graduates improve by 83% over the course of their treatment.
- 4) the net effect of treatment on family support scores for drug court graduates appears to be around 56% (difference between graduates and comparison group).

Summary and Recommendations

This study sought to determine how well treatment improved various levels of functioning among substance abusing juveniles and more specifically assessed treatment outcomes among drug court participants relative to treatment subjects not in drug court. Ratings on the Child and Adolescent Functional Assessment Scale were administered by licensed addiction counselors at intake, 90 days, and discharge.

The data show that the average juvenile with a substance abuse diagnosis benefits in some way from treatment during the first 90 days. Clearly however, some juveniles benefit more than others. In this study, juveniles participating in juvenile drug court and ultimately graduating from the program (1) improve their school functioning, (2) lessen their inappropriate home behaviors, (3) reduce their delinquent acts, (4) behave in a way that is more respectful of others, (5) exhibit fewer fears and anxieties, (6) reduce their use of intoxicating substances and the negative consequences associated with their use, and (7) gain family support. In virtually every domain, drug court graduates' treatment outcomes outstrip the gains made by the comparison group.

A similar statement cannot be made for juveniles whose participation in drug court was terminated due to non-compliance with program objectives. In most domains following 90 days of treatment, terminated participants show less progress in school, exhibit more conflict in the home, continue to behave inappropriately to others, and revert to previous substance use practices. Further, the family support unit for these juveniles appears to weaken. One of the reasons these juveniles are removed from the drug court program may be attributable to their poor treatment outcomes after 90 days.

This of course raises a ten million dollar question. Why do some drug court participants benefit markedly from treatment while another group regresses after 90 days? There are slight differences at intake between these two groups that can account for a small amount of the progress differences observed between the two groups following 90 days. These include more dual diagnoses among the terminated group, slightly higher levels of problems with moods, and less family support. However, these impairment issues at intake are not sufficient to account for the fact that at discharge, terminated participants ratings are anywhere between 4-10 times higher than those of drug court graduates. Terminated participants do exhibit treatment progress during the first phase of treatment so something must occur during treatment to unravel much of the progress that is gained early in treatment. There are several viable interpretations of this pattern:

1. Failure to reach pre-set goals beyond a certain level can be frustrating for some drug abusing kids. Upon relapse, some of them simply become resigned to the difficult nature of conquering this disease (addiction) and simply give up.
2. During the first 90 days of treatment, some juveniles make progress toward recovery. This progress opens up their feelings and brings out unresolved emotions for them. The process of semi-recovery removes some numbness and perhaps brings out some hostile feelings in treated kids.
3. The shift after 90 days from intensive treatment to aftercare may not be suitable for some seriously addicted kids who are struggling with recovery. The reduction in accountability and supervision may signal too much freedom too soon, allowing some juveniles to slip back into their comfort levels of using chemicals and engaging in other forms of behavior antithetical to their recovery.

4. The transition after 90 days to imposing more of the responsibility of recovery to the substance abuser may be difficult for some kids to handle. Some may be unready to handle the self-imposed notion that they are now more in charge of their own recovery and they are either not ready or unwilling to make the steps necessary to achieve this.
5. The lack of family support for some juveniles during treatment may override treatment gains, allowing the juvenile to relapse in the face of bitter family conflict. This conflict could induce higher levels of anxiety, leading to chemical usage. Or, continued family conflict could simply serve as a vehicle of opposition for the treated juvenile who sees little effort being made on the part of their family member(s) to resolve pre-existing conflict.

Several recommendations emerge from this study:

1. Think about some different treatment strategies for juveniles who, upon intake demonstrate little family support and exhibit widespread family conflict. This could include extending the range of services to the family unit and extending intensive treatment for this group.
2. Find a vehicle for providing juveniles with additional academic support after 90 days of treatment. Some juveniles in treatment exhibit school surrender behaviors following 90 days of treatment. Perhaps additional school resources like tutoring help or structured study time would prevent some of this academic relapse.
3. Think about extending intensive treatment beyond 90 days for juveniles who score high at intake on the home impairment and family support subscale and exhibit higher than average mood scores.
4. Continue to fund juvenile drug courts. For those who complete the program, treatment is clearly effective. The additional accountability in drug court facilitates treatment outcomes for this group in every domain.