

Investigating Factors to Determine Completion and Premature Termination of Outpatient Substance-Abuse Therapy

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The present study examines the factors to determine completion or premature termination of an intensive outpatient substance-use disorder (SUD) treatment program. The analytic framework includes ten variables as potential protective and risk factors such as age, gender, marital status, number of dependents, employment status, possession of a valid driver's license, adverse childhood experience (ACE) scores, the presence of co-occurring disorders (COD), support group participation, and involvement with the legal system. This study used a secondary dataset for 100 clients who had participated in an outpatient SUD treatment facility in Rochester, Minnesota. Two groups of 50 clients each, representing those who had completed treatment program and their counterparts who had been prematurely discharged from program, respectively, were included in the dataset. Results found that four variables were found to have significant associations with treatment completion: employment status, ACE scores, legal involvement, and support group participation. Those who were employed and legally involved are more likely to complete the program. Findings also suggest that those who had lower ACE scores and participated in support group tend to complete the treatment. Based on the results, the current study provides recommendations for early identification of ACEs, the ongoing effort on the part of SUD treatment staff, and encouragement for support group participation.

The successful completion of a course of substance abuse therapy treatment for the clients with substance abuse and dependence can hardly be understated in importance. Nearly half of drug treatment referrals are made by the criminal justice system (Anglin, Prendergast, & Farabee, 1998). Re-arrests of criminal offenders have decreased in both high- and low-risk populations with the receipt of longer-term treatment for substance use disorder (SUD) (Evans, Huang, & Hser, 2011). While the present legal system may set a greater priority on SUD treatment as a condition of parole, or alternative to incarceration (Anglin, Prendergast, & Farabee, 1998), the greater number of substance-dependent people who receive services also receive detoxification services as treatment without long-term SUD therapy (O'Brien, 2008).

Large proportions of the population with co-occurring disorders (COD) receive neither SUD nor COD treatment services (Flynn & Brown, 2008). Between the years of 2001 and 2020, the number of adults aged 50 and over with substance dependence will be increased from 1.7 to 4.4 million (SAMHSA, 2007). However, the relationships among substance use, crime, and the lack of enrollment in treatment services do not address negative medical and psychoso-

cial circumstances when the cycle of addiction becomes an uncontrollable fixture in their lives (O'Brien, 2008).

The receipt of substance abuse therapy has been shown to be associated with subsequently larger income and more employment stability (Metsch, Pereyra, Miles, & McCoy, 2003). In a study of the effects of substance dependency therapy versus no treatment, clients who completed a course of substance dependency therapy, as well as those who stayed within the treatment program for longer periods, showed the best outcomes in all categories examined (McLellan, et al., 1996). The present study is on these premises that SUD treatment yields better outcomes than no treatment, and that the completion of therapy will yield better results than premature discharge from a program of treatment.

This research aims to identify the differences between two groups of clients who participated in an intensive outpatient (IOP) substance-abuse therapy and examine protective or risk factors to determine successful completion of treatment in this setting. Each group was comprised of 50 clients and assigned to one of the groups based on whether they completed the therapy or prematurely discharged. As potential predictors to determine therapy completion, this study also includes patients' demographic, socio-economic, social, and psychological characteristics (e.g., age, presence of a driver's license, employment status, gender, history of adverse childhood experiences (ACEs), marital status, number of dependents, presence of co-occurring disorders, support group participation, and legal involvement at the time of treatment).

The purpose of this research is to identify risk and protective factors conducive to successful completion of an IOP substance abuse therapy. This study also aims to confirm the previous research findings on factors to determine completion or being prematurely discharge from a substance-abuse therapy.

Literature Review

The Importance of Substance-Abuse Treatment

McLellan and the colleagues (1996) reported numerous needs for substance abuse therapies. Around one eighth or more deaths in the United States can be linked to alcohol or drug abuse. People with chemical dependency people use up to ten times the amount of medical services that those without substance dependence receive. Up to 75 percent of federal prisoners meet requirements to be classified as substance-dependent. Half of property crimes are carried out with either the intent to use or under the influence of drugs or alcohol. Employers' motivations include a return to an effective level of work production and safe working environments. This study measured the effectiveness of substance abuse therapy versus no treatment or incarceration in three areas: first, the reduction of substance use in clients, second, the improvement of client functioning, and third, the reduction of societal harm caused by clients' substance use. Results suggest that substance-abuse therapies compared to incarceration or no treatment were found effective in improving both mental and physical client functioning, reducing exorbitant need for medical services, reducing client usage of substances, and

increasing earnings through positive employment outcomes (McLellan, et al., 1996).

Another research conducted by Metsch, Pererya, Miles, and McCoy (2003) measured the welfare and work outcomes of 4,236 women who received TANF benefits and subsequently received substance-abuse therapy between 1994 and 1999. This study examined whether women were more likely to move from welfare to work after receiving substance-abuse treatment. Results showed the potential of treatments' influences on the motivations of clients to gain positive outcomes in the economic environment again. Clients were found to be more likely to find work or return to work after receiving treatment. In specific, the women who moved to a work-only status from receiving cash benefits increased by 300 percent over that period (Metsch, et al., 2003).

In addition, Frazer (1984) in his examination of adolescent drug abuse included the debilitating effects of substance abuse on a young person's educational prospects. Adolescents who abuse drugs were found to be less involved in extracurricular activities and attained poorer grades. Students using hard drugs (e.g., barring alcohol and marijuana) were significantly less likely to plan on attending college (Frazer, 1984).

The Age-Group Demographic

Conducting interviews with parents, staff, and adolescents attending in-patient substance-abuse therapies, Gogel, Cavaleri, Gardin, and Wisdom (2011) described the perceptions of the aforementioned on major reinforcers and barriers to the participation and completion of treatment. Adolescents were more likely to find program rules and difficulty in coping with past experiences as barriers to treatment while staff and parents were more likely to report transportation issues as major factors impeding treatment completion (Gogel, et al., 2011). The most frequently reported factors to treatment completion were frequent and honest communication between parents and staff, family involvement, and positive relationships between adolescents and counselors. The most frequently reported barriers to treatment completion were transportation problems, staffing inconsistency or shortages, and programmatic regulations (Gogel, et al., 2011).

Morgan, Brosi, and Brosi (2011) found narrative therapy as an effective means to treat substance abuse and dependence in the lives of older persons. Additional risk factors such as ageism, the body not being able to metabolize chemicals as efficiently as before, coping with grief and loss, experiencing major life changes, being male, and reception of negative age-based messages, all lead to greater susceptibility to the abuse and dependence upon substances (Morgan, Brosi, & Brose, 2011). Being male while still regarded as a risk factor for substance abuse in older age, by no means indicates that being female may be thought of as a protective indicator. The two most frequently abused substances by older Americans are alcohol and prescription drugs, and medications with increased abuse potential such as depression medications are both prescribed and used by females more often than males (Morgan, Brosi, & Brosi, 2011). The narrative approach is regarded as a four-step process of: first, deconstructing and

analyzing the patient's life story with them; second, separating the substance-abuse and dependence as a problem to be dealt with, and not an internal characteristic; third, identifying times in which the client has been able to cope successfully with the problems; fourth, restructuring or re-telling the story in a manner which allows the client to perceive and understand that successes in life are possible despite the barriers that his/her substance-abuse has erected (Morgan, Brosi, & Brosi, 2011).

Co-occurring Disorders and Therapy Outcomes

Although Scalise, Berkel, and Whitlock (2010) did not include 'diagnosed' co-occurring disorders, their findings help to demonstrate the important influences pre-existing mental states may present on substance abuse therapy outcomes. In a study of 415 individuals who participated in a 15-day, short-course substance-abuse treatment program, they measured for treatment completion correlates in factors such as ethnicity, gender, positive feelings (e.g., joy, vitality, love, and contentment), negative affective moods (e.g., depression, anxiety, agitation, and hostility), and personality traits. Findings revealed that women were twice as likely to complete as men were. However, the gender difference was not statistically significant, as the sample consisted of 85 percent male subjects. Results also suggest that higher levels of the neuroticism personality trait corresponded with increased completion chances, and higher levels of agitation in the negative affective status correlated positively with lower treatment completion rates (Scalise, et al., 2010).

In their study of the results of outpatient SUD therapies, Lu and McGuire (2002) measured the effectiveness—in retention of substance abstinence of clients—of private practice treatment in 10,000 sessions in Maine. In addition to identifying a 49 percent referral rate from the legal system and that around 40 percent of the clientele had no insurance and no way to pay for treatment (Lu & McGuire, 2002), they found a number of results pertaining to how patients retained substance abstinence following therapy: first, clients with more severe dependencies were more likely to return to use; second, clients with longer periods of substance abstinence prior to treatment were more likely to retain substance abstinence following treatment; third, heroin users had the highest rates of relapse, while marijuana users were more likely to relapse than users of alcohol; fourth, clients having been involved with probation or parole, awaiting trial, being incarcerated or awaiting sentencing, or being involved in the legal system in some way, reduces improvement during therapy; fifth, indicated clients having more treatments in the past as less likely to retain substance-abstinence; sixth, having obtained a higher level of education related to a greater likelihood for a client to remain abstinent of chemicals, and more pertinent to this section of literature review; and seventh, clients with co-occurring mental health diagnoses were more likely to relapse to the use of mood-altering substances after completing treatment (Lu & McGuire, 2002).

In a review of evidence-based treatment practices, O'Brien (2008) explains the nature of addiction as intrinsically connected with the reward pathways of

the brain, which have modified to increase survivability. When using substances actively, an alternating pattern of highs (euphoria) and lows (cravings), leads to the uncontrollability of the entrenched cycle of addiction (O'Brien, 2008). In addressing clients with co-occurring mental health disorders, it would be optimal for the COD to be treated by the same treatment team, and in the same period of time the SUD is being treated. This study also emphasizes that behavioral therapy treatment without medication addressing other disorders, is one of the greatest weaknesses affecting SUD treatment therapies (O'Brien, 2008).

Flynn and Brown (2008) preface their research with three areas of exploration of greatest pertinence when examining the complexity of the relationships of co-occurring disorders and substance abuse treatment: first, the need for greater understanding of the prevalence of COD in the SUD treatment fields; second, a need to determine how adequate the SUD treatment field's response has been in reference to CODs; and third, a call for realistic clinical initiatives in designated areas of need that address how, and to greater positive effect, CODs are handled when coupled with SUD treatments (Flynn & Brown, 2008). This study points to the ambiguity and complexity of COD as an umbrella term encompassing a wide range of diagnoses and severities, complicating the diagnosis and treatment of co- and multiple-occurring disorders (Flynn & Brown, 2008). In addressing the prevalence of COD in the SUD field, results found that around 20 percent of the general population with an SUD also exhibited one or more mood disorders, and around 18 percent exhibited anxiety disorders (Flynn & Brown, 2008). Mentioning a survey of staff providers on the rate of COD in treatment of SUD as the primary need; 17 percent borderline personality disorder, 18 percent antisocial personality disorder, 17 percent severe mental illness, 25 percent post-traumatic stress disorder, 26 percent anxiety disorders, and 41 percent mood disorders were found within clientele receiving SUD treatment services (Flynn & Brown, 2008). Among clients receiving services at three outpatient SUD clinics, it was found that around half of clients exhibiting indications of COD had never received treatment for that COD. While citing the demand for specialized staff and services in treating COD within the SUD field, the study also suggests that significant positive changes have been noted in clients with less severe COD issues when addressing SUD problems within normative treatment settings, with non-specialized staff and services (Flynn & Brown, 2008).

Coping with ACEs

A study conducted by Timko, Sutkowi, Pavao, and Kimerling (2008) examined the relationships between adult and childhood adverse experiences, physical and mental health, and socio-demographic factors, with instances of binge drinking in a sample of women in California. Results found that adverse childhood experiences increased the potential for subsequent alcohol misuse, and that, in particular, childhood sexual abuse in women was a major predictor of alcohol abuse as an adult (Timko, et al., 2008). In addition, the specific adverse childhood experiences (ACEs) of living with someone who abused substances, or was mentally ill, were found to be associated with around doubling the likelihood of

binge drinking, and the study found the indicators of PTSD, stress, anxiety, and depression to be positively correlated with binge-drinking in adult women (Timko, et al., 2008). With indicating the strong associations of physical and sexual assault and the subsequent drug-abuse in women, the study also highlights the importance of understanding the consistency with which ACEs are linked to adulthood SUDs (Timko, et al., 2008).

In examining adverse childhood experiences, Felitti (2004) challenges the notion that addiction to substances is caused at the molecular level and substance dependent. Rather, it can be based on coping methods developed as results of ACEs, and therefore, experience dependent. The study examined the associations between the compulsive use of injected street drugs, nicotine and alcohol, and corresponding reports of ACEs and found significant indicators of substance usage rooted in ACEs. Results showed a strong, graded (dose-response) relationship between nicotine, alcohol, and injected street drugs and ACEs. The study also noted that a 500 percent increase in self-acknowledged alcoholism was associated in a strong, graded manner (Felitti, 2004). With over 17,000 self-reports of ACEs and substance use, the study found the notion that addiction is caused by substances ill-founded, and portrayed addiction rather as a compulsive, unconscious, and understandable method of coping with ACEs. In most cases, they are hidden—consciously or unconsciously; from the self as well as others—as a result of shame, guilt, repression, and social taboo (Felitti, 2004).

SAMHSA (2012) notes that ACEs are related to many health problems throughout the adult lifespan, including substance abuse. The relationships between ACEs, these problems, and problematic factors can be examined in strong graded patterns, and include both substance-use-related behaviors and related behavioral problems. ACEs are found to be positively associated with self-reported addiction, illicit drug use, ever having a drug problem, prescription drug-abuse, problematic drinking behaviors, and earlier initiations of both smoking and drinking alcohol (SAMHSA, 2012). Behavioral problems associated with ACEs include teen pregnancy, risky sexual behaviors, increased depressive episodes and increased suicide attempts. This report underscores that the early detection, identification, and proper treatment of people with ACEs could possibly prevent and alleviate an array of collateral harm indirectly caused by ACEs (SAMHSA, 2012).

Based on the adverse childhood experiences study with 17,000 participants visiting a nation-wide health clinic in San Diego, California. Dube, Anda, Felitti, Edwards, and Croft (2002) examined the relationships of eight ACEs to alcoholism, self-reported alcohol abuse, and heavy alcohol use. They found strong associations between ACEs and all adult alcohol outcomes. Showing independent of parental alcoholism, results indicate that ACEs were more commonly found in alcoholic families and that a quadruple-risk of self-reported adult alcoholism was associated with an ACE score of four or more. Findings also suggest that ACEs greatly increase the potential for personal alcoholism and in marrying an alcoholic and that they contribute to a greater potential for the continuance

of the intergenerational cycle of alcoholism, and are associated with increased rates of depression and anxiety (Dube, et al., 2002). Due to an underreporting of alcohol use and abuse, this study acknowledges that the relationships between ACEs and the outcomes associated with alcohol-use are most likely underestimated, and, in actuality, stronger than reported (Dube, et al., 2002).

In sum, the results from previous research suggest the various factors involved in both receiving and retaining the principles involved within a course of substance abuse and dependency therapy. The literature review serves as a reminder of the complexity of the phenomena being examined in this present study and a greater understanding of the factors influencing the success of SUD therapy. Based on the findings, the present study developed research hypotheses. The purpose of this study is to identify protective and risk factors to determine a client's ability to successfully complete a SUD treatment.

Methods

Sample and Data

The data for this study were obtained from individual clients' information at Fountain Centers of Rochester in Minnesota. This agency provides substance abuse and dependency counseling and group therapies and operates an intensive outpatient non-residential treatment program. The sampled data for this study include 100 clients. Each client's information contains variables as follows: gender, age group, marital status, number of reported dependents, employment status, possession of driver's license, ACE score, presence of co-occurring disorders, presence of support group participation, presence of legal involvement, and, and whether the treatment program was completed or prematurely terminated.

The present study compared the differences between two groups: one group of participants who completed their treatment program and the other group that did not completed. Each group consists of 50 participants. Among the group of 50 clients who completed the program, 32 clients are male and 37 clients are single while 13 clients are married. Regarding age category, six clients indicated adolescence while 21 of them indicated young adults, 17 indicated adults, six indicated older adults. While 21 clients indicated possession of a valid driver's license, 30 clients reported that they were employed. More than half of them (28 clients) indicated the presence of a co-occurring disorder. Most of them (41 clients) reported having their support group and 36 clients indicated legal involvement. Over the half of them (27 clients) reported having no dependent while 14 clients having one or two dependents and nine clients having three or more dependents. Three clients had no indicator of an ACE score while 27 indicated none, seven clients for one, six clients for two, two clients for three, four clients indicated four, and one client for five as their ACE score.

Of the group of clients who did not complete the treatment, 16 out of 50 clients are female, 46 clients are single, and only four clients are married. Among them, 19 clients indicated in the adolescents' age range, 18 clients in the young

adults, ten clients in the adults, and one client in the older Adults. Most of them (36 clients) reported having no dependents, 11 clients having one or two dependents, and three clients having three or more dependents. While 20 clients reported having a valid driver's license, 19 clients indicated being employed. Thirty clients indicated the presence of co-occurring disorders, 11 clients reported having their support group participation, and 25 clients indicated legal involvement. Twelve clients reported having no indicator of an ACE score while 17 clients indicated none, seven clients for one, four clients for two, three clients for three, two clients for four, two clients for five, one client for six, and one client for seven, and one client for nine.

Procedure and Variables

The individual client records were selected from the most recent archives in 2012 to the data in 2011 until each of the two groups of data consisted of 50 clients. In this present study, the dependent variable is whether a client completed treatment. The data indicate whether each client has been discharged with staff approval with showing the required number of sessions, hours within session, the completed number of hours within sessions, and whether to complete the necessary master treatment plan interventions to merit graduation from the program. Data from the clients in non-completion of treatment group show that the client has been discharged against staff approval for any reason (e.g., continued relapse, an accumulation of absences from sessions, lack of insurance or form of payment, transfer to another treatment program, and more).

This study also has ten independent variables including gender, age, marital status, the number of dependents, employment status, possession of driver's license, ACE score, presence of co-occurring disorders, presence of support group participation, presence of legal involvement. Gender was determined by whether the client was biologically female or male. Age was categorized into five groups: adolescents (12-17 year), young adults (18-28 years), adults (29-45 years), older adults (46-64 years), and retirement age (65 years and older). Marital status was determined by the legal status of being either single or married at the time of admission regardless of past divorces, common-law marriages, or instances of separation from the spouse. The possession of a driver's license was measured by whether the client record indicated having a valid, state-issued driver's license at the time of admission. Employment was determined by client data indicating active employment at the time of admission regardless of an incurred reduced number of hours per week or part-time employment. The presence of co-occurring disorders was determined by whether each client had any existing mental health diagnoses at the intake assessment. However, this variable does not include physical health diagnoses or impairments and was not examined individually according to specific disorders or conditions. Therefore, each client possessed one or more CODs upon admission or not. ACE scores were accessed in the Adverse Childhood Experiences Assessment taken upon admission. This score ranges from 0-10 in increasing severity. The number of dependents was determined by grouping data into the categories of none, one or two, and three

or more depending on how many dependents the client indicated upon admission. Dependents consists of children and adolescents under the age of 18 years living at the same indicated residence as the client. The presence of legal involvement was determined if the client data indicated a client's current involvement with probation or parole, awaiting sentencing, charges pending, or a referral as a result of being court-ordered to participate in a substance abuse or dependency therapy. Support group participation was measured by examining the progression of multi-disciplinary reviews from admission to discharge for client-reported weekly support group attendance in the community. Over the given weeks, a client who enrolled in the treatment programming and attended five or more meetings was categorized into support group participation, while attending four or less was regarded as no support group participation.

Data Analysis

A binary logistic regression model was used to examine the significant factors to determine the successful termination of treatment program. The principal statistical procedure was ordinary least squares (OLS) regression analyses. In the analyses that follow, two-tailed tests were used throughout. STATA 12.0 was used for data analyses.

Results

Table 1 contains the results of the final logistic analysis of the completion or premature termination of treatment. Inspection of the betas indicates that lower ACEs score ($b = -.026, p < .05$), support group participation ($b = 3.076, p < .001$), legal involvement ($b = 1.740, p < .05$), and employment status ($b = 1.193, p < .10$) were significant predictors of the successful termination of treatment, accounting for 45.4% of the variance in treatment termination (Cox & Snell R-square = .454, $p < .001$). Those who have lower score of ACE and higher levels of support are more likely to complete their treatment program. Results confirm that employment is significantly associated with the successful termination of treatment. Findings also suggest that the participants who have been legally mandated tend to complete the treatment more successfully than those without legal involvement.

In this study, the most influential predictor for successful completion of treatment was support group participation. However, it is noteworthy to mention that support group participation may not indicate causation. There are many protective factors that may be gained from attending alcoholics anonymous (AA) or narcotics anonymous (NA). Clients attending support groups may simply be more motivated for positive change and sobriety than non-attending clients. The social support available at those meetings (e.g., AA or NA) may serve to bolster client optimism. Client insights into the nature of their SUD issues may be greatly enhanced with the additional knowledge acquired from listening and collaborating with other people with SUD problems. Networking and connections made within the support community may serve to offset or rec-

tify isolation that clients may be experiencing. These and other advantages of support group attendance may well reinforce the chances of a client completing treatment successfully. However, it should be noted that as support group participation will not dictate treatment completion and not all clients will attain the same levels of optimism, motivation, knowledge, or social support even if gaining these meetings to utilize in addressing SUD issues appears to be extremely significant.

Table 1
LOGISTIC REGRESSION ON THE TERMINATION OF TREATMENT (N=100)

VARIABLES	B	S.E.	EXP (B)	SIG.
Age	.027	.040	1.027	.501
Gender (Male=1)	-.893	.683	.409	.191
Marital Status (Married=1)	.757	1.031	2.131	.463
Number of Dependents	-.108	.333	.898	.746
Driver's license	-.979	.749	.376	.191
Employment	1.193	.702	3.297	.089+
ACE	-.026	.011	.974	.020*
COD	-.791	.643	.453	.219
Support Group Participation	3.076	.698	21.674	.000***
Legal Involvement	1.740	.764	5.697	.023*
Constant	-2.135	1.297	.118	.100

Note. + $p < .10$, * $p < .05$, *** $p < .001$

In addition, higher ACE scores are negatively associated with the successful completion of an SUD treatment, which can constitute a risk factor for the improved well-being of a client. However, ACE scores should not be indicated as determinant of a failure to complete SUD therapy. Difficulties in processing unresolved childhood issues—many originating years in the client's past—within the group setting may include the client's perceptions of lack of relevance to SUD therapy, lack of intimacy or comfort in addressing extreme shame, guilt, or taboo, and the repression of memories. Those personal difficulties may be accessed and processed more effectively within individual sessions. In addition, other characteristics in coping mechanisms may individually or exponentially contribute to a client's risk for premature SUD treatment termination.

A positive association was found between clients' legal involvement and treatment completion. This finding reinforces the notion that client perceptions of more severe consequences may include the levy of fines, incarceration, loss of employment and family as a result of incarceration, and loss of driver's license, among other complications. When consideration of loss of liberties, freedom, and society are offered in discussion and added to any physical, mental, social, or spiritual consequences being experienced already, these legal consequences may be enough to predict that a client's enhanced motivation to complete SUD

treatment. Employment was also found to be marginally significant. Unemployed clients are more likely to have economic hardship or lack of financial support, which may be, in turn, associated with lower financial resources and lower motivation for attending the treatment program.

Unexpectedly, other variables including age, gender, marital status, the number of dependents, the possession of a driver's license, and the presence of COD were found to have no statistically significant associations with the termination of treatment. First of all, the age group variable was not found to be a significant factor in this study. Taking into account the strong correlation between support group attendance and the completion of treatment, this study suggests that the non-significant relationship between age and treatment completion would be partially explained due to the agency policy of not requiring the adolescent age group to participate in support groups. In addition, no significant association between gender and the completion of treatment was found in this study. This finding is concurrent with the results from Scalise, Berkel, and Van Whitlock (2010).

Marital status was found to be a non-significant factor for treatment completion. Being legally unmarried does not denote an absence of the motivating support of a significant other or the sense of isolation in comparison to the legally married couples. Unmarried single people may make up for the lack of a spouse in other recreational activities engaged in, a concentration on employment or educational achievements, or simply have more time available to make examinations of SUD-related problems in a more thorough manner. In any case, these rationales are largely supposed by the assumption that married clients may receive more social support to recovery, which was not confirmed in this study. In a similar context, the number of dependents of a client was not found to be a significant contributing factor in the completion of treatment as well. This association may be supposed with notions that dependents can be a motivating factor for positive client change or a complicating factor for attendance, additional stressors, and potential for relapse.

The possession of a valid driver's license was not found to have a significant association with completion of treatment. Apparently, the lack of a valid driver's license would be a difficulty, however, it does not necessarily mean the lack of transportation to and from the treatment facility. There should be multiple methods to maintain attendance in the treatment program (e.g., walking, utilizing the public transportation, catching a ride with others, and more). In addition, the presence of co-occurring disorders was shown to be non-significant in completion of SUD treatment therapy. This finding suggests that success in education, recognition, and motivation for clients to seek treatment for COD issues within this treatment setting, may coincide with literature reviewed stating that less severe COD-related issues may be addressed successfully and effectively within the SUD treatment field (Flynn, & Brown, 2008), or may be attributed to the nature in which COD issues may or may not present obstacles to treatment completion. This also displays the problematic nature of drawing conclusions involving the many diverse diagnoses possible when referencing the various is-

sues with blanket terminology including COD (Flynn, & Brown, 2008).

Discussion

The ongoing need to identify and provide effective treatment for SUD clients suffering from the effects of ACEs remains a challenge. Successfully addressing these issues with clients while simultaneously providing SUD therapies within a group setting may be proving problematic for identifying clients in need of addressing ACEs, ensuring a proper level of professional care for the effects of ACEs, and, in reference to this research, client completion of treatment.

The strong association of support group participation with treatment completion indicates clients “owning” their individual programs of change and their higher motivation to utilize resources outside of the immediate treatment setting, enhancing treatment completion rates. Within this 12-step SUD treatment setting, it is highly recommended that adult clients attend two AA or NA meetings per week. It may be interesting to compare support group participation rates of a non-12-step program to further understand if this may occur in SUD treatment programs, not based in 12-step principles. The results suggest that AA or NA support group participation should continue to be highly recommended by professionals in the SUD field, especially those counseling within the 12-step program.

The positive association between clients’ legal involvement and SUD treatment completion demonstrates how a social, financial, and emotional risk factor of involvement in the criminal justice system may be transformed into a protective factor when examined in conjunction with SUD therapy completion. When the proximal consequences of failure to stop abusing and depending upon chemicals are relatively immediate and severe (e.g., incarceration, loss of child-custody, or levy of fines), does the avoidance of these consequences *not* motivate a client to complete the SUD therapy and satisfy the mandates of courts, probation or parole officers, child-protection workers, and other agents of the state? The present study does not argue with legal coerciveness, however, it emphasizes that, in resolving client ambivalence to SUD treatment, or cessation of chemical use or abuse, it may be most effective for a client to see more tangible consequences of use against treatment completion and sobriety. It is not the intent of this study to reinforce any notion that the threat of incarceration is somehow a protective factor for the completion of treatment. Findings suggest that when clients have more clear, immediate, and perceived severe consequences to consider in resolving ambivalence to abstinence from chemicals, the resolving of that ambivalence may be an easier process than if their perceptions of the consequences of drug-use were less severe, more vague, and less immediate. Further research may be necessary in order to determine whether clients actually perceive legal ramifications of chemical usage as more severe than consequences of use on other areas of their lives.

Despite its specified results, this study is limited in several ways that should be acknowledged. The operational definitions of some of the terminology used in

this study may be construed to be vague or arbitrary. For example, the use of the umbrella term COD may not be descriptive enough to correctly clarify a relationship between a diverse array of behaviors, thought processes, coinciding therapies and completion of SUD treatment. Another example would be the selection of the number five to indicate support group participation, which also may be interpreted as arbitrary with no previous analysis. Without examining the reason why this specific number should represent the threshold of support participation, the assignment of this number remains arbitrary.

Analyses on the grouped variables including age groups and number of dependents groups were performed on individual values in order to preserve the power of analysis and prevent aggregate scheming. Further analysis may be needed in order to understand the relationship between the adolescent age-group where clients are not required to participate in AA or NA and treatment completion. Additional analyses of the age groups may help to clarify further whether the interaction of the adolescent age group and lack of support group participation would result in a negative correlation with treatment completion.

Finally, this research is based on the presumption that completion of SUD treatment should be viewed as a goal or achievement, and a useful intervention in the improvement of the well-being of clients' lives. It is not the intention of the present study to parallel completion of SUD therapy with abstinence from chemicals, positive changes in lifestyles or circumstances, or greater client potential for adaptation or coping with alcohol or drug problems in such a simple manner. The completion of program in such a way possibly diminishes client accomplishments and may be viewed as a distortion of client achievements in empowering themselves, and clients being empowered by treatment programming.

The importance of the present study is that in the effort to provide positive outcomes for clients within an SUD program of therapy, a study of what factors significantly influence the outcome of that therapy is in order. Just as a better understanding of what impairs the identification and utilization of techniques and coping skills to maintain sobriety, so also is a greater understanding of the positive reinforcement of sobriety resulting in client-achievement of more productive and positive life-circumstances in abstinence from chemicals, and freedom from addiction.

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