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Treatment barriers identified by substance abusers assessed at a centralized intake unit

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Abstract

The 59-item Barriers to Treatment Inventory (BTI) was administered to 312 substance abusers at a centralized intake unit following assessment but before treatment entry to assess their views on barriers to treatment. Factor analysis identified 25 items in 7 well-defined latent constructs: Absence of Problem, Negative Social Support, Fear of Treatment, Privacy Concerns, Time Conflict, Poor Treatment Availability, and Admission Difficulty. The factorial structure of the barriers is consistent with the findings of other studies that asked substance abusers about barriers to treatment and is conceptually compatible with Andersen's model of health care utilization. Factors were moderately to highly correlated, suggesting that they interact with one another. Selected characteristics were generally not predictive of barrier factors. Overall, results indicate that the BTI has good content validity and is a reliable instrument for assessing barriers to drug treatment. The potential utility of the BTI in assessment settings is discussed.

Keywords

Substance abuse; Barriers; Treatment entry; Centralized intake unit

1. Introduction

Participation in treatment has generally been associated with positive outcomes among substance abusers (McLellan et al., 1994). To achieve these benefits, however, it is necessary for substance abusers to enter treatment in the first place—a significant problem in many settings. Psychological characteristics of individuals, elements of their lifestyles, and treatment system factors may all serve as barriers to successful linkage with treatment.

A useful paradigm for viewing barriers to treatment is Andersen's conceptualization of health care utilization (Andersen, 1995; Andersen & Newman, 1973). In its most recent iteration, Andersen stresses that characteristics of the health care system, as well as individual determinants (predisposing static characteristics, enabling/inhibiting factors, and situational need factors), interact to influence health care utilization, including substance abuse treatment. Specific influences in each of these areas may serve as barriers or obstacles to obtaining treatment (Cunningham, Sobell, Sobell, Agrawal, & Toneatte, 1993).

The characteristics of the health care system that may interfere with treatment entry (or what Andersen calls “linkage”) range from policy issues about how much financial support treatment

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services should receive, to characteristics of individual treatment programs. The latter includes: complex eligibility and admission criteria, absence of appropriate services for groups such as women, lack of cooperation across service organizations, and waiting lists (Appel, Ellison, Jansky, & Oldak, 2004; Battjes, Onken, & Delany, 1999; Beckman & Kocel, 1982; Farabee, Leukefeld, & Hays, 1998; Festinger, Lamb, Kountz, Kirby, & Marlowe, 1995; Hser, Maglione, Polinsky, & Anglin, 1998; Scott, Sherman, Foss, Godley, & Hristova, 2002).

Predisposing static characteristics such as sex, age, ethnicity, education, and marital status are not barriers per se, but they may indirectly influence entry. Their impact may be exerted through fairly obvious barriers (e.g., lack of childcare services for women attending treatment) or through more subtle effects, such as treatment materials that are culturally insensitive. Other antecedents, such as the number of arrests and prior treatment experiences, may also influence treatment entry. Unfortunately, very little is known about the interactive effect of obvious, but unchangeable, predisposing characteristics and subtle, yet changeable, barriers (Jordan & Oei, 1989). That may explain the reason why no one individual determinant has been consistently associated with treatment linkage (Hajema, Knibbe, & Droop, 1999; Hser et al., 1998; Kleinman, Millery, Scimeca, & Polissar, 2002).

Situational need factors are immediate in nature and are related to the current illness episode. Primary drug of choice, recent patterns of drug use, and involvement in the criminal justice system are almost universally considered when examining the reasons why substance abusers either do, or do not, link with treatment (Booth, Kwiatkowski, Iguchi, Pinto, & John, 1998; Finney & Moos, 1995; Smith, Dent, Coles, & Falek, 1992). Related situational need factors, such as problem recognition, readiness for treatment, and desire for help, are often, although not always, associated with treatment linkage (Griffith, Knight, Joe, & Simpson, 1998; Knight, Hiller, Broome, & Simpson, 2000; Rapp, Siegal, Li, & Saha, 1998).

Enabling/inhibiting factors are characterized primarily by circumstances in the substance abusers' environment, both physical and attitudinal, that promote or interfere with health-related actions. These mutable characteristics are general in nature and are not related specifically to the index illness. Enabling/inhibiting factors include functioning in areas such as employment, social relationships, and physical and mental health (George & Tucker, 1996; Grant, 1997; Tucker, Vuchinich, & Rippens, 2004).

1.1. Substance abusers' perspectives of barriers to treatment

Substance abusers themselves are the most direct source of information about the barriers that impede linkage with treatment, although their views have not always been considered (Jordan & Oei, 1989; Tsogia, Copello, & Orford, 2001). Exceptions include a large general population study where substance abusers identified their lack of confidence in the effectiveness of alcoholism treatment, stigmatization, and denial as conditions that would interfere with linkage (Grant, 1997). Treatment barriers and incentives to treatment were also considered in a small sample of problem drinkers (George & Tucker, 1996). Ironically, belief in solving one's own problem was identified as the most frequent barrier, whereas the opposite ("could not solve problem on my own") was the most frequently identified incentive.

Injection drug users identified "wanting to conceal addiction from a spouse" and having to care for a sick family member as their most frequent barriers to treatment (Appel et al., 2004). Lack of insurance/Medicaid and the time demands involved in finding and using drugs were also mentioned, as was a diverse "treatment" category that included: fear of treatment, bad treatment experiences, and aversion to a specific type of treatment. Outpatient alcohol and drug abusers identified inability to share problems with others and stigma as the two major barriers in both groups (Cunningham et al., 1993).

In another study, problem drinkers were asked to identify barriers to, as well as reasons for, seeking treatment. Factor analysis revealed three areas of importance: (1) privacy concerns; (2) participants' belief that treatment was unnecessary or not beneficial; and (3) practical and economic impediments to participation (Tucker et al., 2004). Conversely, treatment incentives included alcohol-related social dysfunction, social pressure to seek help, inability to solve own problems, job-related pressure, and religious/legal inducements to seek help.

This study sought to develop a psychometrically valid inventory for identifying substance abusers' views of barriers to treatment. The 59-item Barriers to Treatment Inventory (BTI) was administered to 312 substance abusers at a centralized intake unit (CIU) immediately following their assessment and before they had the opportunity to link with treatment. Exploratory and confirmatory factor analyses were used to determine the factorial structure and reliability of the BTI. In addition to the development of a useful instrument, the study sought to gain further understanding of the relationship between individual barriers and higher order constructs. The relationship between constructs and predisposing client characteristics was also examined.

2. Methods

2.1. Sampling

This study was undertaken as part of a clinical trial, Reducing Barriers to Drug Treatment Services (Reducing Barriers Project [RBP]), funded by the National Institute on Drug Abuse. Substance abusers who have just received an assessment and a referral to a CIU are randomly assigned to: (1) a control/no-intervention group; (2) one session of motivational interviewing; or (3) five sessions of strengths-based case management. Two outcomes will be used to determine the interventions' effectiveness. Treatment *linkage* is defined as attendance at a program's first clinical or therapeutic session within 90 days of assessment at the CIU. Treatment *engagement* is the product of the intensity and duration of participation in clinical activities (Fiorentine, Nakashima, & Anglin, 1999).

The CIU is located in a medium-sized Midwestern metropolitan area—the county's only point of entry for uninsured individuals seeking treatment for substance abuse and mental health problems. Assessment therapists conduct psychosocial, mental health, and substance abuse assessments to determine the nature and extent of clients' problems. Clients are then referred to an appropriate level of care within the community treatment system based on American Society of Addiction Medicine (2001) criteria and situational factors such as treatment availability and client preference. Referrals are made to eight state-certified specialty substance abuse treatment programs. Following assessment, clients must wait for several days to over a week to get an admission date.

To be eligible for the study, subjects must: (1) be over 18 years; (2) be diagnosed as having a substance abuse and/or dependence disorder using criteria from the Diagnostic and Statistical Manual of Psychiatric Disorders (DSM-IVR) (American Psychiatric Association, 2001); (3) not have schizophrenia or any other psychotic disorder; and (4) be referred to either residential or outpatient substance abuse services. Eligible subjects are referred to the RBP research staff by assessment therapists at the CIU. Most client contacts take place immediately following their clinical assessment, although some potential subjects are scheduled to return at a later time.

Research assistants provide a summary of the project; if individuals are interested, an informed consent approved by a university's institutional review board is read to them. If subjects agree to the informed consent, they participate in a structured interview at baseline, 3 months, and 6 months. Subjects are paid a \$30 stipend for their time spent answering questions.

2.2. Measures

Three instruments are used to collect information from subjects in the RBP. All are administered immediately following a subject's assessment at the CIU. The Reducing Barriers Baseline Interview is a 150-item questionnaire created specifically to gather lifetime, 6-month, and 30-day information from subjects relative to drug use, housing, employment patterns, HIV risk behaviors, treatment and criminal history, and critical life events. An interviewer-administered self-rating form is used to measure subjects' functioning in 13 distinct areas, including problem recognition, depression, hostility, and anxiety (Simpson & Joe, 1993).

The focus of this study is the BTI. The BTI contains items drawn from the extensive literature on barriers to treatment and from items found in the Allen Barriers to Treatment Instrument (ABTI) (Allen, 1994; Allen & Dixon, 1994), as well as other barrier lists (Grant, 1997; Tucker et al., 2004). Approximately 100 items from these sources were considered for inclusion in the BTI. Items were reviewed by senior clinical staff for relevance to the current population and setting. Fifty-nine items were selected for inclusion in the instrument.

The BTI is read to subjects by a research assistant, taking an average of 15 minutes to complete. Subjects are asked to indicate on a five-point scale how much they believe that each barrier would affect their entry into treatment. The five-point scale includes: 1 = *disagree strongly*; 2 = *disagree*; 3 = *uncertain*; 4 = *agree*; and 5 = *agree strongly*.

2.3. Statistical procedures

The structure of the 59-item BTI was examined by exploratory and confirmatory factor analyses using SPSS (SPSS, 2001) and Analysis of Moment Structures (AMOS) (Arbuckle, 1997). Because the factorial structure of the instrument had been proposed by the authors but was never confirmed analytically, both exploratory and confirmatory factor analyses were conducted. Extraction of factors was based on the minimum eigenvalue and the amount of variance that was explained. The internal consistency of items for each subscale of barriers was assessed by Cronbach's α , which is also a measure of reliability of each subscale.

Finally, structural equation modeling (SEM) was used to examine the effects of eight predictor variables on barrier factors. Each variable has been examined previously for its relationship with actual treatment linkage. This study sought to determine if each variable was also associated with substance abusers' perceptions of treatment barriers. Five predisposing characteristics were tested (ethnicity, sex, age, education level, and previous treatment experience), as well as one enabling/inhibiting factor (full-time employment). Situational need characteristics included court referral and primary drug of choice. Being court-referred and having full-time employment were each coded as "1" in the analysis. Drug of choice was coded into four dummy variables representing subject-identified primary drug problem (heroin, crack, marijuana, and alcohol).

The comparative fit index (CFA) and SEM models were conducted using the SEM software AMOS. The primary criterion for evaluating the fit of each model was the CFI (Bentler, 1990). This index is determined by the comparison between the fit of the model and the fit of the independent model. The measure should be zero to one, and values above .90 represent a good fit. The normed fit index (NFI) (Bentler & Bonett, 1980) and root mean squared error of approximation (RMSEA) (Steiger, 1980) are two other indicators that measure the fit between the model and the observed data. RMSEA will indicate a good fit at a value of less than .06.

3. Results

3.1. Study sample

Table 1 provides a summary of the 312 subjects recruited between April 2004 and March 2005 who were included in this study. Among the participants, 63.1% were male and 53.2% were African American. The mean age of the subjects was 37.5 years ($SD = 10.82$ years, range 18–64 years). Participants had completed a mean of 11.47 years of secondary education ($SD = 1.87$ years, range 6–16 years), 74.7% had graduated from high school or had completed a general education development, and 36.9% had completed a vocational or a technical training program. About 13% were employed either full time or part time. Almost 75% (74.7%) of the sample had been previously treated for alcohol or drug abuse. Subjects identified their most serious drug problems as crack (43.3%), heroin (25.0%), alcohol (11.5%), and marijuana (9.9%).

3.2. Internal structure of barriers to treatment scale

Using exploratory factor analysis with Varimax rotation, 12 treatment barrier factors were initially extracted and then reduced to seven stable factors of conceptual importance. Situational need and enabling/inhibiting factors included: Absence of Problem, Negative Social Support, Fear of Treatment, and Privacy Concerns. System barriers included: Time Conflict, Poor Treatment Availability, and Admission Difficulty. Table 2 contains 25 specific items that make up the seven factors and Cronbach's standardized α for each subscale. The standardized α s were acceptable, ranging from .65 for Admission Difficulty to .86 for Absence of Problem. The remaining items were ambiguous (i.e., loaded on more than one factor).

The factorial structure of the barrier concepts was further examined using CFA. Each of the 25 indicator items was loaded onto one appropriate factor, based on the results of the EFA. Four alternative models were tested: (1) a one-factor model in which all seven barrier constructs reflect a single underlying factor; (2) a two-factor model where one factor is made up of individual determinants (Absence of Problem, Fear of Treatment, Privacy Concerns, and Negative Social Support) and the second factor is composed of system barriers (Admission Difficulty, Poor Treatment Availability, and Time Conflict); (3) a five-factor model in which each of the individual determinants was treated as a separate barrier and system barriers were treated as a single factor; and (4) a seven-factor model in which all factors are specified as separate but correlated dimensions of barriers to treatment.

Chi-square tests and fit indexes for each of the models are reported in Table 3. The one-, two-, and five-factor models did not adequately fit the data, with CFI of .519, .545, and .908, respectively. A fit index for the seven-factor model demonstrated that it was preferable (CFI = .967 and RMSEA = .036). Results of chi-square difference tests also indicated that the seven-factor model represented a significant improvement. Within this model, factor loadings were significant, with standardized loadings ranging from .58 to .91. Fig. 1 displays the structural equation model of predictors of personal background characteristics on barriers to treatment.

Table 4 provides interfactor correlations among the seven barrier factors. All correlations based on Pearson's r were significant, except one (correlation of Absence of Problem and Admission Difficulty), and ranged from .225 to .795. Generally, Absence of Problem had lower correlations with other individual determinants; Privacy Concerns had lower correlations with other system factors.

3.3. Effects of client characteristics on treatment barrier factors

Eight variables, representing individual client determinants, were used to assess their relationship with the treatment barrier factors (Table 5). Sex and employment status were found

to have no significant relationship with any barrier factor. More education and older age were negatively related to the perception that treatment availability was a barrier. Compared with Caucasian clients, African American clients had less Negative Social Support from friends and family, less Fear of Treatment, and less concern about Admission Difficulty.

Court referral was the determinant most frequently related to barrier constructs.. Being court-referred to the CIU predicted higher scores on Absence of Problem and greater Fear of Treatment, as well as on two system-based barriers (Time Conflict and Poor Treatment Availability). Previous treatment experience was only associated with recognition of a substance abuse problem. Subjects whose self-identified primary problems were heroin, crack, or marijuana were more likely to identify a problem and to have a support network that encouraged treatment. Alcohol as a self-reported primary problem was not associated with any of the barrier factors.

The variables selected here explained approximately 10% of the variance in five of the barrier factors. They explained 25% of the variance in Absence of Problem and less than 5% in Privacy Concerns.

4. Discussion

The results of EFA and CFA show that a seven-factor model best describes barrier constructs identified following assessment at a CIU using the BTI. The seven BTI factors represented three areas of Andersen's model of health care utilization: Absence of Problem (situational need); Negative Social Support, Fear of Treatment, and Privacy Concerns (enabling/inhibiting); and Time Conflict, Poor Treatment Availability, and Admission Difficulty (system).

As Andersen (1995) noted, the barriers that influence health care utilization are “dynamic and recursive” and do not exist independently. Two observations about the barrier constructs illustrate this contention. First, each factor is comprised of items that make up different facets of a larger construct. For example, in Absence of Problem, both the substance abuser and the members of his social group may fail to see substance abuse as a problem. Similarly, the three system factors—Time Conflict, Poor Treatment Availability, and Admission Difficulty—are made up of both individual and system-based items. This suggests that assessment professionals assessing barriers with their clients need to pinpoint the exact source of barriers.

Furthermore, all of the barrier factors, except one, are significantly correlated. Although interaction and causal effects are not addressed in this study, a complex relationship between the barriers is likely. This serves as a reminder that potential clients need to make strategic decisions about what barriers to address and in what order. Careful planning may increase the effectiveness of barrier reduction strategies. Future studies should seek to clarify the interactions, particularly causal relationships, that exist among barriers. This may result in a more effective targeting of program interventions.

4.1. Convergent validity

The factors identified in the BTI are similar to constructs found elsewhere when substance abusers are asked about the treatment barriers they face.

Absence of a perceived problem is similar to the response, “wanting to conceal addiction from a spouse,” found among injection drug users (Appel et al., 2004) and to problem drinkers' belief that treatment is not necessary (Tucker et al., 2004).

Fear of Treatment and Privacy Concerns are also found elsewhere, although the specific items that make up the factors are sometimes different from those in the BTI. For example, privacy concerns cited by problem drinkers focused on documentation kept by the treatment provider, labeling, and confidentiality (Tucker et al., 2004). Individual items that became Privacy Concerns in the BTI were keyed specifically to sharing personal information with others and talking about one's personal life.

Injection drug users identified barriers to treatment that included items such as an unspecified fear of treatment, bad previous treatment experience(s), and an aversion to specific types of treatment, usually methadone maintenance (Appel et al., 2004). The BTI Fear of Treatment factor included fear of what might happen during treatment, embarrassment, fear of people in treatment, and a negative prior treatment experience.

4.2. Predicting barrier factors

As reported elsewhere (Hajema et al., 1999; Hser et al., 1998; Kleinman et al., 2002), static characteristics such as age, sex, and educational level have weak and inconsistent associations with barrier factors. This finding may accurately represent the relationship between static characteristics and perceptions of barriers, but it may also suggest a limitation of this and other barrier studies. Static unitary measures of complex phenomena such as race/ethnicity may serve merely as a form of shorthand that does not describe the true relationship between personal, social, cultural, and environmental factors and perceptions of treatment barriers.

Situational need factors showed a much more robust relationship with several of the barrier factors. This finding may be due to the immediacy and relevance that each of the characteristics brings to the perception of barriers. Being court-referred and possibly resistant to entering treatment would be expected to increase the perception that there was no problem. Furthermore, substance abusers referred by the court would likely identify barriers such as fear, lack of time, and lack of availability. The immediate problems associated with having heroin, crack, or marijuana as a drug of choice predicted more problem recognition and less negative social support.

4.3. Practice applications

The BTI has practical implications for settings that conduct substance abuse assessments, most notably CIUs like the one where this study was conducted. The average of 15 minutes spent completing the BTI could provide benefits to both individual substance abusers and assessment programs. For the individual, a discussion of BTI results may improve the likelihood that barriers are successfully resolved and that linkage occurs. By increasing linkage rates, programs conduct fewer assessments that do not result in successful follow-through.

The BTI could also provide programs with aggregate information about the clients they assess. By identifying the barriers that could impact treatment entry, assessment programs are better able to develop effective interventions to facilitate treatment entry. For example, motivational interviewing has shown value in helping clients manage the ambivalence that often surrounds substance use and the decisions to seek treatment (Miller & Rollnick, 2002; Rollnick & Miller, 1995). Treatment mentors could be engaged to help prospective clients deal with their fears about treatment and their reticence about revealing personal information to others.

Similarly, strengths-based case management has shown potential in helping substance abusers negotiate both individual and system barriers to linkage, as well as in improving subsequent treatment engagement (Gardner et al., 2005; Rapp et al., 1998; Siegal, Rapp, Li, Saha, & Kirk, 1997). Interestingly, case management was initially a component of CIUs for that reason before

being eliminated from many CIUs due to financial considerations (Stephens, Scott, & Muck, 2003).

4.4. Study limitations

The substance abusers who participated in this study represent a convenience sample that had recently been assessed and referred to a community treatment program. As such, they probably had already resolved some barriers to attend the assessment. Their view of the next set of barriers, those surrounding treatment entry, may be very different than those of substance abusers who have not recently been assessed. Substance abusers who do not identify a problem and have not participated in an assessment may be less likely to identify with barriers that pertain to the treatment-seeking process. System factors such as Poor Treatment Availability and Admission Difficulty may be irrelevant when a problem is not recognized and when treatment is not considered.

Other characteristics of this sample may also limit the generalizability of study findings. In this study, almost 75% of the sample had been previously treated for alcohol or drug abuse problems. This limits the applicability of our findings to substance abusers who had never entered treatment. Future testing of the stability of the BTI factor structure should include a broader sample of substance abusers who have never sought treatment.

The self-report nature of the study may be another limitation. Although there did not appear to be any incentive for study participants to exaggerate or fabricate their responses to items on the BTI, there is always the possibility that responses are biased, either overrepresenting or under-representing the presence of treatment barriers. Studies suggest that substance abusers tend to be reasonably reliable in reporting their drug use (Adair, Craddock, Miller, & Turner, 1995; Needle et al., 1995; Siegal, Falck, Wang & Carlson, 2002). Items in the BTI seem to be of a less sensitive nature than questions about specific drug use.

An additional limitation of the study suggests a future area of research. The validity of the BTI in predicting treatment linkage has not been assessed. The BTI will also be used to assess the differential impact that the two study interventions (motivational interviewing and strengths-based case management) have on barriers to treatment and how this relates to subsequent treatment linkage. Validity assessment will be undertaken when a sufficient sample of subjects in the RBP completes the 3-month follow-up period.

5. Conclusion

The substance abuse treatment system devotes significant resources to assessing substance abusers and referring them to treatment. Still, rates of treatment entry following assessment are usually very poor. The barriers that interfere with treatment entry are a part of most substance abusers' lifestyles, as well as the substance abuse treatment system. The BTI is an instrument with good reliability that can be used by substance abusers and assessment staff as a useful tool for helping identify barriers to treatment entry. Further research with other substance abuse populations, especially treatment nonattenders, may broaden its usefulness.

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Fig 1. Confirmatory factor analysis of the BTI. Large circles represent latent constructs, rectangles represent measured variables, and small circles represent residual variables. Factor loadings are standardized. All values are significant ($p < .001$).

Table 1

Selected sample characteristics

[[Variables]]	No. (N = 312)	[[%]]
[[Ethnicity]]	[[[]]]	[[[]]]
[[Black]]	[[166]]	[[53.2]]
[[White]]	[[143]]	[[45.8]]
[[Other]]	[[3]]	[[1.0]]
[[Sex]]	[[[]]]	[[[]]]
[[Male]]	[[197]]	[[63.1]]
[[Female]]	[[115]]	[[36.9]]
[[Age groups (years)]]	[[[]]]	[[[]]]
[[18–24]]	[[48]]	[[15.4]]
[[25–34]]	[[86]]	[[27.6]]
[[35–44]]	[[79]]	[[25.3]]
[[>45]]	[[99]]	[[31.7]]
[[Employment status]]	[[[]]]	[[[]]]
[[Full time]]	[[19]]	[[6.1]]
[[Part time]]	[[22]]	[[7.1]]
[[Unemployed]]	[[271]]	[[86.9]]
[[Self-referred to assessment]]	[[[]]]	[[[]]]
[[Yes]]	[[136]]	[[43.6]]
[[No]]	[[176]]	[[56.4]]
[[Court-referred]]	[[[]]]	[[[]]]
[[Yes]]	[[76]]	[[24.4]]
[[No]]	[[236]]	[[75.6]]
Education (highest grade completed)	[[[]]]	[[[]]]
[[1–8]]	[[14]]	[[4.5]]
[[9–12]]	[[225]]	[[72.1]]
[[13+]]	[[73]]	[[23.4]]
Previous substance abuse treatment	[[[]]]	[[[]]]
[[No]]	[[79]]	[[25.3]]
[[Yes]]	[[233]]	[[74.7]]
Self-reported most serious drug problem	[[[]]]	[[[]]]
[[Heroin]]	[[78]]	[[25.0]]
[[Crack]]	[[135]]	[[43.3]]
[[Marijuana]]	[[31]]	[[9.9]]
[[Alcohol]]	[[36]]	[[11.5]]
[[Others]]	[[32]]	[[10.3]]

Table 2

Barrier factors and associated individual barriers

[[Factors]]	Barriers identified (%) ^a	Cronbach's α
[[Absence of Problem]]	[[[]]]	[[[]]]
I do not think I have a problem with drugs.	[[12.5]]	[[.86]]
No one has told me I have a problem with drugs.	[[12.2]]	[[[]]]
My drug use is not causing any problems.	[[8.0]]	[[[]]]
I do not think treatment will make my life better.	[[10.3]]	[[[]]]
I can handle my drug use on my own.	[[16.1]]	[[[]]]
I do not think I need treatment.	[[8.0]]	[[[]]]
[[Negative Social Support]]	[[[]]]	[[[]]]
I will lose my friends if I go to treatment.	[[8.3]]	[[.77]]
Friends tell me not to go to treatment.	[[9.3]]	[[[]]]
People will think badly of me if I go to treatment.	[[5.4]]	[[[]]]
Someone in my family does not want me to go to treatment.	[[2.5]]	[[[]]]
My family will be embarrassed or ashamed if I go to treatment.	[[4.5]]	[[[]]]
[[Fear of Treatment]]	[[[]]]	[[[]]]
I have had a bad experience with treatment.	[[16.0]]	[[.76]]
I am afraid of what might happen in treatment.	[[10.6]]	[[[]]]
I am afraid of the people I might see in treatment.	[[7.4]]	[[[]]]
I am too embarrassed or ashamed to go to treatment.	[[7.4]]	[[[]]]
[[Privacy Concerns]]	[[[]]]	[[[]]]
I do not like to talk in groups.	[[36.5]]	[[.80]]
I hate being asked personal questions.	[[32.1]]	[[[]]]
I do not like to talk about my personal life with other people.	[[35.6]]	[[[]]]
[[Time Conflict]]	[[[]]]	[[[]]]
I have things to do at home that make it hard for me to get to treatment.	[[12.5]]	[[.80]]
It will be hard for me to find a treatment program that fits my schedule.	[[1.2]]	[[[]]]
[[Poor Treatment Availability]]	[[[]]]	[[[]]]
I am moving too far away to get treatment.	[[4.2]]	[[.66]]
I do not know where to go for treatment.	[[7.7]]	[[[]]]
I have difficulty getting to and from treatment.	[[20.2]]	[[[]]]
[[Admission Difficulty]]	[[[]]]	[[[]]]
I will have to be on a waiting list for treatment.	[[34.3]]	[[.65]]
I have to go through too many steps to get into treatment.	[[15.7]]	[[[]]]

^aThe percentage of subjects who responded *agree* or *strongly agree*.

Table 3

Chi-square tests and measures of overall fit for barrier factor structural models^a

[[Model]]	χ^2	df	[[CFI]]	[[NFI]]	[[RMSEA]]	[[Comparison]]	χ^2 difference	df
[[B1: one-factor model]]	[[1,862.12]] *	[[324]]	[[.519]]	[[.475]]	[[.124]]	[[[]]]	[[[]]]	[[[]]]
[[B2: two-factor model]]	[[1,776.18]] *	[[323]]	[[.545]]	[[.499]]	[[.120]]	[[1]]	[[85.94]] *	[[1]]
[[B3: five-factor model]]	[[538.40]] *	[[265]]	[[.908]]	[[.836]]	[[.058]]	[[2]]	[[1,237.78]] *	[[58]]
[[B4: seven-factor model]]	[[410.19]] *	[[293]]	[[.967]]	[[.891]]	[[.036]]	[[3]]	[[128.21]] *	[[28]]

^a Significance tests are based on robust maximum likelihood estimates.

* $p < .001$.

Table 4

Standardized correlation coefficients among barrier factors

[[Barriers]]	[[1]]	[[2]]	[[3]]	[[4]]	[[5]]	[[6]]	[[7]]
(1) Absence of Problem	[[1.00]]						
(2) Negative Social Support	[[.332]]	[[1.00]]					
(3) Fear of Treatment	[[.785]]	[[.301]]	[[1.00]]				
[[4) Privacy Concerns]]	[[1.000]]	[[.785]]	[[.301]]	[[1.00]]			
[[5) Time Conflict]]	[[.283]]	[[.321]]	[[.321]]	[[1.000]]	[[1.000]]		
(6) Poor Treatment Availability	[[.795]]	[[.321]]	[[.321]]	[[.283]]	[[.795]]	[[1.000]]	
[[7) Admission Difficulty]]	[[.559]]	[[.321]]	[[.321]]	[[.283]]	[[.795]]	[[.559]]	[[1.000]]

* $p < .05$.

** $p < .01$.

*** $p < .0001$.

Table 5
Standardized regression coefficients for barrier factors and selected subject characteristics^a

[[Factors]]	Absence of problem	Negative social support	Fear of treatment	Privacy concerns	Time conflict	Poor treatment availability	Admission difficulty
[[African American]]	[[.039]]	[[-.202]] **	[[-.205]] **	[[-.084]]	[[-.062]]	[[-.118]]	[[-.215]] **
[[Male]]	[[.022]]	[[.049]]	[[-.097]]	[[-.107]]	[[.074]]	[[-.056]] **	[[.117]]
[[Age]]	[[.039]]	[[.118]]	[[.053]]	[[-.005]]	[[-.009]]	[[.210]]	[[.051]]
[[Education]]	[[-.032]] *	[[-.113]]	[[-.061]]	[[-.025]]	[[-.008]]	[[-.202]] **	[[.007]]
[[Previous treatment experience]]	[[-.132]] *	[[.027]]	[[-.036]]	[[.020]]	[[-.024]]	[[-.067]]	[[-.112]]
[[Court referral]]	[[.275]] ***	[[.111]]	[[.185]] **	[[.110]]	[[.254]] ***	[[.205]] **	[[-.068]]
[[Full-time employment]]	[[.027]]	[[.043]]	[[-.081]]	[[.018]]	[[.039]]	[[-.046]]	[[-.045]]
[[Heroin]]	[[-.280]] **	[[-.366]] ***	[[-.125]]	[[-.006]]	[[-.079]]	[[-.140]]	[[-.118]]
[[Crack]]	[[-.260]] **	[[-.263]] **	[[-.016]]	[[.004]]	[[-.161]]	[[-.088]]	[[-.056]]
[[Marijuana]]	[[-.153]] *	[[-.191]] *	[[-.064]]	[[.117]]	[[.076]]	[[.009]]	[[-.089]]
[[Alcohol]]	[[.054]]	[[-.0107]]	[[.033]]	[[-.008]]	[[-.009]]	[[.015]]	[[-.090]]
R ²	[[.250]]	[[.122]]	[[.101]]	[[.047]]	[[.125]]	[[.118]]	[[.114]]

^a. $\chi^2 = 504.435$, $df = 330$, $p = .000$. Model fit: GFI = 0.932, TLI = 0.911, NFI = 0.832, RMSEA = 0.045.

* $p < .05$.

** $p < .001$.

*** $p < .0001$.