

**DO JUVENILE DRUG COURTS
REDUCE RECIDIVISM?:
Outcomes of Drug Court and an
Adolescent Substance Abuse Program†**

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ABSTRACT: *Juvenile drug courts have emerged as “innovative” responses to juvenile drug offenders, but comparatively little is known about their operations. This paper presents results of a retrospective comparison of drug court participants to an adolescent substance abuse program (ASAP) to examine which participants fared better in terms of future recidivism. Using data collected from official case files, we compared recidivism levels for all juveniles (n = 150) terminated from drug court between 1996 and 1999 with those of a random sample of juveniles (n = 158) terminated from ASAP during 1994 and 1995. Bi- and multivariate analyses were conducted to identify whether significant differences existed between the groups concerning re-arrest (recidivism) over a 24-month post-release observation period. Study results highlighted by logistic regression analyses suggesting that juveniles in drug court were no more likely to recidivate than were juveniles in ASAP is a positive finding for the drug court program and is an indication that the program is working, especially given the serious nature of this juvenile offender population.*

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INTRODUCTION

Drug courts, first developed in Miami in the late 1980s, are specialized courts that mandate treatment to substance abusing offenders. Included with this responsibility is the use of sanctions and rewards to gain compliance and the administration of punishment that is more restrictive than regular probation, but less severe than incarceration (Goldcamp, 1999). Juvenile justice practitioners have recently imported modified versions of the adult drug court model into the juvenile justice system, resulting in specialized courts addressing the needs of substance abusing juvenile offenders appearing across the country (Sloan & Smykla, 2003). In September 2003, after nearly a year of planning, a "new" drug court was introduced that substantially modified how family court handles substance abusing juveniles. The present study assesses this drug court program.

Juvenile drug courts focus on delinquent acts and status offending by substance-abusing juveniles, broadly defined as youth having serious problems with alcohol and other drugs. Designed as treatment-based alternatives to traditional juvenile courts, the first juvenile drug courts (all begun in 1995) were established in Jefferson County (Birmingham), Alabama, Tulare County (Visalia), California, Escambia County (Pensacola), Florida, Washoe County (Reno), Nevada, and Salt Lake City, Utah. This study presents results of an evaluation of the original drug court program at the Jefferson County (Birmingham), Alabama Family Court.

Juvenile drug courts constitute a unique, community-based approach designed to build strong community partnerships and enhance the capacity of these partners to assist in the rehabilitation of substance-abusing youth (Office of Justice Programs, 2000). More specifically, Cooper (2001) identified the following as the five major goals of juvenile drug courts: 1) to provide immediate intervention, treatment, and structure in the lives of juveniles who use drugs through ongoing, active oversight and monitoring; 2) to improve juveniles' level of functioning in their environment, address problems that contribute to their use of drugs, and develop/strengthen their ability to lead crime-free and drug-free lives; 3) to provide juveniles with skills that will aid them in leading productive substance-free and crime-free lives, including skills that relate to their educational development, self-worth, and capacity to develop positive relationships in the community; 4) to strengthen families of drug-involved youth by improving their capability to provide structure and guidance to their children; and 5) to promote accountability of both juvenile offenders and those who provide services to them.

Of course, not all drug courts (whether adult or juvenile) are organized to achieve all these goals. Because of environmental, organizational, and other constraints, some drug courts may focus their resources, programming, and related activities to achieve only one or two of these goals. Others, because of wider-ranging resources, may be more broadly oriented and specifically attempt to achieve all five of the goals outlined by Cooper (2001). Family court's drug court program focused its attention on achieving two of the goals outlined by Cooper, providing immediate intervention, treatment, and structure to the lives of juveniles and improving the juveniles' levels of functioning to reduce the chances of these juveniles returning to substance abusing and delinquent behavior.

Our assessment of family court's drug court thus focused on how well the program achieved these two goals, compared to a less structured and less restrictive program for substance abusing juveniles also operating at Family Court, known as the Adolescent Substance Abuse Program (ASAP). In particular, we assessed rearrest patterns of members of the two groups 24 months after release from the program.

LITERATURE REVIEW

How Juvenile Drug Courts Work: A Brief Overview

Using various mechanisms (e.g., urinalysis tests, self-reports), youth identified as having significant substance abuse problems are referred to juvenile drug courts. Judges then maintain close oversight, have hands-on judicial involvement, and immediately intervene in cases through frequent status hearings with the parties. Juvenile drug court judges lead and work as members of treatment teams in a non-adversarial environment that consists of representatives from various sectors, including treatment, juvenile justice, social services, school and vocational training programs, law enforcement, probation, the prosecution, and the defense. Together, the team determines how best to address the youth's substance abuse and related problems, including his or her family, that have brought the youth into contact with the justice system.

Rottman and Casey (1999) referred to this problem-solving orientation as "therapeutic jurisprudence," an attempt to "combine a 'rights' perspective — focusing on justice, rights, and equality issues — with an 'ethic of care' perspective — focusing on care, interdependence, and response to need" (p. 13). Whether they are called problem-solving courts or therapeutic jurisprudence programs, the assumption behind them is that attending to the needs and circumstances of juveniles, as well as the specific legal issues before the court, leads to more effective dispositions (Rottman & Casey, 1999).

Since the 1960s, when the Supreme Court fundamentally altered the juvenile justice process by granting to juveniles most of the due process rights granted to adults by the Constitution, the doctrine of *parens patriae* that guided juvenile proceedings has been reduced in importance (Feld, 1993). As a result, juvenile courts increasingly resemble their adult counterparts, where the prospect of adversarial justice is at least present (Melton, 1989). Juvenile drug courts, however, depart from this model and resemble the original design of the juvenile court as envisioned by its founders. Reduced is the prospect of adversarial justice, replaced with a model where judges are part of a collaborative decision-making team that includes social workers, psychiatrists, other court personnel, and attorneys. Prosecutors and defense counsel coordinate their efforts to achieve a youth's recovery from alcohol or drug addiction, muting the traditional adversarial relationship. In court, typical lawyer-dominated hearings give way to conversations among judge, juvenile, his or her parents, and probation officers. Rather than relying on the probation officer to report on a juvenile's progress, judges in juvenile drug courts closely monitor progress through regularly scheduled meetings with the juvenile and his or her family and other members of the team. The judges also marshal community resources to support the specialized court, engage and broker services for clients, reward client success, and make use of parsimonious and graduated sanctions for violations. Finally, at least in theory, juvenile drug court judges are supposed to have some knowledge about the psychology of addiction and substance abuse, as well as understand that because addiction is a disease, juveniles in drug court will likely experience multiple failures as they address their substance abusing behavior. This fact requires that juvenile court judges be patient and be willing to allow a certain number of failures before imposing serious sanctions (e.g., revocation of probation or aftercare) on the juvenile.

In short, juvenile drug courts link to the original juvenile court in terms of their emphasis on judicial activism. Judges in these courts closely monitor a juvenile's progress through regular in-court meetings, have strong contacts with the juvenile's family (which is also involved in the juvenile's treatment activities) and community resources involved with treating juvenile substance abusers, and have knowledge about the pharmacology and psychology of addiction. Judges are part of a treatment team of experts whose assessment of the extent and nature of the juvenile's substance abuse is crucial to determining a specific course of action in the case.

What Is Known About Juvenile Drug Courts?

Recent Office of Justice Programs (OJP) statistics indicated that juvenile drug court participants are disproportionately male, White, live with a single parent, experience school-related problems, and have used drugs for a relatively short time (Office of Justice Programs, 2000). The data also showed that program participants not only were successfully retained in drug court, but also were less likely than non-drug court participants to test positive for illegal substances. The Office of Justice Programs (2000) recently described characteristics of the 167 juvenile drug courts nationwide:

- There were an estimated 8,500 juveniles who were either currently enrolled in drug court programs or who had graduated from drug court.
- The retention rate among juveniles assigned to cases in drug court was 68%.
- Positive urinalysis while in drug court was lower (24%) for participants than it was for non drug-court participants (35%).
- Eight out of ten drug court participants were male.
- Almost half (47%) of drug court participants were White, 35% were African American, and 15% were Hispanic.
- Slightly more than one-half (52%) of the juveniles lived with one parent, the biological mother.
- At the time of program entry, 11% of juveniles had been expelled from school, 24% were enrolled in alternative school, and 56% were enrolled in mainstream schools. At the time they started drug court, 23% of the participants were in elementary or junior high school, 52% were in grades 9 or 10, 20% were in grade 11, and 2% were in grade 12.
- At the time of program entry, 10% of the juveniles had been using drugs for less than one year, 35% for one to two years, 29% for two to three years, 19% for three to four years, 5% for five to six years, and 2% for over six years.

Since the establishment of the first juvenile drug courts in 1995, evaluation literature has been sparse. While the evaluation lag may be expected given the growth in the number of juvenile drug courts from five in 1995 to 167 today, more research seems warranted. We speculate that the reasons more evaluations have not been conducted are researcher access, difficulty with developing an appropriate methodological design, problems with case files, and time. To illustrate, in the current study, in spite of unlimited access to case files, those files were sometimes difficult to find, the data in them were sometimes incomplete, and variables such as seriousness of the juveniles' substance

abuse problems, clinical assessment of drug use severity, and prior drug use by type or severity were not available. Furthermore, the evaluation took eight months to complete and was conducted as a courtesy to the family court. The principal investigators and three students, aided on occasion by a probation department intern, volunteered their time. Finally, while we discussed with the presiding judge the tremendous benefits of conducting a true experiment to evaluate the programs of interest, she asked us to conduct a faster retrospective comparison.

In searching the literature on juvenile drug courts, we found only four published evaluations, two by Shaw and Robinson (1998), and one each by Byrnes and Parsons (1999) and Applegate and Santana (2000). All four evaluations are limited by small numbers of program participants and were conducted over relatively short periods. Three of the four evaluations did not include an equivalent group of youths not participating in the program. Most leave operational definitions of crucial variables unspecified.

In 1998, Shaw and Robinson reported on juveniles who graduated from drug courts in Santa Clara County, California and Wilmington, Delaware. In Santa Clara County, only nine youths had graduated from juvenile drug court at the time of Shaw and Robinson's evaluation. During the year juveniles participated in the program, they averaged 9.5 months of continuously clean drug screens. Shaw and Robinson wrote that all nine youths spent more time in treatment and had higher motivation levels than those still in the program ($n = 32$) or those who dropped out or were transferred out ($n = 20$). However, the researchers offered no empirical support for most of these claims.

Shaw and Robinson's evaluation of juvenile drug court in Wilmington, Delaware compared the recidivism rate of 81 compliant and noncompliant juveniles during four months in the treatment program and 12 months after graduation/termination. The compliant group (number not specified) graduated the program whereas the noncompliant group (number not specified) initially entered treatment, but was unsuccessful. The authors matched the compliant and noncompliant groups of juveniles against a control group of 90 untreated misdemeanor juveniles (matching variables unspecified) and found that the compliant and noncompliant groups averaged a recidivism rate (definition unspecified) of 21% during the four-month treatment period. The control group's recidivism rate was 30%. Post-program recidivism (definition unspecified) after 12 months from graduation/termination was 23% for the compliant group, 75% for the noncompliant group, and 51% for the matched control group. No explanation was given why recidivism was higher for the noncompliant group over the control group.

Byrnes and Parsons (1999) reported on a juvenile drug court in Salt Lake City, Utah. The researchers compared the average number of criminal, alcohol, and drug offenses for 74 juvenile drug court participants against those of a matched group of 74 juveniles referred to juvenile court during the same time. The treatment group averaged 1.8 criminal charges in the year prior to participating in the program and 0.7 charges in the year after completing the program. The control group averaged 1.1 and 0.5 charges, respectively. The average number of alcohol and drug related offense charges for the treatment group was 1.4 in the year prior to participation and 0.2 the year following participation. For the control group, the figures were 1.1 and 0.1, respectively. The researchers did not explain why the control group performed better than the youths referred to drug court.

In 2000, Applegate and Santana reported on the Orange County (Florida) Juvenile Substance Treatment Court. Sixty-six juveniles were admitted to treatment: 28 graduated from the program ("successful") and 38 did not graduate ("unsuccessful"). The researchers examined three questions: 1) What characteristics distinguished those juveniles who successfully completed treatment from those who failed?; 2) What was the effect of drug court on youths' overall level of social and psychological functioning as measured by the Children's Global Assessment Scale?; and 3) What was the influence of the drug court on recidivism?

Statistically significant predictors of juveniles who completed drug court from those who failed included: 1) youth's frequency of drug use upon entry into the drug court program (juveniles who successfully completed drug court used drugs less frequently than juveniles who did not complete drug court, 14% and 45%, respectively); 2) nearly all of the successful youths' families were supportive of treatment, whereas only two-thirds of the unsuccessful youths' families were supportive of treatment; 3) race (White 71% successful and African American 14% successful); and 4) average days in treatment (successful 196 days and unsuccessful 77 days). Overall levels of social and psychological functioning increased 18 points for the successful group and declined two points for the unsuccessful group.

The researchers also found that there were differences in recidivism (rearrest) between the "successful" and "unsuccessful" groups, 7% and 12%, respectively. Average number of days to rearrest also differed between the groups, with successful youth remaining arrest-free for more than 134 days but unsuccessful youth averaging only 88 days until rearrest. Applegate and Santana (2000) concluded, "Thus, even when we considered the amount of time that youths were free to recidivate, those who graduated from the program recidivated at a lower rate and

their eventual arrests were delayed for a longer time than those who failed in the program” (p. 16).

With this overview of juvenile drug courts in mind, we now turn to a description of juvenile drug court in Jefferson County (Birmingham), Alabama. As discussed below, two programs operate at the Jefferson County Family Court (drug court and ASAP). Jefferson County’s juvenile drug court was among the first juvenile drug courts operating in the United States.

Responding To Substance Abusing Juvenile Offenders In Birmingham

The Jefferson County Family Court operates two programs directed at substance abusing juvenile offenders: the Adolescent Substance Abuse Program (ASAP), a joint operation between the University of Alabama at Birmingham’s Department of Psychiatry’s Substance Abuse Programs and family court, and family court’s drug court program. Begun in 1993, ASAP provided substance abuse screening and treatment options for juveniles referred to family court on a variety of charges (delinquency or CHINS). Juveniles were referred to ASAP if, at intake, they tested positive for drugs (via urinalysis), the juvenile was charged with a drug crime (e.g., possession of marijuana) or a drug-related crime (e.g., burglary with evidence of substance abuse), or the juvenile self-reported substance abuse within 30 days of the intake screening. Referral to ASAP constituted pre-adjudicatory probation; the juvenile’s charges were dropped if he or she completed the program. Importantly, and discussed more fully below, program length, level of judicial monitoring, and use of sanctions and incentives in ASAP differed from drug court, although some programming specifics (e.g., drug education, parenting classes, drug testing and monitoring) were used in both programs.

The 12-week ASAP program combined drug education (a “drug free” curriculum for juveniles), drug treatment options (including inpatient treatment if warranted), parenting classes, and monitoring of juveniles through urinalysis to address the treatment needs of substance abusing juveniles. Juveniles who successfully completed ASAP were released from further family court obligations (i.e., had their charge(s) dropped). Juveniles who failed ASAP were referred to the Alabama Department of Youth Services (DYS), which administers and manages the state’s juvenile correctional facilities and community programs, for sanctions (typically, participation in a boot camp program and/or a short stint of incarceration in a secure facility). After January of 1995, juveniles who failed ASAP were referred to drug court.

In 1995, the presiding judge at family court implemented Jefferson County's juvenile drug court. Designed to provide intensive, court-based supervision and treatment for juvenile substance abusing offenders, drug court was post-adjudicatory — juveniles would be referred to drug court as a disposition. Juveniles who received drug court as their disposition or were referred to drug court from ASAP completed a four-phase program (minimum of three months per phase) that included intensive probation supervision, frequent drug testing, judicial monitoring, and the use of incentives and sanctions to gain compliance by offenders and their parents.

Prior to creating drug court, the presiding judge at family court wanted to insure that it differed from traditional proceedings involving juvenile delinquents and status offenders. To achieve that goal, she first selected a juvenile court referee who would be assigned the specialized drug court docket and handle that docket alone. Additionally, she required the referee to receive training not only in the procedural rules governing drug court hearings, but also in the areas of substance abuse and addiction so he would have a basic understanding of the psychopharmacology of substance abuse and addiction. The referee also familiarized himself with numerous community-based resources, including the availability of in- and out-patient treatment services, he could use. Finally, drug court was designed so the referee would maintain contacts with juveniles and their families that were more intense than was the case in traditional juvenile court proceedings. This goal was supposed to be achieved using weekly meetings held each Friday morning at family court. Two senior-level probation officers, assigned specifically to monitor juveniles in drug court, were present at the meetings and provided detailed reports to the judge on the juveniles' progress. They also, in conjunction with the referee, the prosecutor, and other members of the drug court team, made recommendations to the judge concerning appropriate sanctions or incentives for juveniles in the program. These features distinguished drug court from traditional juvenile court processes at family court.

As mentioned above, drug court consisted of a four-phase program lasting 12 months. In Phase I, juveniles were randomly drug tested a minimum twice weekly for three months. Additional requirements of the phase included completing outpatient or inpatient treatment (depending on the extent of addiction), completing the "Drug Free" curriculum (same as that used in ASAP), and having the parents/guardians complete a set of parenting classes (same as that used in ASAP). Juveniles were also required to participate in a drug prevention group that met once a week at family court for six weeks. The highest level of intensive probation supervision was also a component of Phase I, which

included electronic monitoring and frequent, off-hour visits by the juvenile's probation officer to the juvenile's home. Sanctions (e.g., increased curfew hours, overnight detention, increased drug testing) and incentives (e.g., a gift certificate for a compact disc and decreased curfew hours) were used by the drug court referee to gain compliance. If the juvenile committed a serious technical or new offense violation, the drug court referee also had the authority to order secure placement with the State Department of Youth Services. Following a short stint of incarceration in a state facility or completing a boot camp program, the juvenile was returned to Phase I of drug court.

In Phase II, juveniles were randomly drug tested every other week for three months. Intensive supervision was reduced from "high" to "medium." The electronic monitor was removed, but the probation officer maintained unannounced home visits. Sanctions and incentives continued in Phase II, including the possibility of returning the juvenile to Phase I if he or she tested positive for the presence of illegal drugs.

In Phase III, random drug testing and appearance in court occurred once a month for three months. Intensive supervision was reduced to "minimum" which meant few (if any) unannounced home visits by the probation officer. The court continued to use sanctions and rewards to maintain juvenile compliance, including the possibility of returning the juvenile to Phases I or II if he or she tested positive for the presence of illegal drugs.

During the last phase of the program, the juvenile was randomly drug tested once a month for three months, but did not have to appear in court until the end of the third and final month of the phase. Once Phase IV was completed, the juvenile was terminated successfully from the program.

METHODS

Study Design

The current study involved a retrospective comparison of drug court participants to ASAP participants to examine which participants fared better in terms of future recidivism. We also sought to assess whether family court's drug court achieved the five "universal goals" of drug courts outlined by Cooper (2001). Using data collected from official case files of substance abusing juveniles terminated from the two programs during the period 1993-2000, we compared all juveniles ($n = 150$) terminated from drug court between 1996 and 1999 who had not previously been involved with ASAP and a random sample of juveniles ($n = 158$) terminated from the Adolescent Substance Abuse Program (ASAP) during 1994 and 1995. Because the presiding judge requested

an *ex post* evaluation and was not swayed with offers of an experimental design involving random assignment, it was not possible to use a true experiment involving random assignment of juveniles to the two programs (Campbell & Stanley, 1963; Cook & Campbell, 1979).

The first group of juveniles included all those terminated from drug court ($n = 158$) between January 1, 1996 (the date of formal program implementation) and December 31, 1999 who had not participated in ASAP. The second group consisted of a random sample of juveniles terminated from the ASAP program prior to the creation of drug court ($n = 150$). To generate this sample, we randomly selected a starting point on a list containing the names of all juveniles terminated from ASAP between January 1, 1994 and December 31, 1995 ($N = 612$) and selected every 4th name, resulting in a sample of 153 individuals.

The selected time frame allowed for a 24 month follow-up analysis to assess the extent juveniles in the two groups were subsequently rearrested. Juveniles terminated from ASAP were followed over the period January 1, 1994 to December 31, 1997. The first drug court offenders began the program January 1, 1996 and began terminating from it that same year. The last group of drug court offenders included juveniles terminated from the program in 1999. Thus, drug court offenders' post-termination arrest patterns were assessed for the period January 1, 1996 to December 31, 2001. We then conducted bivariate and multivariate analyses of the two groups' recidivism patterns and completed a survival analysis of the two groups to explore time-to-recidivism.

Data Sources

All data for the study were taken from case files found at two locations in Birmingham, the family court and a large documents storage warehouse located outside Birmingham that was used by Jefferson County agencies to store paper files. To collect the data, we first developed a coding sheet to guide data extraction from the paper files. The coding sheet was used by three graduate assistants and a probation department intern who completed the sheet using information taken from probation, drug court, and ASAP files. At the conclusion of each coding session, the graduate assistants exchanged their coding sheets and checked the accuracy of the information each had extracted from the files. If errors were discovered, the coding sheet was corrected using team-based reviews of the file or files from which data were taken. Additionally, one of the project investigators randomly checked coding sheet accuracy.

Termination from Drug Court and ASAP

As data collection began, we noticed in the files a specific designation for “termination from” the programs. Because “termination” has negative connotations (i.e., “failure”), we discussed at length with court personnel three categories of “termination” we found in the files: “neutral,” “unsuccessful,” and “successful.”

Neutral termination referred to administrative actions taken by court officials (e.g., juvenile court referee, ASAP case manager, or other official) to remove the juvenile from either ASAP or drug court. The decisions were based on the specific circumstances in a case, such as the charge(s) had been dismissed, the juvenile’s parent(s) or guardian(s) had moved to a new jurisdiction, the juvenile encountered serious medical or psychiatric problems and was unable to complete the program, the juvenile died while in the program, or the juvenile had been transferred to another jurisdiction.

Juveniles terminated “unsuccessfully” from ASAP or drug court involved circumstances where, because of actions taken by the juvenile, he or she had failed to meet program requirements. Examples of these situations included the juvenile having excessive unexcused absences from program activities; he or she continued to abuse drugs or possessed an abusive or uncooperative attitude; he or she suffered a drug-related death (e.g., an overdose); he or she had a new charge or charges and was waived to adult court; or he or she failed for some other reason. For purposes of the evaluation, unsuccessful termination was considered “failure.” Juveniles terminated “successfully” completed all phases of drug court or met all the conditions of treatment in ASAP.

Study Variables

We grouped major variables used in the study into the following categories: 1) background characteristics, including age, race, sex, and with whom the juvenile lived (e.g., parent, guardian, foster parents); 2) legal variables, including number of prior arrests (both on criminal charges and for violation of probation) and the charge(s) on which the juveniles had been adjudicated; 3) program variables, including length of the term of supervision, the number of drug tests ordered while in the program, number of drug tests missed, number of positive urinalysis tests, whether the juvenile’s probation was revoked, whether he or she had been arrested on new charges while in the program, and the nature of the juvenile’s termination from the program (“neutral,” “successful,” or “unsuccessful”); and 4) recidivism, measured by whether the juvenile had been rearrested at any point during the 24 month follow-up period and if so, how long (in months) after termination did the rearrest occur.

Information on new arrests was obtained by having authorized court and law enforcement personnel search NCIC and State Administrative Office of Courts databases. The search of each database was conducted using the juvenile's name and/or social security number. If a "hit" was obtained for the juvenile, the date of the new arrest was recorded as was time (in months) to rearrest (within the two year window) using date of termination from drug court or ASAP as the reference point.

Bivariate analyses (including χ^2 and *t*-tests) were conducted to assess whether the two groups differed significantly on key variables and if the two groups differed on recidivism and time to rearrest. Logistic regression was used to assess the relationship among recidivism, background and legal variables, and the program in which the juvenile participated (Menard, 2002). Survival analysis was performed to examine patterns in time to recidivism for members of the two groups (e.g., Kalbfleisch & Prentice, 1980; Kleinbaum, 1996). Survival analysis measures the length of time until some event, such as rearrest or reincarceration, with the survival function measuring the probability that individuals will "survive" (not be rearrested) beyond a certain time (*t*), with time being a continuous dependent variable. A simple nonparametric survival model was used because the emphasis in the study was on determining time until recidivism rather than identifying covariates that influenced the probability of survival (Kunselman & Vito, 2002).

RESULTS

The descriptive analyses revealed clear differences between the two groups (see Table 1). Generally, compared to ASAP members, juveniles in the drug court program were approximately one-half of a year older, had greater previous contact with law enforcement and juvenile court authorities, were more likely to have been adjudicated on felony drug charges, took less time (proportionately) to complete the program, and underwent more intensive drug screening (indicated by the number of drug tests ordered). They also missed a larger proportion of the drug tests they were ordered to take and a larger proportion of these tests revealed positive results. They were also more likely to have been terminated in the "neutral" category. Finally, compared to ASAP members, nearly double the percentage of drug court members were rearrested within 24 months of program termination and these members recidivated at a much faster pace than did ASAP members.

Because the study design did not involve random assignment to the groups and members of the groups were not equivalent on several key

TABLE 1
Descriptive Analysis of Juvenile Substance Abusers
in Drug Court and ASAP¹

	Drug Court (n = 150)	ASAP (n = 158)
Background Characteristics		
Age of Admission	16.27*	15.82
% African American	71.30	63.90
% Male	88.70	89.20
% Living with Single Parent	63.50	68.20
Legal Variables		
No. Prior Arrests (Not Including VOP)	3.75*	1.69
No. Prior Arrests - VOP	.35*	.05
Primary Adjudication Charge²		
% Violent Felony	2.00	2.60
% Property Felony	14.00*	23.20
% Felony Drugs	28.00*	16.60
% Misdemeanor Violent	12.70	19.90
% Misdemeanor Property	3.30	6.60
% Misdemeanor Drugs	12.00	10.60
% Violation City Ordinance	5.30	5.30
% Children in Need of Supervision (CHINS)	1.30*	11.90
% Violation of Parole (VOP)	21.30*	3.30
Program Variables		
Length of Term of Supervision (Months)	15.95*	5.23
No. of Drug Tests Ordered	38.81*	7.73
No. of Drug Tests Missed	16.26*	2.63
No. of Positive Drug Tests	6.45*	1.63
Nature of Termination from Program³		
% Neutral	64.70*	39.90
% Unsuccessful	10.00*	44.30
% Successful	24.70	17.20
% New Charges (Not Including VOP) - in Program	59.30	59.40
No. New Charges (Not Including VOP) - in Program	1.75	2.27
% New Charges Involving VOP - in Program	26.00	23.20
No. New Charges Involving VOP - in Program	.34	.33
% Probation Revoked	26.70	26.50
Recidivism		
% New Arrest Within 24 Mos. of Termination	1.90*	34.60
Mos. to New Arrest	8.15*	15.21

* Denotes statistical significance at the .05 level. ¹Means are presented in the table for continuous variables. Figures for all other variables are percentages. Continuous variables were tested using the *t*-tests for independent samples; Categorical variables were tested using Chi-Square analysis. Figures in the table may not add to 100% due to rounding. ²Most serious charge for which the court made a finding of delinquency. ³See text for explanation of different categories of program termination.

variables, differential outcomes in rearrest could not be attributed to group membership using traditional statistical analyses associated with

quasi- or true experimental designs (Campbell & Stanley, 1963; Cook & Campbell, 1979). However, using multiple regression analysis, we tested the "effect" of group membership on recidivism and included a number of control variables theoretically related to juvenile offending.

To examine the effect of group membership on recidivism, we conducted logistic regression analysis, an appropriate data analytic technique when the dependent variable is binary and the independent variables are categorical or continuous, as were most of the variables of interest (Hosmer & Lemeshow, 1989; Menard, 2002). Using logistic regression, one answers the question of whether group membership affected recidivism, controlling for the effects of the other variables on recidivism (Cox & Snell, 1989; Nagelkerke, 1991).

Table 2 shows that controlling for the effects of the other variables, group membership was not significantly related to recidivism. Several of the control variables, however, were significantly related to recidivism, including the juvenile's age (older juveniles), sex (males), and race (African American). Interpreting the coefficients, the odds ratio ($\text{Exp}(\beta)$ in the table) for these variables indicated that a one unit increase in the age of the juveniles increased the odds of recidivism (the odds the dependent variable is "rearrested") by a factor of 1.48. Put another way, the odds of recidivism increased by 48% for each additional increase in the age of the juvenile. Similarly, a one-unit increase in the variable sex (going from "female" [coded "0"] to "male" [coded "1"]) increased the odds of recidivism by a factor of 1.24. Finally, a one-unit increase in the variable race (going from African American coded ["0"] to White coded ["1"]) reduced the odds of recidivism by a factor of .51. Among the remaining variables, a prior record of delinquency increased the odds of recidivism such that for each additional prior arrest, the odds of recidivism increased by a factor of 1.19. Finally, juveniles terminated in the category "successful" were less likely to recidivate; membership in that category decreased the odds of rearrest by a factor of .21. The model explained a reasonable 34% of the variance in recidivism, based on the Nagelkerke R^2 coefficient, and correctly predicted 71% of the juveniles who were rearrested.

Table 2 thus shows that after controlling for the effects of other relevant control variables, group membership was not significantly related to rearrest within 24 months of the date of termination. One could infer, as a result, that programmatic differences between ASAP and drug court per se, do little to explain future recidivism by substance abusing juvenile offenders. Rather, traditional variables such as age, race, sex, and prior record of offending, and nature of termination from program, were better indicators of future recidivism by these juveniles.

TABLE 2
Logistic Regression Analysis of Recidivism by
Substance Abusing Juvenile Offenders

Variable	<i>b</i>	<i>SE</i>	Exp(β)
Age	.39	.15	1.48*
Race	-.69	.33	.50*
Sex	1.18	.55	3.24*
Group	-.09	.99	.92
Age * Group Interaction	.08	.06	1.08
Lives with Single Parent	-.19	.30	.83
Offender Adjudicated on Drug Charges	-.03	.30	.97
No. Prior Charges (Not Including VOP)	.17	.06	1.19*
No. Prior Charges (VOP)	-.02	.27	.98
Neutral Termination	.01	.35	1.01
Successful Termination	-1.56	.47	.21*
Pseudo R^2		.34	

* Denotes statistical significance at the .05 level.

Coding: Race (0 = African American, 1 = White); Sex (0 = Female, 1 = Male); Group (0 = ASAP, 1 = Drug Court); Lives with Single Parent (0 = No, 1 = Yes); Offender Adjudicated on Drug Charges (0 = No, 1 = Yes); Neutral Termination (0 = No, 1 = Yes - Unsuccessful Termination is Reference Category); Successful Termination (0 = No, 1 = Yes - Unsuccessful Termination is Reference Category).

We also wanted to explore possible differences in time-to-rearrest by members of the two groups. Specifically, did members of one group take longer to be rearrested than did members of the other group? As described above, we conducted a survival analysis of both groups of juveniles to assess their "time-to-failure" (rearrest) within the 24 month follow-up window. Table 3 presents results of a life-table analysis of the juveniles and Figure 1 presents the survival functions for the two groups.

Table 3 shows the number of "terminal" events (rearrests) for each time interval. For example, among ASAP juveniles, only 0.8% ($n = 1$) were rearrested during the first month after termination from the program (regardless of category of termination), while among juveniles terminated from drug court, 11.6% ($n = 17$) were rearrested during this first interval. Following this first month, a clear pattern emerges. Juveniles in drug court had a much higher probability of being rearrested during the first year after terminating the program than did members of ASAP. In fact, Table 3 shows that by the end of the 12 month interval, 90% of the ASAP members had not been rearrested, but only 54% of the drug court group had not been rearrested. By the end of the 24 month follow-up, slightly more than 37% of the drug

court group had not been rearrested (i.e., had “survived”) while almost 67% of the ASAP group had not been rearrested ($\chi^2 = 47.837$; $p < .01$).

TABLE 3
Survival Time to Re-Arrest by Group Membership

Survival Time ¹	Drug Court (<i>n</i> = 150) %	ASAP (<i>n</i> = 158) %
Members Surviving @ 1 Month	88.4	99.2
Members Surviving @ 4 Months	76.2	98.0
Members Surviving @ 8 Months	61.2	95.4
Members Surviving @ 12 Months	53.7	90.2
Members Surviving @ 16 Months	46.9	81.0
Members Surviving @ 20 Months	41.5	73.2
Members Surviving @ 24 Months	37.4	66.6
Members Re-Arrested by End of 24 Month Follow-Up Period	61.9	34.6

$\chi^2 = 47.84$, $p < .01$

¹ “Survival” indicates the group member had not been re-arrested by the given time interval.

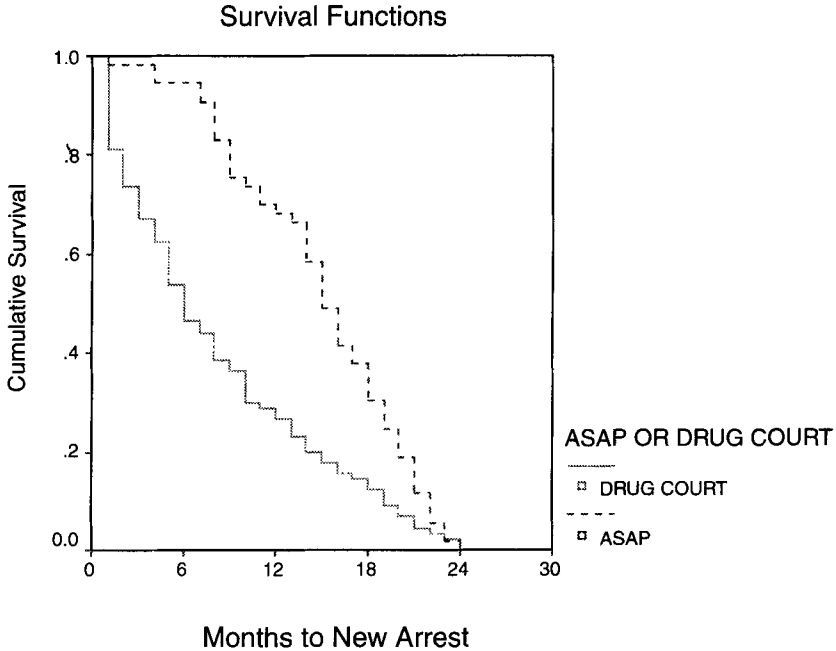
Figure 1 presents the survival function for drug court and ASAP. Median survival time for the ASAP group was approximately 15 months. Fifty-three (34.6%) ASAP juveniles were rearrested within the 24 month follow-up period. One-half (27) were rearrested within the median survival time of 15 months after termination from the program, while the other half survived beyond the 15 month period.

For the drug court group, the median survival time was approximately eight months. Ninety-one (61.9%) drug court juveniles were rearrested within the 24 month follow-up period. One-half (46) were rearrested within the median survival time of eight months after termination from the program, while the other half survived beyond the eight month period.

DISCUSSION

What do our results indicate about drug court as a response to substance abusing juvenile offenders? First, we recognize and acknowledge the limitations of this study. Because of imposed organizational constraints, we used a retrospective comparison that lacked the rigor of a true experimental design. As a result, the study’s implications and conclusions are more tentative than would have been the case had a true experiment been conducted. Second, information in case files was collected for agency needs and not for research. As a result, important

FIGURE 1
Survival Functions for Members of ASAP and
Drug Court



information such as seriousness of the juveniles' substance abuse problems, clinical assessments of their drug use severity, and type and severity of prior drug use were not included in the analyses because such data either were not available, or if they were collected, the files were missing the information. Had this information been available, our results might have been different. Finally, some may question our comparing the two groups when, as the analyses revealed, members were so clearly different. However, the focus of the study was not specifically on which of the characteristics of group members were better predictors of future behavior (rearrest). Rather, our focus was on program outcomes — that is, who fared better (was less likely to be rearrested) 24 months after program termination, members of ASAP or members of drug court.

As discussed above, drug court and ASAP differed significantly in key areas, including program length, the extent of judicial and probation monitoring of offenders, and use of incentives/sanctions to insure compliance. Because of these differences, drug court participants had a much longer (12 months versus 12 weeks) period of intensive monitor-

ing, resulting in more drug testing (and thus the opportunity to fail more), greater supervision by probation officers, and closer monitoring by the drug court referee than was the case for ASAP members (who were, more or less, on “informal probation” pending the outcome of the program).

Ultimately, these differences between the programs are important. In creating drug court, the presiding judge sought to design and implement a program that retained certain aspects of ASAP, but also expanded ASAP. Drug court was also designed as post-adjudicatory — thus occurring at the “back end” of the juvenile justice process (unlike ASAP which occurred at the front end of the process and was more informal). Further, drug court served juveniles with significant substance abusing problems combined with significant delinquency (as shown by the seriousness of the present offense and level of prior offending). ASAP, on the other hand, was designed more as a screening mechanism to identify juveniles with possible substance abuse problems and get them community-based help.

Given that none of the juveniles in our drug court group had previously been ASAP clients, our data reflect the “true” differences between the programs and clients served. In those terms, our evaluation highlighted the extent each program was “successful” at preventing future delinquency for two very different sets of juvenile offenders. One set, those in ASAP, included juveniles who were generally younger, had fewer prior contacts with the system, had been arrested on less serious charges, and were subjected to a comparatively short-term intervention. The other set of offenders, those in drug court, were more serious offenders and subjected to a much longer period of intervention. In comparative terms and controlling for the observed differences between the groups on a set of key variables, we sought to identify which program was effective at reducing subsequent offending and explored the extent the two programs achieved two of the goals of drug court as outlined by Cooper (2001). We frame our remaining discussion in terms of those five goals.

Cooper (2001) suggests one goal of drug court is to provide immediate intervention, treatment, and structure in the lives of juveniles who use drugs through ongoing, active oversight and monitoring. We found that drug court and ASAP appear to do this fairly well, based on the level of program intervention, treatment, and structure. Considered either individually or as connected programs, ASAP and drug court both provided immediate and multiple opportunities for substance abusing juveniles to address their problems with the goal of reducing and/or eliminating them (for example, drug-free education, drug treatment, parenting classes, surveillance, and enforcement). Thus, programming

and related activities in both programs are geared toward identifying the nature of the juvenile's substance abuse problem and then creating a structured intervention to address the problem.

A second goal of drug courts, according to Cooper (2001), is to improve juveniles' level of functioning in their environment, address problems that contribute to their use of drugs, and develop/strengthen their ability to lead crime- and drug-free lives. Based on results presented in Table 1, with one major exception, there were apparently no differences in the two programs' ability to achieve this goal. For example, there was no significant difference in the percentage of each group receiving new charges while in the program or having their probation revoked. Further, members of the groups did not differ on the percentage who received a "successful" termination from the program. However, both the probability of being rearrested during the first year out of the program and by the end of 24 months after release from the program was higher for juveniles in drug court than it was for juveniles in ASAP. This result could be explained by the fact that juveniles in drug court had more prior arrests, more previous felony property and drug charges, and more VOPs than those in ASAP. Hence, they might have been more difficult to treat in spite of drug court program interventions. They might also have had more serious substance abusing problems than did members of ASAP. However, until clinical data on the extent and magnitude of the juveniles' addictions are available, this observation remains speculative.

Although we found group membership was significantly related to recidivism at the bivariate level of analysis, we also found juveniles in the two groups significantly differed in some of the background, legal, and programmatic variables. Further testing of the relationship between group membership and recidivism within 24 months of program release suggested that juveniles in drug court were no more likely to recidivate than were members of ASAP. These results are a positive finding for the drug court program, an indication that the program is working, especially given the serious nature of this juvenile offender population.

CONCLUSION

If drug court is to survive beyond mere window dressing and become one of the major justice reforms of the last part of the 20th century as Goldcamp (2000) told the Senate Judiciary Subcommittee on Youth Violence, agencies must build evaluation research into program planning, and the drug court judiciary (already more actively involved in their cases than most common law courts) must bridge its concern for justice with evaluation methodology and engage more often in true experimental design. To do less handicaps our ability to achieve our goals.

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