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A Longitudinal Investigation of the Predictability of the Three-factor Model of the Important People Inventory

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Abstract

Objective—Because of psychometric limitations and varied adaptations of the *Important People Inventory* (IP; a measure of alcohol social support), Groh et al. (2007) performed factor analyses and created a three-factor model (i.e., *Support for Drinking from Network Members*, *Drinking Behaviors of Network Members*, and *General Social Support*). This present study examined the ability of the three-factor model to predict alcohol use.

Methods—This study consisted of 293 women and 604 men who were U.S. residents of a network of self-run recovery homes known as Oxford House (see Jason et al., 2007). Logistic regression models were run. The first model examined which of the three IP factors was the best predictor of alcohol use over a four-month period; next, models compared *Drinking Behaviors of Network Members* (the three-factor model) and *Network Support for Drinking from Network Members* (the original two-factor model) as predictors of four-month alcohol use.

Results—Of the three factors measuring general support, network drinking behaviors, and support for drinking, *Drinking Behaviors of Network Members* was the only significant predictor of alcohol use over a four month period. Additionally, this network drinking behaviors component was a better predictor of drinking than the *Network Support for Drinking* summary score from the original model.

Conclusions—Compared to the original model, this new three-factor model of the IP is shorter, has stronger internal reliability, and is a better predictor of alcohol use over time. It is strongly recommended that researchers continue to explore the utility of this new model.

One of the most important instruments for assessing social support within the alcohol recovery literature is the *Important People Inventory* (IP)(1). This structured interview gathers information regarding general and alcohol-specific types of support. It contains 11 indices, which has in the past been conceptualized as a two-factor model: *Investment in the Identified Network* (indices 1–3), which moderates the influence the support network has on promoting a participant's alcohol use, and *Support for Drinking from Network Members* (indices 4–11), which assesses the degree to which a person's network is supportive of

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alcohol use (2). While Beattie et al. (3) reported adequate internal consistency values for the *IP* subscales and total items (i.e., Cronbach's alpha was 0.66–0.67), more recent Oxford House studies (4) found good alphas for the summary score and the *Support for Drinking from Network Members* composite score, but a low alpha for the *Investment in the Identified Network* composite. Furthermore, Zywiak et al. (5) found weak correlations between the indices and the summary score, with one index correlating negatively with this overall aggregate. In reaction to these concerns, some researchers have discarded the summary and composite scores and made use of smaller subsets of items for scoring purposes (6). Because of psychometric limitations and varied adaptations of the *IP*, Groh et al. (7) performed factor analyses to develop a more structurally consistent model of the *IP* as compared to the original model. Results indicated a nine-index, three-factor model, which explained about two thirds of the total variance. These three factors included: *Support for Drinking from Network Members* (indices 4,7,8), *Drinking Behaviors of Network Members* (indices 9–11), and *General Social Support* (indices 1–3). Consistently high factor loadings were found for the support for drinking and network drinking behavior factors. The *Drinking Behaviors of Network Members* component was found to have a stronger association with alcohol use variables, and this may imply that whether one's friends and family are drinkers has a greater impact on one's alcohol use than whether these friends and family actually provide support for drinking. We hypothesized in the present study that out of the three factors (which measure general support, network drinking behaviors, and support for drinking), *Drinking Behaviors of Network Members* would be the best predictor of alcohol use over a four-month period.

Method

Participants

Participants at the start of the study ($N = 897$) consisted of 293 women and 604 men who were U.S. residents of a network of recovery homes known as Oxford House (4). Founded in 1975, Oxford House (OH), OH recovery homes are completely devoid of professional therapists or treatment providers. Data was collected from 2001 to 2004 at four time points starting at Time 1 and continuing every 4th month for 16 months. Only the first two time points were used in the present analyses (4). The time since someone entering an Oxford House and the timing of the Time 1 data collection varied. The majority of participants ($n = 797$, 88.9%) were recruited through an announcement published in a monthly newsletter distributed throughout these recovery settings. Of the 189 Oxford Houses that were approached, 169 (89.4%) houses had at least one individual who agreed to participate in the study, and the average number of participants per house was 4.7 (there were an average of 7.1 individuals per house). Members of the research team then contacted participants via letters to the houses, conducted follow-up phone calls, and wherever possible, arranged to visit to administer the measures. The remainder of the participants in the study ($n = 100$, 11.1%) filled out the baseline questionnaires at an annual convention attended by residents of these communal-living settings.

The nature, purpose, and goals of the study were explained to the potential participants. Participation was entirely voluntary, and payments of \$15 were made to participants following each survey. These data were gathered by research staff who primarily administered questionnaires in person to the participants. In the context in which the interviews occurred, we collected data in rooms where privacy was completely assured, and let participants know that if they ever had any concerns about privacy issues, to let our interviewers know immediately so we could deal with whatever issues they might have.

The sample was ethnically diverse, with 58.4% European American, 34.0% African American, 3.5% Hispanic/Latino, and 4.0% others. The average age of the sample was 38.4

($SD = 9.2$) and the average education level was 12.6 years ($SD = 2.1$). Drug use outcomes were not assessed in the present study because the *Important People Inventory* was not intended to measure support for drug use; however, many participants in this study were poly-substance users. Many participants in this study had formerly been poly-substance users before entering OHs. The sample reported the following percentages of lifetime substance use: alcohol (18.3%), heroin (2.6%), methadone (.4%), other opiates/analgesics (2.3%), barbiturates (1.9%), sedatives/hypnotics (2.5%), cocaine (8.3%), amphetamine (4.1%), cannabis (10.5%), hallucinogens (3.2%), inhalants (1.1%), more than one substance (10.4%). The average participant had undergone alcohol treatment 2.8 times ($SD = 4.2$) and drug treatment 2.9 times ($SD = .5$) in their lives. During the 90 days prior to the baseline assessment, the average participant consumed alcohol on 2.3 days ($SD = 9.2$) and drugs on 5.5 days ($SD = 20.3$). Even though substance use is forbidden in Oxford House, some use did nonetheless occur during the study.

Of the original baseline sample of 897 participants, 687 (76.6%) completed the second phase of data collection (i.e., Time 2). We only used Times 1 and 2 in order to conduct analyses with the largest number of participants that were available. Chi-square analyses indicated that gender, race, religion, and marital status were similar for those who dropped and those who were retained over four months. Independent samples *t* tests indicated that dropouts and those who completed both phases of data collection were similar on the variables of education, income, and employment. However, those who completed Time 2 were older, $t(891) = -2.29, p < .05$, and had longer lengths of stay in OH, $t(886) = -5.90, p < .05$. Regarding alcohol use, those who dropped out had shorter lengths of alcohol sobriety, $t(895) = -3.19, p < .01$, and consumed alcohol on more of the past 90 days at baseline, $t(891) = 3.50, p < .01$. Thus, it is likely that many of the people who dropped out had relapsed.

Measures

Baseline Time 1 demographic information was obtained from items on the 5th Edition of the *Addiction Severity Index-lite (ASI)*(8). For the present study, demographic and background information from the *ASI* included age, sex, ethnicity, years of drug use, and whether participants abused alcohol, drugs, or both alcohol and drugs.

At Time 2, participants completed a version of Miller and Del Boca's (9) *Form 90 Timeline Followback*, which measures general health care utilization and residential history, in addition to past 90 day alcohol and drug use. This measure was used to assess the alcohol use outcome (i.e., *number of days consuming alcohol in the past 90 days*)(9), which was dichotomized into any alcohol use versus no alcohol use in the 90 days prior to Time 2.

Finally, the *Important People Inventory (IP)*(1) was administered at Time 1. This structured interview is a modified version of the *Important People and Activities Inventory*, such that the items that comprise the *Activities* portion are omitted. Because this assessment tool has various adaptations and administration manuals, it is important to note that the version administered in this project was adapted from the edition developed by Clifford and Longabaugh for use in Project MATCH. The *IP* requires participants to identify important members in their networks with whom they have had frequent contact within the past 6 months. In the first section of the *IP*, labeled the *Important People* section, a participant is asked to identify up to 12 social contacts over the age of 12 years. For each person the participant lists in his/her network, the measure examines the type of relationship (e.g., spouse, parent, friend, co-worker), the duration of relationship in years, and the frequency of contact. In addition, the participant assesses how often the network member drinks, how much the network member drinks on a maximum drinking day, and the network member's overall drinking status (i.e., heavy, moderate, light, abstainer, or recovering). In the next section, called the *Most Important People (MIP)* section, the participant chooses up to four

network members who were the most important over the past six months. The participant then rates each network member's importance, how much he/she likes the person, and how the person reacts to the participant's drinking.

As discussed earlier, this present study focused on the three-factor, nine-index model of the measure (see Groh et al., 2007): 1. *General Social Support* (sum of indices 1–3; Cronbach's $\alpha = .43$), 2. *Drinking Behaviors of Network Members* (sum of indices 4,7,8; Cronbach's $\alpha = .75$), and 3. *Support for Drinking from Network Members* (sum of indices 9–11; Cronbach's $\alpha = .81$). Because these factors are a summation of standardized scores, they all have a mean score of zero. Finally, because items on the *IP* are scored to point in the direction of support for drinking, higher factor scores represent more negative social networks (i.e., less general support, more drinking in one's network, and more support for drinking).

Results

Descriptive Analyses

Out of a maximum of 12 possible individuals, participants identified an average of 6.16 people in their *Important People* networks ($SD = 3.47$). The average participant had contact with network members about once or twice a week ($M = 5.09$; $SD = 1.37$) and daily contact with 1.97 individuals ($SD = 2.05$). Most network members were abstainers or also in recovery. Overall, 74.7% of network members abstained from alcohol use, and only 2.8% of network members were heavy drinkers. Average importance of *Most Important People* network members fell between very and extremely important ($M = 5.52$; $SD = .64$). Finally, the average participant had 1.62 Oxford House residents in their social networks at Time 1 ($SD = 1.87$); thus, other Oxford House residents comprised 23.5% of *Important People* networks.

Descriptive statistics run for alcohol use at the 4-month phase of data collection indicate that very little alcohol use took place within this sample. For example, out of the 646 participants who completed this item at Time 2, only 34 (3.6%) reported using alcohol in the past 90 days. During this time span, participants on average used alcohol on 1.41 ($SD = 8.9$) and drugs on 3.7 ($SD = 15.6$) days. In addition, during the 30 days prior to the follow-up, the average participant experienced problems related to alcohol use on .7 days ($SD = 4.0$) and drug use on .8 days ($SD = 4.4$).

Logistic Regression Models Predicting Alcohol Use

Due to the non-normal distribution with regard to alcohol use at 4 months, logistic regression models (enter method) were run to test the main hypotheses over a four month period. Of the three *IP* factors, it was expected that *Drinking Behaviors of Network Members* at the baseline assessment (Time 1) would be the best predictor of alcohol use (use versus no use) in the 90 days prior to Time 2. The *IP* composite scores from the new three-factor model (i.e., *Support for Drinking from Network Members*, *Drinking Behaviors of Network Members*, and *General Social Support*) were put in a logistic regression model predicting alcohol use. In addition, in order to control for the effects of demographic variables, we included into the model age, gender, race/ethnicity, and education. See Table 1 for bivariate correlations between the predictors included in the model. Supporting our prediction, *Drinking Behaviors of Network Members* was the only significant predictor of alcohol use at Time 2 (Wald statistic = 3.99; see Table 2). Demographic variables and the other two *IP* factors were not significant in this model. The Omnibus Test of Model Coefficients was also not significant, $X^2 (7, N = 601) = 11.13, p = .13$, Nagelkerke $R^2 = .05$.

This model correctly classified 94.7% of participants into their substance use category (i.e., use vs. no use at 4 months).

Next, two separate logistic regression models (enter method) were run to compare the predictability of the different predictor variables from the two models of the *IP* over a four-month period. Specifically, we predicted that at Time 1, *Drinking Behaviors of Network Members* from the three-factor model would be a better predictor of alcohol use (use versus no use) at Time 2 than *Network Support for Drinking* from the original model. Due to the lack of independence between the *Drinking Behaviors of Network Members* and *Network Support for Drinking*, separate regression models were run. Supporting our prediction, *Drinking Behaviors of Network Members* was a significant predictor of alcohol use at Time 2 in the first model (Wald statistic = 4.43; see Table 3); however, *Network Support for Drinking* was not significant in the second model (see Table 4; Wald statistic = 1.57). Again, demographics were not significant in the analyses. Model tests were not significant in both cases (original two-factor model: $X^2(5, N = 646) = 9.91, p = .08$, Nagelkerke $R^2 = .05$; new three-factor model: $X^2(5, N = 662) = 8.24, p = .14$, Nagelkerke $R^2 = .04$). The two models had almost the same levels of accuracy regarding classifying participants into drinking status categories; the model with *Drinking Behaviors of Network Members* correctly classified 94.9%, and the model with *Network Support for Drinking* classified 95.0% correctly.

Discussion

The *Important People Inventory* is a unique measure for gathering a wide range of valuable information on social support for alcohol use. However, due to internal reliability problems, there have been efforts to improve the measure (11). For example, in a previous study, we took another step in this process by presenting factor analyses aimed at developing a more structurally consistent model of the assessment tool (7). The current investigation follows in this progression; we used data collected on 897 Oxford House residents to determine which composite from the three-factor model was the best predictor of alcohol use over a four-month period. Of the three factors, *Drinking Behaviors of Network Members* was the only significant predictor of alcohol use at Time 2. Thus, we recommend that individuals employing the three-factor model of the *IP* utilize *Drinking Behaviors of Network Members* as the main predictor variable. This factor not only has good internal reliability and discriminant validity (7); it is also a significant predictor of alcohol use over a four month period.

As reported in previous studies (5, 7), it is counterintuitive that the component measuring the drinking behaviors of one's network members would have a stronger correlation with alcohol use than the factor assessing the support for drinking provided by one's social contacts. This finding may imply that whether one's social contacts consume alcohol has a greater influence on one's alcohol use than whether these people actually encourage drinking. In addition, the emphasis on the drinking habits of one's friends and family is consistent with the social-cognitive model's emphasis on the role of modeling learned behaviors. On the other hand, Zywiak et al. (5) proposed that the drinking behaviors indices (i.e., indices 4, 7, 8 in the three-factor model) may have a stronger association with alcohol use than the support for drinking indices (i.e., indices 9–11) because the drinking behaviors items focus on all twelve important people, whereas the support for drinking items only examine the four most important people. In other words, other network members besides the four most important ones or the overall social network might have the greatest influence on alcohol use. This measurement issue may illustrate another weakness of the *IP*, and future researchers may want to collect data regarding all 12 network members for all questions in the measure.

The new model does not have much utility if it is not as good of a (or a better) predictor of alcohol use as the older model. The network drinking behaviors factor was the best predictor of alcohol use out of the three new factors, and it was therefore important to test whether this factor was a better predictor of alcohol use than the original *Network Support for Drinking* summary score. As expected, present analyses indicated that *Drinking Behaviors of Network Members* was a stronger predictor of alcohol use over four months than *Network Support for Drinking*. This provides some additional support for the validity of the new three-factor model of the *IP*. This new three-factor model overcomes many of the shortcomings over the older version of the measure; it is shorter, possesses stronger internal reliability, and is a better predictor of alcohol use over a four month period. Nonetheless, this tool still likely requires more revision. Therefore, it is strongly encouraged that future researchers continue to explore the utility of this new model, and we hope that this new model will make the measure more accessible to the research community. For example, we believe that this assessment tool could be used to assess the effectiveness of a variety of sober living recovery homes (12).

Several potential limitations to this set of studies are worth addressing. Attrition was a problem in this study, and it is likely that many participants who dropped out of the study had relapsed, rendering the present sample a select population. However, because variables associated with relapse risk were associated with attrition, the actual relationships found could be even stronger, if the retention rates were higher. Also, analyses on this new three-factor model have focuses mainly on Oxford House residents, and individuals must be sober upon entry into the program and might be further along in their recovery than others in treatment. The majority of participants did not report consuming alcohol during the study, and it is likely that Oxford House residents have fewer network members who are heavy drinkers than most individuals in recovery. In addition, because Oxford House residents reside with friends instead of family, the role of social support might be quite different outside of Oxford House. Thus, this new model could be tested with samples possessing more variability with regard to alcohol use and alcohol social support (e.g., recovering individuals in other residential treatment programs, nonresidential programs, and people in recovery not seeking formal treatment). There could have been other factors affecting our sample that were not captured by this study (e.g., family situation, employment status, other health issues). There was also a potential for underreporting alcohol use in a setting that requires residents to be sober and this could negatively affect our outcomes. Finally, these analyses might have limited generalizability because this investigation only focused on alcohol use (as originally intended by the *IP*) even though many participants were poly-substance abusers. Future research in this area may want therefore to examine social support for both alcohol and drug use.

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References

1. Clifford, PR.; Longabaugh, R. Manual for the administration of the Important People and Activities Instrument. Adapted for use by Project MATCH for NIAAA 5R01AA06698-5 Environmental Treatment of Alcohol Abusers, Richard Longabaugh, Principal Investigator. 1991.
2. Longabaugh R, Wirtz PW, Zweben A, Stout RL. Network support for drinking. Alcoholics Anonymous and long-term matching effects. *Addiction*. 1998; 93:1313–1333. [PubMed: 9926538]
3. Beattie MC, Longabaugh R, Elliott G, Stout RL, Fava J, Noel NE. Effect of the social environment on alcohol involvement and subjective well-being prior to alcoholism treatment. *J. Stud. Alc.* 1993; 54:283–296.

4. Jason LA, Davis MI, Ferrari JR, Anderson E. The need for substance abuse after- care: A longitudinal analysis of Oxford House. *Addict. Behav.* 2007; 32:803–818. [PubMed: 16843612]
5. Zywiak WH, Longabaugh R, Wirtz PW. Decomposing the relationships between pretreatment social network characteristics and alcohol treatment outcome. *J. Stud. Alc.* 2002; 63:114–121.
6. Schmitt, MM. Recovery from substance abuse: The role of unsupportive social interactions. Virginia Commonwealth University; 2003. Unpublished doctoral dissertation
7. Groh DR, Olson BD, Jason LA, Ferrari JR, Davis MI. A factor analysis of the Important People Inventory. *Alcohol. Alcohol.* 2007; 42:347–353.
8. McLellan AT, Kushner H, Metzger D, Peters R, Smith I, Grissom et al. The fifth edition of the Addiction Severity Index. *J. Subst. Abuse. Treat.* 1992; 9:199–213. [PubMed: 1334156]
9. Miller WR, Del Boca FK. Measurement of drinking behavior using the Form 90 family of instruments. *J. Stud. Alc.* 1994; 12(suppl):112–118.
10. Longabaugh R, Wirtz PW, Zywiak WH, O'Malley SS. Network support as a prognostic indicator of drinking outcomes: The COMBINE study. *J Stud. Alc. Drugs.* 2010; 71:837–846.
11. Polcin DL, Korcha R, Bond J, Galloway G, Lapp W. Recovery from addiction in two types of sober living houses: 12-Month outcomes. *Addic Res Theory.* 2010; 18(4):442–455. 2010.

Table 1

Correlations between the Three IP Factors, Alcohol Use, and Demographics

Variable	1.	2.	3.	4.	5.	6.	7.	8.
1. T1 General Social Support	-							
2. T1 Drinking Behaviors of Network Members	-.07*	-						
3. T1 Support for Drinking from Network Members	.07*	.15***	-					
4. T2 Alcohol use	-.02	.14***	.02	-				
5. T1 Gender	-.18***	.03	-.003	.05	-			
6. T1 Age	.03	-.06	.02	-.03	-.15***	-		
7. T1 Race/ethnicity	-.006	-.12***	-.04	-.03	.02	.06	-	
8. T1 Length of education	.008	.06	.02	.02	-.09**	.14***	-.10**	-

Note. T1 = Time 1 (n = 897). T2 = Time 2 (4 months, n = 687).

* p < .05.

** p < .01.

*** p < .001.

Table 2

Logistic Regression for Predicting Alcohol Use using the Three-factor Model of the IP

Variable	B	SE	Odds Ratio	Wald Statistic
<i>General Social Support</i>	.01	.09	1.01	.01
<i>Drinking Behaviors of Network Members</i>	.13	.06	1.13	3.99 *
<i>Support for Drinking from Network Members</i>	.03	.07	1.03	.14
Age	-.003	.002	1.00	3.32
Race/ethnicity	-.39	.31	.68	1.53
Gender	.25	.39	.53	.40
Length of education	.001	.01	.90	

Note.

* $p < .05$. Model $\chi^2 = 11.13$

Table 3

Logistic Regression for Predicting Alcohol Use by Drinking Behaviors of Network Members (New Three-factor Model)

Variable	B	SE	Odds Ratio	Wald Statistic
<i>Drinking Behaviors of Network Members</i>	.13	.06	1.14	4.43 *
Age	-.003	.002	1.00	2.60
Race/ethnicity	-.34	.29	.72	1.33
Gender	.18	.38	1.20	.23
Length of education	.003	.01	1.00	.10

Note.

* $p < .05$. Model $\chi^2 = 9.91$

Table 4

Logistic Regression for Predicting Alcohol Use by Network Support for Drinking (Original Two Factor Model)

Variable	B	SE	Odds Ratio	Wald Statistic
<i>Network Support for Drinking</i>	.05	.04	1.05	1.57
Age	-.003	.002	1.00	2.66
Race/ethnicity	-.37	.29	.69	1.57
Gender	.25	.38	1.28	.43
Length of education	.003	.01	1.00	.12

Note. Model $\chi^2 = 8.24$