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Failure to Get into Substance Abuse Treatment

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Abstract

Among substance abusers in the US, the discrepancy in the number who access substance abuse treatment and the number who need treatment is sizable. This results in a major public health problem of access to treatment. The purpose of this study was to examine characteristics of Persons Who Use Drugs (PWUDs) that either hinder or facilitate access to treatment. 2646 participants were administered the Risk Behavior Assessment (RBA) and the Barratt Impulsiveness Scale. The RBA included the dependent variable which was responses to the question “During the last year, have you ever tried, but been unable, to get into a drug treatment or detox program?” In multivariate analysis, factors associated with being unable to access treatment included: Previously been in drug treatment ($OR=4.51$), number of days taken amphetamines in the last 30 days ($OR=1.18$), traded sex for drugs ($OR=1.53$), homeless ($OR=1.73$), Nonplanning subscale of the Barratt Impulsiveness Scale ($OR=1.19$), age at interview ($OR=0.91$), and sexual orientation, with bisexual men and women significantly more likely than heterosexuals to have tried but been unable to get into treatment. The answers to the question on “why were you unable to get into treatment” included: No room, waiting list; not enough money, did not qualify, got appointment but no follow through, still using drugs, and went to jail before program start. As expected, findings suggest that limiting organizational and financial obstacles to treatment may go a long way in increasing drug abuse treatment accessibility to individuals in need. Additionally, our study points to the importance of developing approaches for increasing personal planning skills/reducing Nonplanning impulsivity among PWUDs when they are in treatment as a key strategy to ensure access to additional substance abuse treatment in the future.

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Keywords

substance abuse treatment access; homeless; impulsiveness; bisexual; amphetamine; cocaine

1. Introduction

Among substance abusers in the US, the discrepancy in the number who access substance abuse treatment and the number who need treatment is sizable, resulting in a major public health problem. In a report combining data from the National Survey on Drug Use and Health (NSDUH) and Treatment Episode Data Set (TEDS), over 23 million persons aged 12 or older needed treatment, but of those, the percentage who did not receive it varied from 89.3% in NSUDH to 91.7% in TEDS (Batts et al., 2014). A Massachusetts study showed that 85.6% of those who had a substance use disorder did not receive treatment in the past year, and of those with a lifetime substance use disorder only 33% had ever received any treatment (Falck et al., 2007; Shepard et al., 2005).

A major approach in the literature has been to look at treatment program factors that hinder access such as waiting lists (Brown, Hickey, Chung, Craig, & Jaffe, 1989; Carr et al., 2008; Festinger, Lamb, Kountz, Kirby, & Marlowe, 1995; Quanbeck et al., 2013), along with possible remedies such as appointment reminder telephone calls (Gariti et al., 1995). A study of applicants to a residential treatment program for cocaine abuse who had been placed on a waiting list found that the longer people were on the waiting list, the more likely they were to have criminal justice system involvement (Brown et al., 1989). A retrospective study of people trying to get into a treatment program for cocaine abuse found that the longer the delay between initial contact and treatment entry, the less likely the person was to actually enter treatment (Festinger et al., 1995). This same research group then conducted a prospective experimental study in which applicants were randomly assigned to have their intake either 1 day, 3 days, or 7 days after initial contact. Those who had their intake within 24 hours of initial contact were four times more likely to attend the intake session (Festinger, Lamb, Marlowe, & Kirby, 2002). A study of injection drug users who had overdosed on heroin in Baltimore found that being placed on a waiting list was the most common reason for not enrolling in treatment (Pollini, McCall, Mehta, Vlahov, & Strathdee, 2006). This leads to hypothesis 1.0: There will be evidence that being placed on a waiting list is a major reason for trying but failing to get into drug treatment.

1.1 Drug Use Factors

The data on how drug use affects treatment entry has been mixed. Some findings suggest that drug use predicted treatment entry (Booth, Crowley, & Zhang, 1996; Grella, Hser, & Hsieh, 2003; Zule & Desmond, 2000), while others indicate that drug use predicted treatment non-entry (Booth, Corsi, & Mikulich, 2003; Carroll & Rounsaville, 1992; Hser, Maglione, Polinsky, & Anglin, 1998). Hypothesis 1.1 is that there will be a positive association between illicit drug use and trying but failing to get into subsequent treatment.

1.2 Prior Treatment Experience

The literature has consistently shown that those PWUDs who have been in treatment previously are more likely to seek and enter treatment later (Booth et al., 2003; Booth et al., 1996; Falck et al., 2007; Hser et al., 1998; Siegal, Falck, Wang, & Carlson, 2002; Zule & Desmond, 2000). It would seem that drug users were able to access treatment when they were in need of it. They also appear to have entered treatment as a solution to problems caused by their substance use. Hypothesis 1.2 is that there will be a positive association between previous treatment and trying but failing to get into treatment.

1.3 Psychological Problems

Psychological problems may adversely affect an individual's ability to deal with the various requirements of being able to get into treatment. Those individuals in a California study who were successful at entering treatment had lower levels of psychological distress than those who were not successful (Hser et al., 1998). A study of Medicaid claims data reported that those with intellectual disabilities, and serious mental illness were less likely to access treatment than those without those handicaps (Slayter, 2010). The demands of addiction was the second main barrier to seeking substance abuse treatment among 144 injecting drug users in New York. Moreover, homelessness, lack of desire, and family-personal issues were identified as major obstacles (Appel, Ellison, Jansky, & Oldak, 2004). Hypothesis 1.3 is that there will be a positive association between personality constructs and trying but failing to get into treatment.

1.4 Sexual Orientation

The literature on lesbian, gay, and bisexual (LGB) has consistently established that there is a higher prevalence of alcohol and other drug use in these populations (S. D. Cochran, Ackerman, Mays, & Ross, 2004), and that LGB persons who enter substance abuse treatment have more severe substance abuse problems (B. N. Cochran & Cauce, 2006). Specifically, bisexual men and women are reported to have higher rates of driving under the influence (DUI) than either lesbian, gay, or heterosexual individuals (Jessup & Dibble, 2012) and higher rates of having five or more drinks in a day (Ward, Dahlhamer, Galinsky, & Joestl, 2014). They were also more likely to report use of marijuana and other illicit drugs than either gay, lesbian, or heterosexuals (Ford & Jasinski, 2006). It is therefore not surprising that bisexual men and women had more than twice the odds of substance abuse treatment than heterosexuals (McCabe, West, Hughes, & Boyd, 2013). Hypothesis 1.4: There will be a positive association between sexual orientation, especially for bisexuals, and trying but failing to get into treatment.

1.5 Homelessness

A study in Los Angeles demonstrated that PWUDs who were also receiving HIV/AIDS prevention services were more likely to receive substance abuse treatment if their living situation was unstable (Brocato, Fisher, Reynolds, & Janson, 2014). A study in Ohio reported that homelessness was significantly associated with longer wait times to get into treatment (Carr et al., 2008). Forty percent of a sample of homeless individuals reported that they had a substance abuse problem, but only 14% reported any substance abuse treatment

and 25% of the sample reported that they had tried but failed to get into substance abuse treatment (Cousineau, 1997). A study of men on skid row reported that those with a history of hard drug use or prescription drug misuse had increased odds of receiving mental health counseling, as did those who had ever received alcohol or drug counseling (Rhoades et al., 2014). Hypothesis 1.5: There will be a positive association between homelessness and trying but failing to get into treatment.

1.6 Economic Issues

There is a large body of literature focusing on economic issues regarding substance abuse treatment. We will not present an exhaustive literature review on this topic and only present selected highlights that are relevant to our data. An early Texas study of opioid users found that requiring the user to pay even a relatively nominal fee of \$2.50 per day was associated with a significantly lower retention rate at one year (Maddux, Prihoda, & Desmond, 1994). Similarly an Alaskan study found that a primary barrier to treatment entry was excessive treatment costs (Johnson, Brems, & Fisher, 1998). Private for-profit programs had lower access than private nonprofit and publicly funded programs for clients who were unable to pay for treatment (Nahra, Alexander, & Pollack, 2009). A California study found that programs that accepted public insurance had lower wait times to get into treatment (Guerrero, 2013). Not being able to afford treatment cost was the most common barrier in a 2014 study of data from the NSDUH (Mojtabai, Chen, Kaufmann, & Crum, 2014). Many economic factors were reported as barriers to access substance abuse treatment among consumers with AIDS (Cooper, Cloud, Besel, & Bennett, 2010). Hypothesis 1.6: Economic factors such as income level and holding a paid job will be inversely associated with trying but failing to get into treatment. Hypothesis 1.6.1: Cost will be a major reason for failing to get into treatment.

1.7 Effects of Race/Ethnicity

The literature on race/ethnicity and treatment access has made distinctions among different types of substance abuse treatment. For residential treatment, there is a report that Latinos are significantly less likely to enter treatment than Whites (Lundgren, Amodeo, Ferguson, & Davis, 2001). However, when it comes to methadone maintenance treatment, Hispanics are more likely to have entered treatment (Fisher et al., 2004). African Americans have more delay in getting into methadone maintenance treatment (Gryczynski, Schwartz, Salkever, Mitchell, & Jaffe, 2011), and African American women are less likely to access substance abuse treatment than White women (Satre, Campbell, Gordan, & Weisner, 2010). Another report using data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) seems to contradict this finding and reports that White substance abusers in general access drug treatment less than African Americans, but in reality, Whites used professional services more, and the African American substance abusers were more likely to use 12-step programs and clergy for their treatment needs (Perron et al., 2009). The Hispanics in this study had treatment access patterns similar to Whites (Masson et al., 2013). Hypothesis 1.7: There will be race/ethnicity differences on trying but failing to get into treatment. We hypothesize that Whites and Hispanics will be more likely to have tried but failed to get into treatment compared to Blacks. Our examination of Asian and Native

American differences is exploratory as there is scant literature to suggest what the differences for these ethnic groups might be.

1.8 Criminal Justice Involvement

The literature on criminal justice system involvement and illegal activities by drug users and the relationship to treatment entry has been inconsistent. One report showed that addicts who were in the community and not in treatment had fewer drug-related legal problems (Rounsaville & Kleber, 1985), whereas other reports showed that community drug users had greater involvement with the legal system and illegal activities (Carroll & Rounsaville, 1992). One study reported that waiting-list time was related to greater criminal justice system involvement (Brown et al., 1989). In contrast to that, Asian Americans and Pacific Islanders perceived criminal justice involvement as one of the facilitators to enter a drug treatment program (Masson et al., 2013). Hypothesis 1.8: Amount of previous incarceration will be positively associated with trying but failing to get into treatment.

1.9 Purpose of the Study

The purpose of this study was to investigate individual-level factors that influence treatment access. In particular, the treatment access question was uniquely phrased to identify drug users who had tried, but had failed to get into drug treatment. Given the mixed results in the literature about the individual-level factors associated with drug treatment access, we sought to explore factors previously mentioned in the literature in a large, low-income, and racially/ethnically diverse sample. Further, we aimed to understand the potential additional contribution of the personality factor of impulsivity which, to our knowledge, is a unique contribution of this study. The specific hypotheses of the study are that trying but failing to get into treatment will be associated with: being placed on a waiting list (hypothesis 1.0), drug use (hypothesis 1.1), prior treatment (hypothesis 1.2), criminal justice system involvement (hypothesis 1.3), homelessness (hypothesis 1.4), economic issues (hypothesis 1.5), psychological factors (hypothesis 1.6), race/ethnicity (hypothesis 1.7), and sexual orientation (hypothesis 1.8).

2. Material and methods

2.1 Participants

Participants ($N=2646$) were recruited into a community research center located between two gang-injunction areas of Los Angeles County, CA that offered HIV and sexually transmitted disease (STD) testing and prevention services along with a foodbank. Gang injunctions are court orders that prohibit named members of gangs from engaging in criminal and nuisance behavior within specific neighborhoods. All data were collected under protocols approved by the California State University, Long Beach (CSULB), Institutional Review Board (IRB) and Certificates of Confidentiality obtained from the federal government. The data were collected from 2011–2014 by structured interviews conducted by graduate students in psychology and social work. All participants signed approved informed consent forms. Table 1 shows that the majority of the participants were Black or White heterosexual men who had high rates of illicit drug use. The mean age was approximately 39 years old. Participants were limited to those who had reported illicit drug use or alcohol use in the 30 days prior to

interview and were not currently in substance abuse treatment. Tables 1–3 used the total sample size of 2646. Table 4 only included the 239 who had tried but failed to get into treatment because this table presents the reasons for trying but failing to get into treatment. A second logistic regression model was fit using only those who had ever been in treatment as the reference group and is presented in Table 5. This resulted in a lower sample size $n=1224$ for this table only.

2.2 Measures

2.2.1 Risk Behavior Assessment—The Risk Behavior Assessment (RBA) is an instrument designed by the National Institute on Drug Abuse (NIDA) along with grantees of the Cooperative Agreement for HIV/AIDS Community-Based Outreach research program. The reliability and validity of the drug use and reliability of the sexual behavior questions have been published (Dowling-Guyer et al., 1994; Needle et al., 1995). The reliability of the drug-treatment section was published separately (Edwards, Fisher, Johnson, Reynolds, & Redpath, 2007), as was the economic-variable section (Johnson, Fisher, & Reynolds, 1999). All test-retest reliabilities were good to excellent. The outcome variable of interest was the answer to the question of “During the last year, have you ever tried but been unable to get into a drug treatment or detox program?” Possible answers were: “Yes” “No” “Don’t know/unsure” and “Refused.” The 48-hour test-retest reliability of this question as measured by Cohen’s kappa is .67 (95% CI = .54 – .81) (Edwards et al., 2007). A follow-up question was: “Why were you unable to get into a drug treatment or detox program?” Instructions for the interviewer were: “(Circle all that are volunteered, do not read list; Probe to clarify, if necessary.)” The list included: Did not qualify, Not enough money, Program did not have room or put on waiting list, Program doesn’t take women or women with children, Set up appointment but didn’t follow through, Went to jail/correctional facility before program started, Other (Specify).

2.2.2 Barratt Impulsiveness Scale—The Barratt Impulsiveness Scale (BIS) was used to assess impulsivity. The BIS is a 30-item questionnaire that is scored on a 4-point scale (*Rarely/Never* = 1, *Occasionally* = 2, *Often* = 3 *Almost Always/Always* = 4) (Patton, Stanford, & Barratt, 1995). Higher scores indicate higher levels of impulsivity. The BIS has three subtraits, cognitive impulsiveness (making quick decisions), motor impulsiveness (acting without thinking), and non-planning impulsiveness (lack of thinking about the future). The BIS has been shown to have good reliability and validity across the various question types (Stanford et al., 2009). Participants were asked to state how much they agree with statements, such as “I do things without thinking” and give a response that corresponds to the scale. The total score has a test-retest reliability of .83 and a Cronbach α = .83. The Attentional subscale has a reliability of .61 and α = .74. The Motor subscale has a reliability of .67 and α = .59. The Nonplanning subscale as a reliability of .72 and α = .72. The total score can be obtained by merely summing the Attentional, Motor, and Nonplanning subscales.

2.3 Analytic Methods

Model building followed methods for selecting variables and a method for assessing adequacy presented in Hosmer et al. (Hosmer, Lemeshow, & Sturdivant, 2013). We aimed

to identify a parsimonious model; one that was numerically stable, more easily adopted by others, and had smaller standard errors. The first step in the Hosmer et al. purposeful selection method of model building is to start with a careful univariable analysis of each candidate independent variable. Table 1 shows the Pearson chi-square test results for our categorical variables (Hosmer, Lemeshow, & Sturdivant, 2013). Table 2 demonstrates similar results for continuous variables and uses the two-sample *t*-test. Next, we fit the multivariable model and eliminated variables that did not contribute. Step 3 involved adding back in variables that were eliminated in step 2 that were important because they provided a needed adjustment of those variables that remain in the model. Step 4 involved continuing the process of adding and taking out variables until we achieved a *preliminary main effects model*. In step 5, we checked assumptions and verified that continuous variables were linear in the logit. This resulted in the *main effects model*, which is then assessed for interactions because an interaction implies that the effect of each variable is not constant over the levels of the other variable. The *preliminary final model* is then assessed for model fit using methods such as the Hosmer-Lemeshow goodness-of-fit method (Hosmer & Lemeshow, 1980). This description reflects how we developed the model presented in Table 3. The logistic regression model used reference coding for the sexual orientation categorical variable in accordance with recommendations in Hosmer et al. (2013, pp. 55–59). Sexual orientation was included in the multivariate model as a design variable in which each type of sexual orientation was compared to heterosexual as the reference group. A Chi-square test revealed no differences between bisexual men and women who tried but were unable to get into treatment. Therefore, the data for bisexual men were combined with the data for bisexual women. The confidence intervals for the odds ratios in the logistic regression model were calculated using the profile likelihood method. The reason the profile likelihood method was used is because there may be problems with the Wald-based confidence interval when the distribution of the maximum likelihood estimators are not normal and in that case, the percent of time that the confidence interval contains the true parameter value is lower than the stated confidence interval (Hosmer et al., 2013). The construction of the interval is based on the χ^2 distribution of the generalized likelihood ratio test (Venson & Moolgavkar, 1988). The odds ratio for number of days used amphetamine and cocaine is given for every five days, and the odds ratio for the Nonplanning subscale of the BIS is given for every five points.

3. Results

Table 1 shows the relationship of categorical variables to the outcome of trying but being unable to get into treatment. The major relationships as indicated by the phi coefficient used as a measure of effect size, are with former treatment, sex trading, homelessness, sexual orientation, and income source. These were considered to be candidate variables for the logistic regression model. The subgroup analysis on Table 5 confirmed all of the relationships in Table 1 except for “income from paid job, salary, business” which was no longer significant. Table 2 shows the relationship of the continuous variables with trying but unable to get into treatment. Looking at the Cohen’s *d* as a measure of effect size, it is apparent that the major relationship is with the Nonplanning Impulsiveness subscale of the BIS. The 30-day use of alcohol, crack, marijuana, cocaine, and amphetamine are also

strongly associated with trying but being unable to get into treatment. Heroin was used less frequently even though the t value is significant. Even though the other subscales of the BIS and the total score are also highly significant, they did not enter into the logistic regression model because they are all correlated with each other. The total score is merely a summation of the three subscales, therefore it is a linear combination of other variables. When all three subscales are entered into the model, both the Motor and Attentional subscales are not significant, while Nonplanning is significant. Nonplanning also had the largest effect size on Table 2. Both lower income and education levels were associated with unsuccessful attempts to access treatment. The subgroup analysis of Table 2 variables showed that age in years is now significantly different between the two groups used in the subgroup analysis, whereas number of days incarcerated, highest grade in school, income, days used alcohol, crack, heroin, illicit methadone, and other opiates were no longer significant.

The logistic regression model is presented in Table 3. Previous drug treatment, and homelessness remained predictive of trying but being unable to get into treatment. In addition, other predictors that emerged in the multivariate model including trading sex for drugs, the Nonplanning subscale of the BIS, and the finding that bisexual men and women are significantly more likely to try but fail to get into drug treatment compared to heterosexuals. As mentioned in the Methods section, a Chi-square test revealed no differences between bisexual men and women who tried but were unable to get into treatment. Therefore, the data for bisexual men were combined with the data for bisexual women. An interaction was observed between 30-day use of amphetamine and 30-day use of cocaine. Both of these drugs are stimulants. Even though the interaction is not significant, when the interaction was included in the model, the main effect of cocaine became significant. The odds ratios with their respective confidence intervals for the interaction clarify that cocaine has a significant effect only at low levels of amphetamine use. This is demonstrated by the fact that the confidence interval for cocaine when amphetamine is at a value of 5 days does not include 1, whereas for the other values of amphetamine, the confidence intervals for cocaine includes 1. Table 4 shows the major reasons why the participants who tried to get into substance abuse treatment were not successful in doing so. The most common reason was lack of room or having a waiting list, followed by financial inadequacy.

The subgroup logistic regression analysis is presented in Table 5 which used the same candidate variables as the overall logistic regression model shown in Table 3 with the exception of prior treatment, given the fact that all of one group now had prior treatment. Trading sex for drugs was no longer in the model and the Nonplanning impulsivity was no longer in the multivariate model of Table 3, even though it was still significant on the bivariate analysis shown in Table 2. The overall variable of sexual orientation was now significant, as was gay versus heterosexual. In addition, in the interaction between amphetamine and cocaine, cocaine was now significant when amphetamine = 10, as well as when amphetamine = 5.

4. Discussion

Limited access to substance abuse treatment is an important public health problem, one for which researchers have taken different approaches to understanding. The focus on unsuccessful attempts to get into treatment is a unique perspective and we have been unable to find other studies that have explored this question concerning the subset of individuals in need who are not in treatment. The approach taken in this study was innovative in that characteristics of the individual that may affect access to treatment, and not aspects of health insurance, were examined. There are several findings that conceptually group together. Not having a paid job, which is hypothesis 1.5 is supported by the association in Table 1. Hypothesis 1.5 also includes having lower income, which is supported by the finding in Table 2. Being homeless, hypothesis 1.4 which is supported by findings in both Table 1 and homelessness is also included in the multivariate logistic regression model in Table 3. Having a higher score on the Nonplanning subscale of the BIS, which is included in hypothesis 1.6 is supported both in Table 2 which shows the largest effect size, and in the logistic regression model in Table 3. This Nonplanning impulsivity is a personal and social characteristic that would make it extremely difficult to access programs with long waiting lists and fees. Hence, it is not surprising that the most frequently endorsed reasons for not being able to access treatment when treatment was sought presented in Table 4, were waiting lists (hypothesis 1.0) and inability to pay for the service (hypothesis 1.5). The economic difficulties of accessing treatment have been shown in other studies (Johnson et al., 1998; Maddux et al., 1994). The problem of waiting lists have also been highlighted in the literature (Carr et al., 2008; Quanbeck et al., 2013).

Having participated in prior substance abuse treatment programs is hypothesis 1.2 and strong findings showed up in the bivariate results in Table 1 where this association had the largest phi coefficient which is a measure of effect size. This effect also was included in the multivariate analyses in Table 3 and had the largest odds ratio of 4.51. This association is not surprising and has been reported by others (Booth et al., 2003; Siegal et al., 2002). It would seem as though having a successful experience of being able to access treatment previously, predisposes individuals to attempt to re-enter treatment when dealing with subsequent substance abuse and addiction-related issues. But this also raises the question of why subsequent attempts at entering treatment met with failure, when a previous attempt was successful. It may be that the drug dependence became more severe after discharge from the initial treatment episode. Increased use of stimulants, along with Nonplanning impulsiveness and further economic difficulties, may have severely decreased the person's ability to navigate the entrance requirements of the treatment system. It also raises questions for treatment programs which have to ask themselves what they could have done differently or in addition, that would have increased the chances of their former clients re-entering treatment at a later point in time.

The issue of previous or current drug use is difficult to interpret, as has been the case in other studies (Booth et al., 2003; Grella et al., 2003). Even though the present study showed strong bivariate relationships with most illicit drugs including amphetamines, crack, and marijuana, it is not clear whether the drug use was associated more with the trying to get into treatment, or with the failing to get into treatment, or both. It appears to be the

stimulants that are related to inability to access treatment in that there was an interaction between cocaine use and amphetamine use. It is apparent from the simple odds ratios shown in Table 3 that cocaine use is only important when amphetamine use is low or absent. The fact that amphetamine use was the strongest relationship and was included in the multivariate model may be a unique contribution, as the previous literature has usually mentioned cocaine (Booth et al., 2003; Grella et al., 2003; Gryczynski et al., 2011) or heroin use (Zule & Desmond, 2000). The one mention of amphetamine use in this regard was a previous study in Los Angeles (Brocato et al., 2014) and our study was also in Los Angeles so there may be a geographical importance of amphetamine.

Differences in findings between racial/ethnic groups were also observed. For example, Whites and Native Americans were more likely to have tried, but not been able to get into treatment. The association between race/ethnicity and failing to get into treatment is hypothesis 1.7. The evidence for this association is in Table 1. At first glance, this finding seems to be consistent with main effect findings from the report from the NESARC (Perron et al., 2009), however, in the present study, the Whites and Native Americans did not appear to be using professional services as in the Perron et al. study, given that they had tried to get into substance abuse treatment programs and had not been successful.

The finding that people who traded sex for drugs were more likely to have tried but not been able to get into treatment may be an indication of a behavior that goes along with trying to obtain money to purchase drugs and is part of an illicit drug using lifestyle. This was not an a priori hypothesis as there is scant literature that suggests there is an association between sex trading and treatment access. Some of the literature seems to indicate that this behavior is exacerbated when the drug user who is trying to obtain treatment is put on a long waiting list, however one report shows that a significantly greater percentage of those receiving treatment had traded sex for drugs (Brocato et al., 2014), and a report from Texas showed that those entering treatment were more likely to have traded money or drugs for sex (Zule & Desmond, 2000).

The concept of Nonplanning impulsivity is a new contribution to the treatment access literature that helps to explain the difficulty from the perspective of the drug user. This is our hypothesis 1.6. Specifically, this personality construct indicates low planning skills which would make navigating waiting lists and following through on appointments highly challenging (Table 4). Psychological difficulties have been shown to adversely affect the drug user's ability to obtain treatment (Hser et al., 1998; Slayter, 2010). Although a battery of psychological measures were not included in the data, all of the subscales and the total score from the BIS were included as candidate variables and all of these were significantly higher for those who tried but did not enter treatment on the bivariate analyses of Table 2. This lends support for the practical strategies of short waiting lists and reminder telephone calls (Gariti et al., 1995; Stark, Campbell, & Brinkerhoff, 1990). Only the Nonplanning impulsivity was retained in the multivariate model shown in Table 3. The Attentional and Motor impulsivity subscales were not significant when entered into the logistic regression when Nonplanning was also in the model. Nonplanning also had the largest effect size on Table 2. The strong support for Nonplanning impulsivity makes sense when the tasks associated with dealing with intake procedures and waiting lists are made apparent.

A particularly unique contribution of this paper is the finding of a significant effect of sexual orientation (hypothesis 1.8) on the bivariate analysis in Table 1, which, as mentioned in the methods section, was also included in the multivariate model as a design variable in which each type of sexual orientation was compared to heterosexual as the reference group. Both bisexual men and women were significantly more likely than heterosexuals to have tried but been unable to get into treatment in the multivariate model. The “other” category had the largest odds ratio of any of the levels of sexual orientation, but the confidence interval included 1 so it was not significant. This is probably because “other” was somewhat of a catchall category and included: some, but not all, transgenders; people who said that they were gay or bisexual curious; people who did not like the choices and wanted different choices etc. There was no effect for lesbian identity/orientation in the sexual orientation variable, even though some have reported similar effects for lesbians as for gay men, and bisexual men and women (Brocato et al., 2014; B. N. Cochran & Cauce, 2006). However, others report that lesbian and bisexual women were more likely to receive treatment as compared to heterosexual men (Grella, Greenwell, Mays, & Cochran, 2009). Bisexual men and women may be disproportionately burdened with co-occurring health and social issues making it even more difficult to successfully access substance abuse treatment. For example, bisexuals have more severe substance abuse problems and greater psychopathology (B. N. Cochran & Cauce, 2006) and are more likely to have a substance abuse problem (Ford & Jasinski, 2006; McCabe et al., 2013). Bisexuals also have greater psychopathology and suicidal ideation (Conron, Mimiaga, & Landers, 2010; Jessup & Dibble, 2012; Ward et al., 2014), likely the result of being “double minorities” in that they encounter discrimination from heterosexuals (Herek, 2002), as well as from both gay men and lesbian women (Smalley, Warren, & Barefoot, 2015). Heterosexuals rated bisexuals less favorably than they rated homosexuals (Herek, 2002). Our findings may represent another example of bisexual men and women being more likely to report barriers to care than gay men and women (Smalley et al., 2015). Finally, bisexuals were more likely than other groups to fail to obtain medical care because of cost (Ward et al., 2014).

The subgroup analysis was performed because the factors that drive somebody to try to enter treatment may be very different from factors that distinguish between people who are able to navigate the system successfully and those who are not able to do so. Therefore, the subgroup analysis was done by only including those who had previously been in treatment in the reference group. The fact that sex trading for drugs is no longer in the model is not particularly surprising given that it was never one of our a priori hypotheses in the first place. Nonplanning impulsivity is more difficult to understand why it was no longer in the logistic model, whereas it was still significant on the bivariate t-test. Having the sexual orientation variable become significant along with the addition of gay versus heterosexual is consistent with the interpretation of sexual minorities having more problems getting into substance abuse treatment. Having an additional value of amphetamine that the simple odds ratio of cocaine was now significant, does not change the interpretation of the overall pattern of these results in that the effect of cocaine is only important at low levels of amphetamine.

4.1 Strengths and Limitations

The major unique contributions of this study are: (a) large sample size, (b) taking the perspective of assessing individual characteristics rather than health insurance aspects, (c) inclusion of a measure of impulsivity, (d) including an expanded list of reasons why drug users failed to get into treatment, and (e) incorporating a more exhaustive list of illicit substances than previous reports. The subgroup analysis had the strengths of: (a) being based on a rational indication, and (b) was only a single subgroup and not multiple subgroups. These are characteristics that have been recommended for subgroup analysis (Bijkman, Kooistra, & Bhandari, 2009).

Some of the limitations of the current study are the lack of data on the timing of the substance use in relationship to the timing of the attempt to get into treatment, and the absence of measures of psychopathology other than the BIS, such as the Symptom Checklist-90.

5. Conclusions

This paper has taken a seldom-used approach to examining the topic of access to substance abuse treatment by examining characteristics of the individual substance abuser to model trying but not succeeding to get into substance abuse treatment. Some of the unique contributions include: (a) the use of the BIS to show that impulsivity, especially Nonplanning impulsivity, is related to trying but not succeeding; (b) presenting findings that bisexual men and women are more likely to try but not succeed to get into substance abuse treatment, and (c) showing that a variety of illicit drugs, but especially the stimulants amphetamine and cocaine, are associated with trying but not succeeding to get into substance abuse treatment. Findings that have also been reported by others include the problems of financial difficulties and homelessness. The overall recommendations are that in order to maximize treatment access, programs need to minimize financial barriers, and organizational barriers (such as waiting lists) that require the substance abuser to have good planning skills. Including planning skills modules in substance abuse treatment are also recommended. In addition, treatment staff need to be trained to provide culturally inclusive programming that takes into account the complexities that bisexuals and gay men may encounter. These recommendations show that individual-level factors are not independent of broader factors.

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Highlights

Trying but failing to get into drug abuse treatment was modeled.

Factors include: Former treatment, amphetamine use, sex trading, and homelessness.

The Nonplanning on the Barratt Impulsiveness Scale was a psychological factor.

Age at interview was protective.

Bisexual men and women were more likely to try and fail.

Table 1

Participant Characteristics by Treatment Access

Variable	Tried but Unable		χ^2	Phi
	Yes	No		
	<i>n</i> %	<i>n</i> %		
Gender				
Male	166 (69)	1710 (71)	0.7187	.0165
Female	76 (31)	692 (29)		
Ethnicity				
Black	105 (44)	1084 (45)	14.21 *	.0733
White	81 (34)	647 (27)		
Hispanic	39 (16)	420 (18)		
Asian/Pacific Island	3 (1)	101 (4)		
Native American	5 (2)	20 (1)		
Other	8 (3)	131 (5)		
Sexual Preference				
Heterosexual	110 (46)	1411 (59)	45.85 **	.1319
Gay	31 (13)	430 (18)		
Lesbian	5 (2)	65 (3)		
Bisexual	92 (38)	472 (20)		
Other	3 (1)	18 (1)		
Homeless				
Yes	153 (64)	912 (39)	58.94 **	.1502
No	86 (36)	1462 (62)		
Ever given sex to get drugs				
Yes	121 (50)	515 (20)	99.96 **	.1946
No	119 (50)	1884 (79)		
Ever given sex to get money				
Yes	114 (47)	622 (26)	49.83 **	.1374
No	127 (53)	1778 (74)		
Ever been in drug treatment				
Yes	193 (80)	980 (41)	135.15 **	.2261
No	49 (20)	1422 (59)		
Income from paid job, salary, business				
Yes	40 (17)	814 (34)	30.59 **	.1077
No	202 (83)	1581 (66)		

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

Table 2

Continuous Participant Characteristics by Treatment Access

Variable	Tried but Unable Yes M (SD)	Tried but Unable No M (SD)	t	df	Cohen's
Barratt Impulsiveness Scales					
Total	76.66 (13.66)	68.71 (13.82)	8.54 [*]	2644	.578
Attentional Impulsiveness	19.23 (4.44)	17.37 (4.51)	6.18 [*]	2637	.415
Motor Impulsiveness	26.85 (6.13)	24.50 (5.59)	6.18 [*]	2633	.400
Nonplanning Impulsiveness	30.58 (5.98)	26.89 (6.28)	8.75 ^{***}	2644	.601
Age in years	39.43 (10.21)	38.59 (12.21)	1.03	2642	.074
Number of days incarcerated	1573.9 (2358.3)	982.6 (2116.4)	4.10 [*]	2644	.263
Number of people had sex with in last 30 days	3.38 (4.98)	2.26 (4.37)	3.74 [*]	2642	.239
Highest grade of school ^a	3.93 (1.83)	4.46 (1.84)	4.41 ^{*b}		.288
Income ^c	1.59 (0.95)	2.01 (1.27)	5.03 ^{*b}		.374
Days used alcohol, 30 days	10.76 (11.53)	8.82 (9.77)	2.89 [*]	2644	.181
Days used marijuana, 30 days	9.58 (12.11)	6.63 (10.58)	4.08 ^{***}	2644	.259
Days used crack, 30 days	4.75 (9.12)	2.69 (6.69)	4.38 ^{***}	2644	.257
Days used cocaine, 30 days	1.88 (5.58)	0.54 (2.75)	6.36 ^{***}	2644	.304
Days used heroin, 30 days	1.65 (5.27)	0.64 (3.54)	4.01 ^{***}	2644	.224
Days used speedball, 30 days	0.49 (2.42)	0.13 (1.36)	3.59 ^{**}	2644	.183
Days used illicit methadone, 30 days	0.40 (2.86)	0.09 (1.26)	3.08 ^{**}	2644	.140
Days used other opiates, 30 days	1.73 (4.75)	0.77 (3.83)	3.61 ^{**}	2644	.222
Days used amphetamines, 30 days	6.57 (10.10)	2.08 (5.99)	10.27 ^{***}	2644	.540

^a Scale was 0=No formal schooling, 1=Eighth grade or less, 2=Less than high school graduation, 3=A GED, 4=High school graduation, 5=Trade or technical training, 6=Some college, 7=College graduation.

^b Statistic was Z for Wilcoxon Two-Sample Test.

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Scale was 1=Less than \$500, 2=\$500 – \$999, 3=\$1,000 – \$2,000, 4=\$2,000 – \$3,999, 5=\$4,000 – \$5,999, 6=\$6,000 or more per month.

*
 $p<.001$,
**
 $p<.0005$,

 $p<.0001$.

Table 3

Logistic Regression of Factors Associated with Inability to Access Treatment

Variable	Estimate	Standard Error	Odds Ratio	Confidence Interval
Previous drug treatment	1.50 **	0.19	4.51	3.14 – 6.59
Days used amphetamines ^{ad}	0.04 **	0.009		
Traded sex for drugs	0.42 *	0.16	1.53	1.10 – 2.10
Consider self to be homeless	0.54 **	0.14	1.73	1.27 – 2.36
Nonplanning subscale of BIS ^b	0.04 *	0.01	1.19	1.06 – 1.36
Age at interview ^c	−0.019 *	0.007	0.91	0.85 – 0.97
Bisexual vs Heterosexual	0.43 *	0.17	1.53	1.09 – 2.15
Gay vs Heterosexual	0.35	0.24	1.41	0.88 – 2.22
Lesbian vs Heterosexual	−0.19	0.50	0.82	0.27 – 2.03
Other vs Heterosexual	0.52	0.67	1.69	0.37 – 5.54
Days used cocaine ^{ad}	0.055 *	0.02		
Interaction of amphetamine x cocaine ^d	−0.002	0.001		
Cocaine ^a at amphetamine=5 days			1.24	1.04 – 1.46
Cocaine ^a at amphetamine=10 days			1.162	0.99 – 1.36
Cocaine ^a at amphetamine=15 days			1.09	0.91 – 1.29
Cocaine ^a at amphetamine=20 days			1.02	0.81 – 1.26
Cocaine ^a at amphetamine=25 days			0.96	0.72 – 1.28
Cocaine ^a at amphetamine=30 days			0.90	0.63 – 1.24

Note. Hosmer-Lemeshow goodness of fit $\chi^2(8) = 8.5574$, $p = .3810$. AUC = .795. Odds ratio confidence intervals that do not include 1 are significant at $p < .05$.

^a Every five days for last 30 days.

^b Every five points.

^c Every five years of age.

^d Effects used in interaction do not have odds ratios. Instead simple odds ratios are shown for the interaction.

* $p < .01$,

** $p = .0001$.

Table 4

Reasons for Being Unable to Get Into a Drug Treatment Program

Variable	Number (<i>n</i> =239)	%
No room, waiting list	114	48%
Not enough money	65	27%
Did not qualify	43	18%
Got appointment, but no follow thru	40	17%
Still using drugs	15	6%
Went to jail before program start	9	4%

Note. Percentages add to more than 100% because participants were able to mention more than one reason.

Table 5

Logistic Regression of Factors Associated with Inability to Access Treatment for Group without Those Who Never Were In or Tried to Get In to Treatment ($n=1206$)

Variable	Estimate	Standard Error	Odds Ratio	Confidence Interval
Days used amphetamines ^{ad}	0.03 *	0.009		
Consider self to be homeless	0.44 **	0.15	1.55	1.14 – 2.12
Age at interview ^c	-0.03 *	0.007	0.85	0.79 – 0.91
Bisexual vs Heterosexual	0.52 *	0.17	1.69	1.20 – 2.36
Gay vs Heterosexual	0.65 *	0.25	1.91	1.16 – 3.11
Lesbian vs Heterosexual	0.12	0.52	1.12	0.36 – 2.91
Other vs Heterosexual	0.72	0.71	2.06	0.43 – 7.65
Days used cocaine ^{ad}	0.06 *	0.02		
Interaction of amphetamine x cocaine ^d	-0.002	0.001		
Cocaine ^a at amphetamine=5 days			1.31	1.09 – 1.56
Cocaine ^a at amphetamine=10 days			1.24	1.05 – 1.47
Cocaine ^a at amphetamine=15 days			1.18	0.97 – 1.43
Cocaine ^a at amphetamine=20 days			1.12	0.88 – 1.42
Cocaine ^a at amphetamine=25 days			1.07	0.79 – 1.43
Cocaine ^a at amphetamine=30 days			1.01	0.69 – 1.46

Note. Hosmer-Lemeshow goodness of fit $\chi^2(8) = 7.4273$, $p = .4913$. AUC = .683. Odds ratio confidence intervals that do not include 1 are significant at $p < .05$.

^a Every five days for last 30 days.

^b Every five points.

^c Every five years of age.

^d Effects used in interaction do not have odds ratios. Instead simple odds ratios are shown for the interaction.

* $p < .01$,

** $p = .0001$.