

The Hamilton County Drug Court: Outcome Evaluation Findings

Final Report

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Introduction

Throughout the last few decades, courts that deal specifically with drug and alcohol offenders have emerged as an alternative to traditional courts. The drug court model is designed to address the needs of drug-involved offenders through frequent judicial monitoring and community-based treatment services. Within the last decade, the increase in the number of drug courts is staggering. As of 1998, there were a total of 275 drug court programs in operation, serving an estimated 90,000 offenders (Drug Court Activity, 1998). Moreover, the Drug Court Programs Office (1998) reported that another 155 were in the planning process. The U.S. Department of Justice has also placed a high priority on drug courts; since 1995, the Drug Courts Programs Office has provided \$56 million in funding for development and research (Belenko, 1998). Given the degree of support for the drug court model as well as the fiscal commitment, it is likely that its implementation will continue to increase.

In March of 1997, the Supreme Court of Ohio contracted the University of Cincinnati, Division of Criminal Justice, to develop an outcome evaluation model and data collection process that the Supreme Court of Ohio could use to determine the effectiveness of drug courts operating in Ohio. The long-term objective of the Supreme Court is to utilize the evaluation model and data collection process to engage in on-going evaluations of Ohio's drug court programs. The implications of the project are of national significance as few states have undertaken a statewide drug court outcome evaluation.

Evaluating Drug Courts

As with any program evaluation, assessing the operations and impacts of drug court programs is a complex process. Each drug court is planned to achieve specific outcomes for identified types of cases or offenders. While some program impacts are common to all courts (reduced criminality, reduced substance abuse, etc.), the characteristics of participants, treatment options, monitoring activities, and sanctions were expected to vary across sites. The development of the statewide evaluation system was designed to be sensitive to differences between the courts while also producing summary information about drug courts in general.

A drug court program can be viewed as a process designed to produce specific impacts, much like a manufacturing operation. The program has inputs (offenders and offenses, staff, resources), throughput (procedures, treatments, sanctions) and outputs (changes in recidivism and substance abuse). The drug court evaluation required that we develop measures of each of these components. The impact or effect of drug court programming can be understood against a benchmark of what would be expected had there been no court program. Thus, the outcome evaluation required the ability to compare drug court product (recidivism rates, relapse, severity of addiction) with similar measures for cases that did not participate in the drug court program. Ideally, the evaluation would enable us to attribute any observed differences to the drug court.

The effect of drug court programming on participants criminal behavior and substance use should be isolated. In order to isolate the differences a comparison group was developed for each court. The only difference between the drug court treatment group and the comparison group was participation in the drug court program. Uniform

measures of intake, supervision, and termination were established for both the drug court cases and comparison cases.

The Hamilton County Drug Court, located in Cincinnati Ohio, adheres to the typical drug court model by providing community-based treatment and judicial monitoring. During the initial outcome evaluation, conducted in 1997, it became clear that the current level of data collection and automation in each part of the system involved in treating the offender (i.e. pretrial, probation, court, and treatment provider) was poor. The lack of information from the treatment facility and probation hindered the initial outcome evaluation that relied on pretrial services and court dockets. It has been our experience that data collection by outside researchers that relies on an ex post facto review of case files and hand written notes limits the analysis. Often information useful to the analysis is not routinely and consistently recorded in these case files. Hence, it was decided that individuals working within the drug court would collect relevant data at intake, during the entire service-delivery process, and at termination.

This report contains data from an outcome evaluation conducted on the Hamilton County Drug Court. The evaluation results consist of comparisons between those who participated in the drug court with those designated as comparison cases to determine whether participation is associated with differences in outcome. The first section provides an introduction, the research objectives, and overall methodology used for the study. The second section describes the offender profiles. The third section examines the treatment needs exhibited by the drug court participants as well as participation in the drug court sponsored treatment program. The fourth section contains a description of the behavior among drug court participants while in the program as measured by violations

and services received. The fifth section presents the recidivism results among both the study population as well as graduates of the program. Finally, the sixth section provides a summary and conclusions.

Method

Site Description

The Hamilton County Drug Court began in March 1995. The target population includes those arrestees who are drug dependent or in danger of becoming drug dependent. To qualify for the drug court, the following criteria must be met: (1) the defendant must be charged with a fourth or fifth degree felony (2) there must be no history of violent behavior (3) the current and /or past criminal behavior is drug-driven (4) the Hamilton County Prosecutor must approve of all incarcerated offenders' applications, (5) the defendant must have no active mental illness, and (6) the offender must demonstrate a sincere willingness to participate in a 15-month treatment process and have no acute health conditions.

Design

The design being utilized in this project is a quasi-experimental matched control group design. This study is designed to assess program outcomes among drug court participants as compared to a similar group of drug-addicted adults who did not participate in the drug court. The sample includes cases screened for the program during the time period of January 1, 1997 to October 31, 1998.

To estimate the impact of the drug court on future criminal involvement, it was important to select a control group for comparison purposes. An experimental design including random assignment was not feasible; however, groups were matched with

regard to demographic characteristics. The data were obtained through pretrial data and court docket information. The experimental and comparison group cases were identified by examining various data sources that included: demographics, case history, assessment information, and the Judge's daily drug court docket containing disposition and outcome information. The criteria for inclusion in the sample were that each participant must have (1) a reported substance abuse problem, and (2) be eligible for the drug court program. The experimental group (n= 226) and the comparison group (n=230) are described below:

Experimental Group

Individuals who are eligible and willing to participate in court mandated drug treatment are transported to the ADAPT treatment facility for an assessment. This treatment program was established for all male and female drug court participants. Individuals must remain at the treatment facility until their court hearing at which time the treatment recommendation is submitted to the drug court Judge. The treatment program is community-based and includes three phases: inpatient, outpatient, and aftercare. Placement in each level of treatment is determined by level of substance addiction. The residential phase serves fifty-two males and sixteen females. Offenders sent to the residential phase were required to stay a minimum of two weeks up to a maximum of ninety days. The intensive outpatient phase lasts approximately four weeks and groups meet three hours a day four times a week. The continuing care or aftercare phase initially offers services twice a week for one hour but is eventually scaled down to one meeting every two weeks. Services offered during all three phases include: group and individual counseling, sobriety meetings, educational services, and family

involvement. The total amount of time between commencing the residential phase to completion of aftercare spans an average of 15 months. The purpose of the treatment facility is to provide community-based substance abuse treatment coupled with close supervision and frequent urinalysis.

Control Group

The control group included in the present study consisted of men and women who were eligible for drug court, however did not receive drug court services. This group of clients did in fact have a drug abuse problem, however either refused drug treatment or were refused by the treatment facility.

Data Sources

The data were collected from a variety of sources. First, the database manager, at Pretrial Services in Hamilton County, compiled social demographic, current offense, disposition, and criminal history information. Second, the treatment needs and participation in treatment were collected at the ADAPT program both for women and men, primarily by staff from the University of Cincinnati. The staff at the probation department collected court-reported violations and fees, community services ordered, and the necessary recidivism data. And finally, the court collected the recidivism data on graduates. The recidivism data were collected during the early part of 1999.

Profile of Experimental and Comparison Groups

In order to conclude that differences in outcome are not the direct result of individual differences within the two samples, social demographic data were collected. This section will profile the two groups based on basic demographic characteristics such as age, race, gender, marital status, education level, employment status, and criminal history. Knowing the population served by the drug court allows researchers to determine whether and how case outcome is influenced by any of these factors. The following question will be addressed: *How do the drug court participants compare to the comparison group members with regard to demographics, current offense, disposition, and prior history factors?*

Social Demographic Information

Table 1 compares the two groups with regard to race, gender, age, marital status, education level, and employment. The two groups are very similar with regard to all above mentioned characteristics. Specifically, the typical offender in both the treatment and control group is African-American, male, 32 years of age, not married, has a high school diploma or less, and is employed full time. Although random assignment to the treatment and control groups was not possible, these results allow us to be optimistic that members of the two groups do not differ significantly on factors known to be associated with relapse and criminality.

Offense and Disposition Information

As illustrated by Table 2, the two groups are also similar with regard to charge or offense information. Both groups were likely to be incarcerated at the time of their assessment. However, individuals were not likely to be under supervision at the time of

Table 1. Frequency and percentage distribution of participants' intake information.

Characteristic	Experimental (N = 226)		Control (N = 230)	
	N	%	N	%
Race				
White	96	42.5	96	41.7
Black	128	56.6	131	57.0
Other	2	0.9	3	1.3
Gender				
Male	151	66.8	156	67.8
Female	75	33.2	74	32.2
Age				
18 – 22	39	17.3	62	27.1
23 – 28	46	20.4	36	15.7
29 – 34	47	20.9	43	18.8
35 – 40	49	21.8	47	20.5
41 & above	44	19.6	41	17.9
Average Age	32.9		31.9	
Marital Status				
Married	53	24.8	50	24.0
Not Married	161	75.2	158	76.0
Highest Grade Completed				
Less than High School Grad	68	31.8	79	38.0
High School Graduate	82	38.3	83	39.9
Post High School	64	30.1	46	22.2
Employed				
Yes	128	61.0	121	59.0
No	82	39.0	84	41.0
Level of Employment				
Full Time	105	91.3	99	88.4
Part Time	10	8.7	13	11.6

Table 2. Frequency and percentage distribution of participants' offense information.

Characteristic	Experimental (N = 226)		Control (N = 230)	
	N	%	N	%
OFFENSE				
Incarcerated at assessment				
Yes	113	64.2	50	65.8
On probation at arrest				
Yes	41	18.6	37	16.7
Current Charge				
Drug	114	96.6	80	100.0
Theft	3	2.5	0	0.0
Multiple charges				
Yes	29	56.9	28	57.1
Multiple counts				
Yes	15	33.3	5	12.2
Number of cases against defendant				
One	123	54.7	121	52.8
Two	48	21.3	55	24.0
Three	26	11.6	22	9.6
Four	8	3.6	19	8.3
Five or more	20	8.9	12	5.2
Mean	2.05		1.96	

the arrest. In addition, the experimental group was more likely to be arrested on a drug related charge than the control group, however, these results should be viewed with caution due to missing data. Table 2 also shows that individuals in both groups are likely to be arrested on multiple charges. Figure 1 illustrates that a statistically significant difference exists between the two groups with regard to being charged with multiple counts at arrest. Although the majority of participants in both groups were not charged with multiple counts, drug court participants were more likely to be so charged than comparison group participants. And finally, the majority of offenders in both groups have only one case against them at the time arrest, however, the mean number or average is two.

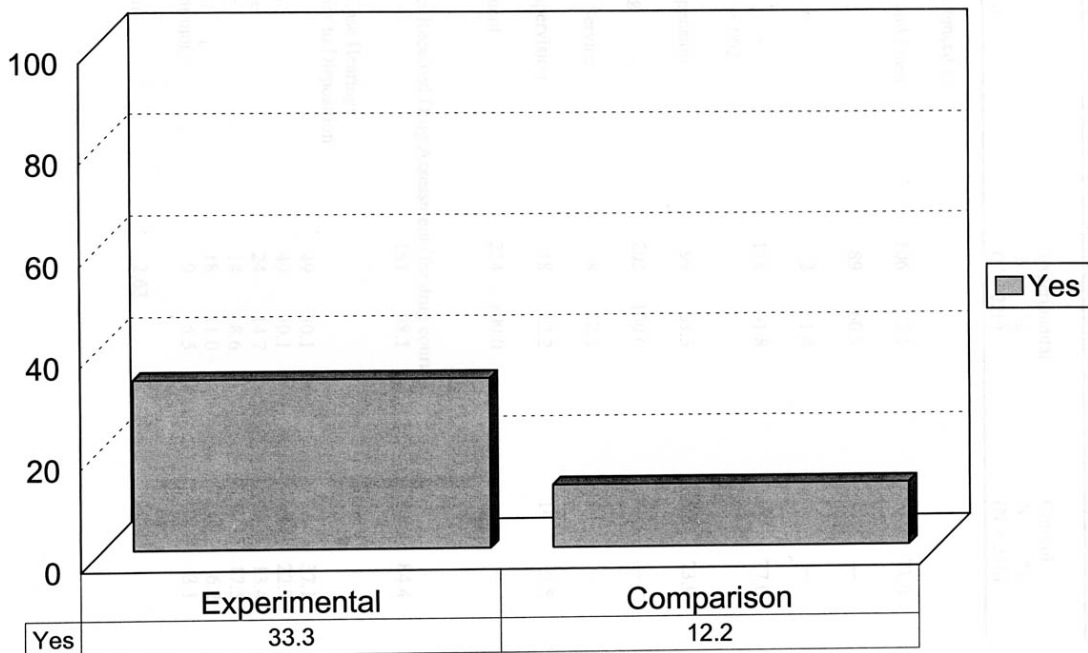
Sentencing information was collected via the drug court docket. Due to resource limitations in the court, comprehensive sentencing information was collected on all drug court participants but not on all comparison group cases. The information provided for the comparison group should be viewed as a trend of the sentencing practices. Table 3 illustrates that the majority of the offenders in both groups were sentenced to pay both court costs and fines. Furthermore, 61 percent of the drug court participants were required to pay fees during their participation. In contrast, only 1 percent was required to pay restitution. As indicated in Figure 2, a statistically significant difference exists with regard to whether the defendant was sentenced to probation. Specifically, 92 percent of the drug court participants were sentenced to probation in contrast to 74 percent of comparison cases. The majority of offenders in both groups had their license suspended as the result of their criminal activity. Moreover, 100 percent of the drug court participants were required to undergo drug testing. As a standard feature in this drug

Table 3. Frequency and percentage distribution of participants' sentencing information.

Characteristic	Experimental (N = 226)		Control (N = 230)	
	N	%	N	%
Offender Sentenced to:				
Court Costs and Fines	106	72.1	66	71.0
Fees	89	60.5	--	--
Restitution	2	1.4	--	--
Probation	134	91.8	67	77.0
$\chi^2 = 10.08$ p = .002				
License Suspension	99	68.3	65	73.9
Drug Testing	202	100.0	--	--
Community Service	8	12.1	--	--
Intensive Supervision	18	12.2	14	9.5
Drug Treatment	224	100.0	--	--
Did Offender Received Drug Assessment (for drug court)				
Yes	151	98.1	54	84.4
Number of Case Hearings				
Attended prior to Disposition				
One	49	30.1	36	37.1
Two	49	30.1	22	22.7
Three	24	14.7	13	13.4
Four	14	8.6	17	17.5
Five	18	11.0	6	6.2
Six or more	9	5.5	3	3.1
Mean	2.63		2.45	

Figure 1

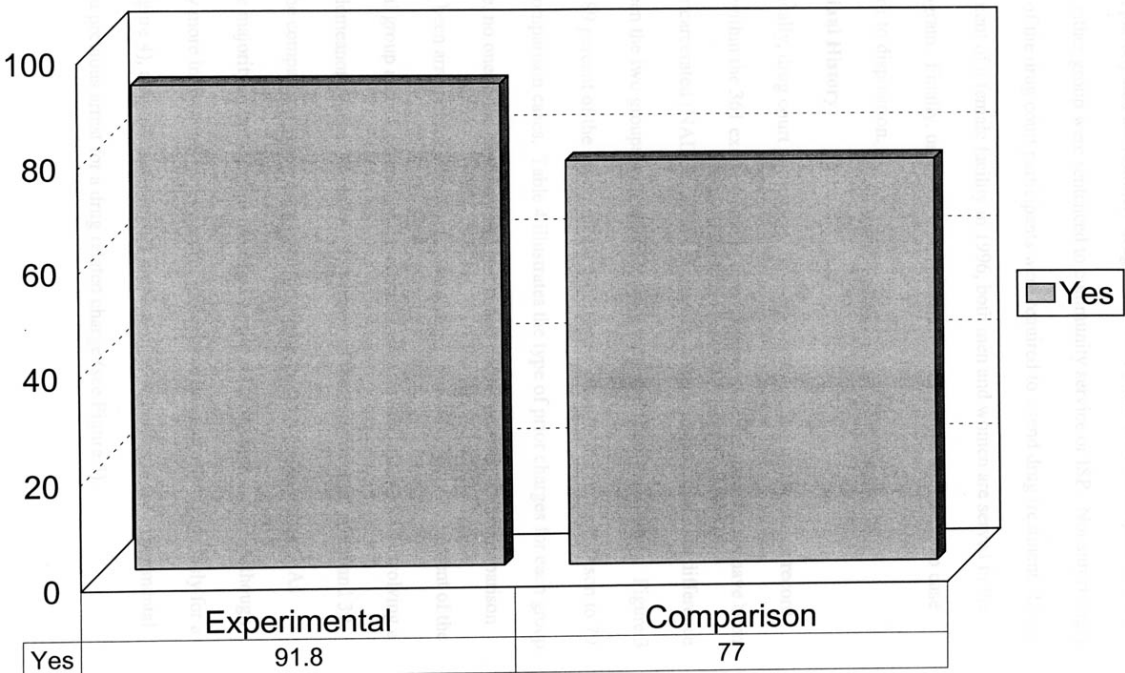
Multiple Counts



Differences significantly different at the .02 level

Figure 2

Sentenced to Probation



Differences significant at the .002 level

court model, participants are routinely drug tested throughout their participation. Few offenders in either group were sentenced to community service or ISP. Not surprisingly, 100 percent of the drug court participants were required to attend drug treatment. Since the development of a female facility in 1996, both men and women are served in the ADAPT program. Finally, on average individuals in both groups attended two case hearings prior to disposition.

Prior Criminal History

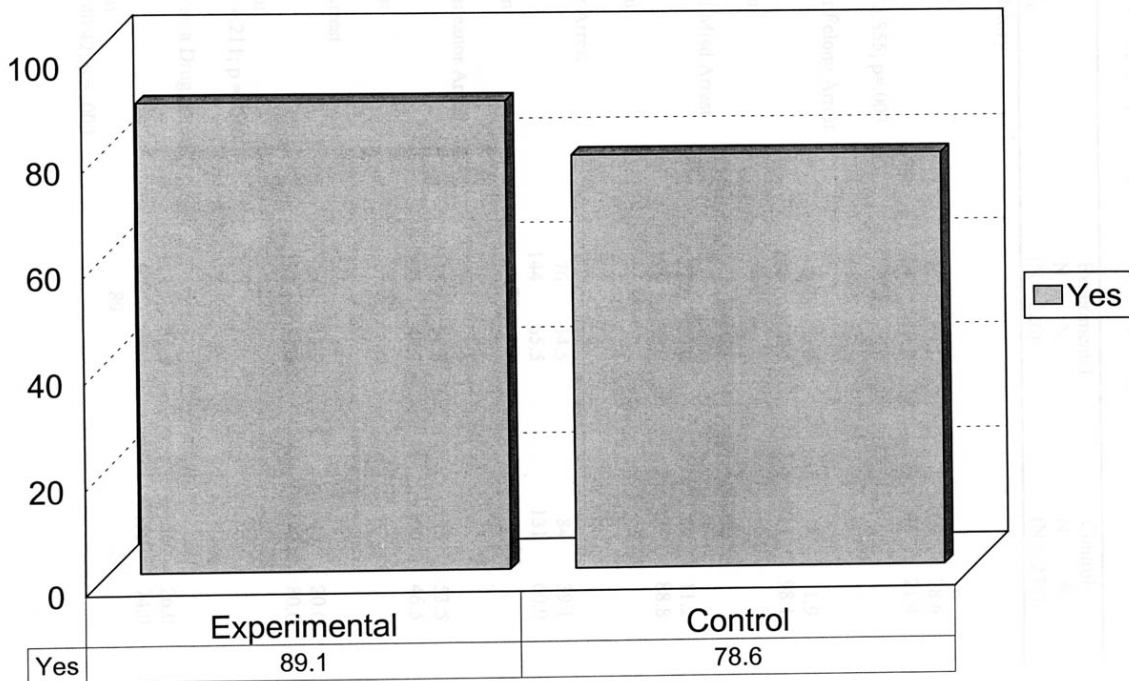
Typically, drug court participants have a prior arrest and incarceration record. Nationally, within the 361 existing courts, over 75 percent of the participants have been previously incarcerated (NADCP, 1998). Similarly, a statistically significant difference exists between the two groups with regard to prior record in Hamilton County. Figure 3 reveals that 89 percent of the experimental group has a prior record in comparison to 79 percent of comparison cases. Table 4 illustrates the type of prior charges for each group. For example, no one in the experimental group, and only 2 percent in the comparison group, have been arrested for a violent felony charge. Similarly, only 10 percent of the experimental group and 11 percent of the control group have a prior record involving a violent misdemeanor charge. However, 35 percent of the experimental group and 39 percent of the comparison group have been arrested for a prior felony charge. As expected the majority in both groups have had a prior misdemeanor arrest. Although significantly more individuals in the control group have been arrested previously for a DUI (see Figure 4), a significantly higher proportion of offenders in the experimental group have a previous arrest for a drug related charge (see Figure 5).

Table 4. Frequency and percentage distribution of participants' criminal history information.

Characteristic	Experimental (N = 226)		Control (N = 230)	
	N	%	N	%
Criminal History				
Prior Record				
Yes	196	89.1	169	78.6
No	24	10.9	46	21.4
$\chi^2 = 8.855; p=.003$				
Prior Violent Felony Arrest				
Yes	0	0.0	4	1.9
No	220	100.0	211	98.1
Mean	0.0		1.0	
Prior Violent Misd Arrest				
Yes	22	10.0	24	11.2
No	198	90.0	191	88.8
Mean	.13		.13	
Prior Felony Arrest				
Yes	76	34.5	84	39.1
No	144	65.5	131	60.9
Mean	.79		.93	
Prior Misdemeanor Arrest				
Yes	115	52.3	115	53.5
No	105	47.7	100	46.5
Mean	2.01		2.22	
Prior DUI Arrest				
Yes	28	12.7	43	20.0
No	192	87.3	172	80.0
Mean	.21		.34	
$\chi^2 = 4.211; p = .040$				
Prior Arrest on a Drug Arrest				
Yes	123	55.9	56	26.0
No	97	44.1	159	74.0
Mean	.89		.38	
$\chi^2 = 40.42; p = .000$				

Figure 3

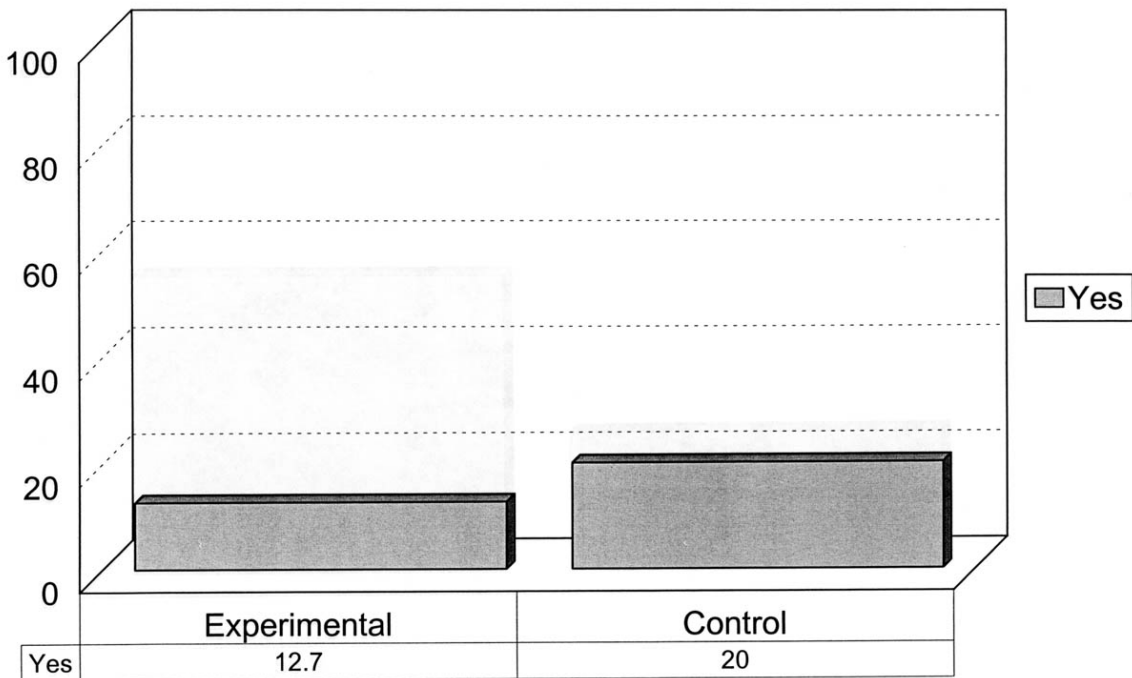
Prior Record



Differences are statistically significant at the .003 level

Figure 4

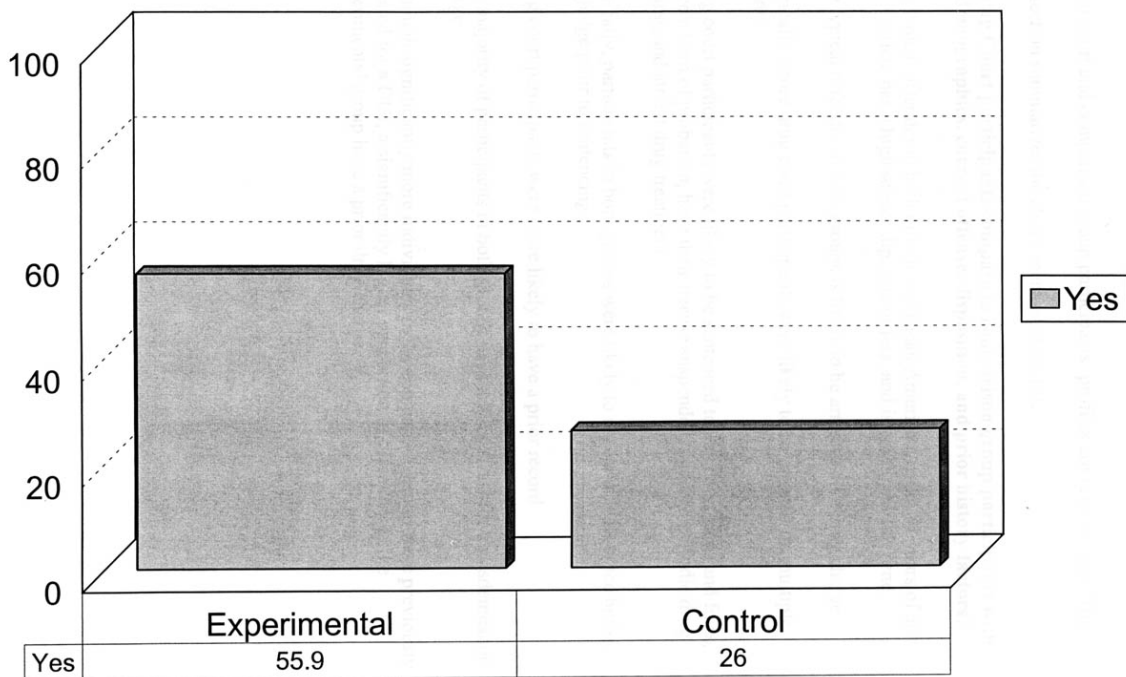
Prior DUI Arrest



Differences significant at the .04 level

Figure 5

Prior Drug Arrest



Differences significant at the .000 level

Summary

Drug court and comparison group participants' profiles are very similar. The following section summarizes the above mentioned results.

How do Drug Court participants compare to comparison group participants with regard to demographics, current offense, disposition, and prior history factors?

- The typical offender in both groups is African American, male, 32 years of age, not married, has a high school diploma or less, and is employed full time.
- The typical offender in both groups is likely to be arrested on a drug charge.
- Typically, more drug court participants were likely to be arrested on multiple counts.
- Drug court participants were likely to be sentenced to pay court costs and fines, serve a term of probation, have their license suspended, undergo periodic drug testing, and attend drug treatment.
- Typically, participants in both groups were likely to appear at least twice before the judge prior to sentencing.
- Drug court participants were more likely to have a prior record.
- The majority of participants in both groups have a prior arrest for a misdemeanor charge
- Although significantly more individuals in the comparison group were previously arrested for a DUI, a significantly higher proportion of offenders in the experimental group have a prior drug charge.

Treatment Considerations

An effective outcome evaluation depends on whether the researcher knows what happened to the client while under drug court supervision. This may include documenting whether a participant moved to different phases based on progress and the outcome of treatment. This information is crucial in order to determine how well the program in operation matched the program that was planned. Throughput data allow us to document the drug court treatment and determine how differences in treatment are related to differences in case outcome. The purpose of this section is to address treatment considerations. Specifically, *what treatment needs are presented among drug court participants? What are the treatment retention rates among participants as they proceed through the three phase system in the ADAPT program?*

Treatment Needs

Logically, drug-abusing offenders most often exhibit a drug and alcohol problem, however, they also exhibit multiple needs in the areas of housing, mental and physical health, family circumstances, employment, and education. Each drug court participant was asked to provide information relevant to each of these areas and the counselor rated whether the problem was chronic, frequent, situational, or non-existent. Table 5 illustrates that 71 percent exhibited signs of chronic or frequent disruption in the area of alcohol abuse. Moreover, 98 percent exhibited signs of chronic or frequent disruption in the area of drug abuse. A smaller proportion, 56 percent, presents either chronic or frequent disruption in the area of employment. Although the majority of individuals in this sample reported being employed, the quality and consistency of employment may be better measured here. Similarly, 52 percent experience a level of disruption in the family.

Table 5. Frequency and percentage distribution of participants' treatment activity.

Characteristic	Experimental	
	N	%
Treatment Needs:		
Alcohol Abuse		
Chronic	86	53.8
Frequent Disruption	28	17.5
Situational/Minor	21	13.1
None	25	15.6
Drug Abuse		
Chronic	159	86.4
Frequent Disruption	22	12.0
Situational/Minor	2	1.1
None	1	0.5
Employment		
Chronic	52	31.3
Frequent Disruption	41	24.7
Situational/Minor	36	21.7
None	37	22.3
Family		
Chronic	31	18.7
Frequent Disruption	56	33.7
Situational/Minor	53	31.9
None	26	15.7
Education		
Chronic	26	16.0
Frequent Disruption	28	17.2
Situational/Minor	31	19.0
None	78	47.9
Housing		
Chronic	22	15.9
Frequent Disruption	20	14.5
Situational/Minor	27	19.6
None	69	50.0
Physical Health		
Chronic	18	12.3
Frequent Disruption	16	11.0
Situational/Minor	20	13.7
None	92	63.0
Mental Health		
Chronic	10	7.2
Frequent Disruption	15	10.8
Situational/Minor	24	17.3
None	90	64.7

Table 5 illustrates that 33 percent are experiencing problems in the area of education and 30 percent in the area of housing. Finally, in the area of physical and mental health, 23 percent and 18 percent respectively exhibit chronic or a frequent disruption in this area. Figure 6 illustrates these results graphically in order of most to least serious problem or need area.

Treatment Retention Rates¹

The retention rate among drug courts across the nation averages 70 percent for drug court participants (Drug Court Programs Office, 1999). The ADAPT treatment program was asked to collect data on the type, duration, and outcome of services experienced by drug court participants. The majority of offenders began treatment in the residential phase. For example, Table 6 reveals that 72 percent of the drug court participants began treatment in the long-term residential phase and 27 percent began treatment in the intensive outpatient phase. A full 75 percent of this group completed this phase of treatment. Reasons for not completing the phase can include: being referred to another level of care (e.g., move from outpatient to residential), non-compliance, absconsion, revocation, or other. As illustrated by table 6, 43 percent of those who did not complete the phase were referred to another level of care. We may speculate that a portion of the intensive outpatient group required more services than expected and were referred to attend residential. Finally, 23 percent did not complete the phase due to non-compliance and 27 percent had either absconded or were revoked from the program.

Given the drug court treatment program is a three-phase treatment system, the placement and outcome of the second phase is also presented in table 6. The data

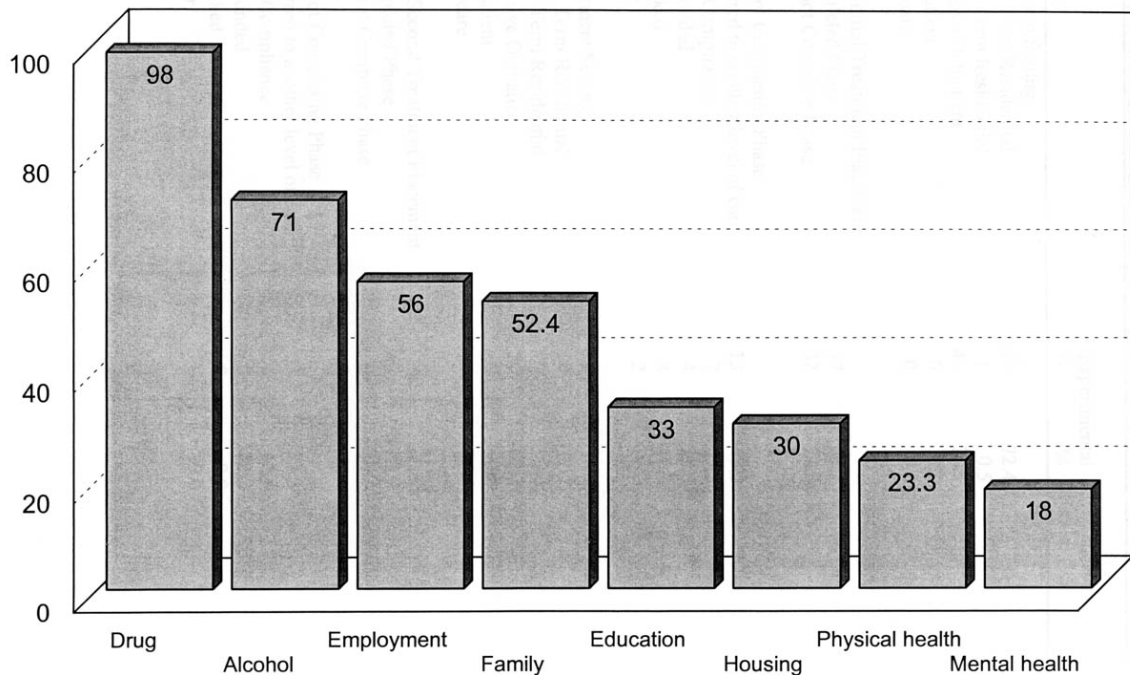
¹ Missing data due to incomplete treatment records limited treatment phase status information on some cases. This data, although informative, should be viewed with this consideration.

Table 6. Frequency and percentage distribution of participants' treatment activity.

Characteristic	Experimental	
	N	%
Initial Treatment Setting:		
Long Term Residential	134	72.4
Short Term Residential	1	0.5
Intensive Outpatient	49	26.5
Outpatient	0	0.0
Aftercare	0	0.0
Outcome of initial Treatment Placement		
Completed Phase	97	75.2
Did not Complete Phase	32	24.8
Reason for not Completing Phase		
Referred to another level of care	13	43.3
Non-Compliance	7	23.3
Absconded	4	13.3
Revoked	4	13.3
Other	2	6.7
Second Treatment Setting:		
Long Term Residential	10	11.1
Short Term Residential	0	0.0
Intensive Outpatient	56	62.2
Outpatient	0	0.0
Aftercare	24	26.7
Outcome of Second Treatment Placement		
Completed Phase	47	83.9
Did not Complete Phase	9	16.1
Reason for not Completing Phase		
Referred to another level of care	3	33.3
Non-Compliance	4	44.4
Absconded	2	22.2
Revoked	0	0.0
Other	0	0.0

Figure 6

Percent Exhibiting Various Treatment Needs



Note: Drug Court Participants Only

indicate that 62 percent progressed to intensive outpatient care. Further, 27 percent progressed to aftercare as would be expected of those successfully completing the intensive outpatient phase. Table 6 illustrates that 84 percent of the group in the second phase completed the treatment. However, 16 percent did not successfully complete the treatment requirement. Among those who did not complete, 33 percent were referred to another level of care, 44 percent were deemed non-compliant, and 22 percent absconded from the program. Figure 7 reveals the completion rates for phase 1 and phase 2 of the treatment program.

Finally, as illustrated in table 7, in the third phase of treatment, 11 percent were participating in the intensive outpatient program and 86 percent in aftercare. Of this group, only 23 percent completed the phase. Although this result may appear as if participants dropped out of the program, we see the majority of participants are still engaged in the drug court program. Ten individuals did not complete the treatment in this group and 38 percent were referred to another level of care. Another 38 percent were declared non-compliant, and 25 percent absconded from the program. Missing data precludes a definitive assessment of phase 3 results.

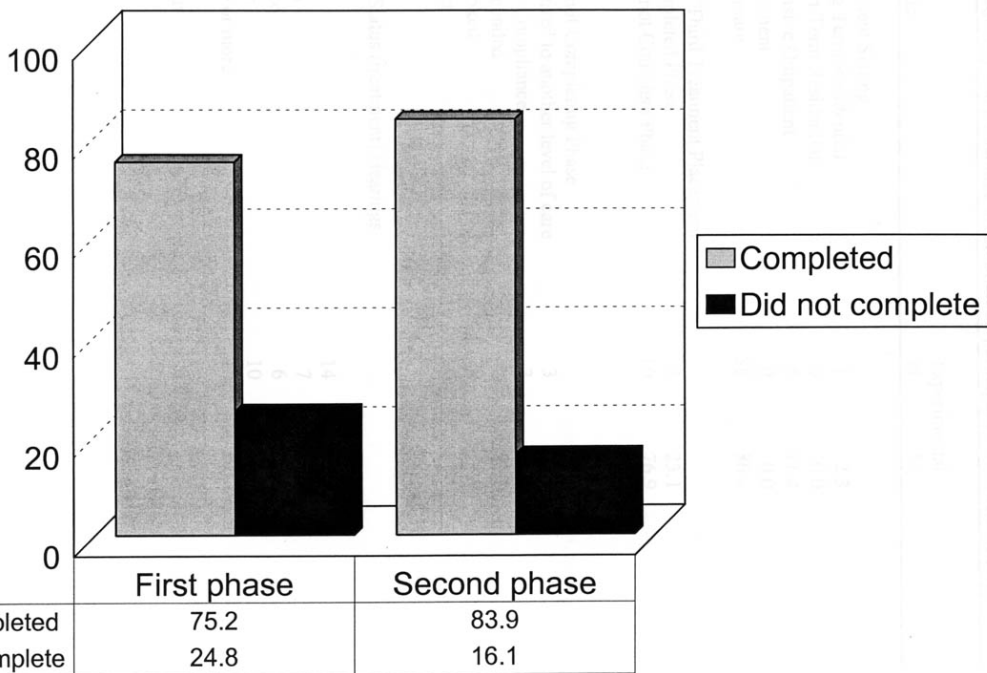
In addition to participation in the treatment phases detailed above, drug court participants are also required to attend judicial status review or treatment hearings to review progress in treatment. The typical offender experienced three treatment hearings while in the program, however, 30 percent appeared more than five times.

Table 7. Frequency and percentage distribution of participants' treatment activity.

Characteristic	Experimental	
	N	%
Third Treatment Setting:		
Long Term Residential	1	2.3
Short Term Residential	0	0.0
Intensive Outpatient	5	11.4
Outpatient	0	0.0
Aftercare	38	86.4
Outcome of Third Treatment Placement		
Completed Phase	3	23.1
Did not Complete Phase	10	76.9
Reason for not Completing Phase		
Referred to another level of care	3	37.5
Non-Compliance	3	37.5
Absconded	2	25.0
Revoked	0	0.0
Other	0	0.0
Number of Status (treatment) Hearings		
Attended		
One	14	26.4
Two	7	13.2
Three	6	11.3
Four	10	18.9
Five or more	16	30.2
Mean	3.75	

Figure 7

Treatment Phase Outcome



Note: Drug Court Participants Only

Summary

Progress and participation in treatment may impact the outcome of participant's criminal activity. This section summarizes the above mentioned results.

What are the treatment needs presented among drug court participants?

- The majority of participants in the drug court program exhibited signs of chronic or frequent disruption in the areas of alcohol and drug abuse.
- Although a smaller percentage, participants also have employment, family, education, and housing needs.

What are the treatment retention rates among participants as they proceed through the three phase system in the ADAPT program?

- The majority of drug court participants began treatment in the residential phase, and progressed to the outpatient phase.
- Hamilton County has a similar retention rate to the national average. Specifically, 75 percent of the participants completed the first phase and 84 percent completed the second phase.
- The typical offender experienced three treatment or status review hearings while in the program, however, 30 percent experienced more than five.

In-Program Behavior and Perceptions

The purpose of this section is to address behavior while in the drug court program as well as participant satisfaction with the process. In-program behavior, as measured by technical violations and satisfaction, can have a significant impact on treatment retention and behavioral change. Data were only available on drug court participants. Questions addressed in this section will include: *What are the court reported violation rates among drug court participants? Among those charged with a violation, what are the sanctions given for those violations? What services are drug court participants receiving while in the program? What is the level of satisfaction with the process among drug court participants?*

Court Reported Violations

Figure 8 illustrates the type of court reported violations received by drug court participants. Specifically, according to records kept by probation, 56 percent had at least one positive urine while in the program and 17 percent absconded. In addition, 13 percent were rearrested for a new charge during participation in the drug court program. Moreover, 8 percent were non-compliant with treatment and charged with a technical violation as result. Surprisingly, only 2 percent were charged with a failure to appear in court. It is not uncommon for a degree of relapse to occur among drug court participants. In fact, research indicates that programs that recognize that drug abuse is a chronic and relapsing condition are more successful (Anglin and Hser; Prendergast, Anglin, and Wellisch, 1995). In addition to court reported violations, Table 8 also illustrates the sanctions received for the violations. In 18 percent of the cases a bench warrant was issued and in 41 percent of the cases jail time was used as a sanction. The court uses a

Table 8. Frequency and percentage distribution of participants' supervision activity.

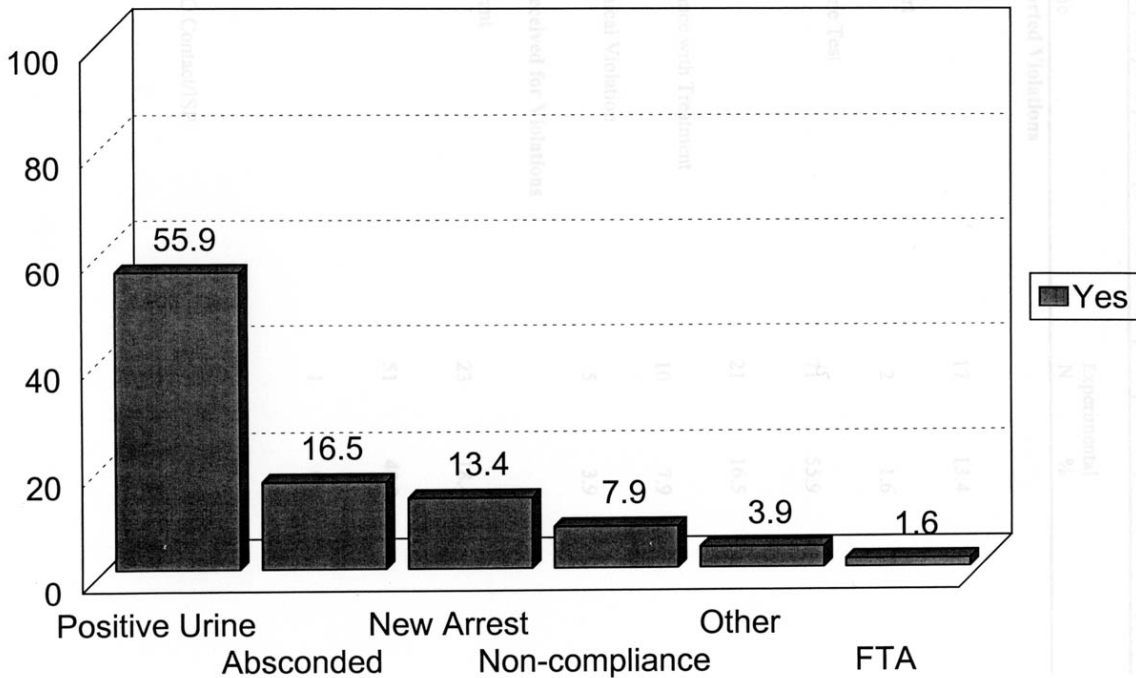
Characteristic	Experimental	
	N	%
Court Reported Violations		
New Arrest		
Yes	17	13.4
FTA in Court		
Yes	2	1.6
Positive Urine Test		
Yes	71	55.9
Absconded		
Yes	21	16.5
Noncompliance with Treatment		
Yes	10	7.9
Other Technical Violation		
Yes	5	3.9
Sanction Received for Violations		
Bench Warrant		
Yes	23	18.4
Jail		
Yes	51	40.8
Fines		
Yes	1	0.8
“Time Out”		
Yes	23	18.4
Increased PO Contact/ISP		
Yes	12	9.6

Table 8, continued. Frequency and percentage distribution of participants' supervision activity.

Characteristic	Experimental	
	N	%
Sanctions, continued		
Increased Court Contacts		
Yes	1	0.8
Increased Drug Testing		
Yes	1	0.8
Change in Treatment Intensity		
Yes	10	8.0
Other		
Yes	2	1.6

Figure 8

Court Reported Violations



Note: Drug Court Participants Only

number of possible sanctions, however, time out was the only other sanction listed of any importance.

Services Received

The services received by the participants while in the drug court program were also collected. Figure 9 presents the type of services typically received by drug court participants ordered similarly to the presenting needs displayed in Figure 6. Specifically, table 9 indicates that 100 percent received drug treatment services. In addition, 82 percent received employment services, while 89 percent received some level of family services. Moreover, 73 percent received education services, 52 percent housing, 76 percent medical, and 15 percent medical. Given the findings illustrated in figure 6, it appears the majority are receiving the appropriate referrals.

Participant Satisfaction

Drug court clients were asked to complete a self-report survey of their level of satisfaction with the drug court process. Specifically, satisfaction with the judge, the probation staff, the treatment staff, and with the various components of the program. Only drug court clients who graduated from the program were asked to complete the 36-item survey. As illustrated by tables 10-14, the satisfaction among those reporting is very high with regard to all the above-mentioned components. Specifically, tables 10 and 11 indicate that that the participants felt the judge, probation, and treatment staff treated them with respect, was fair, concerned, helped them stay drug free, and did not expect too much. Figure 10 displays the results graphically to compare satisfaction with each component. Moreover, table 12 indicates that the majority of participants felt that it helped them to appear in court, to probation, and to treatment on a regular basis. This

Table 9. Frequency and percentage distribution of participants' termination information.

Characteristic	Experimental	
	N	%
In-Program Services Received		
Substance Abuse Treatment	173	100.0
Employment Services	128	82.1
Educational Services	113	72.9
Housing Assistance	57	52.3
Family Services	142	88.8
Medical Services	106	75.7
Mental Health Services	12	14.5

Table 10. Frequency and percentage distribution of participants' satisfaction survey information.

Characteristic	Experimental	
	N	%
SURVEY FOR DRUG COURT CLIENTS		
The Judge treated me with respect		
Strongly Agree	93	67.9
Agree	43	31.4
Disagree	1	0.7
Strongly Disagree	0	0.0
The Judge was fair		
Strongly Agree	80	58.8
Agree	55	40.4
Disagree	1	0.7
Strongly Disagree	0	0.0
The Judge was concerned about me		
Strongly Agree	84	61.3
Agree	53	38.7
Disagree	0	0.0
Strongly Disagree	0	0.0
Visits with the Judge helped me to stay drug free		
Strongly Agree	75	55.6
Agree	45	33.3
Disagree	13	9.6
Strongly Disagree	2	1.5
The Judge expected too much of me		
Strongly Agree	3	2.2
Agree	6	4.3
Disagree	80	57.6
Strongly Disagree	46	34.1
My probation officer treated me with respect		
Strongly Agree	85	61.2
Agree	50	36.0
Disagree	1	0.7
Strongly Disagree	1	0.7
My probation officer was fair		
Strongly Agree	81	59.6
Agree	54	39.7
Disagree	0	0.0
Strongly Disagree	1	0.7

Table 11. Frequency and percentage distribution of participants' satisfaction survey information.

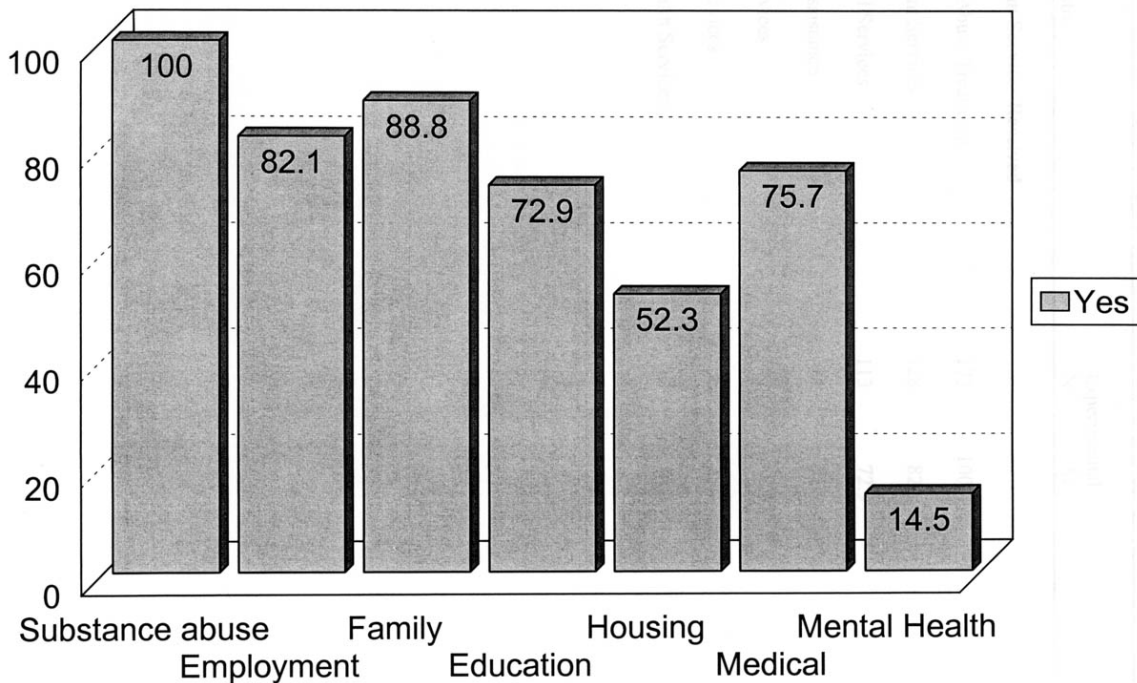
Characteristic	Experimental	
	N	%
My probation officer was concerned about me		
Strongly Agree	71	51.8
Agree	61	44.5
Disagree	5	3.6
Strongly Disagree	0	0.0
Visits with my probation officer helped me stay drug free		
Strongly Agree	50	37.6
Agree	58	43.6
Disagree	21	15.8
Strongly Disagree	4	3.0
My probation officer expected too much of me		
Strongly Agree	5	3.7
Agree	6	4.5
Disagree	78	58.2
Strongly Disagree	45	33.6
The treatment staff treated me with respect		
Strongly Agree	45	33.6
Agree	77	57.5
Disagree	11	8.2
Strongly Disagree	1	0.7
The treatment staff was fair		
Strongly Agree	44	32.8
Agree	79	56.8
Disagree	10	7.5
Strongly Disagree	1	0.7
The treatment staff was concerned about me		
Strongly Agree	61	44.9
Agree	67	49.3
Disagree	8	5.9
Strongly Disagree	0	0.0
Visits with the treatment staff helped me stay drug free		
Strongly Agree	65	47.8
Agree	59	24.4
Disagree	11	7.9
Strongly Disagree	1	0.7

Table 12. Frequency and percentage distribution of participants' satisfaction survey information.

Characteristic	Experimental N	%
The treatment staff expected too much of me		
Strongly Agree	5	3.7
Agree	12	9.0
Disagree	76	56.7
Strongly Disagree	41	30.6
It helped me to appear in court on a regular basis		
Strongly Agree	58	42.6
Agree	68	50.0
Disagree	9	6.6
Strongly Disagree	1	0.7
It helped me to report regularly to my probation officer		
Strongly Agree	53	39.6
Agree	70	52.2
Disagree	10	7.5
Strongly Disagree	1	0.7
It helped me attend treatment on a regular basis		
Strongly Agree	77	56.6
Agree	55	40.4
Disagree	4	2.9
Strongly Disagree	0	0.0
Drug Court was easier than jail or prison		
Strongly Agree	85	63.0
Agree	27	20.0
Disagree	16	11.9
Strongly Disagree	7	5.2
Drug Court was easier than regular probation		
Strongly Agree	39	29.3
Agree	43	32.3
Disagree	39	29.3
Strongly Disagree	12	9.0
I think my Drug Court participation will help me in the future		
Strongly Agree	103	75.7
Agree	32	23.5
Disagree	0	0.0
Strongly Disagree	1	0.7

Figure 9

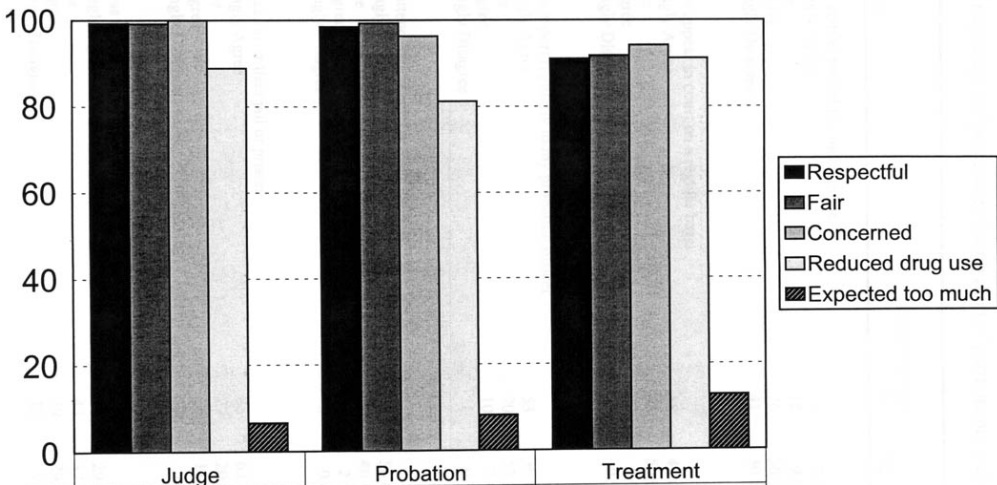
Services Received



Note: Drug Court Participants Only

Figure 10

Overall Agreement by Component



	Judge	Probation	Treatment
Respectful	99.3	98.5	91.1
Fair	99.2	99.3	91.8
Concerned	100	96.3	94.2
Reduced drug use	88.9	81.2	91.2
Expected too much	6.6	8.2	12.7

Response 'strongly agree' and 'agree' combined

finding is especially relevant to drug courts considering the level of reporting requirements. Interestingly, the majority of drug court participants indicated they felt the drug court was easier than jail or prison (illustrated by figure 11), however, as expected the only a slight majority felt the drug court was easier than regular probation (as illustrated by figure 12). Again, given the level of reporting is often more intensive than regular probation, it is understandable to find the drug court is perceived as a more difficult alternative. However, the majority still reported that they believe the drug court will help them in the future, that they are better off for participating and were personally helped through their participation.

Finally, as illustrated by table 13 and 14, participants were asked to rate each service received as either excellent, good, or poor. Figure 13 graphically illustrates that the majority rated drug testing, AA/NA, outpatient, probation, and residential treatment as either good or excellent. Options such as intensive supervision, electronic monitoring, and community service are infrequently used by the court.

Table 13. Frequency and percentage distribution of participants' satisfaction survey information.

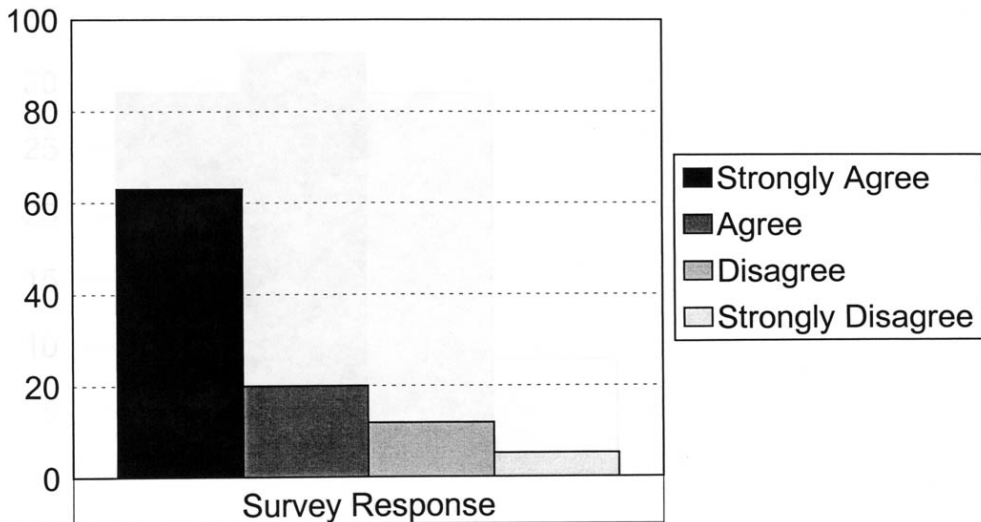
Characteristic	Experimental	
	N	%
In general, I am better off for participating in Drug Court As opposed to other court sanctions		
Strongly Agree	93	67.4
Agree	43	31.2
Disagree	2	1.4
Strongly Disagree	0	0.0
I was personally helped through participation in Drug Court		
Strongly Agree	84	62.7
Agree	45	33.6
Disagree	4	3.0
Strongly Disagree	1	0.7
Residential Treatment		
Poor	4	2.9
Good	67	49.3
Excellent	38	27.9
Did not participate	27	19.9
Outpatient Treatment		
Poor	2	1.5
Good	71	53.8
Excellent	55	41.7
Did not participate	4	3.0
Intensive Probation Supervision		
Poor	2	1.5
Good	28	21.4
Excellent	18	13.7
Did not participate	83	63.4
Regular Probation Supervision		
Poor	4	3.0
Good	70	52.2
Excellent	37	27.6
Did not participate	23	17.2
Electronic Monitoring		
Poor	3	2.3
Good	21	16.3
Excellent	6	4.7
Did not participate	99	76.7

Table 14. Frequency and percentage distribution of participants' satisfaction survey information.

Characteristic	Experimental	
	N	%
Community Service		
Poor	2	1.5
Good	16	12.2
Excellent	3	2.3
Did not participate	110	84.0
Drug Testing		
Poor	3	2.2
Good	60	43.8
Excellent	73	53.3
Did not participate	1	0.7
AA/NA		
Poor	3	2.2
Good	41	30.4
Excellent	90	66.7
Did not participate	1	0.7
Previous Trouble with the Law		
Yes	98	72.6
No	37	27.4
Previous Substance Abuse Treatment		
Yes	53	39.6
No	81	60.4

Figure 11

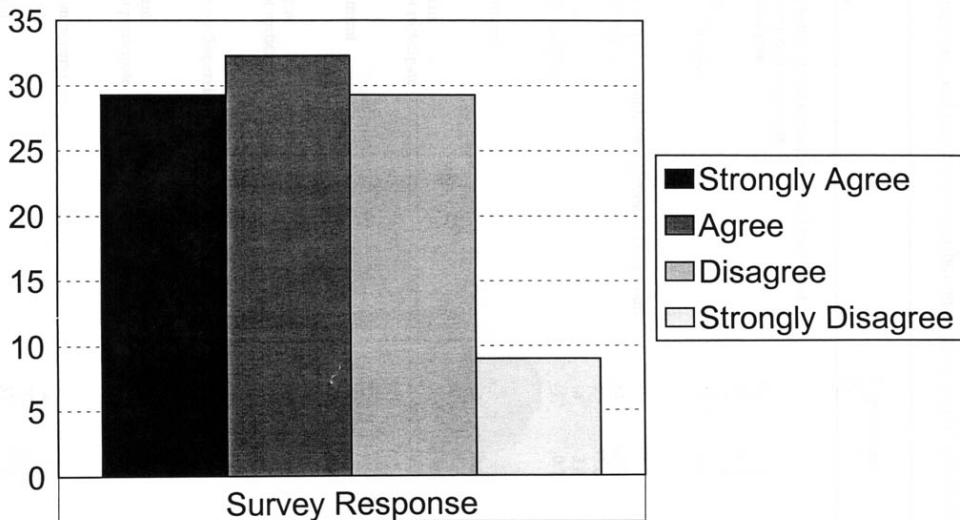
The Drug Court was easier than jail or prison



Strongly Agree	63
Agree	20
Disagree	11.9
Strongly Disagree	5.2

Figure 12

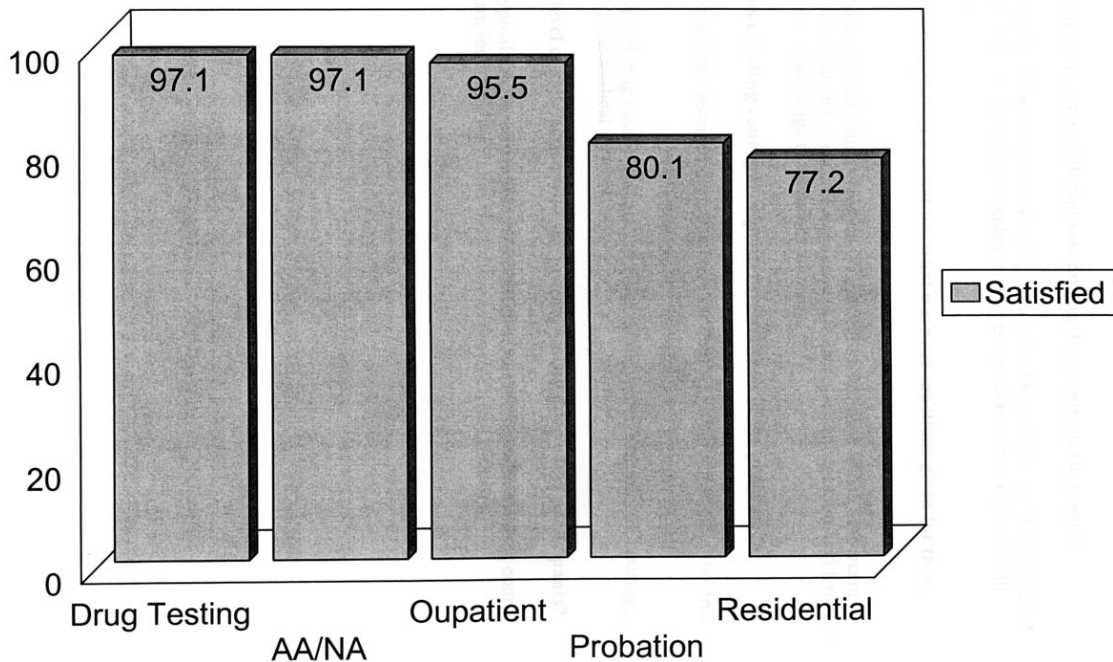
The Drug Court was easier than regular probation



Strongly Agree	29.3
Agree	32.3
Disagree	29.3
Strongly Disagree	9

Figure 13

Percent Satisfied with Requirements



Reponses 'Excellent' and 'Good' Combined

Summary

What is the court reported violation rate among drug court participants?

- Specifically, 13 percent were arrested for a new charge, 56 percent tested positive at least once, 17 percent absconded, and 8 percent were non-compliant with treatment.

Among those charged with a violation, what were the sanctions given for those violations?

- For those charged with a violation, 41 percent served time in jail, 18 percent received a time out, 9 percent were subject to increased supervision, and 8 percent experienced a change in treatment intensity.

What services did drug court participants receive while in the program?

- All participants received drug treatment services while participating in the drug court
- The typical drug court client also received employment, educational, housing, family, and medical services.

What is the level of satisfaction with the process among drug court participants?

- The typical drug court participant reported being satisfied with the drug court program including the judge, the treatment provider, and probation.

Subsequent Criminal Behavior

The main purpose of an outcome evaluation is to determine the impact of the intervention, in this case the drug court, on behavior. The commonly used measure of behavior is recidivism. Hence, the purpose of this section is to address the recidivism rates between the two groups and identify factors associated with outcome. A number of research questions are examined. *What are the rearrest rates among the experimental and comparison groups? What is the rate of time to elapse between initial arrest to rearrest among the two groups? What are the determinants or factors associated with recidivism?*

Rearrest Rates

A statistically significant difference exists with regard to rearrest for a new offense. Figure 14 presents the data with regard to rearrest. The data indicate that offenders in the treatment group were less likely to be rearrested than those in the comparison group. Specifically, table 15 reveals that 29 percent of the experimental group was rearrested in comparison to 39 percent of the comparison group.

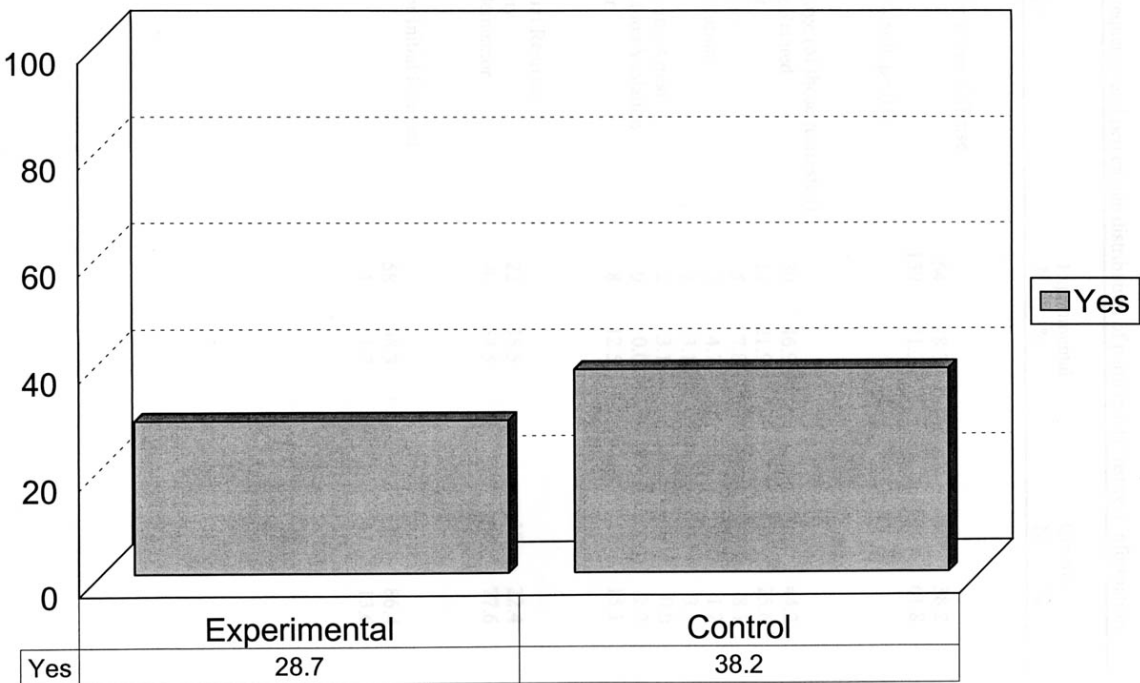
Table 15 also indicates that both groups were likely to be arrested on a drug related offense. Specifically, of those arrested, 47 percent of the experimental group and 44 percent of the comparison group were arrested on a drug charge. In addition, 22 percent of the experimental group and 26 percent of the comparison group were arrested for a theft. Although not significant, a slightly higher number of the treatment participants were likely to be arrested for a felony charge and have their charge result in a conviction.

Table 15. Frequency and percentage distribution of participants' rearrest information.

Characteristic	Experimental		Control	
	N	%	N	%
Rearrested for a New Offense				
Yes	64	28.7	86	38.2
No	159	71.3	139	61.8
$\chi^2 = 4.560; p=.033$				
Rearrest Charge (of those rearrested)				
Drug Related	30	46.9	38	44.2
Theft	14	21.9	22	25.6
Violent	5	7.8	7	8.1
Prostitution	3	4.7	1	1.2
DUI	2	3.1	3	3.5
Resisting Arrest	2	3.1	0	0.0
Probation Violation	0	0.0	2	2.3
Other	8	12.5	13	15.1
Level of Initial Rearrest				
Felony	22	35.5	19	22.4
Misdemeanor	40	64.5	68	77.6
Convicted for Initial Rearrest				
Yes	58	98.3	70	86.4
No	1	1.7	11	13.6

Figure 14

Rearrest Rates



Differences are significant at the .033 level

In contrast, table 16 reveals that significantly more individuals in the control groups were likely to be arrested multiple times during the follow-up period. Specifically, Figure 15 reveals that 30 percent of the experimental group was arrested multiple times during the follow up period in contrast to 47 percent of the comparison group. Finally, table 16 illustrates that comparison group participants, on average, were rearrested 1.87 times.

Time to Arrest

Evaluations that explore only the number of arrests of two or more groups may overlook important treatment effects. Specifically, participation in treatment may only delay onset of reoffending. To explore this possibility, we compare the rate at which drug court participants and the comparison group participants were rearrested. Table 16 indicates that both the groups are similar with regard to the average number of days to elapse between initial arrest and subsequent rearrest. Specifically, table 16 illustrates that the typical ADAPT participant was likely to remain arrest free for the first 205 days. In comparison, the typical comparison group participant was likely to remain arrest free for 218 days. It appears, then, that participation in the treatment program does not represent a period of delay. In fact, those participating in treatment are significantly less likely to be rearrested regardless of the follow-up period in comparison to the control group.

Determinants of Rearrest

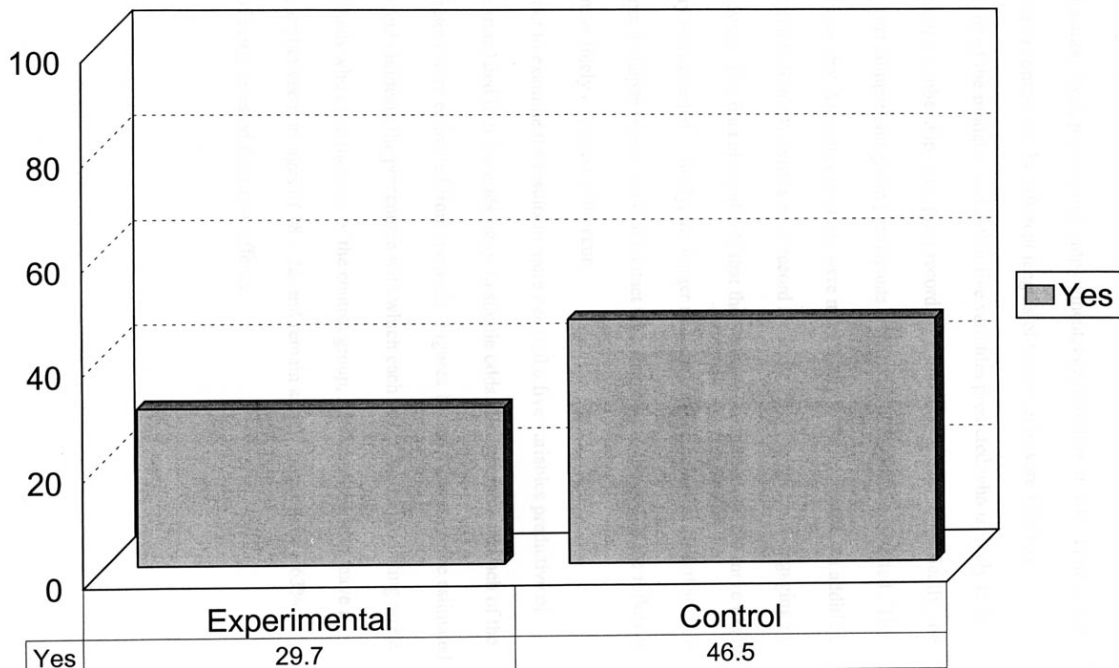
This section is designed to isolate factors associated with recidivism. The analysis will allow the court to discern what type of clients benefit from services and for whom additional services are needed. Logistic regression was used to determine which factors were associated with recidivism. The characteristics included in the model (see

Table 16. Frequency and percentage distribution of participants' rearrest information.

Characteristic	Experimental		Control	
	N	%	N	%
Arrested Multiple Times				
Yes	19	29.7	40	46.5
No	45	70.3	46	53.5
	$\chi^2 = 4.644; p=.031$			
Number of Times Rearrested				
One	45	70.3	46	53.5
Two	10	15.6	18	20.9
Three	4	6.3	14	16.3
Four	2	3.1	4	4.7
Five or more	3	4.7	4	4.7
Mean	1.57		1.87	
Avg. Time to Initial Rearrest (in days)	204.6		218.1	
Avg Follow-up Period	449.9		468.2	

Figure 15

Arrested Multiple Times



Significant at the .03 level

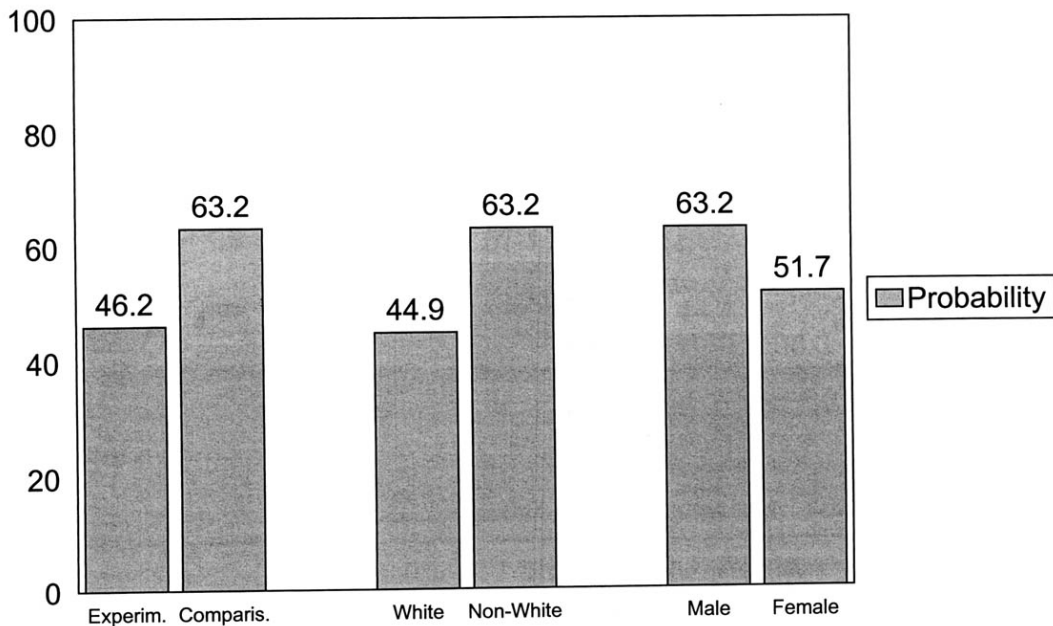
appendix) were group membership (i.e. experimental or control group), race, gender, marriage, education level, prior record, employment, age, and time at risk. Time at risk was included as a control for the different lengths of time clients were followed.

Analysis of the model revealed that five variables predicted who is likely to be rearrested: group membership, race, prior record, age, and time at risk. Specifically, the data indicate that comparison group participants were more likely to be rearrested. The data also indicate that African Americans were more likely to be rearrested. In addition, it was found that individuals with a prior record are more likely to continue engaging in criminal behavior. The data also indicate that the younger the individual, the more likely he or she may be rearrested. Finally, the longer an individual remained at risk, that is the longer the time to elapse between initial contact with the court to the end of the follow-up period, the more likely a rearrest will occur.

In order to examine the results in more detail, the five variables predictive of rearrest were translated into log-odds ratios to simple odds. Failure rates for each of the significant factors were estimated from the odds. Figures 16 and 17 present the estimated probabilities and delineate the percentage with which each factor has in predicting arrest. Those individuals who are a member of the control group, African-American, have a prior record, are between the ages of 18 – 22, and remain at risk longer have a 63% probability of being arrested for a new offense.

Figure 16

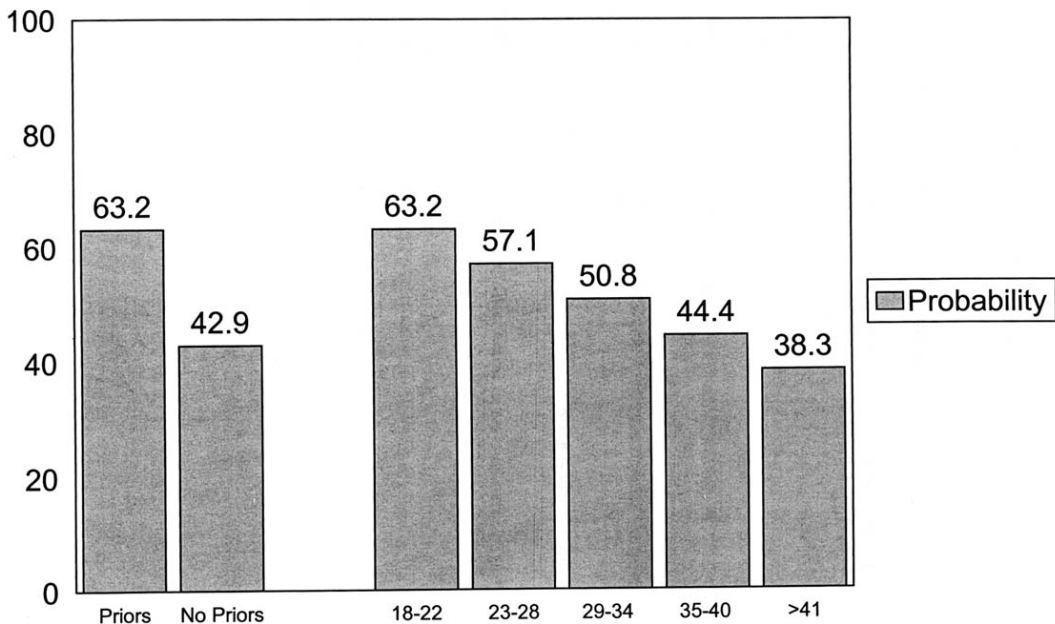
Probabilities associated with significant predictors of arrest



Note: Probabilities were calculated from significant logit coefficients

Figure 17

Probabilities associated with significant predictors of arrest



Note: Probabilities were calculated from significant logit coefficients

Summary

The purpose of this section was to address the recidivism rates of the two groups and identify factors associated with recidivism.

What are the rearrest rates among the experimental and comparison groups?

- With regards to rearrest, the experimental or ADAPT group was significantly less likely to be rearrested in comparison to the control group that did not receive treatment.
- Of those rearrested, the typical offender in both groups was charged with a drug related offense.
- Slightly more experimental participants were rearrested for a felony in comparison to control group participants
- Significantly more experimental group participants were convicted of the offense in comparison to control group cases.
- The comparison group participants were more likely to be rearrested multiple times.

What is the length of time to elapse between initial arrest to rearrest between the two groups?

- The length of time to elapse was similar for both groups. Data indicate that treatment participation did not simply delay subsequent criminal behavior.

What are the determinants or factors associated with recidivism?

- Five variables predicted rearrest: group membership, race, prior record, age, and time at risk.

Subsequent Criminal Behavior Among Graduates

In addition to exploring the rearrest rates among the sample of participants discussed above, rearrest data were collected on graduates of the program. The arrest record checks were conducted in January 1999. The Hamilton County Drug Court began accepting participants in March of 1995, and the first graduation was held in July of 1996. The participants in this sample include individuals who graduated from the drug court program between the time period of July 1996 to November 1997. Although Hamilton County has held graduation since this date, the analysis is limited to the participants graduating in 1996 and 1997 to allow for a minimum 18-month follow-up period. The rearrest rates are calculated post-graduation and do not include arrests while in the program.

Rearrest Rates

The rearrest rates among graduates appear very promising. Figure 18 presents the overall rearrest rates among graduates. The results indicate that 31 percent of participants who graduated from the drug court in 1996 and 1997 were arrested for a new charge as of January 1999. Table 17 illustrates the rates by graduating class. It appears that 23 percent of the July 1996 graduates have been rearrested since graduation day. Furthermore, 35 percent of the October 1996 graduates, 63 percent of the March 1997 graduates, 29 percent of the June 1997 graduates, and 31 percent of the November 1997 graduates have been rearrested since graduation day. Overall, as Figure 19 illustrates, these results are very encouraging that the drug court may be having a long-term effect on participants.

Table 17. Rearrest Information by Graduating Class

	Graduation Date									
	6/01/96		10/01/96		3/01/97		6/01/97		11/01/97	
	N	%	N	%	N	%	N	%	N	%
Rearrested	(n = 43)		(n = 26)		(n = 58)		(n = 28)		(n = 49)	
Rearrested										
Yes	10	23.3	9	34.6	21	36.2	8	28.6	15	30.6
No	33	76.7	17	65.4	37	63.8	20	71.4	34	69.4
Males Rearrested										
Yes	7	23.3	5	29.4	15	34.9	6	27.3	10	33.3
No	23	76.7	12	70.6	28	65.1	16	72.7	20	66.7
Females Rearrested										
Yes	3	23.1	4	44.4	6	40.0	2	33.3	5	26.3
No	10	76.9	5	55.6	9	60.0	4	66.7	14	73.7
Rearrest Charge										
Drug	7	70.0	5	55.6	15	78.9	6	75.0	8	57.1
Drug Trafficking	0	0.0	0	0.0	0	0.0	0	0.0	1	7.1
Theft/property	2	20.0	4	44.4	3	15.8	2	25.0	3	21.4
Other	1	10.0	0	0.0	1	5.3	0	0.0	2	14.2
Level of Charge										
Felony	7	70.0	8	88.9	14	70.0	6	75.0	5	33.3
Misdemeanor	3	30.0	1	11.1	6	30.0	2	25.0	10	77.7
Rearrested Multiple Times										
Yes	2	20.0	0	0.0	7	33.3	3	37.5	3	20.0
No	8	80.0	9	100.0	14	77.7	5	62.5	12	80.0

Figure 18

Overall Arrest Rates Among Graduates

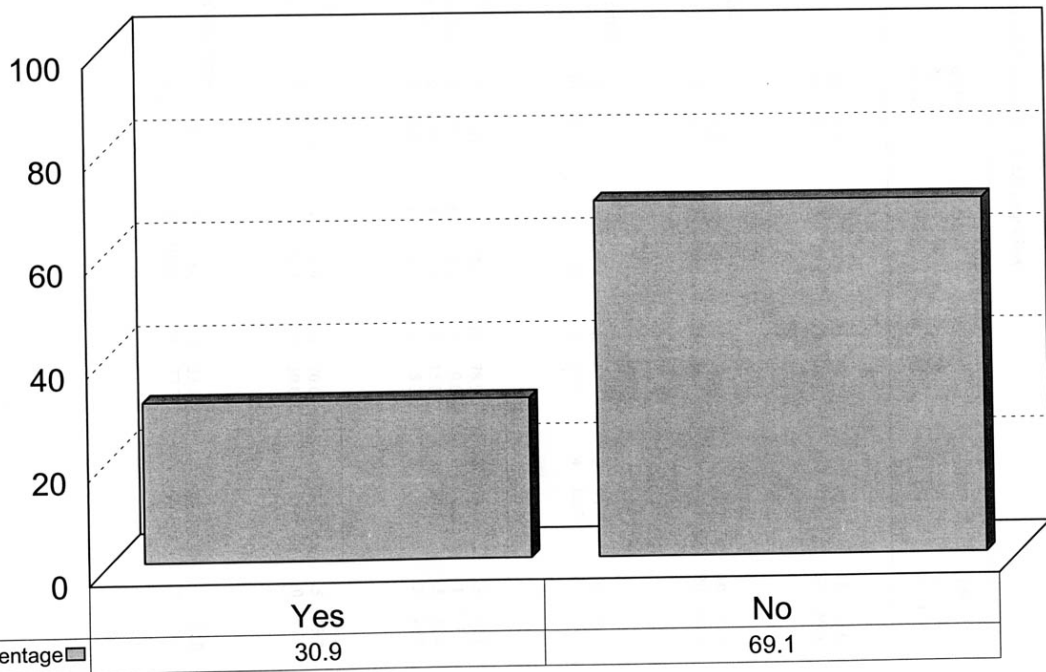
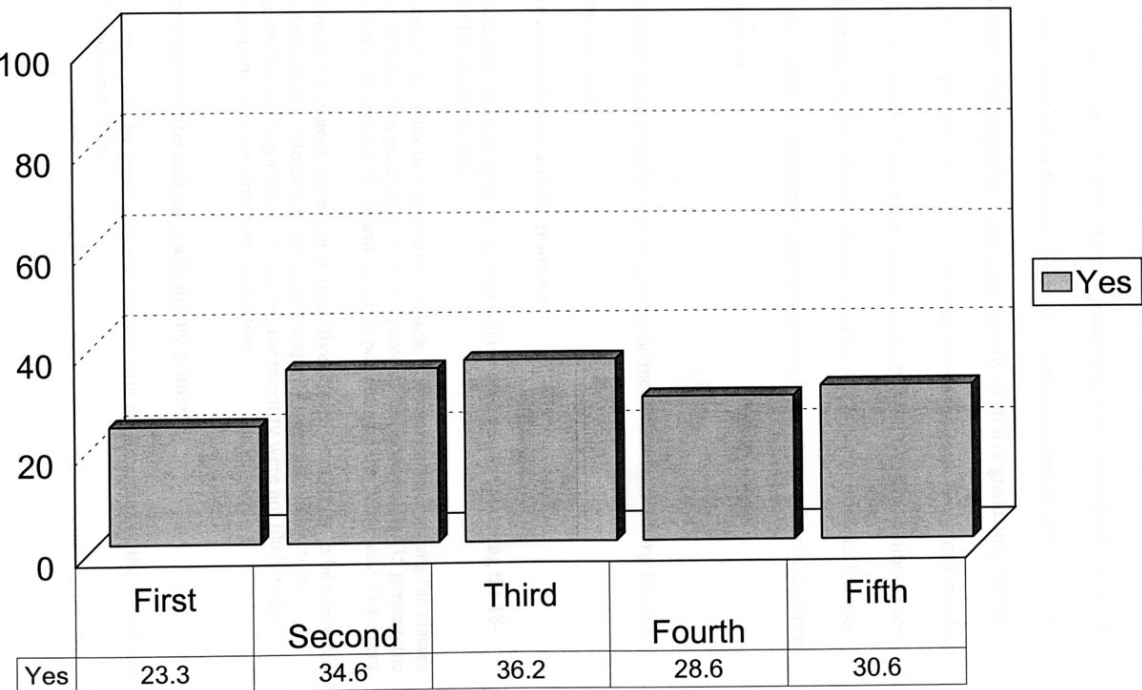


Figure 19

Rearrest by Graduating Class



Of those rearrested, Figure 20 indicates that the rates among men and women are very similar with the exception of the October graduating class. Specifically, table 17 illustrates that 44 percent of the females in this class were rearrested in comparison to 29 percent of the men. With regard to charge, the majority in all five graduating classes were likely to be rearrested for a drug charge, with the second most likely to charge being a theft. In addition, Table 17 illustrates that the majority in all five graduating classes were likely to be arrested for a felony charge. And finally, although some differences exist, the majority of participants in all classes were not arrested more than once during the follow-up period.

Summary

The purpose of this section was to address the recidivism rates among graduates of the drug court program.

What are the rearrest rates among graduates?

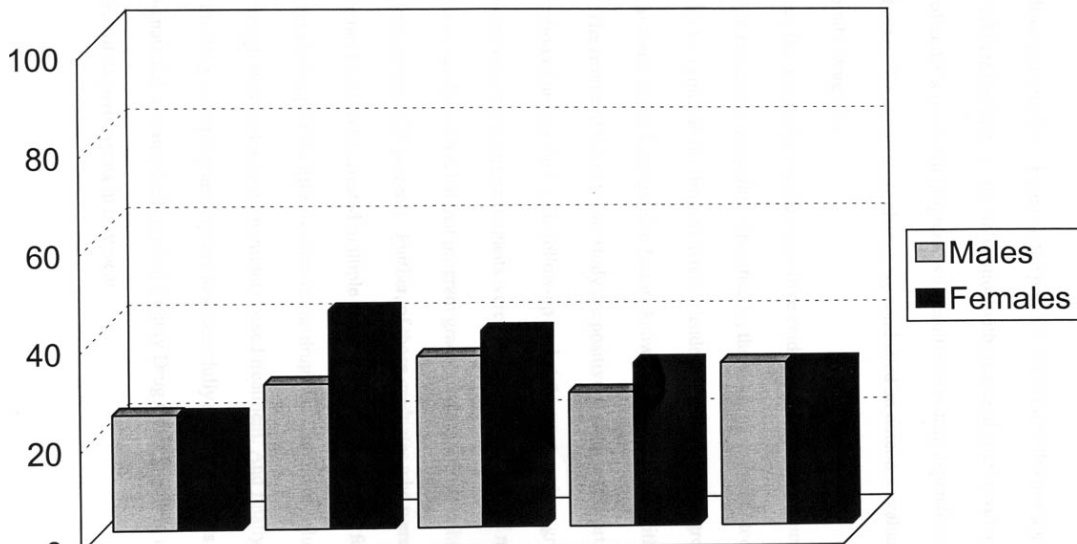
- Overall, only 31 percent of the graduates have been rearrested during the 18-month follow-up period.
- The sample includes five graduating classes. The rearrest rates among the classes are as follows: first graduating class: 23 percent, the second class: 35 percent, the third class: 36 percent, the fourth class: 27 percent, and the fifth class: 31 percent.
- With regard to charge, the majority in all five classes were likely to be rearrested for a drug charge. Moreover, the overall majority were also likely to be rearrested for a felony charge. However, the majority were not likely to be arrested more than one time post-graduation.

What are the rearrest rates among graduates by gender?

- The rearrest rates by gender are very similar with the exception of the second and third graduating class.

Figure 20

Rearrest Rates by Gender and Graduating Class



	First	Second	Third	Fourth	Fifth
Males	23.3	29.4	34.9	27.3	33.3
Females	23.1	44.4	40	33.3	33.3

Conclusions

The drug court model is based on the premise that a more flexible approach to treating drug addicted offenders, in combination with increased court involvement and oversight of offender's treatment progress, will result in less drug dependency and lower rates of recidivism. To assess these claims, we conducted an outcome evaluation of the Hamilton County Drug Court.

Overall, this research provides supportive evidence that the drug court program was effective in reducing criminality. Specifically, the study examined outcome associated with two comparable drug addicted offender populations. The groups were comparable on many social demographic factors known to be associated with relapse and criminality. The results of the outcome study are positive as drug court participants had a lower proportion of arrests during the follow-up period than comparison group members. Moreover, drug court participants were less likely to be arrested multiple times. A separate analysis revealed that program graduates consistently exhibited low arrests rates (e.g., average 30 percent). Further, of those graduates who were arrested, the majority were not likely to be arrested multiple times during the 18-month follow-up period. The results support the effectiveness of the drug court model in reducing criminal recidivism through supervision and community based treatment. And finally, in addition to outcome, the drug court program appears to successfully retaining clients in treatment. Similar to the national average, the Hamilton County Drug Court is able to retain better than 75 percent of its participants in treatment.

Policy Implications

Additional evaluations of drug courts are finally beginning to emerge in the literature base. Previous research, as well as the findings from this study, indicates that drug courts can be effective in reducing recidivism. Even in light of these positive findings, it is our position that the drug court model could further increase their success by considering the following recommendations. First, to increase the likelihood of effectively targeting resources to the appropriate population, a standardized risk and needs assessment should be included in the treatment or service delivery decision. Programs that target the criminogenic needs, or factors directly related to recidivism (e.g., attitudes, companions, personality, etc.), have been found to be successful in reducing recidivism rates (Andrews & Bonta, 1998). The assessment instrument should be used to identify the needs of the population and match appropriate treatment services to target those needs. Hamilton County has recently adopted the Level of Service Inventory-Revised, a standardized risk and needs instrument. Although the drug court Judge is made aware of the assessment scores, there is no evidence that the scores are being used in treatment planning. The drug-addicted offender often presents multiple needs or problem areas not addressed in 12 step or educational services. These needs must be identified, addressed, and reassessed at termination in order to deliver the most appropriate services to the participant. Previous research has found that drug courts can be successful in matching appropriate services to clients through the use of these measures (Granfield, Eby, Brewster, 1998). Finally, not only would classification be important to match appropriate services to the appropriate clients, but also to recognize and organize resources to address the needs of clients who are likely to fail.

Second, drug courts will have a better chance at success if they can facilitate participation in treatment programs that are appropriate. Reducing criminality and addictions begins with the recognition that drug addiction is a chronic relapsing condition that will not be effectively reduced by applying short term, education-based treatment services. The success of a treatment program rests with the selection of an empirically validated and theoretically driven treatment model (Prendergast, et al., 1995). Although drug abuse is considered the primary need of many drug court participants, the majority have multiple needs that may include, among other factors, attitudes supportive of criminal behavior, interpersonal relationships with criminal associates or a lack of educational and vocational skills. Treatment services must first take into consideration the offenders' specific needs and then apply the most effective model to remedy the needs. Research is now indicating that the most effective programs aimed at changing offender behavior are those based on cognitive, social learning, multisystemic family, and radical behavioral (e.g. operant conditioning) strategies (see, e.g., Andrews, Zinger, Hoge, Bonta, Gendreau, Cullen 1990; Antonowicz & Ross 1994; Gendreau 1996; Gendreau & Andrews 1990; Henggeler & Borduin 1990; Izzo & Ross 1990; Lipsey 1992; Van Voorhis, Braswell, & Morrow 1997). These strategies attempt to change behavior by addressing thinking errors or values and attitudes supportive of crime, providing a means for the offender to observe and imitate prosocial behavior, including the family and community in the rehabilitation of the offender, and decreasing inappropriate behavior through reinforcement for appropriate behavior. The Hamilton County Drug Court could increase their effectiveness by including these treatment models into drug court programming.

Limitations

Although this study was more comprehensive than the original outcome study conducted in 1997, a few limitations remain. First, random assignment procedures were not utilized. Although matching procedures were developed to increase the similarities between the treatment and comparison group, random assignment procedures would allow for a more definitive measure of their similarities. Second, supervision data were not made available for the comparison group members. We are unable to control for supervision or treatment the members may have received while under supervision of a traditional court or probation unit. Third, the level of data collection by treatment staff at ADAPT should increase. Our staff collected much of the treatment data and review of the case files limits the analysis. And finally, given the chronic and relapsing nature of drug abuse, a longer follow-up period would allow us to better discern the long-term effects of drug court participation.