The impact of employment on treatment completion rates with DWI offenders

by

Cailyn Florence Green, Ph.D., CASAC

State University of New York, Empire State College

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Abstract

Drivers under the influence of alcohol cause nearly one third of all fatal motor vehicle accidents. Ambulatory outpatient alcohol use disorder treatment has been clinically shown to increase abstinence, which could decrease the chance of subsequent DWI offences. Aiding clients in successful completion of this treatment is imperative to lower the recidivism rates of DWI offenses. The research question focused on whether employment status can predict successful outpatient treatment completion in court mandated adults. The TEDS-D archival data set was used, consisting of data collected between 2006—2011 from federally funded substance abuse treatment centers throughout the USA. The variables of treatment level, gender, employment status, and age were used as controls. A logistic regression using a random sample of 4,947 participants determined employment status was significant. The variable of age was also a significant predictor of treatment completion. Court and treatment agencies can use this information to offer more employment support to increase chances of treatment completion.

Key Words: Abstinence, Alcohol, Addiction, DWI, Employment, Substance Use, Treatment,

Introduction

A problem exists in our society regarding the high number of deaths that occur each year due to alcohol-related traffic accidents. "In 2014, 9,967 people were killed in alcohol impaired related driving crashes, accounting for one third (31%) of all traffic related deaths in the United States" (Center for Disease Control, 2016. para 1). Rempel, Green and Kralstein, 2012, identified that after an 18 month follow up of DWI offenders, 27% were rearrested for another DWI charge while those who engaged in drug court had a much lower recidivism rate of 17%. DWI recidivism exists due to the chronic relapsing nature of alcohol abuse (Heyman, 2013). Rauch et al. (2010) identified when a person commits a DWI violation, his or her "rate of subsequent violation increased 615% by that first violation" (p. 921). Rauch et al. (2010) found a significant connection between a first DWI offense and a high rate of recidivism for a subsequent offense. When researchers interviewed a sample of 1,100 drivers over the phone, 60% reported understanding that driving while under the influence of alcohol was associated with a high risk of traffic accidents (Alonso, Pastor, Montoro, & Esteban, 2015).

When looking at options for lowered recidivism rates of DWI offenders, formal treatment continues to be most effective because relapse is a key indicator of recidivism arrests (Kopak, Hoffman & Proctor, 2016). Although it has been found to be most effective, the question arises if the researchers identify the difference between the formal level of treatment is necessary. Formal treatment is defined as involvement in a program where state licensed clinical treatment is being offered. This may look like outpatient, inpatient or residential treatment. Might education be

enough for clients who are being diagnosed with episodic abuse cases. The American Psychiatric Association DSM 5 (APA, 2013) classifies substance use disorder order impacting ones cognitive, behavioral and phycological functioning (APA, 2013). APA (2013) also suggests a strong connection with substance us disorder with impaired control, social impairment and risky behaviors. Specifically, Alcohol use disorder is defined as "problematic pattern of alcohol use learning to clinically significant impairment or distress, as manifested by at least two or more of the thirteen criteria within a 12-month period. The specifiers are mild for 2-3 symptoms, moderate for 4-5 symptoms, and severe for 6 or more symptoms" (APA, 2013, p. 491). The current climate uses the terminology of substance use and substance use disorder rather than addiction. The DSM 5th edition moved the diagnostic field away from separating the classification of alcohol or drug abuse and alcohol drug dependence by a single classification (Erickson, 2017). Now the treatment field is looking for the number of symptoms expressed by the client to categorize them into mild, moderate or severe classification (Erickson, 2017). The author will use the term alcohol use disorder, mild, as equivalent of alcohol abuse. When dealing with a diagnosable disease, we must combat it with proper evidence-based treatment.

A longitudinal study identified that after a time period of 8 years, participants who received formal treatment (i.e., outpatient, inpatient or detox) were significantly more likely to be abstinent from alcohol use compared to participants who did not (Timko, Desai, Blonigen, Moos & Moos, 2011). By completing treatment, clients had a better chance of abstaining from alcohol for longer periods of time and, therefore, reduce their chances of recidivism. To further the connection between formal treatment and abstinence, Moos and Moos (2005) investigated if attending AA mutual help meetings and/or participating in formal treatment within the first year after first seeking treatment would be a predictor of stable remission. Participants who were

engaged in both mutual help and formal treatment reported stable remission of 42.4% (Moos & Moos, 2005). Clients who did not receive formal treatment and/or AA were less likely to be stable from their alcohol dependency issues than clients who did (Moos & Moos, 2005). Treatment aids in lengthening abstinence periods of alcohol use by people suffering from substance abuse. Timko, Moos, Finnery, and Lesar (2000) identified alcohol users who engaged in some form of treatment had a significantly higher likelihood of abstinence compared to those who engaged in no form of treatment.

Louis (2017) completed interviews of hiring agencies and probation and parole officers to identify if there was a connection between employment and recidivism. This qualitative study identified challenges for these recently incarcerated persons to obtain employment, but those who were employed, did have reduced recidivism rates.

Employment has been strongly linked to lowering recidivism rates of those recently incarcerated. It has been found that having employment after release from incarceration lessens the chance of that person reoffending (Sampson & Laub, 1997). Visher, Winterfield and Coggshall (2006) compiled a systematic review of employment programs and their impact on recidivism rates of previously incarcerated individuals. The outcome concluded that employment does have an impact on lessening recidivism rates, but that the current research in the field is far and few between.

Purpose of the Study

The purpose of this study was to determine if employment status impacts successful treatment completion for U.S. court-mandated DWI offenders based on records for 2006—2011. Regression analysis was used to identify the extent of this relationship. The results of this study could be used to aid in lowering the recidivism rates of DWI offenders with alcohol use issues. The focus of this study was on identifying if a predictive relationship existed between

employment status of DWI court-mandated offenders and likelihood of successful completion. To address this gap in literature a quantitative research inquiry was used.

Data Set

The secondary data used for this studies analysis was originally collected from Substance Abuse and Mental Health Services (SAMHSA) and the United States Department of Health and Human Services (USDHHS). Together they funded and gathered the archival data set Treatment Episode Data Set- Discharge (TEDS-D). The TEDS-D contains collected data on over 34 variables from licensed substance abuse treatment facilities who received federal public funding. These facilities were asked to complete and submit the survey online through the State TEDS Submission System (STSS) Guide. The TEDS-D holds a total of 9,829,536 pieces of secondary client data which was collected in the time period of 2006—2011. While this data is dated, the findings continue to be relevant today due to the in-depth collection process and ability to generalize the findings. The SPSS random sample tool generated the sample from the eligible 126,350. After completing the assumption tests and removing outliers, 4,947 was the final sample size. Table 3 presents the predictor variables compared to treatment completion status and the percentages and total numbers (N) of each variable.

Screening Criteria

The TEDS-D data set classified DUI and DWI court referrals as a subgrouping under the court and criminal justice referral section (depending on which state identifies this crime as a DWI or DUI).

The research included two levels of ambulatory outpatient treatment together as screening criteria. The data set identified the type of treatment facility as 'service setting' in

SPSS. The definition of intensive outpatient treatment is clients who received 2 or more hours of treatment per day, for 3, or more days a week (SAMHSA, 2011).

This study only focused on clients who identified alcohol as their primary substance of use at intake and were over the age of 18.

Table 1

Research Variables and their Corresponding SPSS Codes

Variable	Coding/Recoding
Independent Variable Employment	Binary Categorical 1- Employed 0-Not Employed
Dependent Variable	Binary categorical 1-Successfully completed 0-did not successfully complete

Control Variables
 	
    Gender
 	
    Race
 	
    Age
	
	Binary Categorical
	
	 1-Male 2-Female
	
	Nominal Categorical
	
	1-White
	
	2-African American
	
	3-All Other
	
	Interval (appearing) Categorical

		4- 18—20
		5- 21—24
		6- 25—29
		7- 30—34
		8- 35—39
		9- 40—44
		10- 45—49
		11- 50—54
		12- 55 and over
	Level of Outpatient Treatment	Binary Categorical 6- Intensive 7-NonIntensive
Screening Criteria		
	Ambulatory Outpatient	Binary Categorical 1-Ambulatory outpatient, intensive and nonintensive 0-All other treatment facility types
	DWI	Categorical 8-DWI Referral
	Alcohol	Categorical 2-Alcohol

Age	Binary Categorical 0-Ages 0—17 1-Age 18 and over

Note. Substance Abuse and Mental Health Services Administration. (2011). Treatment episode dataset: Admissions (ICPSR No. 30122). No permission needed.

Research Design

A quantitative approach was used to identify the predictive value of the relationship between the independent and DVs. Logistic regression was the most appropriate design to examine the relationship between a dichotomous DV with one or more predictors (Ranganathan, Pramesh, & Aggarwal, 2017).

A simple random sampling strategy was used on clients who met screening criteria in the TEDS-D data set. A large year range of 2006—2011 was utilized for this study. Grant, Goldstein, Saha, Chou, Jung, Zhang & Hasin (2017) supported a random sample approach when using data collected over multiple years which contained surveys collected from the National Epidemiological Survey on Alcohol and Related Conditions III from 2012—2013. There were 191,328 data in the TEDS-D that meet screening criteria. Please see table 2 for descriptive statistics.

Table 2
Descriptive Statistics

Variable		N	%	Did not complete	Completed
Gender	Male	3827	77.4	1090	2737

	Female	1120	22.6	321	799
Age	18-20	279	5.6	104	175
	21-24	736	14.9	210	526
	25-29	867	17.5	270	597
	30-34	595	12.0	184	411
	35-39	535	10.8	149	386
	40-44	577	11.7	158	419
	45-49	566	11.4	157	409
	50-54	381	7.7	93	288
	55 and over	411	8.3	86	325
Race	White	3779	76.4	1026	2753
	African American	495	10.0	169	326
	All other races	673	13.6	216	457
Employment status	Employed	3207	64.8	816	2391

Data Analysis

A logistic regression was used to reject the null hypothesis and control variables that were not predictive of the DV were removed. The Variables in the Equation table provided the output information on the overall results of the degree of prediction on the outcome variable and the actual contribution of each control variable (Field, 2015). The researcher used a standard

forced entry method to direct the analysis through SPSS. A forced entry method includes

variables based on previous research and enters them in the analysis simultaneously (Field,

2015). The forced entry method also continually provides replicable results, which was important

so future researchers to replicate the findings (Field, 2015).

The variables of age were continuous while gender, race and employment status were

categorical in nature.

The DV was measured by whether treatment was successfully completed or not. The

TEDS-D defined successful completion as when all parts of the treatment plan or program were

successfully completed (SAMHSA, 2011).

Table 3
Analysis Results

Variable	B	S.E	Wald	*df*	Sig.	Exp (B)
Age	.080	.014	33.092	1	.000	1.084
Gender	-.006	.077	.006	1	.940	.994
Race			9.592	2	.008	
Race_(1)	.110	.094	1.386	1	.239	1.117
Race_(2)	-.314	.105	9.011	1	.003	.730
Employment status	.409	.067	37.097	1	.000	1.506
Constant	.095	.155	.378	1	.538	1.100

Employed clients were significantly more likely to complete treatment. Wald X2 (df=1) = 37.097, p <.001. Employed clients had 1.506 greater odds for completing treatment relative to unemployed clients.

Gender did not predict treatment completion likelihood. Wald X2 (df=1) = .006, p < .940. However, the output showed increased age did predict an increased likelihood of not completing treatment. Wald X2 (df=1) = 33.092, p < .001. Each older age cohort had 1.084 greater odds of not completing treatment than the previous age cohort.

The race variable is statistically significant in predicting treatment completion. Wald X^2 (df=2) = 9.592, p = .008. The race variable had 3 categories; SPSS compared these categories against each other. It is less likely for African American clients to complete treatment than White clients with an odds ratio of .730 (Wald X^2 (df=1) = 9.011, p < .003. SPSS recoded this to Race_(2). The other race comparative groups are not statistically significant. Relative to non-White and non-African American clients, White clients do not have greater odds of completing treatment. Wald X^2 (df=1) = 1.386, p = .239. SPSS recoded this to Race_(1).

Threats to Validity and Reliability

The possibility of threats to validity and reliability exists. SAMHSA made no requirements of an employee's level or position to qualify for reporting the data. Employees who reported the data may have had different training and certifications. This could account for differences in interpreting the TEDS-D questions and answers.

Construct validity limitations are related to the assessment tool each treatment facility used to initially collect their data. Information was transferred from their initial assessment tool, through the STSS, and filtered into the TEDS-D. Data collectors assume all data was initially collected by a comprehensive biopsychosocial assessment. While this was assumed, there was no

formal assessment of every facility was instructed to use. Questions may have been asked differently at different facilities due to a lack of a uniform assessment strategy.

Limitation and Recommendations for Future Research

A limitation of this data was the collection of information from the time period 2006 to 2011. While a trusted government agency gathered the data, it is aged as the mental health field is ever changing and updating its practices. Changes may have taken place in the past 7 years which would heavily influence the results if the same research question was analyzed with newer data.

By using the TEDS-D data set, this research only included data collected from alcohol abuse treatment facilities who received public funding in this research (Albrecht et al., 2011). This is a threat to the external validity and the capacity to generalize the findings to privately funded treatment facilities.

The findings support asking a similar research question using other demographics such as the IV. Demographics which this research did not use may have a stronger predictive nature on treatment completion when paired with days waiting. The current research did not use ethnicity, marital status, education, veteran status, living arrangement, primary source of income, and number of arrests before treatment. Moos and Moos (2005) identified how alcohol use disorder treatment remission is predictive of clients with higher levels of education. Studies using levels of education, life satisfaction, and the age centered interaction effect results recently discovered could create a very interesting outcome.

In many instances, substance use may be mild or episodic, where education-based treatment would be appropriate. This research did not identify the differences between if clients were diagnosed with mild severity, moderate severity or major severity per the Diagnostic

Statistical Manual, 5ᵗʰ edition published in 2013. This is mainly because at the time the data set was collected, these designations were not mainstream at the time. Further research identifying the difference of treatments impact on clients who are classified with mild, moderate or major severity would offer an important insight into the clinical recommendation world. Could a first-time offender or offender with a mild case of alcohol use disorder lower their rates of recidivism if they are part of an education program versus an offender with a more severe or advanced case of alcohol use disorder.

Strengths

The strengths included using a simple random sample taken from a large national population which adds depth to the existing literature. Albrecht et al. (2011) have a similar strength because they used the same data set. The large random sample offers statistical power to examine multiple covariates.

Discussion

Employment had a strong predictive value with employed clients having a significantly greater likelihood of completing treatment successfully than non-employed clients. Employed clients may have access to childcare, transportation, and a strong support network (Albrecht et al., 2011). This knowledge can support legal entities, such as parole offices, probation offices and drug courts, to encourage clients to obtain employment quickly to reduce the risk of recidivism.

Continuing this research to bring in the topics of how mutual aid support groups and medication-assisted treatment (MAT) impact completion rates, and lower recidivism rates, could be vital to the substance use treatment field.

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