Published in final edited form as:

Ment Health Subst Use. 2014 January 1; 7(2): 170–183. doi:10.1080/17523281.2013.806342.

Comorbid mental health and substance abuse issues among individuals in recovery homes: Prospective environmental mediators

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Abstract

Individuals with comorbid internalizing psychological symptoms and substance abuse issues often have more negative outcomes and evidence a relative disparity in treatment gains compared to those with only substance abuse issues. The present study examined social mechanisms over time for individuals living in self-governed recovery homes (Oxford Houses) such as 12-step group activities and social support, which likely influence both abstinence and psychological outcomes. Participants ($n = 567$) from a national United States sample of Oxford Houses completed baseline and multiple follow-up self-report assessments over a one-year period. A structural equation model was utilized to evaluate predicted relationships among baseline symptoms, 12-step activities, social support, and outcome variables. Results indicated that internalizing symptoms were associated with subsequent mutual help activities, but not directly with social support. Living in an Oxford House for six months and number of 12-step meetings attended were partially mediated by social support variables in predicting abstinence outcomes, but not psychological outcomes. Environments such as Oxford Houses may be viable options for recovering individuals with comorbid internalizing psychological problems, although social support mechanisms primarily promote abstinence. Implications for future research and for Oxford House policies are discussed.

Keywords

Oxford House; dual-diagnosis; depression; anxiety; recovery home; social support

Previous research consistently suggests that individuals with comorbid internalizing psychological problems and substance abuse issues face additional barriers to ongoing recovery and functioning. Deficits in abstinence (e.g., Weisner, Matzger, & Kaskutas, 2003) and psychosocial outcomes (Gonzalez & Rosenheck, 2002) are common among individuals with comorbid internalizing symptoms (i.e., primarily symptoms of depression and anxiety) and substance abuse problems compared to those struggling with one primary issue.

Moreover, this relative disparity is evident even in the presence of treatment improvements (e.g., Burns, Teesson, & O'Neill, 2005). The interaction between these comorbid conditions may produce additional stressors that inhibit successful outcomes. However, individual characteristics are not necessarily predictive of outcomes in the long-term, while socio-environmental variables are important predictors of long-term functioning (e.g., Moos, 2007). Treatment programs that integrate these environmental processes are likely to be more effective at addressing the overall needs of individuals in recovery, including those with co-occurring mental health issues (Moos, 2007; Vaillant, 2005).

One salient psychosocial variable that has shown promise for individuals with comorbid issues is social support during the maintenance of abstinence. Longabaugh et al. (1993) theorized that different domains of social support might have varying impacts on unique areas of functioning, such as psychological and substance-related behaviors. First, there is social support that is specifically related to abstinence (i.e., *abstinence-specific social support*), which is solely focused on resources that promote or discourage abstinence. Second, there is a more broadly-defined form of support that promotes healthy psychological functioning (i.e., *general social support*), which consists of broad functional elements such as emotional and informational support (e.g., Beattie & Longabaugh, 1999; Beattie et al., 1993). For individuals with comorbid substance abuse and internalizing psychological symptoms, both types of support are likely important for ongoing functioning.

However, internalizing psychological symptoms may impact an individual's ability to develop social support networks (e.g., Tracy & Johnson, 2007). Symptoms of depression and anxiety have been associated with smaller social networks and lower perceived social support (Brugha et al., 2003). Dually-diagnosed individuals also have social networks that tend to be smaller (Trumbetta, Mueser, Quimby, Bebout, & Teague, 1999) and more deficient (Tracy & Johnson, 2007), perhaps in part because these individuals sometimes exhibit behaviors that isolate them from expanded social networks (Hawkins & Abrams, 2007). However, a number of sources of social support exist that are capable of providing interpersonal resources. Individuals with comorbid mental health problems often utilize different types of mutual-help (e.g., 12-step) groups to obtain these social support resources (Laudet, Magura, Vogel, & Knight, 2003). Increased participation in such environments is associated with improved psychological status as well as abstinence (Aase, Jason, & Robinson, 2008; Laudet, Magura, Vogel, & Knight, 2000; Magura, Cleland, Vogel, Knight, & Laudet, 2007; Timko & Sempel, 2004).

Other mutual-help settings that show promise are unique recovery homes. *Oxford Houses* are a group of self-governed residential environments for individuals with substance use disorders (Jason, Davis, Ferrari, & Bishop, 2001; Jason & Ferrari, 2010). Oxford Houses represent a unique model of recovery that focuses on environmental characteristics and peer interactions as catalysts for behavior change. The primary feature of Oxford Houses is that there are no professional staff involved whatsoever; they function as independent, self-governed entities (Oxford House, 2006). Furthermore, Oxford Houses do not place time limits on how long someone may remain a resident, which differentiates them from most traditional recovery homes (Ferrari, Jason, Davis, Olson, & Alvarez, 2004).

Oxford Houses have been empirically validated as promising environments for individuals in recovery. Randomized and longitudinal studies (e.g., Jason, Davis, Ferrari, & Anderson, 2007; Jason, Olson, Ferrari, & LoSasso, 2006) have determined that Oxford House residents demonstrate high rates of abstinence (about 65-80%) and that more participation in Oxford House settings (i.e., length of residence) is associated with better outcomes in several domains (Jason, Olson, Ferrari, Majer, Alvarez, & Stout, 2007). While research in the area of psychiatric comorbidity is limited in these environments, preliminary findings suggest

that a high proportion of residents have comorbid psychiatric disorders (Majer, Jason, Ferrari, & North, 2002), and that residents with mood or anxiety disorders have similar outcomes to those without these conditions (Jason, Olson, et al., 2007). However, it remains unclear how internalizing psychological symptoms may interact with mutual-help processes over time within Oxford Houses. A more directed analysis of psychological symptoms, substance use outcomes, and measurement in domains of social support and mutual help processes will produce a clearer understanding of the interaction between these constructs.

In the present study, a series of theoretically and empirically grounded interrelationships were hypothesized (see Figure 1). This study examined a national sample of Oxford House residents who completed a battery of measures at four different assessments during a one-year period. This design allowed us to observe associations between theoretical constructs longitudinally. Specifically, it was predicted that internalizing symptoms among participants at baseline would be negatively associated with prospective social support variables. It was also predicted that engagement in mutual help groups (i.e., 12-step affiliation, 12-step attendance, living in an Oxford House for longer) would be associated with improved general social support, which would act as a partial mediator in predicting internalizing symptom outcomes. It was hypothesized that these same mutual help variables would be associated with reduced support for use, which would act as a partial mediator in predicting abstinence outcomes. Because of variability in prior research studies, no predictions about the relationship between baseline internalizing symptoms and subsequent mutual help activities were made. While not hypothesized, the pathway between general social support and abstinence outcomes and the pathway between support for use and internalizing symptom outcomes were also tested for possible associations.

Methods

The present study involved secondary analysis of a large existing dataset from a national United States sample of Oxford House residents. Data for this federally-funded study were collected between late 2000 and 2003, utilizing a within-subjects design with four data collection intervals. Each period of data collection occurred four months apart from each other for every participant, yielding a total of one year between the baseline and final follow-up. The present study examined data from each wave of data collection to develop a longitudinal model integrating concepts from the previous section.

Participants

A total of 897 adult residents (293 females, 604 males) of Oxford Houses across the United States agreed to participate in the national study. Of the 897 initial baseline participants, 607 also completed the 12 month follow-up assessment. Of these participants, 567 also completed at least one of the intermediate waves of the study, which was necessary for inclusion in order to test hypothesized mediators. Before entering the study, participants had lived in an Oxford House for an average of 1.06 years ($SD = 1.35$). Demographic information for the final sample is provided in Table 1 and Table 2.

Procedure

Participants were recruited to be in the study using multiple methods. Announcements were printed in monthly Oxford House newsletters that described the study prior to data collection. Additional announcements were made during the 2001 Oxford House World Convention, where 100 participants were recruited (out of approximately 300 attendees; Jason, Davis, Ferrari, & Anderson, 2007). The national research team visited individual Houses and made telephone and regular mail announcements to broaden knowledge of the study. While there was variation in methodologies used to recruit participants (e.g., at an

Oxford House Convention or at individual Houses), analyses indicated that the primary outcome variables did not significantly vary based on recruitment methods. Moreover, 169 out of the 189 Oxford Houses approached had at least one resident agree to participate, with a mean of 4.7 participants per house (houses had an average of 7.1 residents). For more information about recruitment, see Jason, Davis, Ferrari, & Anderson).

After obtaining Institutional Review Board approval from DePaul University, all participants went through the informed consent process prior to data collection, and were assured of their confidentiality and that there were no consequences for not participating or deciding to leave the study. Participants were paid \$15 for each assessment wave that they participated in. For the all assessment periods after baseline, research staff attempted to contact participants based on their telephone contact information from the baseline assessment. Once contacted, all other data was collected either in person, by mail, or over the telephone. Following the completion of the study, participants were given feedback through the Oxford House monthly newsletter.

Measures

Addiction Severity Index – Lite—Background demographics and historical information were assessed using the *Addiction Severity Index – Lite (ASI; McLellan et al., 1992)*. The *ASI* examines several areas over the past 30 days as well as lifetime rates including substance use, medical status, criminal activity, family relationships, and psychiatric status. The *ASI* has a test-retest reliability of 0.83 or higher and is commonly used in addictions research (McLellan et al.).

Form 90 Timeline Followback—Three primary variables were measured using the *Form 90 Timeline Followback* (Miller & Del Boca, 1994): cumulative substance use, time living in an Oxford House, and 12-step utilization. For the present study, this measure assessed residential history, substance use, and 12-step utilization within the past 90 days for each data collection interval. To determine overall time spent living in an Oxford House, a dichotomous variable was created that determines if a participant spent six months in an Oxford House or not. In prior studies of Oxford house residents, a length of residence of six months or longer has been shown to be a protective factor (e.g., Jason, Olson et al., 2007). Twelve-step participation was calculated as an averaged overall (continuous) variable based on self-reports at each completed follow-up during the study.

The outcome variable for abstinence in the present study is the rate of change in cumulative sobriety, which was calculated separately for both alcohol and drug use as continuous variables. These variables are based on self-reported days of sobriety and substance use during the study. It is the most accurate estimation of substance use within the sample (Jason, Davis, Ferrari, & Anderson, 2007). Values are calculated between zero and one, and a slope equal to one indicates that the participant remained completely abstinent from substance use during the study, and any slope below one indicates some substance use (or departure from abstinence) during the course of the study, with lower numbers reflecting a greater degree of substance use.

Global Appraisal of Individual Needs – Quick Screen—The *Global Appraisal of Individual Needs-Quick Screen (GAIN-QS; Titus & Dennis, 2000)* was used in the present study to measure internalizing psychological symptoms. The *GAIN-QS* is a non-diagnostic screening instrument that measures symptoms of psychological issues (Titus & Dennis). To measure internalizing symptoms, the *Internalizing Behavior Index* was utilized at baseline and the one-year follow-up. This scale covers symptoms of anxiety, depression, and suicide risk over the past 12 months. In the standardization sample, this measure had a Cronbach's

alpha of 0.90 ($N = 448$, $M = 7.15$, $SD = 5.17$) for adults (Titus & Dennis). Within the current sample, this measure had a Cronbach's alpha of 0.89 ($N = 880$, $M = 6.31$, $SD = 4.24$) at the baseline assessment.

As the *Internalizing Behavior Index* is made up of three subscales (i.e., *Suicide Risk Index*, *Anxiety Symptoms Index*, *Depression Symptoms Index*), the utility of the *Suicide Risk Index* items within the overall scale was brought into question because of linear dependency among its three items. Such linear dependency would create problems for using structural equation modeling. An exploratory factor analysis was conducted on the full baseline sample of the overall scale. A WLSM estimator with a Geomin Oblique rotation was utilized to investigate the factor structure of the items. A 1-factor solution yielded an inadequate model fit [$\chi^2 = 1128.8$ ($df = 90$; $p < .001$); CFI = .97; TLI = .96; RMSEA = .11; SRMR = .15]. A two factor solution yielded an adequate model fit [$\chi^2 = 377.09$ ($df = 76$; $p < .001$); CFI = .99; TLI = .99; RMSEA = .07; SRMR = .07], with the *Suicide Risk Index* items loading separately onto the second factor and the other two subscales loading together on the first factor. Thus, it was determined that the *Suicide Risk Index* items could be removed without altering the overall factor structure of the scale, and the other 12 items were retained for analysis.

Alcoholics Anonymous Affiliation Scale—The *Alcoholics Anonymous Affiliation Scale* (Humphreys, Kaskutas, & Weisner, 1998) was adapted in the national study to also measure affiliation with Narcotics Anonymous and Cocaine Anonymous. This 9-item scale has been utilized in previous research to indicate the degree of commitment and affiliation with 12-step programming. It has an alpha of 0.85 (Humphreys et al.). It was given at the baseline and one year assessments, and an average score was calculated to be used as a mediator in the analyses.

Important Persons Inventory—The *Important Persons Inventory* (IP; Clifford & Longabaugh, 1991) is an instrument designed to evaluate social networks and social support. The IP asks questions about individuals who were important in participants' lives during the previous six months. Participants list up to 12 individuals in their social network, are asked about the type of relationship (e.g., spouse, parent, roommate, friend), how long they have known the person, and how often they see the person. Questions about each network members' substance use status are also asked. In the next section of the IP, the participant decides which four of the individuals they listed were most important to them in the past six months. Additional questions inquire about how important that person is to them and how those network members would react to their substance use. The IP has demonstrated an excellent overall test-retest reliability of .95 (Longabaugh, Wirtz, Zweban, & Stout, 1998).

Groh, Olson, Jason, Ferrari, and Davis (2007) completed a factor analysis of the IP (using the same sample as the proposed study) that indicated there were 3 dimensions: support for substance use among network members, substance use behaviors among network members, and general social support. The present study utilized factor scores for general social support (i.e., number of people in social network, amount of contact with network, average importance of most important people) and support for substance use (i.e., highest support for use among network members, lowest support for use among network members, and average support for use among network members). Support for use was conceptualized as a lack of abstinence-specific social support, as support for use discourages abstinence. Average social support totals for these factors across the prospective follow-ups were calculated to be used as mediators in the analyses.

Statistical Analyses—All statistical analyses were completed using *SPSS* and *Mplus*. Descriptive statistics are provided to characterize the sample. To evaluate the impact of

attrition, χ^2 analyses were used to test for significant group differences based on categorical variables, while independent samples *t*-tests were utilized to compare groups based on continuous variables. Cutoffs used for to evaluate adequate model fit for factor analysis and structural equation models were as follows: CFI .90; TLI .90; RMSEA < .08; SRMR < .08 and WRMR < 1.0. While we report the χ^2 fit value, we note that this value is strongly influenced by sample size, and did not consider statistical significance to be an indicator of poor fit if other indicators were within an acceptable range.

Results

Attrition Analyses

Statistical comparisons between the analysis group and the group that did not complete the study are provided in Table 1 and Table 2. The analysis group tended to be older than the attrition group, but did not differ based on other demographic characteristics. Those who attrited had higher internalizing symptom scores, had fewer days of alcohol and drug sobriety, had spent less time in an Oxford House at baseline, and had more days of self-reported psychological or emotional problems in the past 30 days at the baseline assessment. The groups did not differ on the number of lifetime inpatient or outpatient psychiatric treatments or the number of 12-step meetings attended in the past 90 days at the baseline assessment. Given these significant differences, the results will be interpreted with caution given the higher level of psychiatric severity, lower level of time in sobriety, and the younger age of the attrition group.

Measurement Model

In the first step of specifying the measurement model, *Mplus* was used with WLSMV estimation to conduct a confirmatory factor analysis on the latent variables and their indicators. The structural regression model had an acceptable fit with the data [$\chi^2 = 262.70$ ($df = 133$; $p < .001$); CFI = .97; TLI = .98; RMSEA = .04; WRMR = .96]. Factor loadings for this model are presented in Table 3. For all analyses, results are presented for alcohol use, as model estimation using variables for drug use was similar.

Structural Regression Model

The structural regression model was estimated using the WLSMV estimator in *Mplus*. Results for statistically significant ($p < .05$) standardized path coefficients are presented in Figure 2. Findings suggested that baseline internalizing psychological symptoms did not predict either social support variable. Baseline symptoms predicted whether a participant remained in an Oxford House for six months during the study (path coefficient = -.20, $SE = .06$, $p = .001$), level of AA affiliation (path coefficient = .15, $SE = .05$, $p = .001$), but not number of 12-step meetings attended during the study. Follow-up psychological symptoms were only predicted by baseline symptoms (path coefficient = .60, $SE = .04$, $p < .001$).

Two partial mediators emerged between baseline internalizing symptoms and follow-up abstinence. First, support for drinking was a partial mediator between staying in an Oxford House for six months or longer during the study and follow-up abstinence, such that staying in an Oxford House for six months or longer was associated with less support for use, which was also associated with less use during the study. The overall indirect effect between staying in an Oxford House for six months or longer during the study and abstinence via support for drinking was 0.01 ($SE = 0.006$; $p = .057$). Second, general social support was a mediator between number of 12-step meetings attended and follow-up abstinence, such that attending more meetings was associated with more general social support, which was associated with higher rates of abstinence. The overall indirect effect between number of 12-

step meetings attended and abstinence via general social support was 0.02 ($SE = 0.01$; $p = .03$).

Discussion

Findings did not support the entire model as hypothesized. Although prior research suggested that internalizing symptoms might be detrimental to social support processes (Brugha et al., 2003; Tracy & Johnson, 2007; Trumbetta et al., 1999), the present study found no significant associations between these symptoms and subsequent social support variables (general or abstinence-specific). It is possible that among this sample of individuals recovering from substance abuse that internalizing symptoms did not present any positive or negative influences on social support later in the study. Moreover, the measure utilized (*IP*; Clifford & Longabaugh, 1991) is also particularly focused on functional social support factors as they relate to substance abuse, rather than omnibus social support parameters often employed in other studies. Thus, while the present study suggests that internalizing symptoms do not influence subsequent social support, measurement issues and more relevant mutual help variables might explain the discrepancy more clearly.

Both living in an Oxford House for six months or longer and attending more 12-step meetings during the study were associated with higher rates of abstinence at the one-year follow-up. Such results are consistent with previous research suggesting that 12-step attendance (e.g., Laudet, Cleland, Magura, Vogel, & Knight, 2004; Ouimette, Moos, & Finney, 2003) and duration of stay in an Oxford House (e.g., Jason, Davis, et al., 2007; Jason et al., 2006) are mechanisms for increased abstinence. As predicted, living in an Oxford House for six months or longer was partially mediated by support for drinking in predicting abstinence outcomes. This result is consistent with prior research (Jason, Davis et al., 2007; Laudet et al., 2004) and theory (Longabaugh et al., 1993) suggesting that mutual help activity increases abstinence-specific social support, which in turn reduces substance use outcomes.

Twelve-step meeting attendance was associated with higher levels of general social support, which partially mediated the relationship the positive relationship between general social support and abstinence. This finding is inconsistent with Longabaugh et al.'s (1993) theory suggesting that general social support influences psychological functioning more prominently than abstinence. However, it is possible that given the nature of the sample (in recovery for substance abuse) that those outcomes were more salient than psychological outcomes in the study. It is also a possibility that general forms of social support provided by 12-step groups are practically more associated with abstinence, as previous research has suggested with dually-diagnosed individuals (e.g., Vogel et al., 1998). Perhaps dually-focused mutual help groups provide more specific functional support for psychological functioning than traditional 12-step groups are capable of (e.g., Laudet et al., 2000).

Results suggesting that higher rates of internalizing psychological symptoms were associated with higher AA affiliation were unexpected. Prior research suggested that 12-step involvement is either lower (e.g., Noordsy et al., 1996; Kelly et al., 2003) or similar (e.g., Bogenschutz & Akin, 2000; Laudet et al., 2003) among individuals with dual-diagnoses. However, the present observation of higher affiliation is not necessarily counterintuitive. All participants were Oxford House residents. Many Oxford House chapters require certain levels of attendance among members, and results may reflect these policies. Moreover, affiliation with 12-step may also reflect the availability of treatment for individuals. For example, Herman, Galanter, and Lifshutz (1991) found that 12-step participation was higher among individuals who are homeless compared to those who are not homeless. It is possible that individuals with more internalizing mental health issues utilize other support or

treatment for those issues, and rely solely on 12-step programs for their substance abuse treatment.

The finding that higher internalizing psychopathology was associated with earlier departure from Oxford Houses presents numerous questions. It is possible that a self-governing setting such as an Oxford House might not be suitable for people who are struggling with severe issues in domains outside of addiction. While Oxford Houses represent a unique source of social support, they might also consider understanding what factors are associated with departure among members who exhibit higher psychological severity, and how local Houses and Chapters organize to encourage utilization of treatment services for non-substance-related problems within local communities. Despite the findings of the present study, prior research has not suggested heterogeneous attrition based on psychiatric diagnosis (Jason et al., 2006), and residents in Oxford Houses have more beneficial outcomes than usual aftercare regardless of psychiatric disorder status (Jason, Olson et al., 2007).

Limitations of the Present Study

The present study had several limitations. First, no comparison sample that did not involve Oxford Houses was utilized, or any form of a control group. Such comparisons may have led to more insight into the observed statistical patterns that emerged. Furthermore, there may have been some self-selection bias inherent in the recruitment process, and we do not have data available regarding individuals who chose not to participate in the study. It is possible that individuals who agreed to be in the study that were willing to live in self-governed settings may differ from those who chose not to participate or individuals who elect to participate in more traditional forms of aftercare. Additionally, participants in the study had lived in an Oxford House for varying lengths of time, thus limiting possible conclusions that can be made regarding duration of residence during the study.

Moreover, we were unable to confidently infer diagnostic status based on the psychological symptom information that was collected. Attrition is problematic with any scientific study, and analyses indicated significantly more psychological and substance abuse problems among those who attrited than those who were in the analyses. Additionally, our mediational analyses involved some measurement contemporaneous to the outcome variables, which limited our confidence in making causal inferences. Finally, there are numerous problems with relying on only self-report data. The present study could have been improved by the addition of medical record information, biological verification of abstinence, or collateral reports for important outcome variables.

Implications for Future Research

Findings from the present study present a number of areas to address in future research. Findings suggest that the mechanisms of recovery from substance use involve mutual help participation, such as living in Oxford Houses, and that such participation increases rates of abstinence longitudinally, even in the presence of comorbid internalizing symptoms. While the present results do not suggest that traditional mutual help activities improve psychological functioning, they appear to be a viable option for individuals with internalizing symptoms seeking to remain abstinent. Furthermore, given the consistently strong association between psychological and substance abuse outcomes, future studies might consider a thorough evaluation of outside treatment activities for psychiatric issues in addition to mutual help for substance abuse.

Acknowledgments

The authors appreciate the financial support for this study from the U.S. National Institute on Drug Abuse grants DA13231 and DA19935. The authors report no financial relationships with commercial interests.

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Figure 1. Hypothesized Model

Note. Dotted lines indicate tested pathways that were not hypothesized.

Figure 2. Model Results

Note. Only statistically significant pathways ($p < .05$) are displayed

Table 1
Baseline Demographic Characteristics and Comparisons by Attrition Group

Demographic Variable	Analysis Group Total % or Mean (SD) (N = 567)	Attrition Group Total % or Mean (SD) (N = 330)	Significance
Age (in years)	39.3 (9.32)	36.9 (8.82)	$p < .001$
Sex			
Male	67.9%	66.4%	ns
Female	32.1%	33.6%	
Ethnicity			ns
White	58.0%	58.0%	
African American	34.7%	32.7%	
Hispanic/Latino	3.4%	3.6%	
Other	3.9%	4.5%	
Marital Status			ns
Never married	51.1%	44.5%	
Divorced, Widowed, or Separated	43.6%	49.7%	
Married	4.6%	5.2%	
Religion			ns
Christian	32.0%	29.3%	
Jewish	1.1%	0.9%	
Islamic	1.4%	1.5%	
Not religious	22.6%	25.2%	
Other	41.3%	40.9%	
Monthly Income (\$)	1003.57 (850.88)	944.39 (895.55)	ns
Years of Education	12.67 (1.98)	12.55 (2.18)	ns
Employment Status			ns
Full-time	70.7%	66.7%	
Part-time	13.2%	15.8%	
Unemployed	10.9%	13.9%	
Retired/Disabled	4.8%	3.6%	
On probation/parole			ns
Yes	28.0%	33.9%	
No	71.6%	66.1%	

Note. Values do not add up to 100% when there is missing data.

Table 2
Other Attrition Comparisons

Relevant Variable	Analysis Group Mean (SD) (N = 567)	Attrition Group Mean (SD) (N = 330)	Significance
Internalizing symptoms (15 pt scale)	5.93 (4.19)	6.98 (4.26)	$p < .001$
# 12 step meetings (past 90 days)	43.98 (28.16)	46.35 (27.91)	ns
Days alcohol sobriety	684.77 (831.73)	477.75 (745.26)	$p < .001$
Days drug sobriety	761.92 (1065.42)	482.02 (947.58)	$p < .001$
OH time (years)	1.06 (1.35)	0.64 (1.01)	$p < .001$
# Days Psych/Emotional problems (past 30 days)	3.16 (7.22)	4.47 (9.19)	$p < .05$
Number inpatient Ψ treatments	1.38 (3.05)	1.92 (7.45)	ns
Number outpatient Ψ treatments	1.81 (7.60)	2.05 (8.66)	ns

Table 3
Standardized Factor Loadings for Measurement Model

Latent Variable/Item	Loading	SE	Sig.
<i>Baseline Internalizing Behavior Index</i>			
Headaches, faintness, dizziness, tingling, numbness, sweating or hot or cold spells?	.56	.05	***
Sleep trouble, such as bad dreams, sleeping restlessly or falling asleep during the day?	.76	.04	***
Feeling very trapped, lonely, sad, blue, depressed, or hopeless about the future?	.85	.04	***
Having no energy and losing interest in work, school, friends, sex or other things you cared about?	.79	.04	***
Remembering, concentrating, making decisions, or having your mind go blank?	.84	.04	***
Feeling very anxious, nervous, tense, fearful, scared, panicked or like something bad was going to happen?	.85	.04	***
Having to repeat an action over and over, or having thoughts that kept running over in your mind?	.86	.04	***
Trembling, having your heart race or feeling so restless that you could not sit still?	.80	.04	***
When something reminds you of the past, you became very distressed and upset	.73	.05	***
Sometimes you used alcohol or other drugs to help yourself sleep or forget about things that happened in the past	.50	.06	***
You had a hard time expressing your feelings, even to the people you cared about	.64	.05	***
You felt guilty about things that happened because you felt like you should have done something to prevent them	.71	.05	***
<i>12 month Internalizing Behavior Index</i>			
Headaches, faintness, dizziness, tingling, numbness, sweating or hot or cold spells?	.58	.06	***
Sleep trouble, such as bad dreams, sleeping restlessly or falling asleep during the day?	.79	.04	***
Feeling very trapped, lonely, sad, blue, depressed, or hopeless about the future?	.86	.04	***
Having no energy and losing interest in work, school, friends, sex or other things you cared about?	.79	.04	***
Remembering, concentrating, making decisions, or having your mind go blank?	.81	.04	***
Feeling very anxious, nervous, tense, fearful, scared, panicked or like something bad was going to happen?	.86	.04	***
Having to repeat an action over and over, or having thoughts that kept running over in your mind?	.72	.05	***
Trembling, having your heart race or feeling so restless that you could not sit still?	.79	.05	***
<i>Note. *** $p < .001$</i>			
When something reminds you of the past, you became very distressed and upset	.77	.05	***
Sometimes you used alcohol or other drugs to help yourself sleep or forget about things that happened in the past	.67	.06	***
You had a hard time expressing your feelings, even to the people you cared about	.66	.05	***
You felt guilty about things that happened because you felt like you should have done something to prevent them	.65	.05	***
<i>Support for Drinking</i>			
Most support for drinking among most important people	.81	.03	***
Least support for drinking among most important people	.62	.03	***
Average support for drinking among most important people	.83	.03	***
<i>General Social Support</i>			
Number of people in network	.43	.04	***
Amount of contact with one's network	1.0	.00	--^
Average importance of the most important people	.11	.04	*

Note.

 $p < .001$

*
 $p < .05$

[^] Error variance fixed to zero due to negative error variance