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RESEARCH

The Drug Court Model and Persistent DWI

An Evaluation of the Erie and Niagara DWI/Drug Courts

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Table of Contents

Executive Summary

In June 2007, the New York State Unified Court System launched hybrid DWI/drug courts in Erie and Niagara Counties to address the issue of persistent driving while intoxicated (DWI). The courts, based on the proven drug court model, target nonviolent felony DWI offenders who have at least one prior DWI conviction and who are identified as having an alcohol abuse problem.

An earlier process evaluation describes the DWI court model, documenting court policies, implementation challenges, and participant characteristics (Washousky 2008). The current report evaluates the impact of the Erie and Niagara courts on re-arrest and case processing. Outcomes were compared between 90 DWI court participants and 259 similar defendants sentenced by judges in Erie and Niagara. Weighting techniques were implemented to adjust for baseline differences in current charges, prior criminal history, and key demographic characteristics (age, sex, and race). In addition, the report examines DWI court compliance and alcohol use outcomes among the participant sample.

Impacts on Recidivism

Consistent with previous research, overall re-arrest rates were low among both the DWI court participants and the comparison sample. Less than 1% of both samples had been re-arrested at three months post-sentence; slightly more comparison defendants than DWI court participants had been re-arrested at both six months (2% versus 4%) and one year (5% versus 8%) post-sentence. While not statistically significant, these results suggest a possible positive effect of the DWI court program. The results further suggest that DWI court participants may be slightly more likely to have a new DWI re-arrest at six months and one year; though again, these results do not reach statistical significance.

Survival analysis results reveal that the DWI court did not significantly impact the amount of crime-free time prior to a new arrest for DWI court participants. This is likely due, in part, to the low re-arrest rate among both DWI court participants and comparison defendants.

Impacts on Case Processing

Defendants in both the participant and comparison samples took over eight months on average to reach disposition. There was no difference in time to disposition between the two samples.

DWI Court Participant Outcomes

The majority (75%) of DWI court participants included in the evaluation were still actively enrolled in the program at the time of the analysis. Of those who were no longer active (23 defendants), the majority (83%) had successfully graduated. Only three defendants (13%) failed the program outright and were resentenced; an additional defendant (4%) entered the court pre-plea and was then returned to standard case processing in response to noncompliance.

Despite constant blood alcohol monitoring via an ankle monitor and frequent drug screening, very few DWI court participants tested positive for alcohol (3%) or drugs (7%). Nine percent of defendants tried to tamper with the screening device, which suggests an intent to ingest alcohol. In total, only 14 defendants had ever re-used or *attempted* to re-use. Older DWI court participants were somewhat more likely to have a noncompliant incident (i.e., positive drug or

alcohol screen, removal or blocking of the required monitoring anklet, or program failure); white defendants and those charged with "common law" DWI (VTL §1192.3) were less likely to have a noncompliant incident.

Conclusion

Over the limited time period covered by this evaluation, the Erie and Niagara hybrid DWI/drug courts did not significantly impact the probability, prevalence, or timing of re-arrest. However, while not statistically significant, slightly more comparison defendants than DWI court participants had been re-arrested at both six months and one year post-sentence, suggesting a possible positive effect of the DWI court program. Future research should examine court impact over a longer time period, including post-program time for DWI court participants.

I. Introduction

This evaluation examines the impact of two New York State hybrid DWI/drug courts on recidivism and case processing outcomes. In addition, the evaluation examines outcomes among DWI court participants.

To address the issue of persistent driving while intoxicated (DWI)[1] in the 8th Judicial District, the New York State Unified Court System launched hybrid DWI/drug courts in Erie and Niagara in June 2007. Both courts target nonviolent felony DWI offenders who have at least one prior DWI conviction (misdemeanor or felony) and who are identified as having an alcohol abuse problem. Upon a conviction or guilty plea to an eligible DWI offense, offenders are offered an opportunity to participate in the DWI court. Offenders who refuse participation are typically sentenced to state prison time. Offenders who agree to enter the program are sentenced to three to five years of probation, with an additional condition requiring participation in the hybrid DWI/drug court for at least one year.[2] Those who successfully complete the program return to regular probation. Those who fail to complete program requirements have their probation revoked and are resentenced to prison.

All offenders assigned to the DWI court are subject to monitoring for at least six months through the Secure Continuous Remote Alcohol Monitor (SCRAM) anklet, an alcohol-monitoring system that utilizes continuous transdermal testing to measure alcohol on the wearer's skin.[3] Participants must also attend an alcohol treatment program and return to court regularly for judicial status hearings. In addition to the constant screening provided by the SCRAM anklet, participants are required to submit to random drug and alcohol screens, both on the days that they appear for their status hearings and on random days between court appearances. The DWI court judge can apply intermediate incentives and sanctions to respond to participant compliance. An earlier process evaluation describes the DWI court model implemented in New York's 8th Judicial District, documenting court policies, implementation challenges, and participant characteristics (Washousky 2008).

Despite strong evidence of the effectiveness of the drug court model (from which the DWI court model is drawn), as yet there is little conclusive evidence establishing the efficacy of DWI courts. Early evaluation results are suggestive, but suffer from a lack of methodological rigor (Marlowe et al. 2009). Consequently, there is still a need for rigorous evaluation of the DWI court model.

This section briefly describes the need for DWI courts, the DWI court model, and the literature to date. The next section of the report describes the research design and methods. The third section describes compliance and outcomes among the DWI court sample. The fourth section presents findings of the impact evaluation, including impacts on recidivism and case processing. The final section summarizes key findings from the evaluation.

[1] The distinction between driving while intoxicated (DWI) and driving under the influence (DUI) varies by state. Some states include both offenses in their penal code, while other states place all driving while alcohol-impaired offenses under one moniker. Consistent with New York State law, this proposal uses "DWI" throughout.
[2] Program length is determined by participant compliance, but is no less than one year and no more than three years.
[3] Participants may be required to wear the SCRAM anklet longer in the event of noncompliance.

The Need for DWI Courts

The National Highway Traffic Safety Administration reports that 13,470 people were killed in alcohol-related accidents in 2006—an average of one alcohol-impaired-driving fatality every 39 minutes (NHTSA 2008). Alcohol-related fatalities account for 40% of all motor vehicle fatalities in the United States. Not only are alcohol-impaired drivers especially likely to be involved in fatal accidents, but NHTSA (2004) estimates that approximately one-third of all drivers arrested or convicted of alcohol-related offenses are repeat offenders. The differing criminal codes across states make it difficult to establish national recidivism rates, but estimates indicate that between 20% and 35% of first-time offenders will repeat (e.g., Cornish and Marlowe 2003; Frost et al. 2006; Timken 2002).

While the percentage of fatal crashes attributable to alcohol has declined over the past 25 years—due, in part, to the increased legal drinking age, public awareness campaigns, random sobriety checkpoints, and increased criminal penalties—rates have remained relatively unchanged for the last decade (Fell, Voas, and Lacey 2004; Shults et al. 2001; Wagenaar et al. 1995). Although arrests for driving while intoxicated have also declined, the impact of initiatives to curb drunk driving has been largely limited to social drinkers. In contrast, the behaviors of habitual drinkers have been largely undeterred by such initiatives (e.g., Popkin and Wells-Parker 1994; Tauber and Huddleston 1999).

Previous attempts by the criminal justice system to curtail drunken driving by repeat offenders have had mixed results. There is evidence that license revocation has a positive impact on reducing recidivism, and offenders who have their licenses revoked drive less frequently or more carefully than before revocation. However, this is not a fail-safe response (Mayhew and Simpson 1991; Nichols and Ross 1990; Ross 1991; Ross and Gonzalez 1988). A 2002 study found that between 36% and 88% of offenders continue to drive after their license has been revoked (McCartt, Geary, and Nissen 2002), and 20% of fatal crashes between 1993 and 1997 involved a driver with a suspended or revoked license (Griffin and DeLaZerda 2000). Longer suspensions may be more effective in reducing re-offense; Homel (1981) found that suspension periods between 12 and 18 months are optimum; and others have found that brief suspensions (under three months) do not have any impact on re-offense (Paulsrude and Klingberg 1975; Peck, Wilson, and Sutton 1994). Ignition interlocks, which require drivers to verify their sobriety by submitting to a breathalyzer both when they start their vehicle and periodically while driving, have been shown to reduce new offenses by between 40 and 65 percent *while the devices are installed*. However, once the device is removed, re-offense rates return to pre-intervention rates (Beck et al. 1999; Beirness and Marques 2004; Coben and Larkin 1999; Fulkerson 2003; Morse and Elliot 1992; Tashima and Helander 1999; Raub, Lucke, and Wark 2003; Willis, Lybrand, and Bellany 2004).

The DWI Court Model

DWI courts are a relatively recent criminal justice system response to the problem posed by repeat DWI offenders. The goal of DWI courts is to promote public safety by addressing the addiction underlying repeat drunken driving incidents. These courts, based on the proven drug court model, seek to couple traditional court responses to DWI (e.g., license revocation, ignition interlocks) with mandated alcohol and substance abuse treatment and judicial oversight in hopes

of curtailing DWI recidivism. There are two models of DWI courts currently operating nationally: DWI courts and hybrid DWI/drug courts, or drug courts that also accept DWI offenders. These "hybrid" courts typically have a dedicated DWI calendar (Loeffler and Huddleston 2003). As of December 2007, there were 110 designated DWI courts and 286 hybrid DWI/drug courts operating in the country (Huddleston, Marlowe, and Casebolt 2008). Both of the courts evaluated in this report are technically hybrid DWI/drug courts implemented in existing drug courts. For the sake of simplicity, throughout this report, the term "DWI court" will be used to refer to both DWI and hybrid DWI/drug courts.

Unlike most drug courts, DWI courts operate almost exclusively as a post-sentence model, based on public safety concerns that such courts should not enable defendants to avoid either a record of conviction or any license sanctions. Like drug courts, DWI courts typically rely on a team of criminal justice stakeholders—including prosecutors, defense attorneys, probation, law enforcement, and court personnel—who together make sentencing and treatment decisions designed to maximize both offender accountability and public safety. Typically, DWI court defendants are required to participate in some type of treatment for their addiction to alcohol and drugs, submit to random drug and alcohol testing, and attend regular court appearances. The DWI court judge may apply intermediate incentives and sanctions to respond to participant compliance (Huddleston and Wosje 2006). Incentives can include encouragement from the judge, advancement to the next treatment phase, and decreased frequency of court appearances. Sanctions can include admonishment from the judge, mandated essay-writing, increased frequency of court appearances and testing, increased participation in treatment, community service, demotion to an earlier phase of treatment, brief periods of incarceration, and formal probation violation with program termination and re-sentence to jail.

A more in-depth discussion of the DWI court model is included as part of the earlier process evaluation of the Erie and Niagara DWI courts (Washousky 2008).

Previous Research on DWI Courts

A number of DWI court evaluations have been completed in recent years, generally finding positive impacts of DWI courts on re-offense and overall cost savings. However, many of these evaluations suffer from weak research designs. In a forthcoming meta-analysis, Marlowe et al. (2009) reviewed 41 DWI court evaluations (both published and non-published) and found only five of the studies either "good" (one study) or "marginally acceptable" (four studies) in their methodological rigor. A sixth study published after the initial cut-off date for the meta-analysis was later reviewed and rated "good." Principal evaluation shortcomings included evaluations of immature programs that had not yet had time to pilot-test and modify operations; evaluations examining only program graduates, excluding program drop-outs and failures; and evaluations where the conditions for the comparison and treatment groups were too similar to isolate a program effect (Marlowe et al. 2009).

Three of the six acceptable evaluations identified by Marlowe et al. involved programs that had been operational for a short time period. The Maricopa County, Arizona DWI court evaluation (Jones 2005) found that DWI court participants were somewhat less likely than the comparison group to be convicted of a new alcohol-related traffic offense. The Rio Hondo DWI Court in Los Angeles County, California (MacDonald et al. 2007) found no significant impact on drunk

driving during a two-year follow-up period; however, the comparison group also received key elements of the DWI court model, rather than probation as usual. Participants in the Multnomah County DUI Intensive Supervision Program in Oregon (Lapham et al. 2006) were significantly less likely than the comparison group to be convicted of a subsequent DWI offense, driving with a suspended or revoked license, or other traffic violation. In addition, the time to first re-offense was significantly longer for the treatment group. However, the intensive DUI supervision program included so many components that it is impossible to determine whether court-based components (i.e., the DWI court model) or something else resulted in these favorable outcomes.

The other three acceptable evaluations involved programs that had been operating for an extended period. An evaluation of three DWI courts in Georgia (Meredith 2007) compared only DWI court graduates to a comparison group of DWI offenders—an inherently inappropriate comparison—and found that the graduates had significantly fewer re-arrests on any charge at one-year post-completion and fewer re-arrests on any offense other than drug charges at two-years post-completion. An evaluation of the Las Cruces, New Mexico DWI Court (Breckenridge et al. 2000) found no significant differences between DWI court participants and the comparison group. However, the lack of significant findings may be attributable to small sample sizes. An evaluation of three Michigan DWI courts (Carey, Fuller, and Kissick 2007) found that DWI court participants were significantly less likely to be re-arrested for any offense in two sites and significantly less likely to be re-arrested for DWI in one site. In two sites, DWI participants also remained arrest-free for a longer time period than the comparison group. The results show some sign that outcomes may be better for graduates of the DWI court; however, these results were not significant—possibly due to small sample sizes.

The Need for Additional Research

Overall, Marlowe et al. conclude that the preliminary evidence suggests potentially favorable effects of DWI courts, but caution that, given the current state of the literature, it is impossible to draw definitive research-based conclusions about the effectiveness of the model (Marlowe et al. 2009).

This report offers a contribution to the DWI court literature by examining the impact of two New York State DWI courts on re-arrest and case processing. The evaluation seeks to answer the following questions:

- Do DWI court participants (graduates *and* failures) have fewer re-arrests than the comparison group?
- Does the DWI court have a greater impact on some *types* of re-arrest (e.g., new drunk driving charges)?
- Do DWI court participants take longer to be re-arrested than the comparison group?
- Does the DWI court have particularly strong impacts on any subset of offenders (e.g., older offenders, program graduates)?
- Do the DWI courts succeed in abbreviating the period between arrest and sentence?

Although the programs included in this evaluation are relatively young (both opened in July 2007), they were established in pre-existing drug courts and drew on a group of stakeholders with established working relationships.

II. Research Design and Methodology

This evaluation compares recidivism and other key outcomes between defendants who became participants in the Erie and Niagara hybrid DWI/drug courts from court inception (July 2007) through November 2008 and an otherwise similar group of defendants arrested in Erie or Niagara Counties but not processed in *either* the DWI court *or* the drug courts in those counties. The comparison group is drawn from cases arraigned by judges who did not adjourn cases to the DWI court from July 2007 through September 2008. Drug court participants are excluded because the drug court includes many of the same components as the DWI court (e.g., regular drug and alcohol screening, judicial monitoring, sanctions and incentives in response to participant compliance) and, therefore, might be expected to impact outcomes in similar ways.

Definition of the Participant Sample

The participant sample includes the 90 DWI court defendants who were sentenced to either the Erie or Niagara DWI court during the first sixteen months of court operations (July 2007 through November 2008). Recidivism data was obtained after an additional three months, meaning that all 90 participants could be tracked over at least a three-month post-sentence period. Additionally, 70 participants could be tracked over six months, and 31 participants could be tracked over one year.

Definition of the Comparison Sample

The comparison group was initially defined to maximize comparability to the DWI court participant population in terms of current charges and criminal history, without drawing from the drug- and alcohol-addicted population served by the Erie and Niagara county drug courts. Since all DWI court participants were charged with felony level drunk driving charges (VTL 1192, subsections 1192.2, 1192.2(a), 1192.3, or 1192.4(a)), the comparison group was likewise limited to those charges at the felony level. Drunk driving offenses become felonies based on the offender's prior DWI history. Defendants were excluded if their case did not result in either a conviction or a guilty plea. This exclusion was based on the assumption that any defendants with a reasonable probability of having their case dismissed would not, in practice, agree to participate in at least six months of SCRAM monitoring through the DWI court. Finally, only those defendants whose case resulted in a probation sentence were included in the comparison sample. While a small proportion of DWI court participants received either a split sentence (i.e., probation plus jail time) or had not yet had their cases disposed (i.e., entered the DWI court pre-plea), the majority of DWI court participants were sentenced to probation. Since *all* post-disposition DWI court participants ultimately receive *some* probation time, we limited the comparison group to those defendants who likewise received probation. After imposing these exclusions, 259 eligible comparison group defendants were identified.

Assigning Propensity Scores

Our criteria ensured that the initial comparison group would closely match the formal "paper eligibility" criteria of the Erie and Niagara DWI courts. However, paper eligibility alone is not sufficient to guarantee that all the initial comparison group defendants would have entered the DWI court, had they been given the opportunity to do so. Some of these defendants might have been found ineligible for reasons not captured by formal legal criteria (e.g., if not addicted to alcohol) and others might have refused to participate. Moreover, it may be that some groups of

eligible defendants—for instance, defendants with certain demographic or criminal history characteristics—are more likely than others to enter the DWI court. The propensity score techniques described in the section allowed us to determine whether the participant sample differed meaningfully from the comparison sample and, where it did, to control for these differences throughout our impact analyses.

Propensity score techniques were utilized to determine exactly which types of defendants are most likely to actually participate in the DWI court (see Rubin 1973). The first step in the propensity score assignment process is to inspect all available and relevant background characteristics of the initial participant and comparison samples in order to determine how the samples differ. Accordingly, the left-most columns of Table 1 compare the 90 DWI court participants to the 259 initial comparison group candidates. This comparison reveals that the samples differed on the following characteristics:

- *Criminal history*: Those in the DWI court sample were significantly more likely to have a prior felony arrest ($p<.001$, results not shown), but less likely to have a prior violent felony arrest ($p<.001$, results not shown) than those in the comparison group. In general, those in the DWI court sample had *more* prior arrests ($p<.01$), including more felony ($p<.001$), more misdemeanor ($p<.10$), more DWI ($p<.01$), more violent felony offense arrests ($p<.001$), and more felony, misdemeanor, and violent felony convictions.
- *Charges*: Defendants in the comparison group were slightly more likely to be charged under §1192.3 of New York State Vehicle and Traffic Law (i.e., common law DWI).
- *Sentence:* Due to selection criteria imposed on the comparison group, which defined only disposed cases and defendants sentenced to probation as comparison group-eligible, those in the DWI court sample were significantly more likely to receive an initial split sentence including both jail and probation than those in the comparison sample ($p<.001$). DWI court participants were also more likely to not yet have a sentence ($p<.05$). Those in the comparison group were significantly more likely to receive a 5-year probation sentence and less likely to receive a 3-year sentence ($p<.001$) than those in the DWI court sample.
- *Demographics*: Those in the DWI court sample were significantly less likely to be white ($p<.05$) and significantly more likely to be black ($p<.05$). DWI court participants were also less likely to have their case disposed in Erie County ($p<.01$) than the comparison group.

Significant variables ($p<.10$ level or better) were entered into a logistic regression model predicting the probability of DWI court participation.[4] This model generates for each defendant a "propensity score." The score's meaning is essentially, if one knew of nothing other than the defendant's background, how likely the defendant would be to become a DWI court participant if given the opportunity to do so. Table 2 gives the regression coefficients and significance levels for the model.

[4] Sentencing data (e.g., probation versus jail/probation split; three versus five year probation sentence) was not included in the predictive model. Because only those defendants who received a straight probation sentence were included in the comparison sample, there was no variation in the comparison sample on this variable. Likewise, nearly all (99%) defendants in the comparison sample received a five-year probation sentence.

Table 1. Baseline Characteristics of DWI Court and Comparison Samples before and after Weighting by Propensity Scores

	Baseline Comparison		Weighted Using Propensity Score[1]	
	DWI Court	Comparison Group	DWI Court	Comparison Group
N	90	259	90	259
Demographics				
Average age	39.56	37.55	39.96	38.36
Male Sex	87%	81%	84%	83%
Female Sex	13%	19%	16%	17%
Race/Ethnicity				
White	76%	88%*	86%	85%
Black	15%	6%*	9%	9%
Hispanic/Latino	3%	2%	2%	2%
Other	6%	4%	4%	5%
Instant Case				
County of Disposition				
Erie County	76%	91%**	84%	87%
Niagara County	24%	9%**	16%	14%
Criminal Charges[2]				
DWI Subsection: VTL §1192.2	10%	8%	7%	10%
DWI Subsection: VTL §1192.2a	4%	2%	3%	1%
DWI Subsection: VTL §1192.3	81%	89%+	87%	88%
DWI Subsection: VTL §1192.4a	1%	1%	2%	1%
Sentence Type				
Probation	74%	100%***	81%	100%***
Jail/Probation Split	20%	0%***	16%	0%***
N/A	7%	0%*	3%	0%
Sentence Length				
3 Years Probation	25%	1%***	20%	1%***
5 Years Probation	75%	99%***	72%	99%***
Pre-Disposition Warrants	6%	8%	9%	8%
Criminal History				
Prior Arrests				
Mean Number Prior Arrests	6.47	4.12**	5.07	4.69
Mean Number of Prior Felony Arrests	2.24	0.78***	1.30	1.08
Mean Number of Prior Misdemeanor Arrests	4.23	3.34+	3.77	3.61
Mean Number of Prior DWI Arrests	2.62	2.03**	2.31	2.23
Mean Number of Prior VFO Arrests	0.68	0.18***	0.32	0.30
Prior Convictions				
Mean Number Prior Convictions	4.35	2.95***	3.51	3.34
Mean Number of Prior Felony Convictions	0.75	0.33**	0.48	0.45
Mean Number of Prior Misdemeanor Convictions	1.98	1.45**	1.58	1.61
Mean Number of Prior DWI Convictions	2.27	1.80**	1.99	1.95
Mean Number of Prior VFO Convictions	0.18	0.05*	0.12	0.08

+p<.10 *p<.05 **p<.01 ***p<.001

[1] Frequencies and significance levels are weighted to reflect the relative likelihood of participation in the DWI court.

[2] VTL VTL §1192.2 denotes driving while intoxicated; VTL §1192.2a denotes aggravated driving while intoxicated; VTL §1192.3 denotes "common law driving while intoxicated," which does not require breathalyzer evidence; and VTL §1192.4a denotes driving while under the influence of alcohol and drugs.

Table 2. Logistic Regression Model Predicting DWI Court Participation

Total Sample	**349**
DWI Court Sample	90
Comparison Group Sample	259
Chi-Square for the Model	57.360***
Nagelkerke R-square	0.223
Logistic Regression Coefficients	
Age	1.006
Male Sex	1.082
White Race	0.692
Disposed in Erie County	0.388*
VTL §1192.3	0.617
Pre-Disposition Warrant	0.470
Prior Arrests	
Number of Prior Misdemeanor Arrests	0.925
Number of Prior DWI Arrests	0.998
Number of Prior VFO Arrests	1.584*
Any Prior Felony Arrests	3.013**
Prior Convictions	
Number of Prior Felony Convictions	1.064
Number of Prior DWI Convictions	1.140
Constant	0.558

+p<.10 *p<.05 **p<.01 ***p<.001

Often, propensity scores are used to match each member of the participant sample to one or more member of the comparison sample, so that the resulting comparison sample is much more similar to the participant sample. However, because the overall recidivism rate for this population is low, we wanted to avoid eliminating any comparison cases (and any recidivism incidents). Therefore, rather than employing a matching technique, we implemented two other common propensity score adjustment methods to account for relative likelihood of DWI court participation. The first of these methods, presented throughout the main text of this report, was to weight cases using propensity score. The frequencies and significance levels presented in the main text are weighted to reflect the relative likelihood of participation in the DWI court. The second method used to account for propensity score differences between the two samples was to control for propensity score utilizing univariate ANOVA analyses. The resulting frequencies and significance levels, presented in Appendix A, are adjusted to control for propensity score differences between the two samples. Differences between the two approaches are discussed in the text of this report; however, the weighted results are given preference. The decision to favor the weighted results was made based upon inconsistent results when controlling for the propensity score.[5] Both weighting and ANOVA analyses enabled us to preserve our original sample sizes of 90 DWI

[5] When controlling for the propensity score, simple predicted recidivism rates are then obtained respectively for the DWI and comparison samples at the mean propensity score. Especially when recidivism rates are extremely low for both samples (as they are in this study), the respective recidivism rates at the mean propensity score can differ quite a bit from the rates at the low or high end of the propensity score spectrum. After weighting, by contrast, average recidivism rates can be computed across all propensity scores.

court participants and 259 comparison cases while controlling background differences between the two groups.

The right-most columns of Table 1 demonstrate the degree to which the final samples became more comparable as a result of weighting cases based on propensity score. The final samples were not significantly different on any variable except that the participant sample was more likely to receive a split sentence (this is due to the eligibility criteria of the comparison group) and less likely to receive a five-year probation sentence. Neither of these variables was included in the regression model from which the propensity scores were calculated (see Table 2). Controlling for propensity score using ANOVA had comparable results (see Appendix A, Table 1A).

Outcome Measures

Recidivism data was obtained from the New York State Division of Criminal Justice Services (DCJS). The DCJS data set includes both arrest- and conviction-based measures, although we emphasize the results for re-arrests throughout the report. The data also enabled construction of outcome measures for key subtypes of re-offending, including DWI and drug-related re-offense.

Analyses considered recidivism outcomes over a three-month period (N = 90 for the DWI court sample; N=259 for the comparison sample), a six-month period (N = 70 for the DWI court sample; N=205 for the comparison sample), and a one-year period (N = 31 for the DWI court sample; N=115 for the comparison sample). In addition, "survival analyses" were conducted that utilized all available defendants (N = 90 for the DWI court sample; N=259 for the comparison sample). These last analyses take into account differences in both the raw recidivism rates and the timing of recidivism, answering whether the DWI court delays the onset of new criminal behavior.

III. DWI Court Participant Outcomes

As shown in Table 3, the majority (75%) of DWI court participants included in the evaluation were still actively enrolled in the program at the time of the analysis. Of those who were no longer active (23 defendants), the majority (83%) successfully graduated from the DWI court. Only three defendants (13%) failed the program outright and were resentenced; an additional defendant (4%) entered the court pre-plea and was then returned to standard case processing in response to noncompliance.

The Secure Continuous Remote Alcohol Monitor (SCRAM) is an anklet that measures transdermal alcohol concentration using sensors above the wearer's skin. The device continually samples the perspiration on the wearer's body and transmits readings via a modem located in the user's home. Readings are transmitted to a web-based application and are then monitored and interpreted by Alcohol Monitoring Systems, Inc. (the manufacturer of SCRAM). The device safeguards against tampering by measuring body temperature and voltage; readings indicate, for example, if the wearer places something between the anklet and the skin. DWI court participants are required to wear the SCRAM for at least the first six months of program participation, during which time they are continuously monitored for alcohol use. The DWI court also tracks any attempts to block or remove the monitor; participants can be sanctioned or re-sentenced for both alcohol use and tampering with the SCRAM. In addition to monitoring participants using SCRAM, all DWI court participants are required to submit to random drug screens as ordered by the court or probation.

As shown in Table 3, 9% of all DWI court participants attempted to remove or block the SCRAM during the first sixteen months of court operations. Only 3% of participants tested positive for alcohol during this time period and an additional 7% tested positive for cocaine. On average, defendants took less time to test positive for alcohol (26 days) than they did to tamper with the SCRAM (108 days) or test positive for another substance (119 days). As in the drug court model, reuse is considered a part of the recovery process and does not necessarily result in immediate program failure; in fact, all of the defendants who tested positive for drugs or alcohol or who attempted to tamper with the SCRAM were still active DWI court participants at the time of analysis.

Table 4 presents the results of a logistic regression predicting noncompliance among DWI court participants. Noncompliance here includes ever testing positive for alcohol or other drugs, ever attempting to remove or obstruct the SCRAM, and failing the DWI court. The results indicate that older DWI court participants were somewhat more likely to have a noncompliant incident ($p<.10$). Reuse offenses, in particular, might be expected to be higher among a population that has been using alcohol and drugs for a longer time period. White defendants were less likely to have a noncompliant incident ($p<.05$), as were those charged with VTL §1192.3, or "common law" driving while intoxicated ($p<.05$). Interestingly, prior criminal history did not significantly predict alcohol or drug use, or tampering with the SCRAM. These findings may suggest that the court could benefit from targeting some participant subgroups—older defendants, non-whites, and those arrested on specific sections of the criminal code—with additional outreach or resources.

Table 3. Noncompliance among DWI Court Participants

	DWI Court
N	**90**
Program Status	
Open	75%
Graduated	21%
Failed	3%
Ineligible After Pre-Plea Referral	1%
SCRAM Compliance	
Ever Attempt to Remove/Obscure SCRAM	9%
Ever Test Positive for Alcohol Consumption	3%
Ever Test Positive for Another Substance	7%
Marijuana	-
Cocaine	7%
Opiates	-
Average Time to Removal/Obscural	108 days
Average Time to Positive Alcohol Screen	26 days
Average Time to Positive Drug Screen	119 days

Table 4. Predictors of Noncompliance Among DWI Court Participants

Total Sample	90
Compliant Participants	72
Noncompliant Participants	18
Chi-Square for the Model	14.465+
Nagelkerke R-square	0.235
Logistic Regression Coefficients	
Age	1.053+
Male Sex	3.891
White Race	0.203*
VTL §1192.3	0.224*
Disposed in Erie County	0.532
Pre-Disposition Warrant	4.164
Prior Arrests	
Number of Prior Misdemeanor Arrests	0.844
Number of Prior Felony Arrests	1.035
Constant	0.226

+p<.10 *p<.05 **p<.01 ***p<.001

Dependent variable is a dichotomous variable measuring whether the defendant ever tested positive for drugs or alcohol, ever tried to remove or obstruct the SCRAM anklet, or failed the DWI court.

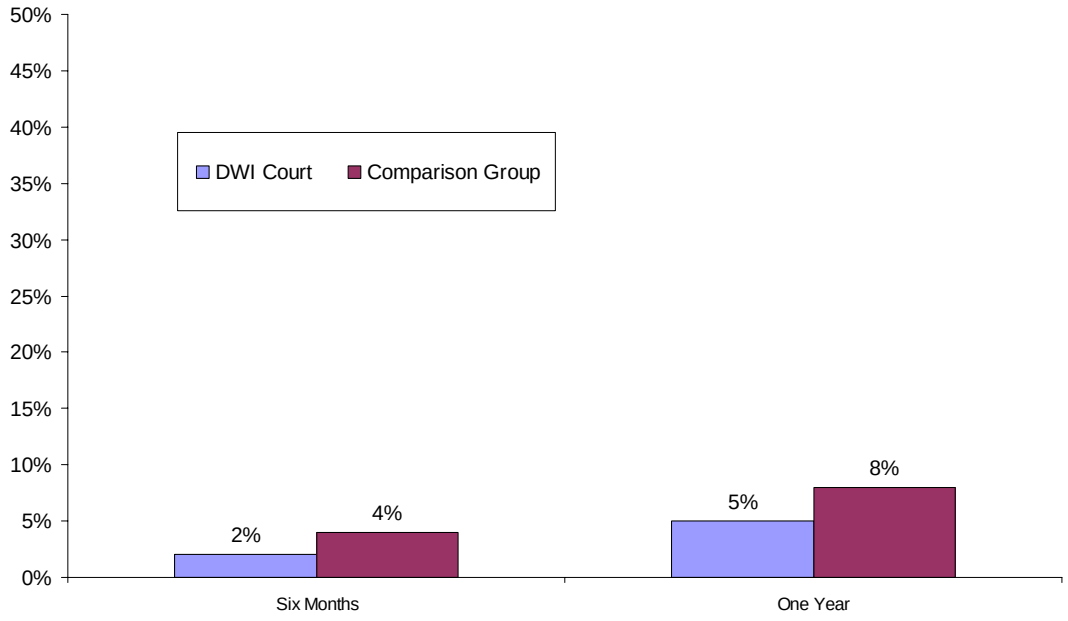
It is worth noting that the results in this section reflect only compliance and re-use among the DWI court sample; comparable data was not available for the comparison group. Therefore, beyond official re-arrest data (presented in the following section), we do not know whether those in the comparison group are engaging in alcohol or drug use, how often they are tested for re-use, or whether they are compliant with other court or probation requirements.

IV. Impact of the DWI Court

All re-arrests are measured from the point of program entry for DWI court participants (which is usually but not always the sentence date) and from the point of sentencing for comparison defendants; however, to simplify the discussion, all re-arrest periods will be described throughout this section as post-sentence. As shown in Figure 1, the overall re-arrest rates among both the DWI court sample and the comparison group are quite low. This finding supports previous research, which indicates that DWI defendants generally have low one-year re-arrest rates. While both DWI court participants and those in the comparison group have low re-arrest rates, fewer DWI court participants were re-arrested at both six months (2% versus 4%, p=.350) and one year (5% versus 8%, p=.176). These differences suggest a possible positive effect of the DWI court program but were not statistically significant.

Despite low overall re-arrest rates, further analyses were conducted isolating DWI and drug-related re-arrests. Again, differences between the DWI court and comparison samples were not significantly different, although the raw percentages suggest that DWI court participants may be somewhat more likely to have a new DWI arrest. When examining the total *number* of new arrests, there were no significant differences between the DWI court and comparison samples, and the raw percentages are nearly identical on these measures. Three month, six month, and

Figure 1. Impact of the DWI Court on Re-Arrest within Six Months and One Year Post-Sentence (Weighted)



+p<.10 *p<.05 **p<.01 ***p<.001
Frequencies and significance levels are weighted to reflect the relative likelihood of participation in the DWI court.

Table 5. Impact of the DWI Court on Re-Arrest at Three Months, Six Months, and One Year Post-Sentence (Weighted)

	DWI Court	Comparison Group
Recidivism within Three Months of the Initial Sentence	(N=90)	(N=259)
Any New Arrests	0%	0.3%
Any New DWI Arrest	0%	0%
Any New Drug Arrest	0%	0.3%
Recidivism within Six Months of the Initial Sentence	(N=70)	(N=205)
Any New Arrests	2.2%	4.3%
Any New DWI Arrest	1.7%	0.4%
Any New Drug Arrest	0.5%	0.4%
Recidivism within One Year of the Initial Sentence	(N=31)	(N=115)
Any New Arrests	5.0%	8.4%
Any New DWI Arrest	3.9%	0.7%
Any New Drug Arrest	1.1%	0.7%

+p<.10 *p<.05 **p<.01 ***p<.001

Frequencies and significance levels are weighted to reflect the relative likelihood of participation in the DWI court.

one-year results are presented in Table 5. (ANOVA analyses that controlled for the propensity score resulted in comparable findings; the results of these analyses are presented in Appendix A, Figure 1A and Table 5A.)

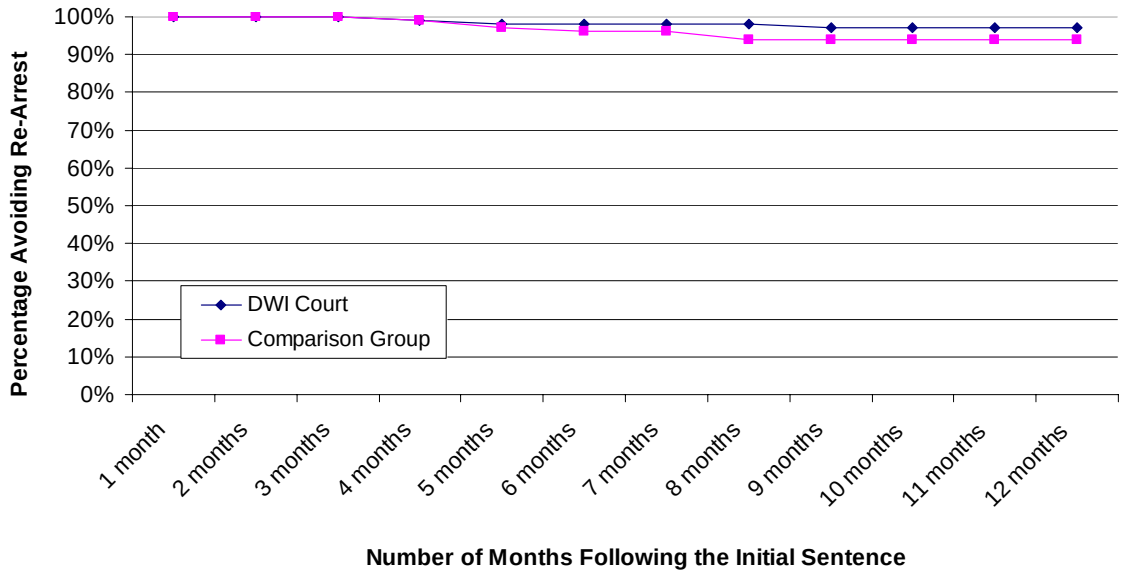
Finally, among defendants with any re-arrest, DWI court participants (N=3) averaged 154 days to first new arrest and those in the comparison sample (N=11) averaged 151 days to first new arrest. The difference between the two groups was not statistically significant.

Survival Analysis

Figure 2 presents survival curves for DWI court participants and the comparison group, displaying for each month up to one year after sentencing the cumulative percentage of defendants not yet re-arrested. The analysis includes all 90 DWI court participants and all 259 comparison cases.

The survival curves for the two samples reflect the low recidivism rate overall in both samples. Although the curves diverge very slightly at five months and maintain this gap throughout the end of one year, more than 90% of both samples had avoided re-arrest at the end of one year.

Figure 2. Survival Curve: Survival of DWI Court versus Comparison Group Defendants Up to One Year Following the Initial Sentence



Re-arrest rates are weighted to reflect the relative likelihood of participation in the DWI court.

Other Predictors of Recidivism

To determine whether other defendant characteristics besides DWI court participation predicted the probability of re-arrest (yes/no), a logistic regression was performed. Table 6 reflects findings from analyses conducted at one-year post-sentence. All 90 DWI court participants and 259 comparison defendants were included. The results confirm that, after controlling for background characteristics, DWI court participants did not have significantly fewer (or more) re-arrests than the comparison sample. In fact, only two factors were found to impact recidivism. First, defendants disposed in Erie County were less likely to have a new arrest than those disposed in Niagara County ($p<.10$). Second, defendants with more prior misdemeanor convictions more likely to have a new arrest ($p<.01$). The small number of significant predictors of re-arrest is likely due, in part, to the low number of re-arrests overall; only 14 offenders (both DWI court participants and comparison group) were re-arrested within the one year period. (Results from the ANOVA analyses shown in Appendix A, Table 6A likewise indicate no significant impact of DWI court participation on re-arrest. However, these results do indicate some effect of age on re-arrest, with younger defendants less likely to be re-arrested, $p<.10$.)

Table 6. Logistic Regression Predicting the Impact of DWI Court Participation and Other Background Characteristics on Re-Arrest (Weighted)

Total Sample	349
DWI Court Sample	90
Comparison Group Sample	259
Number of Censored Cases (not re-arrested)	335
Odds Ratios	
DWI Court Participant	0.450
Age	0.970
Male Sex	2.322
White Race	0.622
Disposed in Erie County	0.343+
Pre-Disposition Warrant	1.751
Number of Prior Misdemeanor Convictions	1.346**
Constant	0.132

+p<.10 *p<.05 **p<.01 ***p<.001

Samples are weighted to reflect the relative likelihood of DWI court participation.

Impact of the DWI Court on Case Processing Efficiency

The first drug courts not only sought to reduce recidivism and drug use, but were also designed to increase case processing efficiency. In fact, improved case processing efficiency was the principal goal behind the earliest drug courts (Cooper 2003). Faced with escalating numbers of drug cases and drug-related incarcerations, court systems throughout the country were under growing pressure to manage their cases more efficiently, reduce court backlogs, reduce jail and prison terms for drug offenders, and generate cost savings. Accordingly, research reports on drug courts through the mid-1990s placed a paramount emphasis on these objectives (McCoy 2003).

While no longer the primary goal of drug courts or the hybrid DWI/drug courts that grew out of the drug court movement, improved case processing is still an important measure of program performance. As shown in Table 7, DWI court participants did not average less processing time from arrest to disposition/DWI court entry than the comparison group, with defendants in both groups taking over eight months on average to reach disposition. (When controlling for propensity score, the results are the same, see Table 7A, Appendix A.) Of course, from a pure court resources standpoint, the DWI court ultimately takes additional time to process cases, since participants continue to return to court for post-disposition monitoring.

Table 7. Impact of the DWI Court on Case Processing Efficiency (Weighted)

	DWI Court 89	**Comparison Group 259**
Days from Initial Arrest to Disposition		
Average	258	256
Median	238	248

+p<.10 *p<.05 **p<.01 ***p<.001

Frequencies and significance levels are weighted to reflect the relative likelihood of participation in the DWI court. Significance tests were not conducted for the median results.

V. Conclusion

Over the limited time period covered by this evaluation, the Erie and Niagara hybrid DWI/drug courts did not significantly impact the probability, prevalence, or timing of re-arrest. Overall, re-arrest rates among both the DWI court sample and the comparison sample were low, with fewer than 5% of either sample re-arrested within six months of sentencing on the instant case and fewer than 15% re-arrested within one year. Likewise, the DWI court had no impact on new DWI or drug-related arrests. By definition, the defendants included in these analyses have multiple DWI incidents in their criminal histories. According to the National Highway Traffic Safety Administration (2004), chronic offenders such as the defendants included in this evaluation represent about one-third of all drivers arrested for driving under the influence. However, one year post-sentence may not provide sufficient time for these re-offenses to occur. Future research should examine court impact over a longer time period, including post-program time for DWI court participants.

Some of the findings of this impact evaluation do suggest positive outcomes among DWI court participants. As of the analyses, of 23 DWI court participants who had exited the program, 19 (83%) had graduated, whereas only four (17%) had been terminated unfavorably. Despite constant blood alcohol monitoring and frequent drug screening, very few DWI court participants had ever tested positive for alcohol (3%) or drugs (7%). Slightly more defendants had tried to tamper with the screening device (9%), which might be presumed to represent intent to ingest alcohol. In total, only 14 defendants had ever re-used or *attempted* to re-use.

Overall, the findings presented here suggest the need for additional research, including a longer follow-up period. Future research might also benefit from focusing on a high-volume court; with a larger available participant sample, small to medium-sized differences between populations might reach statistically significant levels.

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Appendix A
Results of ANOVA Analyses

Table 1A. Baseline Characteristics of DWI Court and Comparison Samples before and after Application of Propensity Scores (GLM)

	Pre-Matching		Final Comparisons[1]	
	DWI Court	Comparison Group	DWI Court	Comparison Group
N	90	259	90	259
Demographics				
Average age	39.56	37.55	38.02	38.02
Male Sex	87%	81%	82%	82%
Female Sex	13%	19%	18%	18%
Race/Ethnicity				
White	76%	88%*	85%	85%
Black	15%	6%*	9%	8%
Hispanic/Latino	3%	2%	3%	2%
Other	6%	4%	4%	5%
Instant Case				
County of Disposition				
Erie County	76%	91%**	87%	87%
Niagara County	24%	9%**	13%	13%
Criminal Charges[2]				
DWI Subsection: VTL §1192.2	10%	8%	6%	10%
DWI Subsection: VTL §1192.2a	4%	2%	4%	2%
DWI Subsection: VTL §1192.3	81%	89%+	87%	87%
DWI Subsection: VTL §1192.4a	1%	1%	1%	1%
Sentence Type				
Probation	74%	100%***	77%	99%***
Jail/Probation Split	20%	0%***	19%	0%***
N/A	7%	0%*	0%	0%
Sentence Length				
3 Years Probation	25%	1%***	22%	1%***
5 Years Probation	75%	99%***	70%	98%***
Pre-Disposition Warrants	6%	8%	7%	7%
Criminal History				
Prior Arrests				
Mean Number Prior Arrests	6.47	4.12**	4.91	4.68
Mean Number of Prior Felony Arrests	2.24	0.78***	1.33	1.10
Mean Number of Prior Misdemeanor Arrests	4.23	3.34+	3.58	3.58
Mean Number of Prior DWI Arrests	2.62	2.03**	2.18	2.18
Mean Number of Prior VFO Arrests	0.68	0.18***	0.32	0.32
Prior Convictions				
Mean Number Prior Convictions	4.35	2.95***	3.34	3.31
Mean Number of Prior Felony Convictions	0.75	0.33**	0.44	0.44
Mean Number of Prior Misdemeanor Convictions	1.98	1.45**	1.56	1.60
Mean Number of Prior DWI Convictions	2.27	1.80**	1.92	1.92
Mean Number of Prior VFO Convictions	0.18	0.05*	0.11	0.07

+p<.10 *p<.05 **p<.01 ***p<.001

[1] Frequencies are adjusted using univariate ANOVA analyses to control for propensity score. Significance levels are also adjusted using univariate ANOVA analyses.

[2] VTL VTL §1192.2 denotes driving while intoxicated; VTL §1192.2a denotes aggravated driving while intoxicate VTL §1192.3 denotes "common law driving while intoxicated," which does not require breathalyzer evidence; and VTL §1192.4a denotes driving while under the influence of alcohol and drugs.

Table 5A. Impact of the DWI Court on Re-Arrest at Three Months, Six Months, and One Year Post-Sentence (GLM)

	DWI Court	Comparison Group
Recidivism within Three Months of the Initial Sentence	(N=90)	(N=259)
Any New Arrests	0.1%	0.3%
Any New DWI Arrest	0%	0%
Any New Drug Arrest	0.1%	0.3%
Recidivism within Six Months of the Initial Sentence	(N=70)	(N=205)
Any New Arrests	1.5%	4.4%
Any New DWI Arrest	1.9%	0.3%
Any New Drug Arrest	0.8%	0.7%
Recidivism within One Year of the Initial Sentence	(N=31)	(N=115)
Any New Arrests	3.0%	8.0%
Any New DWI Arrest	4.2%	0.6%
Any New Drug Arrest	1.2%	2.0%

+p<.10 *p<.05 **p<.01 ***p<.001

Frequencies are adjusted using univariate ANOVA analyses to control for DWI court participation, county in which the case was disposed, defendant race, arrest charge (subsection of VTL), number of prior felony arrests, number of prior DWI arrests, and propensity score. Significance levels are also adjusted using univariate ANOVA analyses.

Figure 1A. Impact of the DWI Court on Re-Arrest within Six Months and One Year Post-Sentence (GLM)

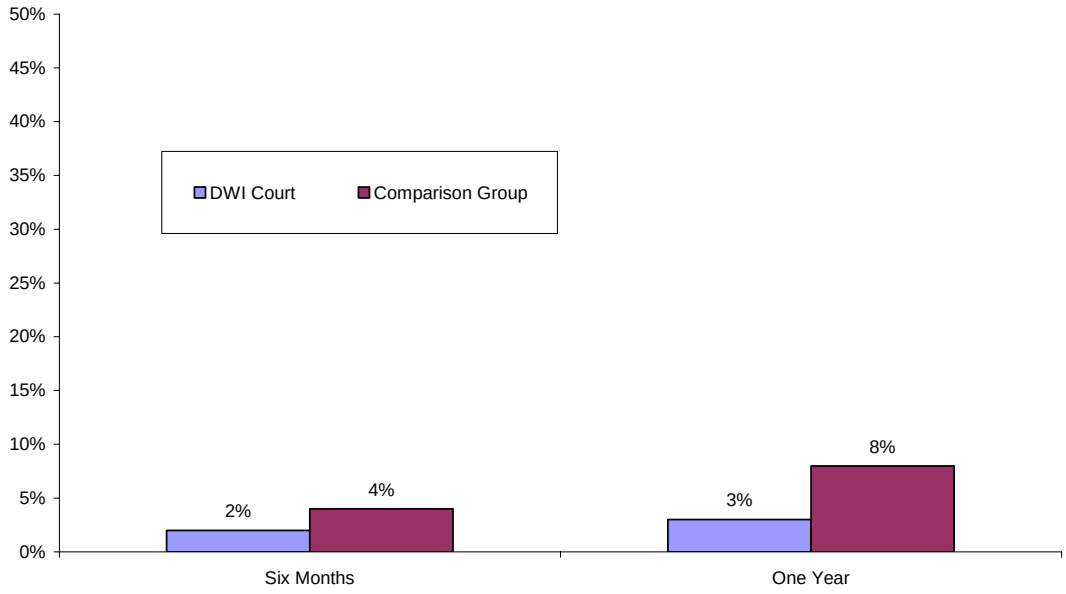

Table 6A. Logistic Regression Predicting the Impact of DWI Court Participation and Other Background Characteristics on Re-Arrest (GLM)

Total Sample	349
DWI Court Sample	90
Comparison Group Sample	259
Number of Censored Cases (not re-arrested)	335
Odds Ratios	
DWI Court Participant	0.442
Propensity Score	10.466
Age	0.944+
Male Sex	1.891
White Race	0.992
Disposed in Erie County	0.574
Pre-Disposition Warrant	2.299
Number of Prior Misdemeanor Convictions	1.223
Constant	0.107

+p<.10 *p<.05 **p<.01 ***p<.001

Table 7A. Impact of the DWI Court on Case Processing Efficiency (GLM)

	DWI Court 89	**Comparison Group 259**
Days from Initial Arrest to Disposition		
Average	253	254
Median	222	248

+p<.10 *p<.05 **p<.01 ***p<.001

Frequencies are adjusted using univariate ANOVA analyses to control for DWI court participation, county in which the case was disposed, defendant race, arrest charge (subsection of VTL), number of prior felony arrests, number of prior DWI arrests, and propensity score. Significance levels are also adjusted using univariate ANOVA analyses. The median results were not adjusted. Significance tests were not conducted for the median results.