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Investigating Social Support and Network Relationships in Substance Use Disorder Recovery

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Abstract

Background—Social support and characteristics of one's social network have been shown to be beneficial for abstinence and substance use disorder recovery. The current study explores how specific sources of social support relate to general feelings of social support and abstinence-specific self-efficacy.

Methods—Data was collected from 31 of 33 individuals residing in five recovery houses. Participants were asked to complete social support and social network measures, along with measures assessing abstinence from substance use, abstinence self-efficacy, and involvement in 12-step groups.

Results—A significant positive relationship was found between general social support and abstinence-specific self-efficacy. General social support was also significantly associated with the specific social support measures of sense of community and AA affiliation. Social network size predicted abstinence-related factors such as AA affiliation and perceived stress.

Conclusions—These results provide insight regarding individual feelings of social support and abstinence-specific self-efficacy by showing that one's social network-level characteristics are related to one's perceptions of social support. We also found preliminary evidence that individual Oxford Houses influence one's feelings of social support.

INTRODUCTION

Social support has been extensively researched for its possible beneficial impact on an individual's overall health and well-being¹. Though social support has also been shown to have a relationship with substance use recovery, predictive of abstinence and treatment retention², the mechanism through which this occurs is less clear.

One crucial way social support may promote recovery is through a relationship with abstinence-specific self-efficacy³. Abstinence-specific self-efficacy is one's perceived ability

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to exert control over substance-using behaviors⁴ and has been found to be predictive of substance use relapse⁵ and positively related to an individual's social network support for abstinence⁶.

The relationship between social network-level predictors of abstinence (e.g., number of people who drink) and psychometric predictors of abstinence (e.g., feelings of social support) is not apparent. Exploring these relations may improve the understanding of how social support may improve likelihood of abstinence.

One type of recovery home that may in particular provide a unique environment to evaluate these relationships is Oxford House (OH). Oxford Houses are sober living homes that focus on abstinence-specific social support and group recovery. Several outcome studies have reported promising results regarding Oxford Houses and abstinence^{7,8,9}. Though a number of past OH studies have examined social support⁷, these studies have not examined the mechanisms that may influence an individual's feelings of support.

The current exploratory study examined multiple sources of social support (sense of community, AA affiliation, network-level characteristics) for individuals living in Oxford Houses to examine how they relate to general feelings of support. Evaluation of these processes may contribute to reducing unnecessary health care costs by improving the effectiveness of the residential recovery home system and restructuring other community-based recovery settings.

METHODS

Participants were recruited via telephone from five geographically dispersed Oxford Houses (e.g. United Kingdom, Illinois, Oregon). Thirty-one individuals (26 male, 5 female) participated with an average per house of 6.2 (range 5 to 7). The average age was 46.5 (SD = 9.5) and 20 identified as white and 11 as African American. The average length of tenure in an Oxford House was 21.9 months (Md = 8.0, SD = 28.9). No monetary incentives were used to secure participants involvement in the study. This study was approved by the study institution's Institutional Review Board. More details are provided elsewhere⁷.

Measures

Data collected included participants' sex, age, race, length of residency, length of current sobriety, and referral method to Oxford House as well as the following scales:

The AA Affiliation instrument¹⁰ consists of nine items and operates as a strength index of an individual's affiliation with a mutual, self-help group. The scale is unidimensional and reliable (current sample alpha = .82).

The Addiction Severity Index (ASI)¹¹ assesses problem severity in commonly affected areas in alcohol and substance abuse. The coefficient alpha of the ASI-Lite is good (> .80), and the ASI has excellent predictive and concurrent validity.

The Drug Taking Confidence Questionnaire¹² is an updated version of the 39-item Situational Confidence Questionnaire (SCQ 39) measuring abstinence self-efficacy. All subscales of the DTCQ have good reliability (alphas .79 to .95)¹³.

The Perceived Stress Scale-Brief Version¹⁴ consists of four items. The brief version of this scale has exhibited acceptable reliability ($\alpha = .72$) and predictive validity in addiction studies.

The Important People and Activities Inventory (IPA)¹⁵ assesses abstinent social support for drugs and alcohol. For the present investigation, the size of network was used.

The Interpersonal Support Evaluation List—Short Version (ISEL)¹⁶ consists of 16 items that measures support external to the recovery home and 12-step networks. The short form version's reliability is 0.79.

The Alcoholics Anonymous Intention Measure (AAIM)¹⁷ measures the initiation and sustainability of AA involvement. AAIM demonstrates good to excellent internal reliability across subscales and time ($\alpha = .81$, $SD = .08$, $n = 16$).

The Brief Sense of Community Index¹⁸ consists of eight items. Construct validity has been established with both mental health and depression scales.

RESULTS

The primary analyses were to test whether specific sources of social support were uniquely related to self-efficacy (DTCQ; See Figure 1) or whether general social support shared this variance. In general, we found moderate to large effect sizes (See Table 1 for standardized coefficients). Path model fit statistics were as follows: $\chi^2(2) = 1.09$, $p = .58$; CFI = 1.00; RMSEA = .01; and SRMR = .04. This model suggests a strong positive relationship between general social support (as measured by the ISEL) and abstinence-specific self-efficacy. In addition, two specialized measures of support—AA Affiliation and Sense of Community were positively related to general social support. The relationships between these specialized indicators of social support and abstinence-specific self-efficacy were statistically captured by the intervening variable of general social support.

The next two relationships we explored involved network-level measures of an individual's social support network and psychological measures. First, we examined how AA relationships predicted AA Affiliation. Bootstrapping for non-parametric estimation resulted in a 95% confidence interval for a positive coefficient (See Table 2). Secondly, we explored how the important person network size predicted perceived stress. The number of important people attenuated perceived stress ($\beta = -.08$, $t = -2.79$, $p = .01$): those with larger social networks reported lower stress than those with smaller social networks. Both of these findings supported a relationship link between physical and psychometric measures.

Finally we investigated evidence for possible house-level effects of AA Affiliation. The measured “effect size”, ICC = .176, $\chi^2(4) = 8.80$, $p = .065$, provides preliminary evidence of

possible house-level effects on AA Affiliation. A greater number of houses (> 20) may be necessary to achieve adequate power for cluster-level effects¹⁹.

DISCUSSION

This exploratory study examined several relationships between key psychological constructs related to substance use disorder recovery. Overall, these findings support previous work showing that social support promotes self-efficacy⁵. Individuals who reported higher levels of self-efficacy on average also reported higher levels of general social support. Particularly important, general social support also captured the shared variance between two more specific forms and measures of social support: AA affiliation and sense of community. In addition, a network-level characteristic was predictive of abstinence-related psychological factors; a larger social network predicted lower perceived stress, and a great number of AA relationships in the network predicted more AA affiliation. Finally, we found preliminary evidence of differential effects by Oxford House; individual differences in AA affiliation were correlated by house.

These findings provide possible insights for pathways to increase social support and by association, abstinence-specific self-efficacy. First, increasing specific social investments, e.g., AA affiliation and sense of community, may increase an individual's sense of overall general social support. Second, the size of one's social network may influence perceived stress and growth of social networks through specific affiliations (e.g. AA) may reduce stressors that might impair recovery. Finally, the marginally significant finding that AA affiliation differed by house highlights how Oxford Houses may influence recovery behaviors. Individuals within the Oxford Houses look to each other to establish norms with regard to abstinence and recovery²⁰, and this finding provides slight evidence of a mechanism through which this may occur.

These findings offer several directions for future research. The finding that general social support changed the relationship between specific forms of social support and abstinence self-efficacy suggests potential generalizing and meditational effects in longitudinal investigations. Social network analysis should continue to be used to pursue a better understanding of the structure, dynamics, and properties of networks and how they might influence psychological states. This study has exploratory implications for continued research that will promote abstinence and improve social support for individuals in recovery, thereby increasing individual well-being and reducing unnecessary health care costs in the US.

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REFERENCES

1. Cohen S, Wills T. Stress, social support, and the buffering hypothesis. *Psychol Bull.* 1985; 98(2): 310. doi: 10.1037/0099-2909.98.2.310. [PubMed: 3901065]
2. Dobkin PL, Civita MD, Paraherakis A, Gill K. The role of functional social support in treatment retention and outcomes among outpatient adult substance abusers. *Addiction.* 2002; 97(3):347–356. doi: 10.1046/j.1360-0443.2002.00083x. [PubMed: 11964111]
3. Moos R, Moos B. Long-term influence of duration and frequency of participation in Alcoholics Anonymous on individuals with alcohol use disorders. *J Consult Clin Psychol.* 2004; 72(1):81–90. doi:10.1037/0022-006X.72.1.81. [PubMed: 14756617]
4. DiClemente CC, Carbonari JP, Montgomery RPG, Hughes SO. The Alcohol Abstinence Self-Efficacy scale. *J Stud Alcohol.* 1994; 55(2):141–148. [PubMed: 8189734]
5. Marlatt, GA.; Gordon, JR. *Relapse prevention: Maintenance strategies in addictive behavior change.* Guilford Press; New York, NY: 1985.
6. Davis MI, Jason LA. Sex differences in social support and self-efficacy within a recovery community. *Am J Community Psychol.* 2005; 36(3–4):259–274. doi:10.1007/s10464-005-8625-z. [PubMed: 16389499]
7. Jason LA, Davis MI, Ferrari JR. The need for substance abuse after-care: Longitudinal analysis of Oxford House. *Addict Behav.* 2007; 32(4):803–818. doi:10.1016/j.addbeh.2006.06.014. [PubMed: 16843612]
8. Jason LA, Light JM, Stevens EB, Beers K. Dynamic social networks in recovery homes. *Am J Community Psychol.* In press.
9. Jason LA, Olson BD, Ferrari JR, Lo Sasso AT. Communal housing settings enhance substance abuse recovery. *Am J Public Health.* 2006; 96:1727–1729. [PubMed: 17008561]
10. Humphreys K, Kaskutas LA, Weisner C. The Alcoholics Anonymous Affiliation Scale: Development, reliability, and norms for diverse treated and untreated populations. *Alcohol: Clin Exp Res.* 1998; 22(5):974–978. doi:10.1111/j.1530-0277.1998.tb03691.x. [PubMed: 9726265]
11. McLellan AT, Kusher H, Metzger D, et al. The fifth edition of the Addiction Severity Index. *J Subst Abuse Treat.* 1992; 9(3):199–213. doi:10.1016/0740-5472(92)90062-S. [PubMed: 1334156]
12. Annis, HM.; Graham, JM. *Situational confidence questionnaire: User's guide.* Addiction Research Foundation; Toronto, ON: 1988.
13. Sklar SM, Annis HM, Turner NE. Development and validation of the drug-taking confidence questionnaire: A measure of coping self-efficacy. *Addict Behav.* 1997; 22(5):655–670. doi: 10.1016/S0306-4603(97)00006-3. [PubMed: 9347068]
14. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav.* 1983; 24:385–396. <http://www.jstor.org/stable/2136404>. [PubMed: 6668417]
15. Clifford, PR.; Longabaugh, R. Adapted for use by Project MATCH for NIAAA 5R01AA06698-05 Environmental Treatment of Alcohol Abusers. Richard Longabaugh, Principal Investigator; 1991. *Manual for the administration of the Important People and Activities Instrument.*
16. Cohen, S.; Mermelstein, R.; Kamarck, T.; Hoberman, H. Measuring the functional components of social support. In: Sarason, IG.; Sarason, B Sarason, editors. *Social support: Theory, research and applications.* Martinus Nijhoff; The Hague, The Netherlands: 1985. p. 73-94.
17. Zemore S, Kaskutas LA. Development and validation of the Alcoholics Anonymous Intention Measure (AAIM). *Drug Alcohol Depend.* 2009; 104(3):204–211. [PubMed: 19581057]
18. Peterson NA, Speer PW, McMillan DW. Validation of a Brief Sense of Community Scale: Confirmation of the principal theory of sense of community. *J Community Psychol.* 2008; 36(1): 61–73. doi:10.1002/jcop.20217.
19. van Breukelen GJP, Candel MJJM(). Calculating sample sizes for cluster randomized trials: We can keep it simple and efficient! *J Clin Epidemiol.* 2012; 65(11):1212–1218. doi: 10.1016/j.jclinepi.2012.06.002. [PubMed: 23017638]
20. Jason LA, Ferrari JR, Freeland M, Danielewicz J, Olson BD. Observing organizational and interaction behaviors among mutual-help recovery home members. *Int J of Self Help Self Care.* 2005; 3(1):117–132. 2005. doi:10.2190/F751-N2AQ-Y088-UYMB.

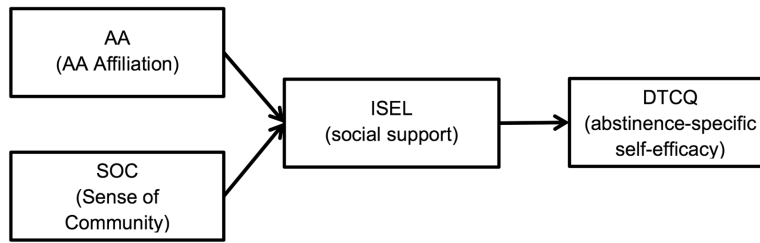


FIGURE 1.
Path Model

TABLE 1

Path Model

| StdYX | Two-Tailed | | | |
|--------------------|------------|-------|-----------|---------|
| | Estimate | S.E | Est./S.E. | P-Value |
| DTCQ ON | | | | |
| ISEL | 0.458 | 0.154 | 2.983 | 0.003 |
| ISEL ON | | | | |
| AA | 0.595 | 0.116 | 5.125 | 0.000 |
| SOC | 0.341 | 0.134 | 2.543 | 0.011 |
| Residual Variances | | | | |
| DTCQ | 0.790 | 0.141 | 5.611 | 0.000 |
| ISEL | 0.566 | 0.136 | 4.164 | 0.000 |

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TABLE 2

AA relationships predicting AA affiliation with and without Bootstrapping

| Effect without bootstrapping | Coefficient | Standard Error | Standard Coefficient | t | p-value |
|-------------------------------------|--------------------|-----------------------|-----------------------------|----------|----------------|
| CONSTANT | 6.412 | 0.417 | 0.000 | 15.360 | 0.000 |
| Number of AA Relationships | 0.451 | 0.235 | 0.336 | 1.919 | 0.065 |

| Effect with bootstrapping | Percentile Method | | BCa Method | |
|----------------------------------|--------------------------|--------------|-------------------|--------------|
| | Lower | Upper | Lower | Upper |
| CONSTANT | 5.407 | 7.240 | 5.120 | 7.120 |
| Number of AA Relationships | 0.025 | 0.981 | 0.019 | 0.971 |