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Predicting DeKalb County Drug Court Graduation

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ABSTRACT

Title: Predicting DeKalb County Drug Court Graduation

INTRODUCTION: Substance abuse is a public health problem in the United States. Though substance abuse is a public health issue in the United States, citizens with substance use disorders have a variety of treatment options. Moreover, there is a close relationship between substance abuse and crime. Consequently, due to an overwhelming number of offenders with substance abuse problems, drug courts were created to combat substance use disorders. Though drug courts are effective in combating substance abuse problems, graduation rates from some drug courts are not as high as they could be; this could be due to a range of factors.

AIM: The aim of this study was to examine predictors of graduation from a drug court program using demographic data and risk data assessed via the Level of Service Inventory-Revised (LSI-R). The purpose of the study is to discover if race, age, marital status, high school graduation status, drug of choice, and LSI-R scores are predictors of drug court graduation.

METHODS: This cross-sectional study included 665 participants from the DeKalb County Drug Court. Data was collected on each participant at intake including the demographic variables, age, race, education, marital status, and primary drug of choice, along with level of psychosocial risk assessed via the Level of Service Inventory-Revised (LSI-R). Logistic regression analyses were used to predict graduation from the Dekalb County Drug Court.

RESULTS: The overall DeKalb County Drug Court graduation rate was 45%. LSI-R scores as well as age at entry were both significant predictors of graduating ($p < .05$) while the variables of race, marital status, drug of choice, and high school graduation status were not. For every one year increase in age of entry, the odds of a participant graduating from the DeKalb County Drug Court increased by 5%. Also, for every one unit increase in LSI-R score, the odds of graduating from the Dekalb County Drug Court decreased by 5%. Graduation rates varied by drug of choice. Only 29.78% (14/47) whose primary drug of choice was an opioid graduated from the DeKalb County Drug Court program, while participants whose drug of choice was methamphetamine were the most likely to graduate with 56.25% (18/32). Crack/cocaine was 2nd highest with 49.49% (97/196) of participants graduating.

DISCUSSION: These findings suggest that LSI-R scores and age are predictors of graduation from the DeKalb County Drug Court. Crack/cocaine and methamphetamine were the drugs with highest likelihood of DeKalb County Drug Court graduation, which is inconsistent with previous studies regarding drug of choice and drug court graduation. Race was not a predictor of DeKalb County Drug Court graduation, implying whites and nonwhites graduated from the drug court at similar rates, which is inconsistent with previous research. Additional resources may be needed to help younger clients graduate from drug court.

CONCLUSION: Both age and LSI-R scores were predictors of graduation from the DeKalb County Drug Court program. This study has validated the use of the LSI-R as an assessment tool for DeKalb County Drug County entrance. Special interventions may be needed for younger clients to assist them with drug court graduation.

APPROVAL PAGE

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Author's Statement Page

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Jeffrey-Michael Paul Holiday

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CHAPTER 1

INTRODUCTION

1a. Background

Substance abuse is a significant public health problem in the United States. According to the 2014 NSDUH report, a projected 24.6 million individuals aged 12 or older had used illicit drugs in the past 30 days. In fact, the NSDUH (2014) reported an estimated 21.6 million (8.6%) individuals aged 12 or older had a substance use disorder in the past year, with 20.5 million of those individuals being 18-years-old or older. Illicit drug dependence directly accounted for 20 million Disability-Adjusted life years (DALYs) which is a measurement used to quantify the burden of diseases, injuries, and risk factors on the worldwide population (95% UI 15.3–25.4 million) in 2010, accounting for up to 1% of global all-cause Disability-Adjusted Life Years (Murray & Acharya, 1997), (CDC & US Department of Human Services, 2012). Substance abuse can lead to other health related complications. In fact, illicit drug use is associated with a high risk for mortality and comorbidities with rates of viral hepatitis, STDs, Tuberculosis, and HIV being significantly higher among individuals who use drugs illicitly compared to people who do not use drugs illicitly (CDC & US Department of Human Services, 2012).

Moreover, individuals with substance use disorders have a variety of treatment options. For instance, common substance abuse treatment includes inpatient programs, in which an individual must stay in a residence and receive treatment and outpatient programs, in which an individual might live at home and work, while engaging in a structured program that includes group, family, or and individual therapy (Drug treatment programs, 2003). While in these treatment groups, individuals might attend other self-help groups such as Alcohol Anonymous

and Narcotics Anonymous as a form on treatment as well (Drug treatment programs, 2003). However, many (most) people with substance use disorders do not receive treatment, and thus there is a need for additional treatment venues (Hedden, Lipari, Copello, & Kroutil, 2015). Moreover, of the 22.5 million people aged 12 or older in 2014 who needed treatment for a problem related to the use of alcohol or illicit drugs, only 4.1 million (l8.2%) of people who needed treatment received any substance use treatment in the past year (Hedden, Lipari, Copello, & Kroutil, 2015).

Furthermore, one consideration in treatment is that there is a strong relationship between drug use and criminal activity (Rafaiee, Olyaee, & Sargolzaiee, 2013). Many criminals are under the influence of drugs while committing crimes (Rafaiee et al., 2013), and some drug abusers commit crimes to pay for their drugs. In fact, in 2004, 17% of state prisoners and 18% of federal inmates said they committed their current offense to get money for drugs (Mumola & Karberg, 2006). A large proportion of prisoners are incarcerated because of a substance use disorder. In fact, according to a research study done in the United States in 2010, 70% of male prisoners were drug abusers which is significant compared to the 11.2% rate of drug abuse in the entire male population (Idaho state police statistical analysis center, 2010.)

Because of the overwhelming number of offenders with substance abuse problems, drug courts were created to address substance abuse problems in offenders. Drug courts are a public health approach to the United States Criminal Justice System. Drug Courts were first implemented in Florida in the late 1980s (Lurigio, 2008) and the mission of drug courts is to treat individuals who have committed drug-related crimes and are struggling with drug and substance abuse problems. The theory of drug courts is to rehabilitate offenders rather than incarcerate them to allow them to be productive members of society (Howard, 2016). Nationally, drug courts

report unusually high graduation rates averaging 50% to 70% (Belenko, 1998, 2001; Belenko, DeMatteo & Patapis, 2007). Though drug courts are effective in combating substance abuse problems, graduation rates from some drug courts are not at 100% which means there is room for improvement.

1b. Purpose of Study

Substance abuse is a huge public health issue, and drug courts are an effective form of treatment for offenders. Furthermore, it is important for offenders to graduate from drug court to not only fight substance use disorders but it is important for offenders to graduate from drug court so that can ultimately live healthier lifestyles. It is also important to use money and resources spent on drug court effectively. Knowing who is likely to succeed or fail in drug courts can potentially help effectively allocate limited resources. Furthermore, most of the research on drug court graduation focus on demographic factors which typically include age, race, marital status, drug of choice, and education, but risk assessment tools such as the Level of Service Inventory-Revised (LSI-R), are not commonly used in models as predictors in determining drug court graduation. Also, most of the research on drug courts effectiveness and graduation include older data; the data used in the study will include recent data from the years of 2002-2017 and will feature one of the nation's most prestigious drug courts. Also, the DeKalb County Drug Court offers two levels of treatment and supervision based on participants' risk of recidivism and service needs, assessed by the Level of Service Inventory-Revised (LSI-R), a tool used to assess risk of recidivism and reoffending. Additional information on drug courts who serve both high risk and low risk populations could be beneficial and add to the research. This analysis will examine predictors of drug court graduation, including demographics factors such as race, age, high school graduation status, marital status, drug of choice, as well as a risk assessment tool, the

LSI-R which is an assessment tool used to access a person's risk of recidivism. This thesis will supplement the research already done on demographic factors and drug court graduation but will also examine the LSI-R risk assessment tool using new data as a possible predicting variable for drug court graduation. Drug court graduation will be examined using data gathered from the DeKalb County Drug Court program. A better understanding of demographic risk factors as well LSI-R scores in drug court participants is extremely important for not only combating substance use disorders, but it is important for the strengthening of future drug court entrance guidelines and policies.

1c. Background Research

In this section, I review the literature on drug court effectiveness, and predictors of graduation rates relevant to this study. The literature review examined demographic characteristics for drug court completion as well general information about drug courts.

1d. Drug Courts

Drug Courts were first implemented in Florida in the late 1980s (Lurigio, 2008). The mission of drug courts is to treat offenders who are struggling with drug and substance abuse problems. The theory of drug courts is to rehabilitate substance using offenders and keep them in society instead of incarcerating them, where they might not receive treatment (Howard, 2016).

Drug courts were developed to address challenges of addiction by offering treatment as an alternative to incarceration for criminal offenders who have a history of substance abuse (Gallagher, 2014). Evidence suggests that drug courts can successfully reduce drug use and criminal behavior, both after and throughout a defendant's drug court participation (Fisher, (2014). Drug courts have shown significant reductions in drug use and drug relapse. In fact, one

study found that drug court participants were significantly less likely than a comparison group to report using any drugs (56 vs. 76 percent) in the year prior to the 18-month interview, and also less likely to report using "serious" drugs (41 vs. 58 percent) (Jewell, Rose, Bush, & Bartz, 2017). Drug courts have also proven to be highly cost-effective. A 2008 cost-related meta-analysis concluded that drug courts produce an average of $2.21 in direct benefits to the criminal justice system for every $1.00 invested (Bhati, Roman, Chalfin, 2008). In fact, the average return on investment was determined to be higher at $3.36 for every $1.00 invested when targeting higher-risk offenders (Bhati et al., 2008).

1e. Race

The research finds that demographic characteristic race is a strong predictor of drug court graduation (Mara & Terry, 1997). A study done in Broward County Drug Court in 1997 concluded that whites were more likely to graduate from drug court than nonwhites (Mara & Terry, 1997). Moreover, a 2012 study discovered that 40.7% of white participants successfully completed the drug treatment program as compared to only 22.3% of non-white participants (DeVall & Lanier, 2012). A 2004 study found that drug court nonwhite participants were 37% less likely to graduate than were their white counterparts (Mateyoke-Scrivner, Webster, Staton, & Leukefeld, 2004).

1f. Age

The relationship between age and drug court graduation is mixed. Age at program entry was significantly related to graduating from the drug court program with older clients more likely to graduate than younger ones (DeVall & Lanier, 2012). Additionally, graduating from drug court was more likely for participants who were older at program entry (DeVall & Lanier,

2012), with the odds of graduating increasing by 5% for each year of participant age at program

entry (DeVall & Lanier, 2012). In fact, a similar study from 2004 found an identical effect: for

every year increase in a participant's age, there was a nearly 5% greater likelihood of graduation

from drug court (Mateyoke-Scrivner et al., 2004).

On the contrary, in a 2002 drug court study, age was not significantly related to

completion of the drug treatment program (Butzin, Saum, & Scarpitti, 2002). Moreover, age did

not seem to differentiate drug treatment court graduates versus nongraduates (Butzin et al.,

2002). Mara & Terry (1997) found no significant relationships between age and the likelihood of

graduating drug court. Though the relationship between age and drug court graduation is mixed,

the majority of research seems to indicate that older participants are more likely to graduate than

younger ones.

1g. Education

The research on education and its impact on graduation from drug court are consistent

with most studies indicating that higher the education relates to a greater likelihood of graduating

(Mara & W. Clinton Terry, 1997), (DeVall & Lanier, 2012), (Gill, 2016), (Mateyoke-Scrivner et

al., 2004).

1h. Marital Status

Marital status's effect on drug court graduation is mixed in the literature and

inconclusive. Mara & Terry (1997) found no significant relationships between marital status and

the likelihood of graduating drug court. A 2004 study shows that married clients were 57% less

likely to graduate (Mateyoke-Scrivner et al., 2004). On the contrary, A 2017 study on a felony

drug court in Texas study demonstrated that drug court participants who reported being married

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at program entry were more likely to graduate than drug court participants that were single and/or divorced (Smith & Chamberlain, 2017).

1i. Drug of Choice

Research on drug of choice and its relationship to drug court completion typically mentions the use of cocaine as having a decreased risk of drug court graduation. A study done in Broward County Drug Court in 1997 concluded that cocaine use was related to lower graduation rates (Mara & Terry, 1997). A cocaine use disorder was negatively associated with graduating from drug court (Brown, 2010). A 2016 study found alcohol to be the primary drug choice associated with drug court graduation (Gill, 2016).

1j. LSI-R Score

The Level of Service Inventory-Revised (LSI-R) is a correctional assessment tool that classifies both needs and risk of criminal offenders. Consequently, the predictive validity of the LSI-R has been supported in many studies; the LSI-R essentially uses a combination of questions that assess service needs in different areas to predict recidivism (Labrecque, Smith, Lovins, & Latessa, 2014). The LSI-R scores range from 0 to 54, and higher the score, the greater the risk of the induvial reoffending. (Labrecque et al., 2014). The LSI-R has also been used as an evaluation tool to determine whether an individual's risk for recidivism has increased or decreased throughout treatment (Labrecque et al., 2014). A 2011 study concluded that lower LSI-R scores were associated with higher drug court completion, where for every increase in LSI-R score, the odds of completing drug court decreased by 6% (Shaffer, Hartman, Listwan, Howell, & Latessa, 2011). Nevertheless, there is limited peer-reviewed research on LSI-R scores and drug court graduation.

1k. Hypothesis

I hypothesize that the demographic variables race, age, high school graduation status, marital status, drug of choice and the risk assessment variable, LSI-R, will each predict graduation from the DeKalb County Drug Court. I propose that DeKalb County Drug Court participants who are white will be significantly more likely to graduate than non-white participants. I propose that age will be a predictor of drug court graduation, with older ages relating to greater likelihood of graduating. Also, I propose that high school graduates will be significantly more likely to graduate from the DeKalb County Drug Court than non-high school graduates Also, I propose that participants who are married will be significantly more likely to graduate from the DeKalb County Drug Court than participants who are single. Also, I propose that participants whose primary drug of choice is cocaine will be significantly less likely to graduate from the DeKalb County Drug Court than participants who list another drug as their drug of choice. Finally, I propose that LSI-R will be a predictor of drug court graduation, with lower LSI-R scores relating to greater likelihood of graduating.

CHAPTER 2

METHODS AND PROCEDURES

2a. Data Source

The DeKalb County Drug Court is one of the many adult drug courts in the United States. The DeKalb County Drug Court, located in Decatur, GA, is a voluntary two year judicially supervised drug treatment/alternative sentencing program that serves felony-level offenders whose criminal behavior is fueled by drug addiction. If a participant successfully completes the DeKalb County Drug Court, participants plead guilty to charges get into the program; after graduating from the DeKalb County Drug Court, those charges will be expunged. The DeKalb County Drug, founded in 2002, is seen to be one of model drug courts in the United States due to the low recidivism rates of the graduates from the program. The data source for this thesis was a data set compiled from the DeKalb County Drug Court. The data collected is from 2002 until September 2017.

The DeKalb County Superior Court, Accountability Courts granted permission for this study. The data provided included all previous DeKalb County Drug Court participants from 2002 to September 2017. The data set contains no identifiers. No current participants in the DeKalb County Drug Court's data were used in the data set as they do not have graduation status.

The data set included 665 participants. The variables include track, which classifies which level of treatment the participant received, Client ID, Start Date, Discharge Date, Date of Arrest, Date of Birth, Ethnicity, Sex, Drug of Choice, LSI Score, Education (In years), High School Graduation Status, and Marital Status, and status (graduated, terminated, AWOL). At the

DeKalb County Drug Court, participants are considered as AWOL, when they are absent from the program without communication for 24 hours. Missing a treatment group, court, or a meeting with a staff member without any communication puts a participant's DeKalb County Drug Court status as AWOL. Participants who are AWOL for more than two weeks are usually terminated from the DeKalb County Drug Court after they are rearrested in DeKalb County, GA.

2b. Study Design

A cross sectional study was conducted to see whether the variables of age upon entry, race, high school graduation status, marital status, drug of choice, and LSI scores were predictors of DeKalb County Drug Court graduation. Each variable was controlled for in the logistic regression model.

2c. Study population and size

The sample for this thesis consisted of all past participants dating back to the DeKalb County Drug Court's creation in 2002. Due to missing data, analysis was restricted to only including 290 who had all of the variables needed for the logistic regression model. There were 305 missing LSI-R scores which caused the most missing data for the logistic regression model. The DeKalb County Drug Court did not start collecting data on LSI-R scores until 2008, which explains most of the missing data.

2d. Variables of Interest

Graduation Status: The dependent variable in the study was graduation status. The data set included whether a DeKalb County Drug Court participant had either graduated from the program, was terminated from the program, or was currently AWOL from the program. The dependent variable was made to be binary only including Graduated and Terminated. The

participants in the study with the status of AWOL were considered terminated. The rational for the AWOL participants being converted to terminated is the DeKalb County typically terminate participants who are AWOL from the DeKalb County Drug Court for more than two weeks. Since there were no current participants used in the study, the participants who were listed as AWOL in the data set, had all been away from the DeKalb County for more than two weeks, meaning, if they returned to the Drug Court, they would be immediately terminated.

Race: Race was an independent categorical variable used in the analysis. All participants from the data set had one race listed as their race. The possible races included were Black, White, Hispanic, and Asian. Due to the lack of Asian and Hispanic participants in the DeKalb County Drug Court, RACE was divided into Whites and Nonwhites, where Nonwhites featured all Blacks, Hispanics, and Asians for analysis purposes.

Age: Age at program entry is a continuous variable computed by subtracting date of birth from the date of program entry. Age was computed to be a whole number and represented in years.

HSG Status: High School Graduation status was binary categorical variable representing whether the participant graduated high school. Having a GED does did qualify as graduating high school in this variable. Ninety-nine participant's high school graduation status is missing from the data.

Marital Status: Marital Status was a categorical variable in this study. Marital Status was coded based on responses that a participant was Single, Divorced, Married, Separated, or Widowed. All participants who were listed as single, divorced, separated, or widowed were coded as single, and married individuals were coded as married. Thirty-four participant's marital status is missing from the data.

Drug of Choice: Drug of choice is a categorical variable in this study. The participant's primary drug of choice is collected from the participant at enrollment and is considered the participant's main drug used. Each participant has one drug of choice but may have problems with other drugs as well. The drugs of choices included in the study were cocaine, crack, alcohol, marijuana, methamphetamine, opioids, and heroin. Crack and cocaine were grouped into one category due to crack being a variant of cocaine. Opioids and heroin were grouped together due to heroin being an opioid as well as for analysis purposes. Thus, the drug of choice variable had five categories: crack/cocaine, alcohol, marijuana, methamphetamine, and opioids/heroin. Two-hundred and four participant's drug of choice information is missing from the data set and analysis.

LSI-R Score: The LSI-R is an assessment tool used for entry into the DeKalb County Drug Court program. LSI-R Score is used as a continuous variable in this study. LSI-R scores, which range from 0 to 54, give a composite score on a person's risk of reoffending. Three-hundred and five participant's LSI-R score is missing from the data set and analysis.

2e. Data Analysis

Statistical Analysis System -SAS® (SAS Institute Inc., Cary, NC, USA) software program version 9.4 was used for all data analyses. Frequency distributions were computed and means for continuous variables (age, LSI-R score) were computed as well. To examine predictors of graduation, a logistic regression was conducted in which graduation status was predicted from the set of independent variables including age, race, education, marital status, drug of choice, and LSI-R score. Due to missing data, the listwise deletion method was used for the multivariate analysis.

CHAPTER 3

Results

3a. Bi-variate Analysis

Table 3.1 displays simple graduation rates for all independent variables, including frequencies and percentages or means and standard deviations. The total sample size was 665.

For race, 198 of 470 or 42% of black participants graduated from the DeKalb County Drug Court program compared to 89 of 179 or 49.72% of white participants. Six out of 9 or two-thirds of Hispanic participants graduated from the program. All three (100%) Asian participants graduated from the DeKalb County Drug Court, and 2 out of the 4 or half of the participants who identify as other graduated from the DeKalb County Drug Court program. After grouping race categories into Non-Whites and Whites, Non-Whites graduated from the DeKalb County Drug Court at a rate of 43% (298/367) compared to 49.7% of whites. These percentages were not significantly different.

For age, the mean age at entry was 40.7 (sd=9.64) for graduates and 35.12 (sd=9.69) for non-graduates. The bivariate odds ratio was 1.05 indicating that for every one year increase in age at entry, the odds of graduating increased by about 5%.

Regarding high school graduation, 189 out of 336 (56%) of high school graduates graduated from the drug court, while only 83 of the 230 (36%) non-high school graduates graduated from the DeKalb County Drug Court. These percentages were statistically different at the .05 confidence level (OR = 1.56).

Regarding marital status, only 71 (11.8%) participants were married and 560 (88.2%) were unmarried. Sixty two percent (44/71) of the married participants graduated from the program compared to only 44% (245/315) of non-married participants (OR=1.35). These percentages were significantly different at .05 confidence level.

For drug of choice, crack/cocaine was the most common drug of choice with 49.5% (97/196) of participants whose drug of choice was crack/cocaine graduated from drug court. Marijuana was the 2nd most common drug of choice with 105 participants indicating marijuana as their primary drug of choice among entering the program, and 43 (41%) of those graduated from drug court. Alcohol was reported as drug of choice for 82 participants, and 40 of 82 (48.8%) graduated from drug court. The 47 participants who reported opioids/heroin as the primary drug graduated at rate of 29.8% (14/47). Only 32 participants indicated methamphetamine their primary drug of choice, and 56.3% (18/32) graduated from drug court, which is nominally the highest percentage for any drug of choice. Overall, however, odds ratios indicated that the graduation rates were not statistically different by drug of choice.

Last, the mean LSI-R score was 26.2, with a standard deviation of 7.85. The average LSI-R score for DeKalb County Drug Court graduates was 24.6 (sd =8.28) while non-graduates average LSI-R scores were higher on average at 27.56 (sd=7.21) The average LSI score was related to graduation rates with higher LSI scores being related to lower graduation rates (OR = 0.95).

Table 3.1 DeKalb County Drug Court Bivariate Frequencies

Variable	Graduation N(%) or mean (sd)	Odds Ratio	(95% CI Limits)	Pr>ChiSq
Age	37.62 (10.05)	**1.050**	**1.043, 1.078**	**<.0001*****
Graduates	40.70(9.64)			
Non-graduates	35.12(9.69)			
Race		1.16	0.9651,1.3831	0.1341
White	89/179 (49.72%)			
Non-White	209/486 (43.00%)			
HSG Status		**1.56**	**1.2811, 1.897**	**<.0001*****
Yes	189/272 (69.49%)			
No	147/294 (50.00%)			
Marital Status		**1.35**	**1.099, 1.654**	**0.0117***
Married	44/61 (61.97%)			
Single/Separated	245/315 (43.75%)			
Drug of Choice		Vs. Crack/Cocaine		
Opioids	14/47 (29.79%)	0.5988	0.2161, 0.8499	0.0148*
Alcohol	40/82 (48.78%)	0.9806	0.7542, 1.2749	0.8962
Marijuana	43/105 (40.96%)	0.8118	0.6182, 1.0660	0.1449
Meth	18/32 (56.25%)	1.1307	0.8078, 1.5827	0.5693
Crack/Cocaine	97/196 (49.49%)			
LSI-R Score	26.20 (7.85)	**0.952**	**0.919, 0.985**	**0.0052****
Graduates	24.6(8.28)			
Non-graduates	27.56(7.21)			

* = p < .05, **=p<01, ***=p<.001

Multivariate Logistic Regression

A multivariate logistic regression was conducted predicting graduation from the six variables. Model results are shown in Table 3.2. Overall, the model was 70.1% accurate in predicting graduation when six variables were included: race, age, high school graduation, marital status, drug of choice, marital status, high school graduation status, drug of choice, and LSI-R scores.

The only two significant predictors were age and LSI scores. Older participants were more likely to graduate from the drug court; for every one year increase in entry age, the odds of graduating increased by about roughly 5%. LSI-R scores were negatively related to drug court graduation; for every one unit increase in LSI-R score, the odds of graduating from the DeKalb County Drug Court decreased by roughly 5%. High school graduation approached statistical significance ($p = .059$, OR = 1.68).

Table 3.2 DeKalb County Drug Court Multivariate Logistic Regression Results (Age and LSI-R score significant at .05)

Parameter	Odds Ratio	95% CI Limits	Pr>ChiSq
Race	1.326	0.716, 2.454	0.4197
Age	**1.054**	**1.025, 1.085**	**0.0003*****
HSG Status **(Grads Vs. Non-Grads)**	1.684	0.992, 2.857	0.0593
Marital Status **(Married Vs Single/Separated)**	1.128	0.519, 2.450	0.7618
Drug of Choice			
Opioids/Heroin Vs **Crack/Cocaine**	0.483	0.194, 1.199	0.0934
Alcohol Vs Crack/Cocaine	0.782	0.388, 1.576	0.8636
Marijuana Vs Crack/Cocaine	0.766	0.362, 1.623	0.9598
Methamphetamine Vs **Crack/Cocaine**	1.419	0.462, 4.363	0.3317
LSI-R Score	**0.952**	**0.924, 0.980**	**0.0036****

* = $p < .05$, ******=$p<01$, *******=$p<.001$

CHAPTER 4

DISCUSSION & CONCLUSION

4a. Discussion

Though there are various studies on drug court graduation relating to demographic factors such as age, race, marital status, and education, level of risk has not been widely studied as a predictor of graduation. The results of this study indicate that both age upon entry into the DeKalb County Drug Court program and LSI-R scores predict whether an individual will graduate from the DeKalb County Drug Court program. The older an individual is upon entrance into the Dekalb County Dug Court program, the more likely the individual is to graduate. Conversely, the lower an individual's LSI-R score, the more likely that individual will graduate from the DeKalb County Drug Court program.

The overall graduation rate for the DeKalb County Drug Court was roughly 45%, which is similar to the national average. The odds of graduating from drug court increase by roughly 5% for every increase in age. The logistic regression results on age have implied that younger adults are not graduating at the same rate as older adults. The decrease in drug court graduation percentage with age could be due to several factors. One simple explanation focuses on a lack of maturity and brain development; younger adults are simply not able to commit to such an intense program. The rational could also be that younger adults have their whole life ahead of them, so completing the Dekalb County Drug Court does not seem important. Also, the prison or jail time offered to younger adults may not possibly be a deterrent. The rational or thought process could be that since they are still relatively young, doing a few years in prison might not be that bad, because they will still be relatively young when they get out prison, and they would not have to

do a program that requires hard work and consumes a lot of time. Nevertheless, more research particularly qualitative research with drug courts and younger adults needs to be done to get more insight on this topic.

With the burgeoning opioid epidemic in the United States, it is worth mentioning that the overuse of opioids in America might result in an increased possession of and criminal activity related to opioid use. Consequently, drug courts might be strongly recommended for opioid users in the future. Nevertheless, opioid users at the DeKalb County Drug Court graduated at a rate of 29.8% (14/47). Additionally, the 29.8% graduation percentage was lower than the overall graduation rate and lower than the graduation rates of clients with other drugs listed as their primary drug of choice (e.g., crack/cocaine. methamphetamine, alcohol). The study indicates that opioid users have not done particularly well compared to participants who have a different drug of choice in the DeKalb County Drug Court program, which would imply that opioid individuals who have an addiction to prescription opioids or heroin might not be appropriate for the DeKalb County Drug Court. Additional treatment may be needed to help aid opioid users in successfully completing the DeKalb County Drug Court program. However, it should be noted that there were relatively few opioid users in the analyses.

Furthermore, it must be noted that in previous studies crack/cocaine use was negatively associated with drug court graduation, but the DeKalb County Drug Court graduated participants with crack/cocaine as their drug of choice at a rate of 49.49% (96/197) which was the second highest percentage of drug court graduates behind participants whose drug of choice was methamphetamine. The DeKalb County Drug Court is finding a way to graduate crack/cocaine users. This finding could be due to the overwhelming number of crack/cocaine users in the DeKalb County Drug Court. Crack/cocaine was the most common drug of choice, with it

representing roughly 30% of all Dekalb County Drug Court participants from 2002 to 2017. Due to the large number of crack/cocaine users coming into the Dekalb County Drug Court, the treatment staff has had more experience in treating this population, and it has resulted in a higher graduation percentage than users whose main problem is with another drug. Furthermore, this finding could be explained by all the resources that the DeKalb County Drug Court offers that numerous drug courts around the United States do not. For instance, the DeKalb County Drug Court has housing for high risk and high needs participants. Also, the DeKalb County Drug Court offers psychiatric treatment for participants battling with mental health illnesses. Additionally, the DeKalb County Drug Court pays for the psychiatric medication needed by the drug court participants. Furthermore, the DeKalb County Drug Court also offers Social Recovery Initiative (SRI) events; SRI events are pro-social events that promote healthy lifestyle changes while in recovery. The SRI events include yoga, tai-chi, and bowling, just to name a few. These pro-social events are offered at no cost to the DeKalb County Drug Court participants. Consequently, the additional resources provided by the DeKalb County Drug Court that are not provided by other drug courts may be contributing to the overall success of crack/cocaine users in the program.

The literature on race and drug court graduation has been consistent in implying that whites graduate from drug courts at significantly higher rates than non-whites. Moreover, race was not found to be a predictor of drug court graduation in the logistic regression model. Race was also not significant in the bivariate analysis regarding drug court graduation. Whites graduated from the DeKalb County Drug Court at a rate of 49.72% (89/179). Non-Whites graduated a rate of 43% (209/486). Additionally, 470 out of the total 486 non-whites participants were black, and most of the participants are male. Meaning, that the chronically underserved

black male population is doing just as well as their whites counterparts in the DeKalb County Drug Court. As mentioned before, this finding could be due to the additional resources that are offered by the DeKalb County Drug Court participants that are not commonly offered by other drug courts. These resources include housing for high risk, high needs participants, access to a psychiatrist as well as payment of psychiatric medication, and the inclusion of pro-social events all at no costs to the participants. These resources could very well be contributing to the overall success of this underserved population.

The literature on marital status and drug court graduation has been mixed. Marital status was not found to be a predictor of drug court graduation in the logistic regression model, but it must be noted that married DeKalb County Drug Court participants graduated at a rate 62%, while participants who were single, separated, or divorced graduated a rate of around 44%; these marital status findings were statistically significant in the bivariate analysis. Moreover, the rational for this finding could be the concept of social support. Having a significant other who is standing by a participant and supporting them through the drug court process might give the participant extra motivation in staying sober and completing drug court. Also, the threat of a participant being away from their significant other while in jail/prison may give the participant more motivation to complete drug court as well. The participants who were categorized as married may have been less likely to have a significant other who was active in their addiction, which could also be rational for the finding. More qualitative data on thoughts and motivations of married drug court participants is needed to give more insight on this finding.

4b. Study Strengths and Limitations

A limitation of the study was the missing information for various variables. There was only a total of 290 out of the 665 DeKalb County Drug Court participants included in the final

logistic regression model. The DeKalb County Drug Court did not start collecting LSI-R scores until 2008, which was the reason for the lack of scores. Consequently, the listwise deletion method was used for analysis, and the results of the study could possibly produce bias parameters and estimates. This listwise method ultimately affected the statistical power of the tests conducted.

Moreover, another limitation of the study was there were no treatment variables used in the analysis. For instance, the study lacked the number of treatment groups or how often an individual received a particular treatment. The DeKalb County Drug Court offers various forms of treatment. Their curriculum involves a combination of Moral Recognition Therapy (MRT), Cognitive Behavioral Intervention, and Thinking (T4C). A quantifiable dosage of each treatment curriculum could possibly give insight on treatment variables and drug court completion.

Nevertheless, a major strength of the study was the use of updated data up until the year 2017. New studies and data are very helpful for discovering trends as well as getting more modernized analysis of older and new public health issues. In this case, the public health issue was substance abuse, and the effectiveness of drug courts, a form of substance abuse treatment. Also, another strength of this study was that is used one of the most prestigious drug courts in the county. The DeKalb County Drug Court is regarded as one of the model drug courts in the United States due to their low recidivism rates for graduates of the program. Also, the DeKalb County Drug courts offers a variety treatment options that other drug courts do not offer such as housing for high needs individuals, and psychiatric treatment and medication, at no cost to the participants. A study on a highly effective drug court with various resources is very beneficial to the overall drug court research.

4c. Implications of Findings

Moreover, the study has shed some light on how resources should be spent on drug courts. Since younger adults are not graduating at a significantly high rate, then possibly the DeKalb County Drug Court program should look for more appropriate candidates. Older adults are more likely to be appropriate candidates because of their higher graduation rates. The DeKalb County Drug Court graduates were roughly 41 years old on average compared to 35 years old for non-graduates. Understanding that younger participants are less likely to succeed is important for drug court entrance guidelines. Based off the results of the logistic regression, a drug court age requirement increase could increase the drug court graduation percentage and reserve resources to the participants who are more appropriate for the program and drug use treatment. Alternatively, special steps may be needed to work with younger adults who enter drug courts. Interventions aimed at assessing motivation and promoting retention and graduation could target younger adults and could possible result in additional resources and the development of another level of treatment specifically designed for younger adults.

Also, LSI-R scores were a strong predictor of graduating from the DeKalb County Drug Court. Essentially the lower a person's entry LSI-R score, the more likely a participant is to graduate from the DeKalb County Drug Court. Consequently, the DeKalb should continue to use the LSI-R as an assessment tool for admittance into the DeKalb County Drug Court, as well as keep two levels of treatment. Additionally, drug courts who do not currently use the LSI-R as an assessment tool should consider using the tool due to the LSI-R scores relationship with drug court completion. Understanding that participants with higher LSI-R scores are less likely to succeed is important for drug court entrance guidelines, and helpful in understanding the level of treatment needed to succeed. Alternatively, clients with higher LSI-R scores may need additional

services to succeed in drug court. The DeKalb County Drug Court has already started the implementation of additional resources to help participants with higher LSI-R scores, higher risk, and higher needs succeed.

4d. Recommendations for Future Research

Future research is necessary to examine the reason why younger adults are not graduating from the DeKalb County Drug Court at a high rate compared to the 50-70% graduation rate nationwide. Moreover, more research needs to be done to explain why the younger a drug court participant is, the less likely they are to graduate from drug court. Moreover, a possible future study for the DeKalb County Drug Court would be to get insight on the thoughts and ideas of the younger adult population, particularly a qualitative study that describe younger adult's motivation in completing the program. This qualitative study from the younger adult's perspective could be aimed at figuring out the pros, cons, and the possible interventions needed for the younger adults to succeed in drug court. Possibly comparing the ideology and mindset of younger adults vs older adults and their view on the DeKalb County Drug Court, and why they agreed to participate in the program could give this insight on the lower graduation rates for younger adults.

4e. Conclusion

In conclusion, substance and alcohol use is a significant public health program and is strongly connected to the criminal justice jail/prison overpopulation problem as well. Drug courts are one of the forms of treatment for the public health substance abuse problem. Though drug courts deliver a way to combat substance and alcohol abuse in the United States criminal population, drug courts may not work equally well for everyone. By understanding who succeeds or fails at drug courts, we can better utilize the limited resources available and provide targeted interventions for those who are less likely to succeed.

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