

**Evaluation of the South St. Louis County Adult Drug Court Program:  
Process and Outcomes**

December, 2007

Submitted By:

Jeff Maahs, PhD  
(Principle Investigator)  
and

Katie Zafft, BA

University of Minnesota Duluth  
Department of Sociology Anthropology  
Center for Crime and Justice Studies



---

This research was made possible with a grant from the Center for Community & Regional Research at the University of Minnesota Duluth. Views expressed are those of the authors and do not necessarily reflect the views of The University of Minnesota Duluth.

## **Acknowledgements**

We would like to thank members of the drug court team, including those at Arrowhead Regional Corrections, the Sixth Judicial District, and treatment providers, for their cooperation in this research project. In particular, we would like to thank Jared Hoy for his assistance with retrieving data and answering technical questions. We would also like to thank Jane Greathouse, Jen Wright, Cheryl Harder, and Dennis Cummings for their patience and cooperation. Finally, we would like to thank the Center for Community & Regional Research, and the University of Minnesota Duluth for their financial support.

## TABLE OF CONTENTS

	Acknowledgements.....	i
	List of Tables and Figures.....	iii
	Executive Summary.....	iv
	Process Comparisons—2004 to 2007.....	ix
I.	Introduction.....	1
	The South St. Louis Adult Drug Court Program.....	1
II.	Drug Court Processes.....	3
	A Profile of Drug Court Clients.....	4
	Current Status of the Drug Court Sample.....	11
	Time Between Arrest and Involvement in Drug Court.....	12
	Level of Supervision.....	14
	Level of Correctional Treatment.....	19
	Intermediate Outcomes among Drug Court Graduates.....	23
	Effect of Correctional Treatment on Drug Court Participants' Recidivism.....	26
	Process Summary.....	29
III.	Drug Court Outcomes.....	31
	Methods.....	31
	Baseline Comparisons between Control and Drug Court Group.....	32
	Process Measures.....	34
	Analysis of Recidivism.....	40
	Survival Analysis.....	43
	Outcome Summary.....	52

## LIST OF TABLES AND FIGURES

		Page
I.	Drug Court Process Tables and Figures	
Table 1	Demographic, criminal history and drug/alcohol characteristics for the drug court sample.....	8-9
Figure 1	Self-reported type of current drug problem based on LSI interview...	10
Figure 2	Type of illicit drug involved in the arrest that led to drug court.....	10
Figure 3	Current Status of Drug Court Sample.....	13
Table 2	Drug court supervision data—expected and actual levels of supervision.....	18
Table 3	Drug court treatment data.....	22
Table 4	Mean LSI Scores for Select Drug Court Graduates (N = 16).....	25
Table 5	The relationship between correctional treatment and recidivism (measured as re-conviction).....	28
II.	Drug Court Outcomes Tables and Figures	
Table 6	Demographic comparisons between the drug court and control groups.....	36
Table 7	Comparison of drug court and control groups—instant offense, criminal history, and drug/alcohol problems.....	37
Figure 4	Risk for recidivism for member of drug court and control groups.....	38
Figure 5	Drug treatment rates for drug court and control groups.....	39
Table 8	Recidivism rates for drug court participants and control group members.....	42
Figure 6	A survival plot comparing drug court participants to the control group (recidivism/failure defined by conviction for any offense).....	45
Figure 7	A survival plot comparing drug court participants to the control group (recidivism/failure defined by conviction for a felony offense).....	46
Figure 8	A survival plot comparing drug court participants to the control group (recidivism/failure defined by conviction for a drug-related offense).....	47
Table 9	Cox regression equation predicting the odds of survival for all subjects—survival defined as the absence of any new conviction.....	50
Table 10	Cox regression equation predicting the odds of survival for all subjects— survival defined as the absence of a new felony conviction.....	50
Table 11	Cox regression equation predicting the odds of survival for all subjects— survival defined as the absence of a new drug-related conviction.....	50
Figure 9	Survival analyses controlling for age, race, sex, education status, and prior convictions.....	51

## EXECUTIVE SUMMARY

This executive summary briefly outlines the major findings of an evaluation of the South St. Louis County Adult Drug Court conducted by researchers at the University of Minnesota Duluth. The full report furnishes an assessment of both process and outcomes for the drug court. Regarding process, the report updates process related information first reported in December of 2004. Process information for the drug court sample (N = 167) includes:

- The characteristics of drug court participants
- Supervision and treatment levels
- Intermediate outcomes such as: reduction in use of illicit drugs, reductions in risk for recidivism
- An assessment of the relationship between treatment and recidivism among drug court participants.

The outcome portion of the report examines whether the South St. Louis County Adult Drug Court had an impact on recidivism. Lacking any random assignment procedures, the outcome study employs a quasi-experimental design. Specifically, we created a “historical” control group (N = 165) by collecting data on individuals who might have been eligible for drug court, but were convicted of felony drug offenses before the existence of drug court. This research design created two potential problems. First the two groups are not necessarily “equivalent”—one group may be more likely to recidivate for a number of reasons (e.g., more males, higher criminal history). Second the historical group has a different and longer time at risk because they were convicted between 1999 and 2002. To control for the different follow-up times, we examined recidivism rates over multiple time increments with a procedure called “survival

analysis.” In essence, this technique computes survival (the opposite of recidivism) rates for each month of time at-risk. Within the survival analyses, we also statistically controlled for demographic and criminal history differences between the drug court and control groups.

The major limitation of the outcome study is the use of statistical control rather than experimental control through randomization. Random assignment with a sufficient sample size produces groups that are equivalent on all measurable and non-measurable factors. With random assignment then, differences in outcomes (such as recidivism) can be accurately attributed to the experimental condition (such as whether a person was in the drug court or control group). In contrast, statistical control is limited to the use of those factors that have been identified as important and measured. Further, statistical control depends upon mathematical models that have inherent limitations. Nonetheless, the use of an historical group (as opposed to using those rejected from drug court or another contemporary group) and the number and quality of controls available bolster confidence in our findings.

We turn now to a discussion of our major findings, which are organized in roughly the same order as the full report. We discuss the findings by posing and answering the central research questions.

### **Process Related Research Questions**

*What types of offenders are being served by the drug court? Specifically, what is their risk level and what particular illicit drugs are they using?*

- The typical drug court client is a 31 years old, white, and male. Racial minorities (26%) and females (36%) do, however make up a substantial proportion of

participants. About ½ of drug court participants did not earn a high school degree and a similar proportion receive public financial assistance.

- Regarding criminal history, drug court clients averaged roughly 3 prior adult convictions, and 40% have been previously incarcerated upon conviction. The average total LSI score was 30, which is classified as “moderate” risk.
- Regarding illicit drug use, roughly half of drug court participants report marijuana as the drug with which they have a problem. However, only one-third of the arrests which led to drug court involved marijuana. A substantial proportion of drug court cases involve methamphetamine (35% of arrests, 29% self-report use problems).

***What type of supervision and correctional treatment do drug court participants receive?***

- 65% of drug court participants received either residential or outpatient drug treatment. 75% of drug court participants completed a group-based cognitive skills treatment. Taken together, over 90% of drug court participants (and 95% of graduates) received some form of correctional treatment.
- Drug court participants were supervised at levels outlined in the drug court protocol. Specifically, urinalyses were conducted at rates above what was expected, and participants were attending court reviews as required. Probation supervision also reached levels anticipated by the protocol, even though some probation contacts (e.g., police/probation “ROPE” checks and cognitive skills meetings) were not included in the data. Integration of this data would likely show that probation supervision exceeds expected levels.

***What impact does drug court have on illicit drug use and risk for recidivism?***

- Drug court participants showed reductions in the use of illicit drugs as measured by urinalysis. Specifically, among drug court graduates (3/4 of whom had at least one positive UA) the average amount of time between the last positive urinalysis and graduation was 378 days.
- Drug court graduates showed significant declines in their risk for recidivism, as measured by the Level of Supervision Inventory. However, this must be interpreted with caution because drug court personnel completed all LSI interviews. We recognize that probation officers routinely perform assessments on their clients—this is standard procedure within corrections agencies. We also have no reason to suspect overt bias. Nevertheless, scientific methods stress that those who rate the performance of individuals should be “blind” to

whether the individuals are in the treatment or control group. This guards against any unconscious bias.

***Does drug treatment reduce the risk of recidivism among drug court participants?***

- After statistically controlling for criminal history, time at risk for recidivism, and other factors, we found no evidence that those who completed drug treatment (in any form) were less likely to be convicted of a new offense than those who did not complete treatment.

**Outcome Related Research Questions**

***Are control group members similar to drug court participants in terms of demographics, criminal history, or illicit drug use?***

- Control group members appear to be at higher risk for recidivism based on a number of measures. Specifically, they score higher on measures of criminal history (prior convictions, prior incarceration, LSI criminal history score). Further, they are more likely to be male and nonwhite than drug court participants.
- The control group, while scoring higher on measures of criminal history, score lower on other LSI-based measures, including the drug/alcohol scale. This raises questions about the reliability of the LSI.

***Are drug court participants less likely to be re-convicted than members of the control group?***

- Survival analyses reveal that, after controlling for demographics and criminal history, drug court had a significant impact on risk for felony reconviction. Specifically, members of the control group were roughly twice as likely to be convicted of a new felony offense as drug court participants.
  - After three years, holding other factors constant, the odds of survival (not being convicted for a new felony offense) were 77% for the control group and 88% for the drug court group.
- Participation in drug court was not a statistically significant predictor of recidivism for either (a) any new conviction, or (b) a new drug-related conviction.

## **Recommendations:**

1. Given the patterns observed in the LSI data examined here, Arrowhead Regional Corrections should give serious consideration to a more detailed examination of how LSI instruments are administered, and whether they are administered in a reliable/consistent fashion.
2. The drug treatment utilized by the drug court should be examined more closely. Specifically, qualified individuals should examine the overall integrity of the treatment provided to participants, and whether the treatment strategies used by vendors are consistent with principles of effective correctional treatment. Such a study might also examine differences in outcomes for offenders among the different treatment providers.
3. The drug court sample should be monitored for a longer period of time. It takes a substantial amount of time between arrest and the recording of a conviction. As the drug court cohort develops a longer track record, recidivism patterns and relationships may become clearer.
4. The drug court should continue to move towards enrolling higher-risk clients. The corrections literature suggests that treatment effects are stronger with higher risk clients. Also, enrolling lower risk clients in intensive service may actually increase their recidivism by exposing them to higher risk clients. Overall, the drug court sample is not a low risk group. However, the recidivism rates obtained for the drug court cohort (as well as the control group), as well as some aspects of the LSI data, indicate that there are some low to low/medium risk offenders being served by drug court.

## COMPARISON OF PROCESS EVALUATIONS: 2004-2007

The “process” portion of this study replicates the process evaluation completed in 2004. This allows us to examine whether and how drug court processes have changed. In different areas within the process part of this report, we note differences and similarities between the 2004 report and the current (2007) report. The comparison provided here is a summary of those comparisons. As with the executive summary, we organized this section by posing and answering the central research questions.

### *Has the profile of drug court clients changed?*

- In many respects (age, education, gender) the drug court participants sampled in 2004 are similar to subsequent enrollees. The two samples are also similar with respect for general risk for recidivism (LSI total risk score, prior convictions).
- There is evidence that the drug court has done a better job enrolling people with serious substance abuse problems. Specifically, more recent participants had a higher average score on the LSI drug/alcohol scale (6.5) than earlier clients (5.8). Members of the 2004 sample were also more likely to have been arrested for a marijuana offense (44%) than recent clients (18%). Among non-marijuana drug categories, the highest increase across time periods for both self-reported problems and arrest offense involved methamphetamine. We recommended, in the 2004 report, that the drug court target higher risk clients, and this represents a positive step in that direction.

### **Since 2004, what has happened to graduation and retention rates?**

- In 2004, only 10% of the sample had failed the drug court. With an additional 10% on warrant status, the retention rate was 80-90%. We cautioned at that point that as the sample matured, more failure was likely (simply because there will be more time to fail). As expected, the failure rate did increase. In 2007, 30% of the sample was terminated (or opted out) of drug court. We suspect this increase in failure rates reflect the maturation of the sample as opposed to structural changes in the drug court. The retention rate of 70% and graduation rate of 61% exceeds the average rates found in a national study of drug courts.
- Given the requirements associated with drug court, some programs experience problems with absconding, which lead to outstanding warrants. This does not appear to be a problem with the South St. Louis Drug court. The percent of the

sample on warrant status declined from 10% in 2004 to 1% in 2007. Again, this is a positive finding.

### **Has the time between arrest and involvement in drug court changed?**

- A common goal in many drug court programs is to move participants from arrest to program entry quickly in order to capitalize on the disorienting effect of arrest. In both 2004 and 2007, the median time between arrest and first drug court appearance was over three months.
- Despite this high median time, a substantial proportion of drug court clients (over 25%) went from arrest to their initial drug court appearance in less than one month.
- The central reason for delay between arrest and drug court entry appears to be the ability and desire of some participants to post bail. To the extent that the drug court team feels that speed of processing is important (generally, it hasn't been demonstrated empirically that speedy processing predicts client success), they should examine the bail procedures.

### **Has the level of supervision increased or decreased?**

- In 2004, drug court reviews and urinalyses (UAs) were operating at the levels anticipated by the drug court protocol. In 2007, UAs and drug court reviews were again consistent (or above) levels outlined in the protocol.
- In 2004, probation supervision appeared to be below what was anticipated in the protocol. Probation supervision levels are now consistent with the drug court protocol for two reasons. First, in the initial report, some (e.g., court reviews, cognitive skills sessions) contacts between probation officers and participants were not "counted" in the data. Counting these contacts in the 2007 report provided a more accurate appraisal of supervision. Second, since the 2004 report, the drug court has added an additional probation officer and participated in a field ("ROPE") check program with the Duluth Police Department.

### **What type of treatment did participants receive in the 2004 and 2007 samples?**

- The level of treatment is similar for the 2004 and 2007 samples. About two-thirds of the participants in both samples received either inpatient or outpatient treatment (or both). The rates for successful completion of drug treatment dropped from 2004 to 2007. This most likely reflects sample maturation (e.g., more time to fail). Notably, over 80% of those who enter both residential and outpatient drug treatment complete the treatment.
- While a 65% treatment rate is substantial, we recommend that the drug court team strive for a higher substance abuse treatment rate.

- With the addition of the cognitive skills treatment, the treatment rate increases to 92% for the entire sample, and 95% for graduates. While the cognitive skills program is not completely tailored to substance use/abuse issues, it certainly has relevance in this area.

### **What effect is the drug court having on risk for recidivism and substance use?**

- In 2004, there were only 25 drug court graduates, with 16 having completed LSI reassessment upon graduation. In that report, we found that virtually all graduates (including those with prior dirty UAs) had one year of clean UAs prior to graduation. Among the 16 individuals with reassessment scores, we found statistically significant reductions in the total LSI score and in some LSI subscales.
- The 2007 sample includes over 79 graduates, with 63 having completed LSI reassessment. We found the same pattern among this larger sample. Specifically, while most participants had at least one UA violation, the median time between graduation and the last positive UA was over 370 days. The total LSI score dropped on average from 28 (entry) to 15 (graduation). This is strong evidence that the drug court is reducing the risk of recidivism among participants.

## **INTRODUCTION**

This report summarizes process and outcome related information gathered by researchers at the University of Minnesota Duluth, in concert with drug court staff, as part of an ongoing evaluation of the South St. Louis County Adult Drug Court Program. The first section of the report replicates a prior process evaluation (completed in December, 2004). This section addresses the operation of the drug court without reference to a comparison group in order to assess whether the court is operating as intended. The second section of the report is an outcome evaluation comparing drug court participants with a control group of individuals who were convicted of drug offenses prior to the inception of the drug court. The primary outcome here is recidivism as measured by drug related and non-drug related recidivism. Before launching into a discussion of the data, we provide a brief summary of the South St. Louis County Adult Drug Court Program.

### **The South St. Louis County Adult Drug Court Program**

The South St. Louis County Adult Drug Court Program is a collaborative effort between the 6<sup>th</sup> Judicial Court, Public Defenders, St. Louis County Prosecutors, Arrowhead Regional Corrections, and local service providers. Modeled after previous drug courts, the primary goal of the program is to divert drug offenders out of the traditional criminal justice system, and into residential or outpatient treatment drug treatment. Drug treatment (both residential and outpatient) is provided by private vendors.

Each client is monitored by the drug court team, consisting of the drug court judge, probation officers, a prosecutor, and treatment staff. The drug court team meets weekly to review cases, and the judge then follows through with recommendations during the court reviews. The ultimate goal of this drug court is for participants to abstain from illicit drugs, and from other criminal behavior.

At its inception in April of 2002, the drug court allowed only those convicted of 5<sup>th</sup> degree felony drug charges (possession), but since has relaxed the criteria to include all those convicted of 3<sup>rd</sup>-5<sup>th</sup> degree felony drug charges (assuming they meet other drug court criteria). The cases are screened by the drug court team to make sure the offender meets the drug court inclusion criteria. For example, those with a prior conviction for a violent offense and non-residents are excluded from the drug court pool.<sup>1</sup> Remaining offenders are interviewed by the “Rule 25 assessor”<sup>2</sup> to see whether they meet the criteria for “chemical abuse,” or “chemical dependency.” Those who meet the criteria are eligible for publicly funded drug treatment. Even if they do not meet these addiction criteria, however, they are admitted into drug court. If circumstances dictate (e.g., positive UA’s, admit problems/use), participants can be reassessed at any time.

Participants in the drug court program proceed through three stages, where restrictions, reviews, and drug testing become less frequent from phase one to phase three. For example, in phase one, participants appear in court for weekly reviews, and by phase three, the reviews are conducted on a monthly basis. Drug court guidelines specify

---

<sup>1</sup> For a full description of the drug court program, including exclusion criteria, see “South St. Louis County Drug Court,” the program protocol.

<sup>2</sup> In Minnesota, offenders are eligible for public funding for substance abuse if they meet the criteria, as judged by an assessor, of “chemical abuse” or “chemical dependency.” Rule 25 refers to the legislation that authorizes this funding.

that in order to graduate, participants must spend at least one year in the program, and must have one year since their last positive UA. Upon graduation (considered phase four of the drug court process) participants remain on probation.

## **DRUG COURT PROCESSES**

This section of the report examines the process of drug court. In essence, we examine the drug court group with reference to a comparison group to assess whether the court is operating as intended. Specifically, this part of the report addresses:

- Whether the drug court is serving the population it was designed to serve (e.g., criminal risk, alcohol/drug risk, demographics).
- How participants are progressing through the program (e.g., supervision and treatment data)
- Whether the program is producing desired intermediate outcomes (abstinence from drug/alcohol use, reduction in risk for recidivism) among drug court graduates.

The evaluation completed in December, 2004 is used (where relevant) as a benchmark to examine changes in drug court processes. Specifically, after each part of this section, we examine whether measures from the December '04 drug court sample differ from those who were subsequently enrolled in drug court.

### **Methods**

All data reported here was originally collected and computerized by Arrowhead Regional Corrections. The data was drawn from databases and turned over to researchers at the University of Minnesota Duluth. In particular, there are two primary sources of

information, (a) the Level of Supervision Inventory (LSI) an interview based risk assessment, and (b) CSTS database, which tracks probation processes (e.g., drug testing, probationer status changes, probation officer contacts). The sample of drug court participants used in this research consists of all individuals who were, at any time after conviction, supervised in drug court from its inception (April, 2002) until March 31, 2007 (N = 168). Individuals who were still on pre-trial release status at the end of this time frame are not included in the sample.

### **Profile of Drug Court Clients**

Table 1 provides a profile of the drug court sample, including demographic, criminal history, and drug/alcohol characteristics. Of primary importance here is whether those admitted into drug court are the type of individuals the court was designed to serve. Specifically, concern was expressed during the planning stage that while the intent of the program is to serve those with serious addictions, the program might end up enrolling low risk (e.g., young, petty, first time) offenders. This concern raises two related research questions. First, what is the “risk” level of drug court clients? Second, what is the “addiction level” of drug court clients? Finally, members of the steering committee raised concern about maintaining a screening process that was not racially biased.

Inspection of Table 1 reveals that the average age of a drug court participant was 34 years, and that racial minorities make up a substantial proportion (25%) of drug court clients. With respect to the risk level of drug court clients, the average risk score, as measured by the Level of Supervision Inventory-Revised (hereinafter, LSI ) was 30. The distribution of scores ranged from a low of 8 to a high of 48. The maximum score on the LSI is 54, and a score of 30 falls in the “moderate” risk category. Based on their LSI

score, all probationers are assigned to a supervision level consistent with their risk. These risk categories range from low (LSI score from 0-13) to high risk (LSI score from 41-47). The vast majority (over 70%) of drug court participants fall in the medium to medium-high level of supervision. Regarding specific measures of criminal history, the average number of prior convictions is just under three, and 40% of the sample was incarcerated for a prior offense. Overall then, with regard to risk for recidivism and prior record, offenders enrolled in drug court are not young, first time, petty offenders. Rather, both criminal history (prior convictions, prior incarceration) and the total LSI score suggest a medium risk group.

Because of the unique focus of drug courts, (e.g., targeting addiction), it is important to inspect the degree to which drug court participants evidence drug and alcohol problems. The LSI provides a drug/alcohol problem scale based on a number of items regarding alcohol and drug use (e.g., current and past problems with drugs and alcohol, whether drug offenses contributed to law violations, marital/family problems, or school/work problems). The maximum drug scale score is 9, and the average score on this scale for drug court clients was 6.3. Therefore, drug court participants accumulated, on average, 70% of possible risk indicators in this section.

There are two sources of information regarding the specific illicit drugs used by those in the sample. Figure 1 illustrates the drug for which participants admitting having a “current problem” in the LSI. Almost half of the sample (46%) reported problems (e.g., job, family, and law problems) related to marijuana. The remainder of the sample reported problems with a variety of other drugs, most notably methamphetamine (29%) and cocaine (12%). The “other” category (3%) involves primarily prescriptions drugs

(e.g., Lortab). The second source of information is the type of drug involved in the drug court participants' original arrest, regardless of whether the crime was for possession or sales.<sup>3</sup> The arrest data in Figure 2 presents a notably different picture of the drugs used by drug court participants than the LSI data. While a substantial percentage of arrests still involved marijuana (28%), the most common arrest category was methamphetamine (35%). Another notable difference involves the "other" category, which accounts for 15% of the arrests (the "other" category in the LSI data described only 3% of participants). As with the LSI data, this category predominately prescription drugs such as Lortab.

Overall then, it appears as though the drug court is targeting individuals who have significant problems with drug/alcohol use. The alcohol/drug score in the LSI indicates substantial levels of substance abuse (mean score of 6.3 out of 9).<sup>4</sup> These are individuals for whom drug use has caused considerable problems in core areas of their life. LSI data indicates that for the half of drug court clients, the drug of choice is marijuana, which is not physiologically addictive, and doesn't have a clear link with non-drug related crime (e.g., violence due to pharmacological effects). Arrest data, however, indicate substantially higher levels of involvement with more pharmacologically addictive/harmful drugs. It seems likely that the arrest data (because it is based on actual evidence of possession) is a better indicator of the types of substances being used than self reported measures from the LSI.

---

<sup>3</sup> If one excludes those convicted of sales offenses and examines only possession cases, the types of illicit drugs involved maintain their same ranking, but cases involving methamphetamine account for 56% of possession arrests.

<sup>4</sup> Inspection of LSI data for the control group reveals substantial differences in drug/alcohol areas that are unlikely due to differences between the groups. Rather, it is likely that there are reliability problems with this instrument. We discuss this issue in more detail in the following section.

**Comparison with the December 2004 Sample.** The process evaluation completed in December 2004 included anyone who enrolled in drug court from the programs' inception (April, 2002) until June, 2004 (N = 62). Those who subsequently participated in the drug court (N = 105) appear to be the same in terms of demographics (e.g., percent male, age, education) and general risk for criminal behavior (LSI total score, number of prior convictions). The data do indicate that the drug court has moved towards targeting those with more serious drug problems and/or those with addictions to more serious drugs. Specifically, more recent drug court participants had higher average scores on the LSI drug/alcohol scale (6.5) than earlier clients (5.8). Further, recent participants were more apt to self report problems with drugs *other than* marijuana (63%) than earlier participants (45%). Arrest data confirms this trend. Early drug court clients were more likely to have been arrested for a marijuana offense (44%) than recent clients (18%). Among the non-marijuana drug categories, the highest increases for both self-reported problems (11% of early participants versus 34% of recent participants) and arrest offense (22% to 45%) involved methamphetamine. Given the nature of the program and the intensive services and supervision provided, this is a positive finding.

Table 1. Demographic, criminal history and drug/alcohol characteristics for drug court sample (N = 168).

Variable	Category	N	Percent	Mean
<b>Demographics</b>				
Age (At Time of Conviction)				31
Gender	Male	107	64%	
	Female	61	36%	
Race	White	124	74%	
	Black	25	15%	
	Native American	14	8%	
	Asian	3	2%	
	Unknown	1	1%	
Education	Less than grade 12	88	53%	
	Less than grade 10	21	13%	
Public Financial Assistance	Yes	86	51%	
	No			
Unemployed	Yes	111	67%	
	No			
<b>Criminal History/Risk</b>				
LSI Risk Total Score				30
LSI Supervision Levels	Low (0-13)	7	4%	
	Medium Low (14-23)	27	16%	
	Medium (24-33)	69	41%	
	Medium High (34-40)	50	30%	
	High (41-50)	14	8%	
Number of Prior Convictions				2.85
Any Prior Incarceration		63	40%	
Felony Level of Offense	Fifth Degree	149	89%	
	Third Degree	19	11%	

Table 1. Demographic, criminal history and drug/alcohol characteristics for drug court sample (continued).

Variable	Category	N	Percent	Mean
Drug and Alcohol Use				
LSI Drug Score				6.3
Type of Drug Offense	Sales	48	29%	
	Possession	102	61%	
	Fraudulent Procure	13	8%	
	Non-Drug	3	2%	

Figure 1. Self-reported type of current drug problem based on LSI interview (N = 167).

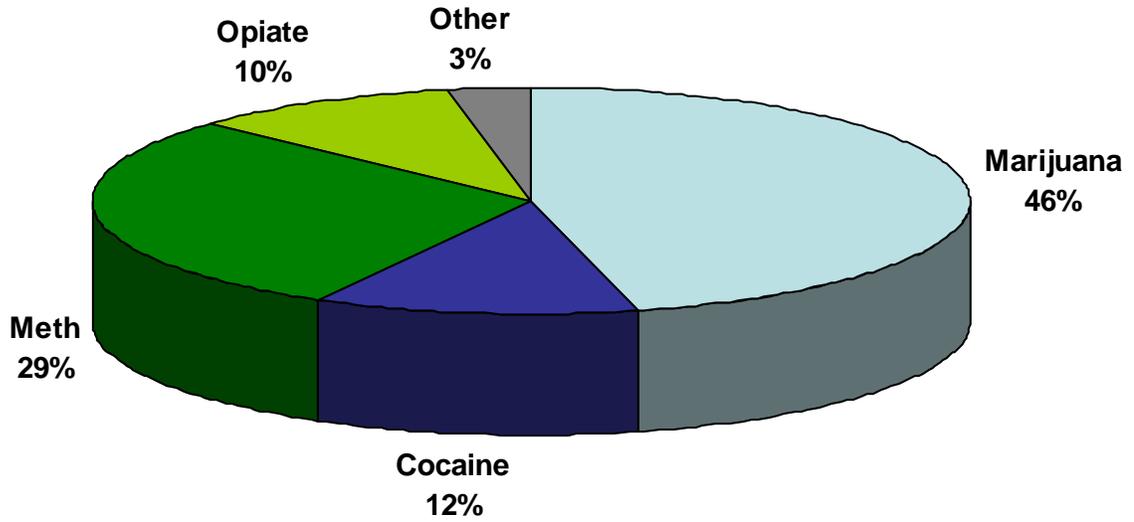
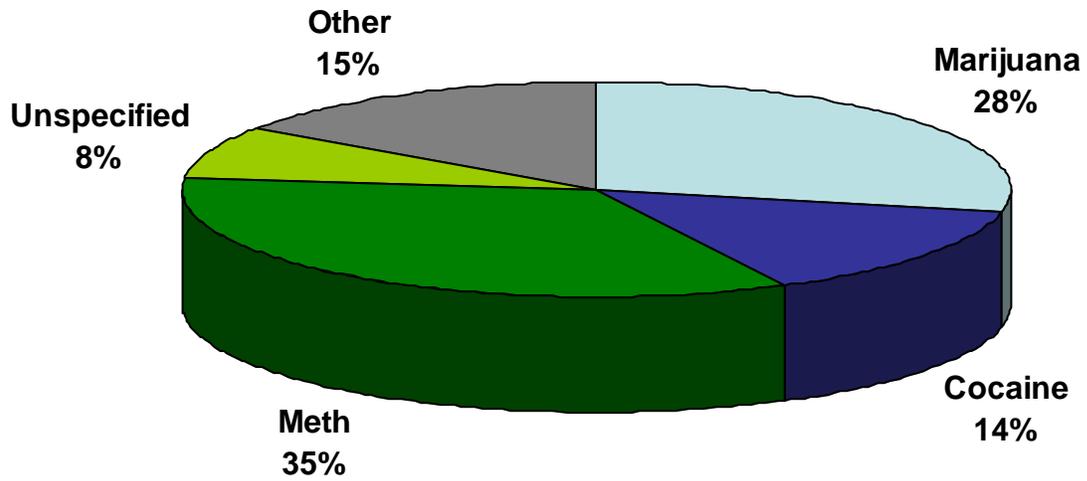


Figure 2. Type of illicit drug involved in the arrest that led to drug court (N = 167).



## **Current Status of the Drug Court Sample**

The section outlines the current status of the sample—the percent of drug court participants who graduated, failed, or are still “in progress.” We also measure the length of time that participants spend in the program. As the Figure 3 shows, 48% (N = 79) of the sample has graduated, and an additional 22% are spread across phases one, two, and three. The typical (median) drug court graduate took roughly 15 months to complete the program. As might be expected though, there was a great deal of variation here, with completion times ranging from just under one year to just over three years.

About one-fourth of those who entered drug court were subsequently terminated from the program. An additional 5% dropped out of the program by requesting the execution of their sentence. The most common reason for termination was a new drug related criminal charges or other felony offenses. Others were terminated as a result of repeated failures (positive UAs, non-compliance) over an extended period of time. The number of days between starting drug court and termination (or drop out) ranged from 38 days to 1,186 days, with the median termination occurring at roughly 15 months.

Retention rates are an important baseline measure of any treatment program. Most program evaluators would agree that a program in which a large portion of the participants fail (e.g., they are revoked or kicked out) is ineffective/inefficient. This is an especially salient issue for those addicted to drugs and alcohol. Prior research strongly suggests that some failure (such as positive UA's) should be expected before progress is evident. In that sense, retention rates and graduation rates are key issues. The overall retention rate for the drug court thus far is 70%. Inspection of the drug court evaluation literature suggests that this retention rate is above average. For example, a recent meta-

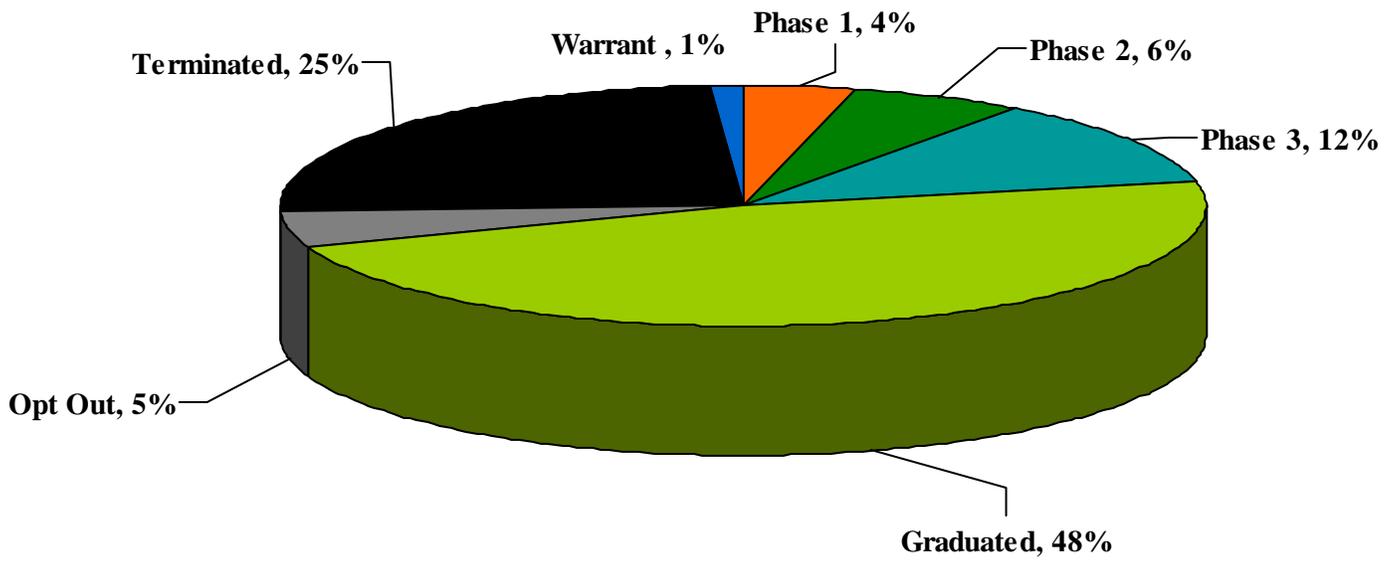
analysis of drug courts found an average graduation rate of 43%. If one excludes those in the sample who are in progress (and may or may not graduate), the graduation rate in the current sample is 61%.

**Comparison with December, 2004 Sample.** In the earlier process report, the retention rate was higher (80-90% depending upon the assumptions made about warrant status) because the failure rate of drug court participants was much lower (only 10% had failed the program). We noted in that report that results should be viewed with caution because the drug court was still new and many of the participants hadn't yet had had enough time to fail. We suspect that the change in failure rates (from 10% to 30%) largely reflects the maturation of the sample rather than any significant differences in the operation of the drug court. In other words, because the drug court has been around longer, those individuals who were disposed to fail had enough time to do so.

### **Time Between Arrest and Involvement in Drug Court**

A key feature that distinguishes most drug courts from traditional criminal justice sanctions is processing speed. Specifically, drug court advocates suggests capitalizing on the disorienting effect of arrest, as offenders will be more open to change. In the South St. Louis County Drug Court, individuals arraigned on 3<sup>rd</sup>-5<sup>th</sup> degree drug charges are set for the next available drug court session. To gauge the speed at which cases move from arrest to drug court supervision, we computed two measures of time. The first measure is the number of days between arrest and the first drug court appearance. The typical (median) drug court case takes 124 days from arrest to first appearance. Because "first court appearance" is not a measure readily available in the control group data, we computed a second measure—the time between arrest and conviction.

Figure 3. Current Status of Drug Court Sample.



Retention Rate (Grads + In Progress) = 70%

Graduation Rate [Grads / (Grads + Failures)] = 61%

The median time here is 165 days, which is nearly identical to the median number of days (163) for the control group of drug cases. In other words, it takes the typical drug court case roughly four months to move from arrest to entry into the drug court, and similar cases were processed just as quickly prior to the existence of drug court. In talking with drug court team members, the major impediment to processing speed is bail. Those arrestees who are able to “make bail” can delay the start of legal processing (and therefore drug court entry)

**Comparison with December, 2004 Sample.** In the 2004 process evaluation, the median time between arrest and the first drug court appearance was 97 days. Further, drug court participants were processed more quickly than a control group of drug cases. Thus, the typical processing time for drug court cases has increased since 2004 by roughly one month. Given the rationale for speedy processing (e.g., arrest as a “moment of crisis”) it is unlikely that the increase from 3 months to 4 months will have any substantive effects. We are unaware of strong empirical evidence that the speed of processing is a critical feature in the success of drug courts. Nevertheless, should the drug court team wish to address this issue, they must find a way to address the issue of bail.

### **Level of Supervision**

The main issue here is whether drug court participants are being supervised at the levels outlined in the drug court protocol. Drug court participants are supervised by the drug court team, primarily through weekly staff meetings and courtroom reviews. Additionally, they are supervised by a probation officer through office, phone, and field visits. Finally, the drug court team depends upon the results of drug testing (urinalysis, or UA), to help supervise participants. The drug court protocol specifies the level of

supervision, including the number of UA's, expected for each phase of the drug court process. These supervision levels are summarized, where possible, in the first three columns from the left ("Protocol Expected Phase 1 through 3") of Table 2. For example, the protocol (first column from left) specifies one UA, plus additional "random UA's," per week. Phase two requires one random UA per week, and phase three calls simply for random UA's.

The last two columns in Table 2 indicated the actual levels of supervision. Unfortunately the data does not allow us to specify the level of supervision during each phase. For example, we know the number of probation contacts that a drug court client has, but not *when* (e.g., during which phase) those contacts occurred. The data does allow us to calculate overall levels of supervision for the sample, or for sub-groups of the sample. To attempt to mirror the protocol, we describe actual mean supervision levels using both the whole sample (who have moved through all phases) and a sub-sample of those who are still in phase one or phase two. We would expect that those in the sub-sample would show higher levels of supervision, consistent with the drug court protocol.

The drug court protocol specifies a minimum of one weekly UA for phase one and phase two of the drug court program. Thereafter, only random UA's are required. Inspection of Table 2 reveals that drug court clients in phases one and two are being tested for illicit drug use an average of almost twice per week. The full sample (many of whom are either in phase three or have graduated), still averages 1.3 UA's per week. With regard to urinalysis then, the level of supervision is greater than what is outlined in the protocol.

The drug court protocol specifies that the probation officer will see clients at least once weekly in the "home, office, or work" during phase one. Further, probation officers

are to make “random work and home checks in person or by phone.” In phases two and three, the protocol mandates only random home/work checks by the probation officer. The data do not permit us to distinguish “home checks” or “work checks.” Rather, contacts are categorized as field visits, phone contacts, or office contacts. On a monthly basis then, we would expect a minimum of four non-phone probation contacts per month during phase one. After phase one, that number should decline.

Probation contacts occur during drug court reviews, cognitive skills sessions, and other office, field, or phone visits. Additionally, subsequent to the December 2004 process study, probation officers have partnered with the Duluth police officers (“ROPE checks”) to engage in field checks of probationers, including drug court clients. Unfortunately, neither the cognitive skills sessions nor the ROPE checks are currently integrated into the drug court data as “probation contacts.” Court reviews, however, are included as a probation “office” contact. Therefore, our measure of probation supervision underestimates the actual level of probation-participant contact. Table 2 indicates that even without these sources of information, probation supervision is consistent with the drug court protocol. Specifically, drug court clients in phase one or two average 3.5 field or office contact per month, and 1.4 phone contacts per month. The full sample averages 2.7 office/field contacts, and 1 phone contact per month. Given the high participation rates in cognitive skills sessions, and the frequency of ROPE checks, probation supervision likely exceeds the level expected in the protocol.

Court reviews, in which participants discuss their progress with the judge in open court, are a central component to drug courts. During the review, the judge receives updates on the participants’ progress, and rewards or punishes clients based upon their progress and the results of their drug tests. Participants move from weekly to monthly

court reviews as they progress from phase one to phase three. The data indicates that the court reviews are progressing as envisioned. The sub-sample of early phase participants average 2.7 court reviews per month, and the full sample (because it contains a mix of graduates, dropouts, and those in other phases) averages two court reviews per month.

**Comparison with December 2004 Sample.** Most supervision levels are similar to those presented in the prior process evaluation. At both points in time, UA collection was at or above levels specified in the protocol and participants were attending court reviews at the specified intervals. In 2004, probation supervision appeared to be below what was anticipated in the protocol. Probation supervision levels are now consistent with the drug court protocol for two reasons. First, in the initial report, some (e.g., court reviews, cognitive skills sessions) contacts between probation officers and participants were not “counted” in the data. Counting these contacts in the 2007 report provided a more accurate appraisal of supervision. Second, since the 2004 report, the drug court has added an additional probation officer and participated in a field (“ROPE”) check program with the Duluth Police Department.

Table 2. Drug court supervision data—expected and actual levels of supervision

	Protocol Expected Phase 1	Protocol Expected Phase 2	Protocol Expected Phase 3	Sample Mean (Phase 1&2) N = 16	Sample Mean (Full Sample) N = 167
Urinalyses Per Week	1 +	1	Random	1.7	1.3
Probation Contact Per Month					
Office Contact	n/a	n/a	n/a	2.8	2.2
Field Contact	n/a	n/a	n/a	0.7	0.5
Office + Field Contact	4	Random	Random	3.5	2.7
Phone Contact	Random	n/a	n/a	1.4	1.0
Total Probation Contact	n/a	n/a	n/a	4.9	3.7
Court Contacts Per month	4	2	1	2.6	2.0

## **Level of Correctional Treatment**

Another distinguishing feature of drug courts is the provision of substance abuse treatment. In the South St. Louis County Drug Court, both residential and outpatient drug treatment is provided by private vendors. To qualify for public funding of treatment, drug court clients must be found to be “chemically dependent” (addicted) or be engaging in “chemical abuse.” Individuals are assessed by a county social worker, based on criteria outlined by the state of Minnesota, and are to be offered the “least restrictive referral consistent with sound clinical judgment.”

Regardless of whether they qualify for substance abuse treatment, drug court participants can also be ordered to attend cognitive oriented group treatment. These sessions focused on both “criminal thinking errors” and cognitive skills. Although substance abuse is not a primary focus, these programs target the rationalizations and attitudes that support both criminal behavior and substance abuse. Further, within the cognitive journaling, there is one section that focuses explicitly on chemical dependency.

None of these treatments are mutually exclusive. That is, drug court participants can progress from residential to outpatient treatment, or in the case of a setback, from outpatient to residential. Further, many of the participants completed the cognitive-oriented treatment independent of their drug treatment.

Of primary interest in this evaluation is the number of drug court offenders participating in, and successfully completing substance abuse treatment. Treatment participation rates for the drug court sample are outlined in Table 3. The top half of Table 3 speaks to substance abuse treatment. The data indicate that 35% of the sample attended residential treatment for an average of about 60 days. Of those 58 individuals,

48 (83%) successfully completed the treatment, 1 is currently in progress, and 9 (15%) were terminated. About one-third of the drug court sample participated in outpatient drug treatment. The vast majority of these individuals (81%) successfully completed treatment, with the remainder being either in progress (9%), or unsuccessfully terminated (10%). The unsuccessful terminations resulted from either (a) the client being terminated from drug court, or (b) the client being moved from outpatient to residential treatment. When residential and outpatient substance abuse treatment are combined, (see, “any drug treatment” in Table 3) we find that roughly two-thirds (65%) of the drug court sample went through some form of drug treatment.

A 65% treatment rate is substantial. Nevertheless, that leaves roughly one third of the sample, within a program designed for drug offenders, without any treatment specifically tailored to substance abuse. We therefore compared those who received some form of drug treatment with those who did not on a number of factors (LSI score, arrest offense, etc.) to determine whether these two groups differed in any measurable way. Of note, we found that a smaller percent (58%) of those charged with sales offenses received drug treatment than those who were charged with other offenses (68%). Regarding the LSI, those who received drug treatment scored higher on the total LSI score (mean = 30), as well as the drug score (mean = 6.7) than those not receiving treatment (mean LSI = 27, mean drug score = 5.6).<sup>5</sup> Thus, in all comparisons where the groups differed, the group receiving treatment was higher risk/need than the group that did not receive treatment. Still, these differences were not particularly large, and those not receiving treatment evidenced considerable problems with drug use.

---

<sup>5</sup> Of these comparisons, only the differences in LSI scores were statistically significant (Total LSI score,  $t = 2.7$ ,  $p < .05$ ; LSI alcohol/drug score,  $t = 4.3$ ,  $p < .01$ ). Nevertheless, given the exploratory nature of this research, we were more interested in the substantive differences across groups, independent of statistical significance.

In consulting members of the drug court team, as well as the St. Louis County Rule 25 assessor, it appears that most of the treatment gap stems from a disparity between state criteria for public funding (which pays for drug treatment) and the drug court team's assessment of substance abuse. In other words, a substantial proportion of drug court participants do not meet the Rule 25 threshold to receive public funding.

The drug court team, in conjunction with a private vendor, started the cognitive skills outpatient treatment as a method to provide some treatment to those who did not qualify for public funding. Since that time, it has expanded to include those who had already completed residential or outpatient drug treatment. As indicated on Table 3, over 70% of the drug court sample attended this treatment. By combining the general cognitive treatment with drug specific treatment, we find that 92% of those in the sample received some form of correctional treatment. Looking only at drug court graduates, recognizing that some individuals were terminated prior to treatment, we find that 74 of the 79 graduates in the sample (95%) received some treatment.

**Comparison with December, 2004 Sample.** The treatment rates outlined in this report are remarkably similar to the earlier process study. In essence, not much has changed. About two-thirds of drug court participants are still receiving drug-specific correctional treatment, and most of the remainder receives some form of correctional treatment. The rates of successful treatment completion are substantially lower in the current sample. Undoubtedly, this again reflects the maturation

Table 3. Drug court treatment data.

Type of Treatment		N	Percent	Median
Residential Drug Treatment	Attended Treatment	58	35%	
Treatment Progress	Successful Completion	48	83%	
	Termination	9	15%	
	In Progress	1	2%	
Days in Treatment				60
Outpatient Drug Treatment	Attended Treatment	57	34%	
Treatment Progress	Successful Completion	46	81%	
	Termination	6	10%	
	In Progress	5	9%	
Days in Treatment				63
Any Drug Treatment		108	65%	
Cognitive Treatment	Attended Treatment	118	72%	
Treatment Progress	Successful Completion	71	60%	
	Termination	33	28%	
	In Progress	15	13%	
Any Treatment		151	92%	
Any Treatment (Grads Only)		75	95%	

of the sample—many individuals in the December 2004 sample simply didn't have enough time to fail (e.g., the completion rates were artificially high). Notably though, the completion rates for both residential and inpatient drug treatment remain higher than 80%.

### **Intermediate Outcomes among Drug Court Graduates**

Program evaluations typically distinguish “intermediate objectives,” (e.g. What is the target for change, and was it indeed changed?) from outcome goals. The primary outcome goal of the drug court is to reduce criminal offending. The primary intermediate objective is to reduce/eliminate substance abuse. Because illicit drug use is in itself a crime, however, reductions in substance abuse can also be considered an outcome measure of program effectiveness. Thus far, we have discussed primarily process measures—whether the program served the intended population and whether the level of service and supervision provided to participants is appropriate. We turn now to some outcome measures for those who have graduated the drug court (N = 79). That is, we look at whether drug court reduced the risk that these individuals will recidivate.

A major objective of drug court is to reduce or eliminate the use of illicit substances among clients. The most obvious measure of this objective is data from urinalysis screens. Indeed, the drug court protocol specifies that in order to graduate, participants have negative (clean) UA's for at least one year. Among graduates, 17 individuals had no positive UA screens throughout the drug court process. The remaining 61 individuals had at least one positive UA prior to graduation. For those individuals with at least one positive UA, the average time between their last positive UA

and graduation exceeded one year (378 days). However, a substantial proportion of clients (10%) clients did graduate without attaining 300 days of sobriety.<sup>6</sup>

Overall then, there is evidence that drug court did reduce substance use among graduates. Given this reduction of substance use, we anticipated that both the LSI drug score and the total LSI score would be diminished for those who were re-tested. Of the 79 graduates, 63 (80%) were administered the LSI near their graduation date. The LSI scores for entry into and exit from (and the difference in those scores) drug court are illustrated in Table 4. As expected, both the average total LSI score and the sub-score dealing with substance use were lower upon graduation than entry. Further, because various components of the drug court program sought to affect the attitude, friendship networks and employment of clients, we include the LSI sub-scores measuring these components. The attitude/orientation scale of the LSI contains four items that indicate whether an individual has attitudes that support crime, are unfavorable toward convention or poor toward the sentence or supervision. The employment scale includes items measuring recent and past employment stability, as well as education. The scale for companions measures the extent to which the respondent associates with criminal peers and the strength of those relationships. In all of the sub-scales, the average scores for drug court clients improved as they progressed through drug court.

The LSI re-test data support the contention that drug court has had a positive effect on drug court graduates. We remain cautious about these findings because the LSI was usually administered in both time periods by a probation officer who is assigned to the drug court. The upside of this situation is that the interviewing and scoring processes

---

<sup>6</sup> All individuals with less than 300 days since their last positive urinalysis have a history of positive urinalysis results stemming from known/approved drugs (e.g., for medical conditions). When approved drugs were noted in the data, we did not code UA results as positive. It seems likely that some positive UAs were not flagged as “due to approved medication,” and therefore miscoded as a true positive UA.

are likely to be reliable (because they were completed by the same individual). This is important because the LSI demands that the interviewer make judgment calls about how to score individuals. The downside is that the probation officers completing the LSI are invested in the drug court. We recognize that probation officers routinely perform assessments on their clients—this is standard procedure within corrections agencies. We also have no reason to suspect overt bias. Nevertheless, scientific methods stress that those who rate the performance of individuals should be “blind” to whether the individuals are in the treatment or control group. This helps to guard against any conscious or unconscious bias.

**Comparison with the December 2004 Sample.** The results reported here are consistent with the findings of the prior process evaluation. The larger sample size and longer tenure of the drug court program strengthen the confidence in these findings.

Table 4. Mean LSI Scores for Select Drug Court Graduates (N = 63).

	LSI Total Score	LSI Drug & Alcohol	LSI Attitude	LSI Employment	LSI Companions
Drug Court Entry	27.5	6.0	1.4	5.0	3.4
At Drug Court Exit	14.7	1.9	0.4	2.5	2.1
Difference in Mean Scores	12.8*	4.1*	1.0*	2.5*	1.3*

\* Statistically significant mean difference (paired t-tests,  $p < .01$ )

## **The Effect of Correctional Treatment on Drug Court Participants' Recidivism**

Our final set of analyses prior to considering a control group was to examine the predictors of recidivism among drug court participants. The primary interest in these analyses was to assess whether drug treatment reduced the likelihood of criminal recidivism. A wealth of information indicates that effective correctional interventions (treatment) should reduce recidivism. We examined whether individuals who completed residential drug treatment, outpatient drug treatment, or the cognitive skills program were less likely to recidivate.<sup>7</sup> Recidivism was measured as whether or not an individual was convicted of (a) any new offense, (b) any new felony offense, and (c) any new drug-related offense.<sup>8</sup>

Table 5 illustrates the results of this analysis. The first row of data illustrates the effect of outpatient drug treatment. When any conviction is the measure of recidivism, the completers (35%) actually have a higher recidivism rate than non-completers (23%). That relationship also appears for felony convictions (13% vs. 10%) and drug convictions (7% vs. 6%). For residential treatment, the results are more favorable. Those who completed residential treatment were less likely (19%) to get convicted for a new offense than non-completers (29%). There was little difference for felony convictions, but there was a 5% difference in favor of the treatment completers for drug-related convictions. Those who completed the cognitive skills program were slightly more likely to be convicted of any offense (24% versus 29%), but less likely to have been convicted of a felony (15% versus 6%).

---

<sup>7</sup> All analyses were replicated with measures of whether a person *received* treatment (as opposed to completing treatment). This did not substantively alter the results.

<sup>8</sup> The recidivism measures are discussed in more detail in the following section.

Overall then, this initial analysis failed to demonstrate a consistent pattern where those who completed treatment were subsequently less likely to recidivate. This must be interpreted very cautiously though, because individuals were not randomly assigned to treatment. Indeed, as noted already, there is evidence that higher risk individuals were more likely to receive treatment. We therefore examined recidivism using logistic regression models. This technique allows prediction of an either/or variable using multiple control variables. In addition to treatment completion, we included measures for race, gender, criminal history, alcohol/drug problems, and time at risk.

Treatment completion (or treatment participation) failed to predict recidivism in all models. The primary factors that emerged as predictors of recidivism were measures of criminal history (e.g., number of prior felony convictions, the criminal history sub-score of the LSI), time at risk, and the drug/alcohol scale of the LSI. Those at risk for longer times and with greater criminal histories (or alcohol/drug problems) were more likely to recidivate. In different models, age and race also emerged as significant predictors. Younger individuals and nonwhites had a higher likelihood of re-conviction.<sup>9</sup>

We must emphasize that the measures of treatment used here are not ideal—we only measure whether an individual completed drug treatment and have no information regarding the quality of treatment or the progress made by individuals. Also, since multiple treatment providers were used by the drug court, it is possible that some were more effective than others (we do not have measures of where treatment was received). Finally, given the relatively low levels of recidivism, the data may be “hiding” a treatment-recidivism pattern. Because convictions take time to cycle through the

---

<sup>9</sup> In the interest of brevity, we did not include the statistical models in this report. We did run multiple models using different measures of criminal history (number of prior felonies, criminal history sub-score from the LSI) and different measures of treatment (residential treatment, outpatient treatment, any drug treatment). The logistic regression results are available upon request.

criminal justice system, as the follow-up time increases, a treatment relationship might appear.

Despite the limitation so the analyses, prior treatment literature suggests that treatment completion should emerge as relatively strong predictor of recidivism. In that sense, the finding that drug treatment had no apparent effect on recidivism among drug court participants is reason for concern.

Table 5. The relationship between correctional treatment and three measures of recidivism within the drug court sample (N = 167).

Type of treatment	Re-Convictions Rates		
	Any Conviction	Felony Conviction	Drug Related Conviction
Outpatient drug treatment completed	35%	13%	7%
non-completers	23%	10%	6%
Residential drug treatment completed	19%	10%	2%
non-completers	29%	10%	7%
Any drug treatment completion	25%	12%	4%
non-completers	28%	9%	8%
Cognitive skills completion	24%	6%	7%
non-completers	29%	15%	5%

## **Process Summary**

This section of the report addressed several process related areas. The major findings of this section are summarized by grouping them according to research questions.

### ***Who is participating in drug court? What is known about their demographics and risk for recidivism?***

- The typical drug court participant appears to be a medium risk offender. Drug court clients averaged and LSI score of 30 and roughly 3 prior adult convictions, and 40% have been previously incarcerated upon conviction.
- The typical drug court client is a 31 years old, white, and male. Racial minorities (26%) and females (36%) do, however make up a substantial proportion of participants. About ½ of drug court participants did not earn a high school degree and a similar proportion receive public financial assistance.

### ***What type of illicit drugs did participants use upon entry into drug court? How serious are their drug use problems?***

- Drug court participants report substantial problems with illicit drug and/or alcohol use, averaging 6.3 on a 9 point sub-section of the LSI.
- About half of participants report problems with marijuana, with 29% reporting problems with methamphetamine. Arrest data indicate that use of drugs other than marijuana (methamphetamine, cocaine, prescription drugs) is more prevalent than self-report data would indicate. Specifically, 72% of the participants were arrested for a drug other than marijuana.
- The retention rate for the drug court stands at 70%. The graduation rate, excluding those currently in progress, is 61%. These numbers compare favorably to other programs in the drug court literature.

### ***How long does it take between arrest and entry into drug court?***

- The median time between arrest and first drug court appearance was over three months. However, a substantial proportion of drug court clients (over 25%) went from arrest to their initial drug court appearance in less than one month.
- The central reason for delay between arrest and drug court entry appears to be the ability and desire of some participants to post bail. To the extent that the drug court team feels that speed of processing is important (generally, it hasn't been demonstrated empirically that speedy processing predicts client success), they should examine the bail procedures.

***What type of correctional treatment do drug court participants receive?***

- 34% of participants received some outpatient drug treatment, and 35% received some residential drug treatment. Overall, 65% of participants received some drug treatment. 72% of participants attended a group-based cognitive skills program.
- Combining the drug and cognitive skill treatments, 95% of graduates (and 90% of all participants) received some form of correctional treatment.

***What type of correctional supervision do drug court participants receive?***

- Drug court participants were generally supervised at levels outlined in the protocol. Specifically, urinalyses were conducted at rates higher than required, and court reviews were being attended at expected rates.
- Probation supervision, even without data on ROPE checks and cognitive skills sessions, was consistent with the protocol. Integration of this data would likely show that probation supervision exceeds expected levels.

***What effect does drug court have on intermediate outcomes?***

- Based on LSI reassessment data, those who graduated drug court showed significant declines in risk.
- Based on the results of urinalysis, drug court reduced the use of illicit drugs among participants. For those (3/4 of sample) who had at least one positive UA, the average time between the last positive UA and graduation from drug court was over one year.

***Does correctional treatment reduce recidivism among drug court participants?***

- The simple relationship between treatment completion and recidivism reveals mixed results. Favorable results are most apparent examining residential drug treatment (for any conviction and drug-related convictions) and the effect of cognitive skills programming on felony convictions.
- Because participants were not randomly assigned to treatment, it is possible that any differences in recidivism are due to factors (such as gender or criminal history) other than treatment. Logistic regression models revealed that treatment programs did not have a statistically significant effect on recidivism among drug court participants.

## **DRUG COURT OUTCOMES**

This section of the report compares South St. Louis County Adult Drug Court participants with a control group to assess whether the drug court has reduced recidivism among graduates. The section begins by describing the general research design, and research methods used in the analyses. Next, we discuss the extent to which the comparison group is similar to the drug court group on measures of demographics, criminal history, and drug/alcohol problems. Finally, we present models that examine the impact of the drug court on recidivism, relative to the comparison group. These models statistically control for observed differences between the drug court and comparison group.

### **Methods**

To evaluate the impact of the drug court on criminal recidivism, a quasi-experimental design was employed. True experimental designs use random assignment of subjects to groups to ensure that the groups are equivalent at the beginning of the experiment. Since random assignment procedures were not employed in the South St. Louis County Adult Drug Court, a true experimental design was not feasible. Quasi-experimental designs involve the post-hoc creation of a comparison group. Given the nature of the drug court under consideration, the only option was to create a “historical comparison group.” Simply put, individuals were selected for the control group from archival (pre-drug court) records based their arrest for an offense that would have made them eligible for drug court if the program had existed.

Specifically, the control group was created by first compiling a list of all individuals who were convicted of felony drug offenses between January 1999 and February, 2002 (the inception of drug court). Since the drug court only allows 3<sup>rd</sup>-5<sup>th</sup> degree drug offenders, those who were convicted of 1<sup>st</sup> or 2<sup>nd</sup> degree offenses were

eliminated from the sample. Next, we excluded any individuals who were sentenced to prison as “presumptive commitments” under Minnesota sentencing guidelines. Drug court team members indicated that these types of cases were very likely to be screened out of drug court. In other words, the drug court generally targets those individuals who are not prison-bound. The remaining individuals (N = 165) were included as control group members.

The central issue in a quasi-experimental design is how “comparable” such a group is in terms of factors that might have an impact on recidivism. For example, if the control group has higher levels of criminal history than the drug court group, the control group will likely have a higher recidivism rate regardless of the effectiveness of the drug court. There is no bullet proof solution to non-equivalent control groups. We address the issue by first examining the two groups for differences in demographics and criminal history. Next, we statistically control for these differences (in effect, holding constant the effects of factors such as gender and criminal history) when examining recidivism.<sup>10</sup>

The second issue that arises with a historical comparison is that the control group has been at risk for recidivism much longer (in some cases since 1999) than the drug court (2002 at the earliest). Thus, even if the groups had an equal likelihood of recidivism, the control group’s recidivism rate would be higher because of their longer exposure time. There are a number of ways to account for this, some of which are not possible with the parameters of the data. One way is to examine recidivism rates over time—we accomplish this through a technique called survival analysis.

---

<sup>10</sup> Another solution is to match subjects based on important characteristics. For example, for every nonwhite female in the drug court, a nonwhite female could be added to the comparison group. Unfortunately, the size of the pool available for the control group did not permit such a strategy.

## **Baseline Comparisons between the Control Group and the Drug Court Group**

Table 5 provides a demographic profile for both the drug court sample and the control group. The control group is significantly more likely to be male (78%) and nonwhite (40%) than the drug court sample (64% male, 26% nonwhite). Considering the general recidivism literature, both of these factors place control group members at higher risk for recidivism. Conversely, the drug court sample is more apt to be receiving public financial assistance at the time of the pre-sentence investigation.

Criminal history measures are among the strongest predictors of recidivism and therefore are a key to assessing the comparability of the two groups. The top half of Table 6 outlines several measures of criminal history. Inspection of the table reveals that the control group members are at greater risk to recidivate based on their criminal history. Control group members average roughly one more prior adult conviction (3.6) than drug court participants (2.7). Also, more control group members (50%) had a prior post-conviction incarceration than the drug court group (38%). Finally, control group members have a higher mean LSI criminal history score (4.2) than control group members (3.3).<sup>11</sup> The criminal history score is based on ten items, with one point allotted for each item.<sup>12</sup>

Drug court participants do score higher on two risk prediction measures outlined in Table 7, the total LSI score and the drug/alcohol LSI subscale (see, Figure 4). Given the similarity in the nature and level of offenses (e.g., felony drug offenses) apparent in each group, and the higher criminal history evident in the control group, these findings must be viewed with caution. In particular, it seems likely that these differences reflect a

---

<sup>11</sup> Because the use of the LSI is relatively recent, 43 members of the control group were assessed using a different instrument. Therefore, LSI-specific measures are not available for these individuals (The LSI and other measures are discussed above in the process portion of this report).

<sup>12</sup> Scores are calculated based on whether or not individuals have certain criminal history events in their past (e.g., prior adult convictions, being arrested under age 16, prior incarceration, official record of violence).

lack of reliability in the LSI administration, rather than real differences across the groups.<sup>13</sup> In attempting to control for risk for recidivism, we therefore lend more credence to the criminal history information than either the total LSI score or the drug/alcohol sub score.

In light of demographic and criminal history factors then, the control group appears to be more at risk for recidivism. Although many of the differences are modest, control group members are more likely to be non-white and male. They have more prior felonies, are more likely to have been incarcerated, and have higher criminal history scores. We address these differences by controlling for race, gender, and criminal history in the statistical models that predict recidivism.

### **Process Measures**

In addition to measuring who is in each group, we also attempted to measure what was done to members of each group in terms of supervision, urinalysis, and drug treatment. Unfortunately, the information available for control group members was in most cases not comparable to information available for drug court clients. For example, while probation officers assigned to the drug court systematically code their contacts (e.g., field, office, phone visits) contact information for control group members was “hit or miss” depending upon who entered the data. This data was too unreliable to use. We were able to collect reliable urinalysis information for both groups and here the data is revealing. All drug court clients were regularly drug tested—an average of roughly 1.5 times per week throughout their drug court tenure. In contrast, we could find no evidence of urinalysis results for 66% of the control group. Further, only 10% of control group

---

<sup>13</sup> The drug court staff clearly feels that they are administering the LSI in accordance with the accepted scoring procedures. As both drug court probation officers are also LSI “trainers” for the department, we have no reason to doubt their expertise. Regardless of the source of the differences between the control and drug court groups in scoring LSI items, we feel confident that using the more objective portions (e.g., criminal history) of the instrument improves the validity of this study.

members had more than two urinalyses during their probation tenure. Given the vast difference in the level of testing, it makes little sense to compare UA results across the groups (e.g., the frequencies of positive UAs).

Another area where reliable information was available involved drug treatment. A distinctive feature of drug courts is their provision of residential and/or outpatient drug treatment. Figure 5 illustrates the difference in treatment rates between drug court and control group members. Drug court participants are significantly more likely to have received residential (35%) and/or outpatient (34%) drug treatment, and 65% of the sample received some drug treatment. In contrast, 23% of the control group received residential treatment, 18% received outpatient treatment, and 35% received some form of drug treatment.

Table 6. Demographic comparisons between the drug court and control groups.

Variable	Drug Court Group			Control Group		
	N	%	Mean	N	%	Mean
Age	167		30.9	168		30.7
Gender**						
Male	106	64%		130	78%	
Female	61	36%		38	22%	
Race**						
White	124	74%		100	60%	
Nonwhite	43	26%		68	40%	
Education						
Less than grade 12	88	53%		83	55%	
12 <sup>th</sup> grade or higher	79	47%		68	45%	
Less than grade 10	21	13%		31	20%	
10 <sup>th</sup> grade or higher	146	87%		120	80%	
Financial Assistance*	84	51%		56	37%	
No Financial Assistance	82	49%		94	63%	
Unemployed	111	66%		90	60%	
Employed	56	34%		60	40%	

\* p<.05, \*\*p<.01

Table 7. Comparison of drug court and control groups—instant offense, criminal history, and drug/alcohol problems.

Variable	Drug Court Group			Control Group		
	N (167)	%	Mean	N (165)	%	Mean
<b>Criminal History</b>						
Prior Adult Convictions*	167		2.7	165		3.6
Prior Incarceration Upon Conviction	63	38%		82	49%	
LSI Criminal History**	167		3.3	122		4.2
LSI Risk Total Score**	167		30.1	122		22.3
LSI Drug/Alcohol Score**	167		6.3	122		3.7
<b>Instant Offense</b>						
<b>Felony Level of Offense*</b>						
Third Degree	19	11%		31	18%	
Fourth Degree	0	0%		16	10%	
Fifth Degree	149	89%		121	72%	
<b>Type of Drug Offense</b>						
Sales	48	29%		39	23%	
Possession	102	61%		110	66%	
Other/Unknown	18	11%		19	11%	
<b>Drug in Instant Offense*</b>						
Marijuana	47	28%		42	25%	
Methamphetamine	57	34%		43	26%	
Cocaine	23	14%		40	24%	
Other	22	13%		16	10%	
Unspecified	14	9%		26	16%	

\* p<.05, \*\*p<.01

Figure 4. Risk for recidivism for member of drug court and control groups.

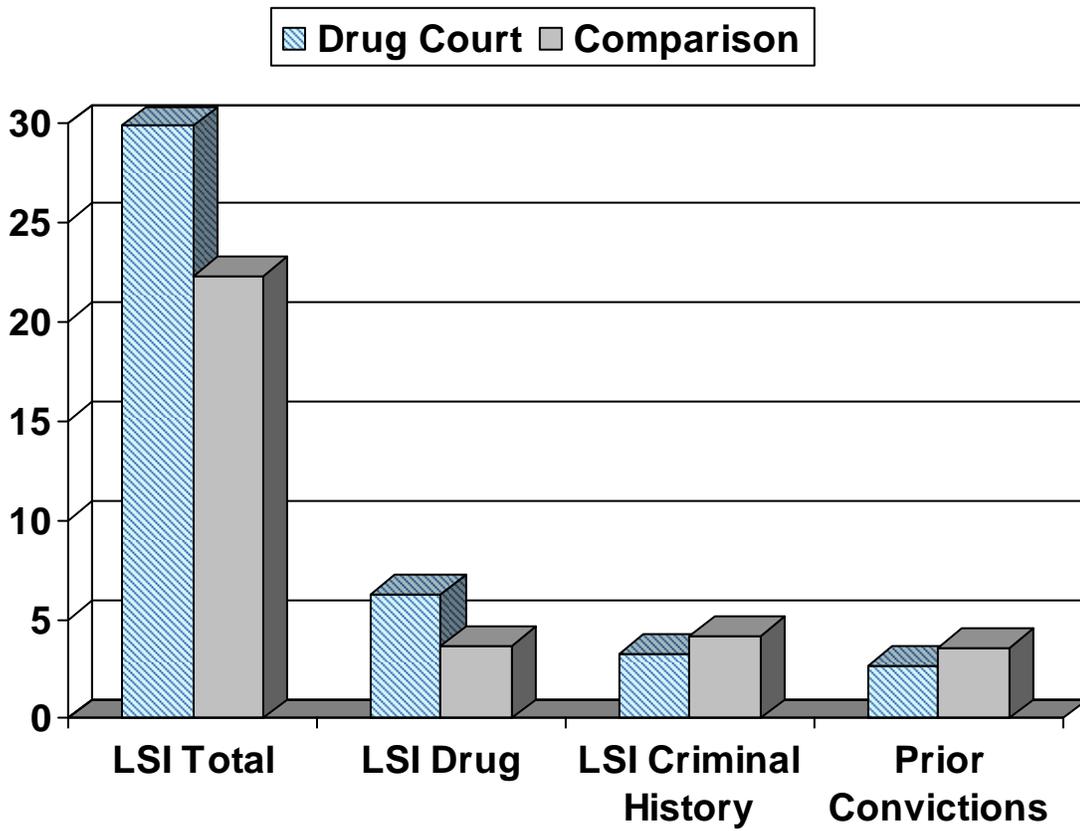
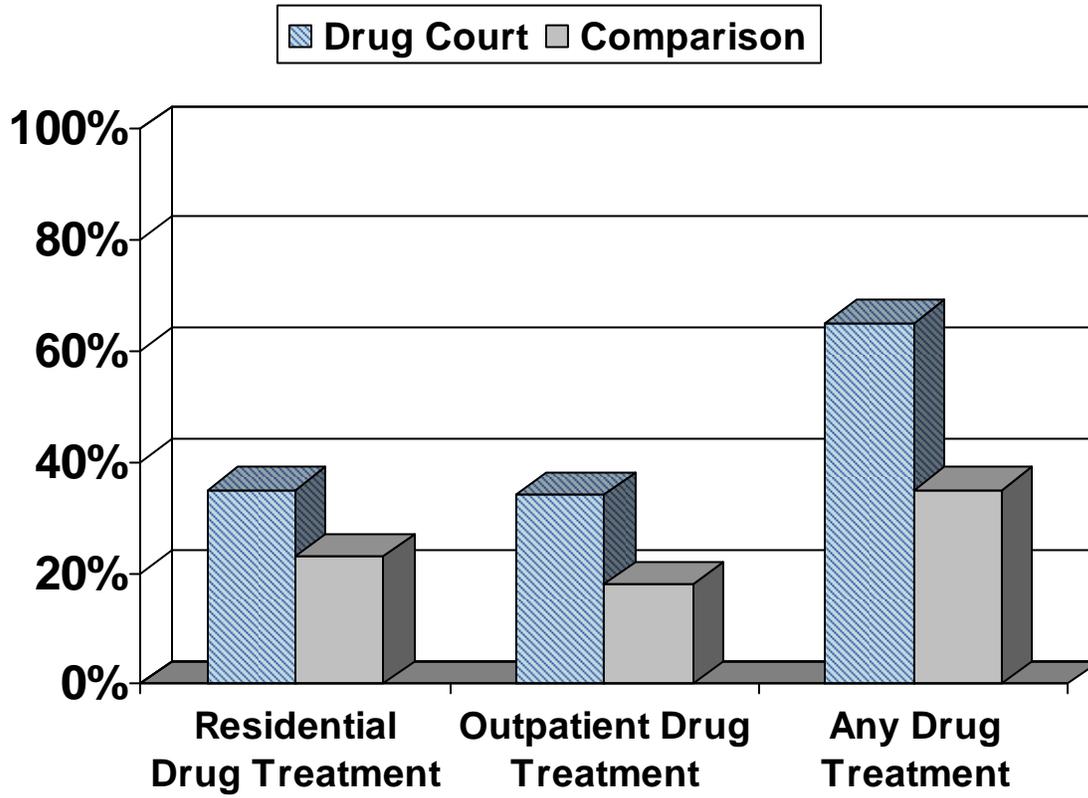


Figure 5. Drug treatment rates for drug court and control groups.\*



\*All differences between groups were statistically significant based on Chi-square tests,  $p < .05$ .

## **Analysis of Recidivism**

Recidivism data was collected for both groups through both the Minnesota Bureau of Criminal Apprehension (BCA) and the Court Services Tracking System (CSTS). BCA recidivism checks should capture any conviction data within the state of Minnesota. The CSTS system captures only those offenses committed in Arrowhead Regional Corrections counties, and was used largely to verify the BCA data. The primary measure of recidivism was conviction for a new offense. Within both databases, convictions were recorded if they occurred after the date of conviction for the instant offense (the offense that led to drug court or inclusion in the control group) and before June 1<sup>st</sup>, 2007. From the conviction data, we created three measures of recidivism:

- Whether or not an individual was convicted of any offense (regardless of level) during the follow-up period.
- Whether or not an individual was convicted of a felony offense during the follow-up period.
- Whether or not an individual was convicted of a drug-related offense during the follow-up period.

As noted earlier, the analysis of recidivism is complicated by two factors. First, because this is a historical comparison group, members of the control group have been at risk for offending (e.g., on probation with the opportunity to offend) for a much longer time than the drug court group. The average time at risk (from conviction of instant offense until June 1, 2007) was 6.2 years for the control group, and only 2.7 for the comparison group. The second factor is that based on the analyses reported above, the comparison group is (because of demographics and criminal history) at greater risk for recidivism than the drug court group. For these reasons, Table 8 must be interpreted with extreme caution. It

is presented here primarily to familiarize the reader with the measures of recidivism and provide baseline recidivism data for the drug court participants.

As expected, drug court participants have lower rates of recidivism across the board than the control group. Largely this is a function of time at risk. For the same reason, control group members had longer average time until arrest (with a larger window of time, more individuals recidivated, and more did so after a lengthy time period).

Control group members, with an average follow-up period of 6.2 years, were convicted at a rate of 55.2%. With an average follow-up period of 2.7 years, 26.3% of drug court participants were convicted of a new offense (this includes misdemeanor, gross misdemeanor, and felony offenses). About 11% of drug court offenders have been convicted of a new felony offense, 6% for a new drug-related offense (non-inclusive of DUI offenses).

Table 8. Recidivism rates for drug court participants and control group members.

Variable	Drug Court Group			Control Group		
	N	%	Mean	N	%	Mean
Time At Risk (years)			2.7			6.2
Conviction for any offense	44	26.3%		91	57.0%	
Mean time to arrest (months)			15.0			27.9
Conviction for felony offense	18	10.8%		54	37.0%	
Mean time to arrest (months)			11.9			29.8
Conviction for drug offense	10	6.0%		27	17.0%	
Mean time to arrest (months)			15.7			29.9

## Survival Analysis

To solve the dilemma of unequal time at risk for re-offending between the drug court and control groups, we use a statistical technique called survival analysis. Survival analysis allows us to examine recidivism rates at many different points in time (e.g., at each week or month of the follow-up period). For any time period, recidivism rates are calculated based on the number of individuals who have progressed that far into the follow-up period. We then examine recidivism rates as the control and drug court group progress through their respective follow up period. A survival plot is a graphical portrayal of the results of a survival analysis.

Figure 6 is a survival analysis comparing the drug court group to the control group. On the left hand (vertical axis) is the cumulative survival rate, or the overall success rate. In this case, it represents the percent of individuals in the group that have *not* recidivated. Figure 6 indicates that at 12 months, 89% of the drug court has “survived” (not been convicted of a new offense) while the survival percent for the control group is 84%. In more usual terminology, 11% of the drug court group and 16% of the control group recidivated. At three years, the survival rates are 68% for the drug court and 64% for the control group. Beyond this point, there are very few drug court group members that can be used to compute a recidivism rate. By 48 months, only 24 drug court group members are still at risk (the others have recidivated or haven’t been out in community 48 months since their drug court participation started).

Figure 7 replicates the same procedure using conviction for a *felony* offense as the criteria for recidivism (and survival). The survival plot again contrasts the drug court group with the control group. Here the differences in survival rates over time are more substantial. At two years, the survival rate for the drug court is 90%, and is still at 88% at three years, and 86% at 46 months. The control group survival rate at 2 years is 82%,

and drops to 76% by three years, and to 72% at 46 months. Figures 8 and 9 examine drug specific recidivism. Figure 8 displays a survival analysis for drug-related (possession, sales) offenses. Again, the drug court participants have a slightly higher survival rate than the control group. At three years, for example, the survival rate is 93% for drug court participants and 89% for the control group.

The general pattern that emerges from the survival analyses, then, is that drug court participants fare slightly better than control group members. While the differences in the survival curves are not particularly large, they consistently favor the drug court. Because these groups are not equivalent in terms of risk for recidivism, the final step in examining recidivism is to introduce statistical controls. Fortunately, statistical controls can be introduced within survival analysis with a technique called Cox regression (or proportional hazard regression). In essence, the Cox regression models predict the odds of failure (recidivism) at any particular point in time—the variables entered as controls influence the survival curves illustrated in Figures 6-8.

Recalling the baseline differences between the drug court and control groups, we identified a number of factors that were introduced as control variables. In essence, by entering these variables into a model, we statistically balance out the groups on those factors. Control variables include race, gender, educational status, employment, and measures of criminal history (see Table 6). Finally a variable that captures the group status (drug court or control) is entered into the model. If this variable is statistically significant, drug court has an impact on the odds of recidivism (or survival).

Figure 6. A survival plot comparing drug court participants to the control group (recidivism/failure defined by conviction for any offense).

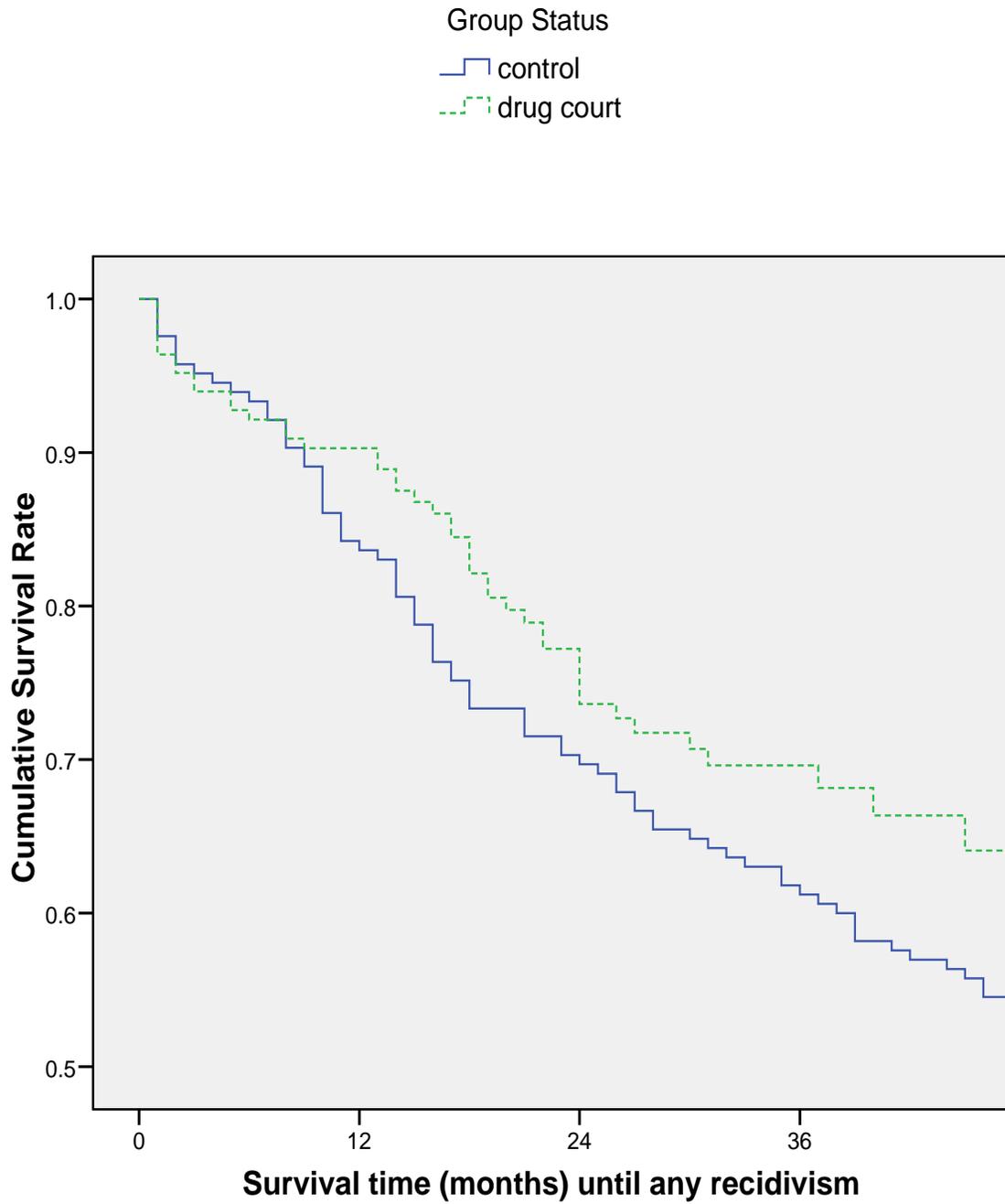


Figure 7. A survival plot comparing drug court participants to the control group (recidivism/failure defined by conviction for a felony offense).

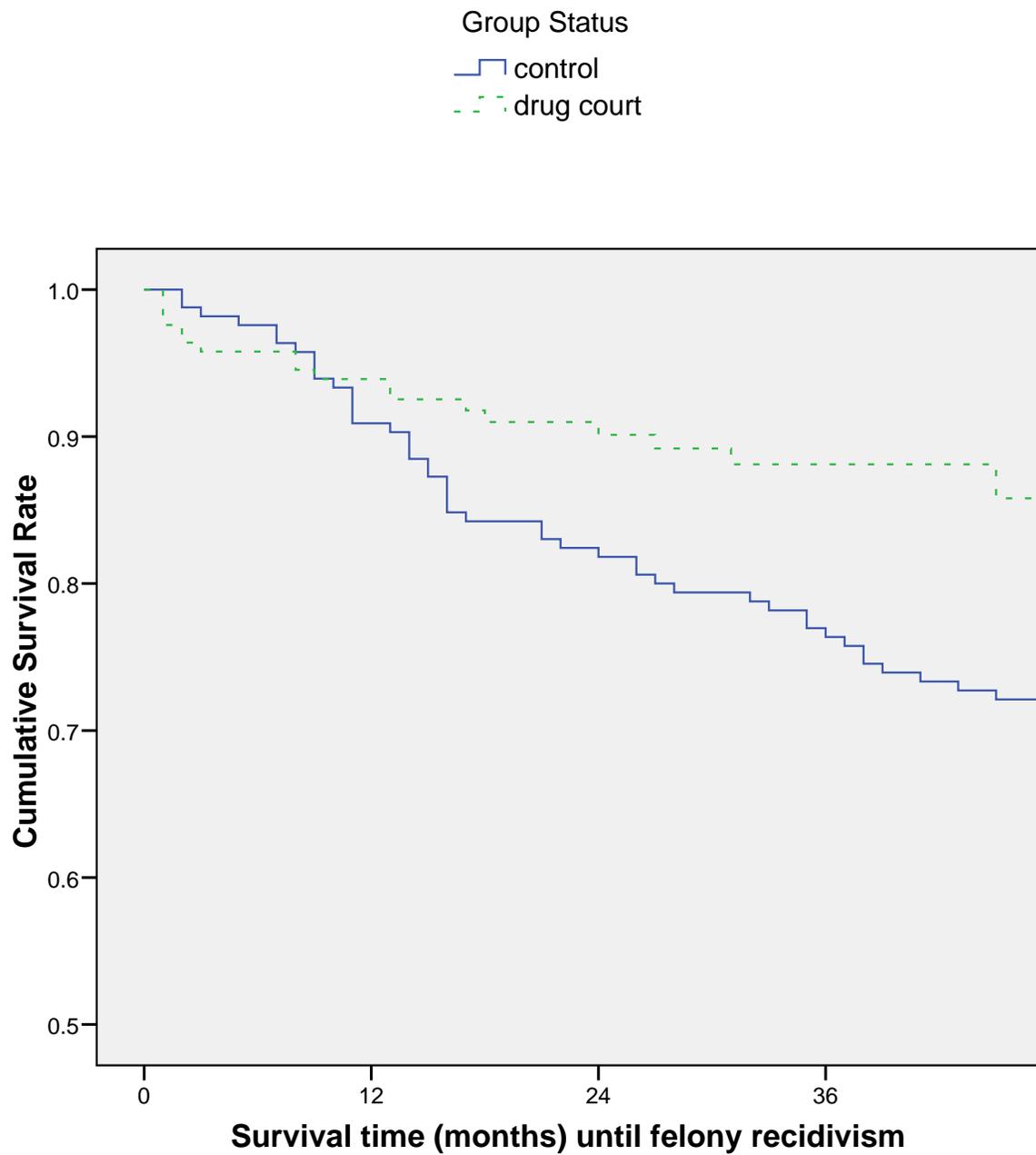


Figure 8. A survival plot comparing drug court participants to the control group (recidivism/failure defined by conviction for a drug-related offense).

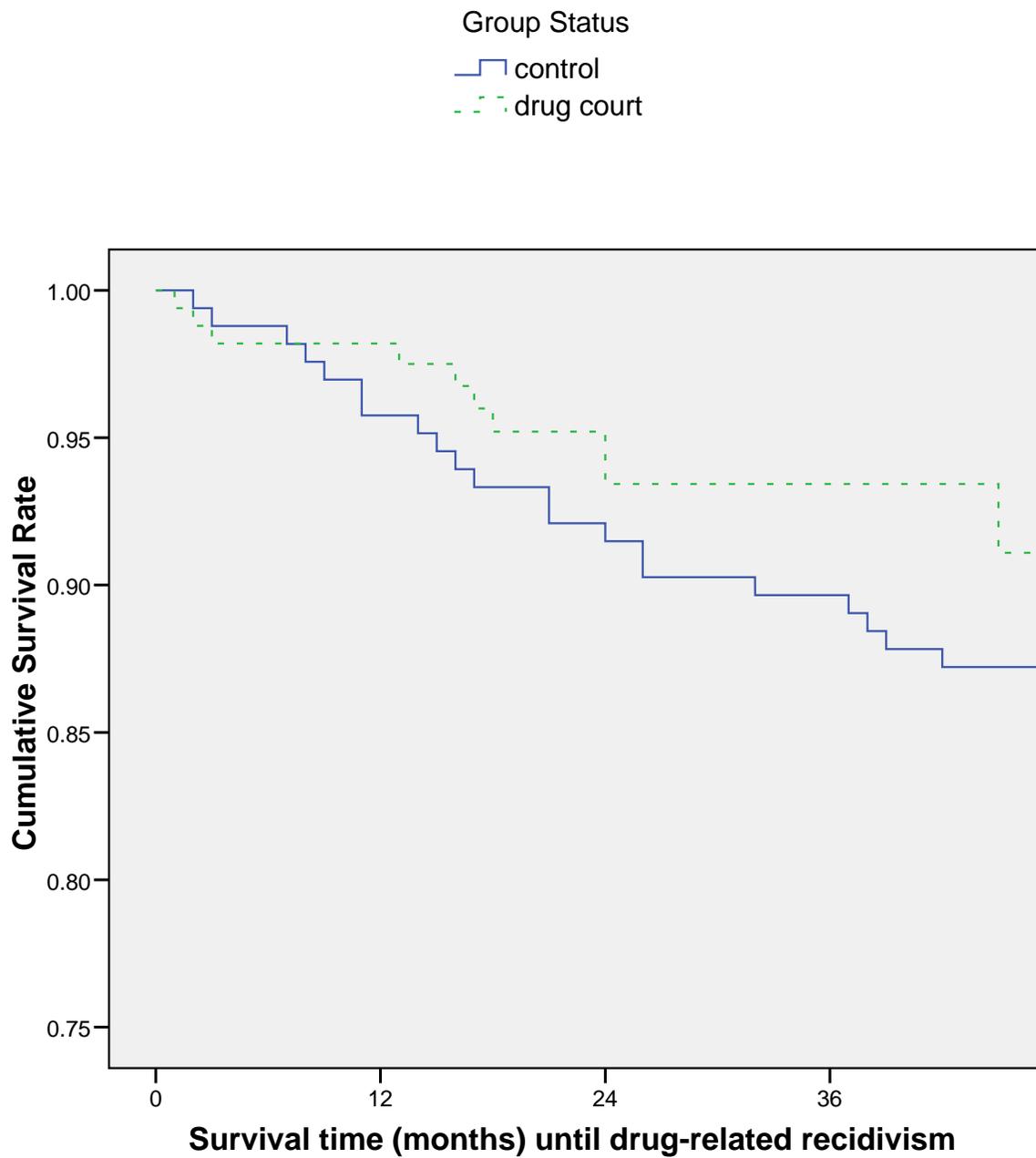


Table 9 illustrates the results of the Cox regression analysis predicting the survival function when recidivism is defined as any new conviction. The primary variable of interest is group status. If this variable is statistically significant, then drug court participants had lower odds of recidivism than the control group (after controlling the other factors). In the model, number of prior adult felonies is the sole significant predictor of recidivism. Those with more prior felonies had higher odds of recidivism.<sup>14</sup>

Table 10 shows the same information as the previous table, except that the model is predicting conviction for a new *felony* offense. In this model, race and group status are significant predictors. Specifically, whites and drug court participants had lower odds of recidivism (or, higher survival rates). Exp(B) is referred to as an “odds ratio.” Literally, the Exp(B) of 2.1 for “group status” means that the odds of survival (not recidivating) for a drug court participant is 2.1 times that of a control group member. Figure 9 graphically displays the difference between drug court and control group members survival functions. It is similar to the survival analyses presented previously, except that in Figure 9, the effects of age, race, education, prior felonies are statistically controlled (held constant). At three years, holding other factors constant, the odds of survival are 77% for the control group and 88% for the drug court group. The corresponding recidivism rates are 23% for the control group and 12% for the drug court group.

Table 11 shows the Cox regression model predicting a new drug conviction. The overall model is non-significant, and the only significant predictor is race. This is not surprising given that we are trying to predict a specific type (drug) of recidivism rather than some general measure of recidivism. The crime literature strongly suggests that offenders tend to be “generalists” rather than specialize in one type of criminal behavior.

---

<sup>14</sup> We replicated each model using two other measures of criminal history (the LSI criminal history score and prior incarceration). In no cases did changing the measure of criminal history have a substantive effect on the results.

Thus, even though offenders were selected for both drug court and the control group based on a prior drug conviction, predicting future drug offenses is still difficult.

In sum, the regression results reveal that the South St. Louis County Adult Drug Court Program had a positive impact on the odds of reconviction for a felony offense. Specifically, individuals who attended drug court had lower odds of being convicted for a new felony offense, compared to a control group. This effect is apparent even after controlling for age, race, sex, education status, and various measures of criminal history. Drug court status, however, did not predict the odds of conviction for any offense (misdemeanor, gross misdemeanor, and felony combined) or for drug-related offending.

In light of the analysis of correctional treatment presented in the process section of the report, these findings raise an important question. If correctional treatment did not predict recidivism among the drug court sample, why were drug court participants less likely to recidivate than the comparison group? While we cannot offer a concrete answer, there are a number of possibilities. Aside from treatment, any number of drug court elements may reduce recidivism. Examples include the extensive drug testing combined with immediate and graduated sanctions, and the relationship/bond developed between the drug court team and drug court participants. Further, it is possible that treatment worked *in combination* with these other elements to lower the odds of recidivism.

Table 9. Cox regression equation predicting the odds of survival for all subjects—survival defined as the absence of any new conviction.

Variable	b	SE	p	Exp(B)
Age	-.02	.01	.155	0.99
Race (1 = nonwhite)	-.30	.18	.100	0.74
Sex (1 = male)	-.14	.21	.489	0.87
Education (1 = less than high school diploma)	.13	.18	.475	1.14
Prior Adult Convictions (Ln)**	.53	.19	.008	1.27
Group Status (Drug court = 1)	.29	.19	.139	1.33

\*p<.05, \*\* p<.01

Table 10. Cox regression equation predicting the odds of survival for all subjects—survival defined as the absence of a new felony conviction.

Variable	b	SE	p	Exp(B)
Age	-.03	.02	.045	0.97
Race* (1 = nonwhite)	-.47	.24	.049	0.63
Sex (1 = male)	.10	.26	.688	1.10
Education (1 = less than high school diploma)	-.30	.25	.222	0.73
Prior Adult Convictions (Ln)	.21	.15	.062	1.24
Group Status (Drug court = 1)**	.73	.28	.009	2.08

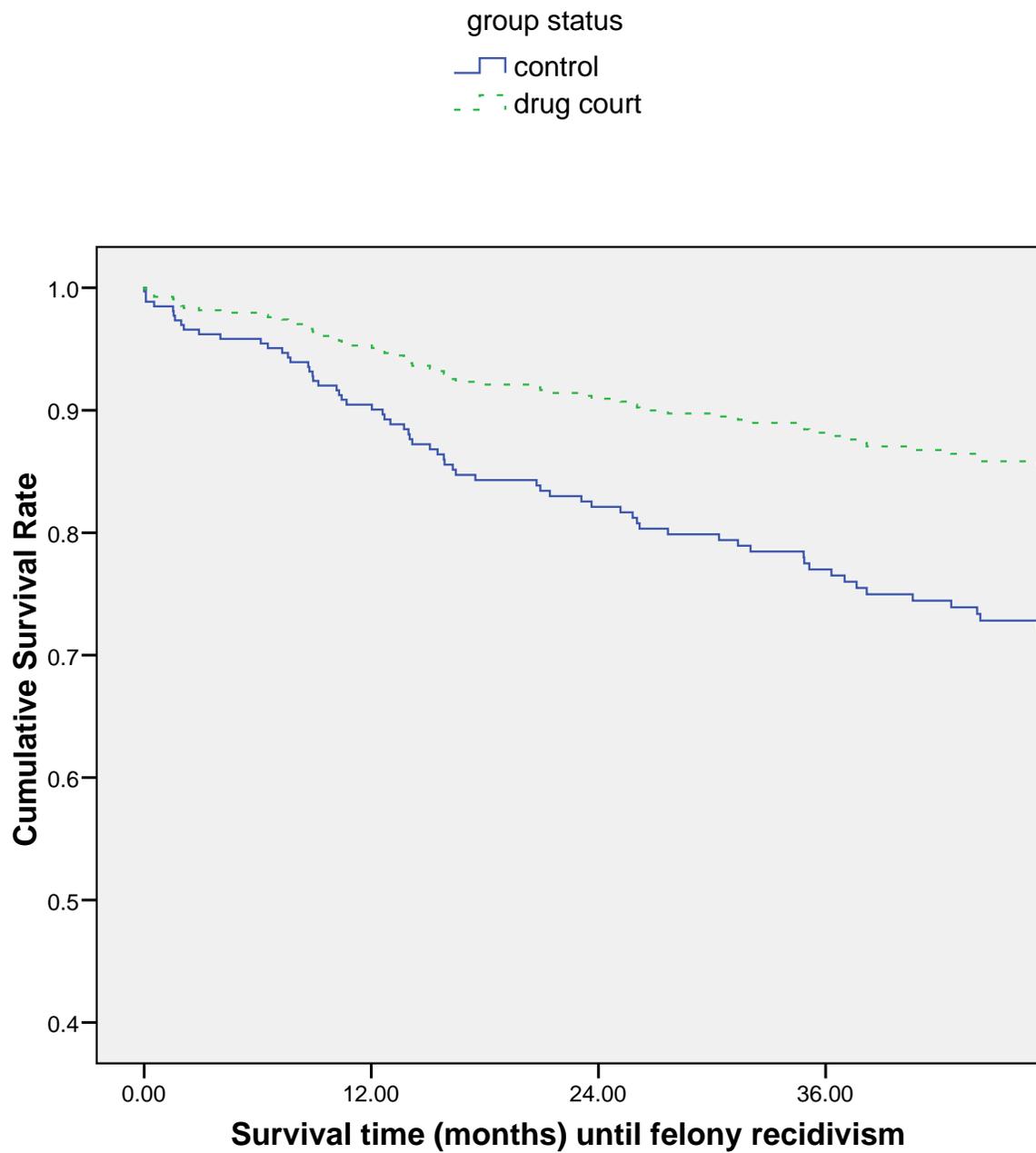
\*p<.05, \*\* p<.01

Table 11. Cox regression equation predicting the odds of survival for all subjects—survival defined as the absence of a new drug-related conviction.

Variable	b	SE	p	Exp(B)
Age	-.02	.02	.395	0.98
Race* (1 = nonwhite)	-.82	.25	.019	0.44
Sex (1 = male)	.12	.38	.775	1.11
Education (HS/less than HS)	-.11	.36	.762	0.90
Prior Adult Convictions (Ln)	.17	.17	.303	1.13
Group Status (Drug court = 1)	.41	.40	.524	1.50

\*p<.05, \*\* p<.01

Figure 9. Survival analyses controlling for age, race, sex, education status, and prior convictions.



## **Outcome Summary**

### ***How comparable are the drug court group and the control group in terms of demographics and criminal history?***

- The control group is made up of individuals who were convicted of a drug-related felony offense and placed on probation prior to the inception of the drug court. Because of the lack of random assignment, it is important to examine differences between the groups.
- Based on criminal history and some measures of demographics, the control group appears to be at somewhat more risk for recidivism. Specifically, control group members have higher levels of criminal history (prior incarceration, prior felonies, LSI criminal history score), and are more likely to be male and nonwhite.
- Differences did emerge in some LSI-based measures (e.g., the alcohol/drug scale and the overall LSI score) suggesting that the drug court group was higher risk. However, given how the control group was selected, and the differences in gender and criminal history, it seems likely that such differences are attributable to differences in how LSI interviews are scored.

### ***How comparable are the drug court and control group with respect to process?***

- It is very obvious that control group members were unlikely to be drug tested at all via urinalysis, whereas drug court participants were tested more than once per week.
- Drug court participants were more likely to receive drug treatment than control group members.
- Due to data limitations, it was not possible to assess differences in probation supervision.

### ***Are drug court participants less likely to be re-convicted than members of the control group?***

- Survival analyses reveal that, after controlling for demographics and criminal history, drug court had a significant impact on risk for felony reconviction. Specifically, members of the control group were roughly twice as likely to be convicted of a new felony offense as drug court participants.
  - After three years, holding other factors constant, the odds of survival (not getting convicted of a felony offense) were 77% for the control group and 88% for the drug court group.
- Participation in drug court was not a statistically significant predictor of recidivism for either (a) any new conviction, or (b) a new drug-related conviction.