

Impact of Helping Behaviors on the Course of Substance-Use Disorders in Individuals With Body Dysmorphic Disorder*

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ABSTRACT. Objective: Alcoholics Anonymous and 12-step facilitated treatments for substance-use disorders (SUDs) encourage individuals with SUD to consider the needs of others and engage in helping behaviors as a method to become sober. SUDs are one of the most common comorbid disorders among individuals with body dysmorphic disorder (BDD). The purpose of this study is to examine prospectively the relationship between helping behaviors and the likelihood of SUD and BDD remission. **Method:** Data on 163 individuals during the course of 3 years were derived from the Prospective Study of Body Dysmorphic Disorder, a longitudinal investigation of patterns and predictors of the course of BDD. Kaplan-Meier survival estimates were used to calculate probabilities of time to BDD and SUD remission. Cox regression analyses were conducted to calculate the relative likelihood of levels of helping

behaviors as time-varying predictors of remission from both SUD and BDD. **Results:** The course of SUD and BDD was chronic for most subjects; the estimated probability of remission from an SUD across 3 years was .29 and .17 for a full BDD remission. Results indicated that increases in helping behaviors were significantly predictive of SUD remission (hazard ratio [HR] = 2.59, $p = .0134$). Helping behaviors were also predictive of BDD remission among those with or without SUD but at a trend level of significance (HR = 1.51, $p = .0676$). **Conclusions:** These findings extend previous work reporting significant relationships between helping behaviors and positive long-term SUD outcomes. Implications of the mechanisms involved in the link between helping behaviors and remission from SUD and BDD are discussed. (*J. Stud. Alcohol Drugs* 68: 291-295, 2007)

IN THE UNITED STATES, 12-step programs for substance-use disorders (SUDs), such as Alcoholics Anonymous (AA) or Narcotics Anonymous (NA), are the most commonly sought sources of help for SUDs, and most SUD treatment programs encourage attendance at 12-step programs for SUDs (Weisner et al., 1995). Reviews have consistently concluded that participation in 12-step programs for an SUD can enhance SUD treatment outcomes and is associated with decreases in substance abuse (Emrick, 1999; McIntire, 2000; Tonigan et al., 1996).

A fundamental principle of SUD 12-step programs (e.g., AA, NA) is that drinking or using drugs is only a symptom of a much larger problem, the core of which is rooted in

self-centeredness. One of the antidotes to self-centeredness, and one that is critical to an individual becoming and staying sober, is being of service to others.

AA, originating in Akron, Ohio, laid the foundation for other SUD 12-step programs. AA traces its roots to the Oxford Group, which espoused four necessary “absolutes”—one of which is unselfishness (AA, 1957). In SUD 12-step programs, the most overt demonstration of other-oriented behaviors is being a sponsor to others with SUDs. Although enforced as vital to recovery since AA’s inception in 1939, empirical evidence of the benefits of helping behaviors for recovery from SUDs is just beginning to surface (Pagano et al., 2004; Zemore and Kaskutas, 2003; Zemore et al., 2004). Service has been defined as “anything whatever that legitimately helps fellow sufferers” (AA, 1957). Behaviors that are helping in nature are those that reflect kindness toward, and consideration of, others (Burnstein et al., 1994).

A large body of research in psychology has demonstrated the benefits of improved physical and mental health among individuals who provide help to others and engage in helping behavior (see Piliavin, 1990, for a review). Among older adults, enhanced mental and physical health is found consistently among those who engage in prosocial behavior (Moen et al., 1992). Among adolescents, there is evidence that youth who engage in community service are less likely to abuse alcohol or smoke marijuana, to perform poorly in school, or to be arrested (Barber et al., 2001). On the reverse

Received: September 1, 2006. Revision: October 3, 2006.

*The data used in this study were provided by the Prospective Study of Body Dysmorphic Disorder, a longitudinal naturalistic study sponsored by National Institute of Mental Health grant R01-MH60241 awarded to Katharine A. Phillips. This investigation was also supported by National Institute on Alcohol Abuse and Alcoholism grant K01 AA015137-01 awarded to Maria E. Pagano.

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side of other-oriented behaviors, a substantial body of research has demonstrated the negative influence of self-focused attention on bodily pain and depression symptom severity (Calabrese et al., 2006; Gendolla et al., 2005).

SUDs are often accompanied by other disorders. Increasing attention has been paid to body dysmorphic disorder (BDD), a relatively common and severe Axis I disorder characterized by distressing or impairing preoccupation with perceived defects in self-appearance (Phillips, 2004). SUDs appear to be one of the most common comorbid disorders among individuals with BDD (Gunstad and Phillips, 2003). Among individuals with BDD, rates of lifetime comorbid SUD range from 22% to 49.5% (Grant et al., 2005; Gunstad and Phillips, 2003; Hollander et al., 1993).

To get relief from distressing BDD symptoms, many individuals with BDD may initiate or escalate substance use, which may evolve into an SUD; recent evidence suggests that SUD onset occurs 1 year following the onset of BDD in 60% of individuals with BDD (Grant et al., 2005). Although alcoholism is itself a socially isolating mental illness (Brown, 1996), those with both SUD and BDD may be especially socially disconnected because of their inclination to withdraw from others because of perceived physical defects (Pinto and Phillips, 2005). Because the positive psychological outcomes associated with helping behaviors appear to be greatest for those who are otherwise socially isolated (Piliavin, 2004), and because both disorders are associated with a disabling preoccupation with self, adoption of helping behaviors may be beneficial for both SUD and BDD. This study examines whether helping behaviors predict SUD and BDD remissions.

Method

Subjects

This study was based on the Prospective Study of Body Dysmorphic Disorder, a longitudinal investigation of the patterns and predictors, including comorbid diagnoses, of the course of BDD. Subjects included 163 subjects in a longitudinal observational study over the course of 3 years. All subjects met current Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 1994), criteria for BDD and had at least 1 year of follow-up data (91.6% of the original sample of 178 participants who met current DSM-IV criteria at study baseline).

There were no significant differences in demographic or baseline clinical characteristics between respondents with and without at least one follow-up interview. Study inclusion criteria were DSM-IV BDD or its delusional variant (delusional disorder, somatic type), age 12 years or older, and the ability to be interviewed in person. The only exclusion criterion was the presence of an organic mental disorder.

Subjects were recruited for the study from a variety of sources, including mental health professionals, advertisements, brochures, friends and relatives, and nonpsychiatrist physicians. Highly trained and closely supervised clinical interviewers conducted the interviews. These methods are described in detail elsewhere (Phillips et al., 2005).

Intake and follow-up assessments

The present data were derived from the semistructured diagnostic interview administered at intake and at annual follow-up interviews over a period of 3 years. The initial diagnostic evaluation assessed current and lifetime history of psychiatric conditions using the Structured Clinical Interview for DSM-IV Non-Patient Version (SCID-NP; First et al., 1995). Follow-up interviews were conducted with the Longitudinal Interval Follow-up Evaluation (LIFE; Keller et al., 1987). The LIFE uses a change-point method to assess the weekly course of disorders using psychiatric status ratings (PSRs) to indicate disorder severity. The reliability and validity of PSRs have been demonstrated (Keller et al., 1987; Warshaw et al., 1994), results that have been replicated in the current sample (Phillips et al., 2006).

The mean (SD) age of the sample was 32.8 (12.36) years, with 70.6% and 83.9% of the sample being female and white, respectively. Seventy-one percent had attained at least some college education, and 63.8% were single. Twenty-two percent had attended self-help meetings, and 67% were receiving mental health treatment at the time of intake.

Measures

Substance use. The SCID-NP (First et al., 1995) obtained comorbidity data regarding current SUDs at intake. SUDs included DSM-IV assessments of eight categories of substances: (1) alcohol, (2) cannabis, (3) cocaine, (4) hallucinogens, (5) sedatives/hypnotics, (6) opiates, (7) stimulants, and (8) anabolic steroids.

Helping behaviors. Levels of helping behaviors were assessed from the Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q), a reliable and valid self-report measure of current quality of life (Endicott et al., 1993). The Q-LES-Q was administered at intake and at follow-up interviews.

After a careful review with an altruism expert, three Q-LES-Q items were considered to reflect helping behaviors that were other-oriented, demonstrated consideration of others, and reflected the helping behaviors espoused by AA: (1) "During the past week, how often have you been patient with others when others were irritating in their actions or words?" ("Love and tolerance of others is our code" [AA, 2001, p. 84]); (2) "During the past week, how often have you met the needs of friends or relatives?" ("Our very lives depend upon our constant thought of others and how

we may help meet their needs.” [AA, 2001, p. 20]); and (3) “During the past week, how often did you think about the problems of others?” (“Were we thinking of what we could do for others?” [AA, 2001, p. 84]). Item scores range from 1 (never) to 5 (frequently), with higher scores reflecting greater frequency of specific behaviors. An overall score of helping behaviors was calculated with the average score across these items. The overall helping behavior score demonstrated adequate internal consistency at intake, with an α coefficient of .84. To further substantiate internal consistency of overall helping behaviors, analyses were repeated at the 1-year assessment; results indicated adequate internal consistency with an α coefficient of .87.

Definitions of remission. Remission from BDD and SUD was defined prospectively. The course of BDD was recorded on a seven-point PSR scale. Shrout-Fleiss interrater reliabilities on BDD PSR scores and test-retest reliability were found to be excellent (Phillips et al., 2006). For BDD, subjects were considered to have remitted if they experienced at least eight consecutive weeks at PSR ratings of two or less. A subject who met this condition was virtually asymptomatic for at least 2 consecutive months. The course of SUDs was recorded on a four-point PSR scale. For SUDs, a subject must have been asymptomatic (PSR of one) for at least 26 consecutive weeks. This definition of remission has been widely used in longitudinal studies of SUDs (Mueller et al., 2005).

Statistical methods

Statistical analyses were conducted using SAS version 8.0 (SAS Institute Inc., Cary, NC). Between-group differences were tested using either the Pearson chi-square test or analysis of variance. Kaplan-Meier survival estimates were used to calculate probabilities of time to BDD and SUD remission. Two proportional hazard (PH, or Cox) regression analyses were conducted to examine whether the likelihood of BDD and SUD remissions were influenced by levels of helping behaviors. The overall helping behavior score at each annual assessment was used as a time-varying, ordinal predictor variable, and gender and age were tested as covariates in each model. Tests for violations of the PH assumption found no evidence of nonproportionality in either Cox regression model. All tests with significance values greater than 95% ($p < .05$), two-tailed, were reported.

Results

At the intake interview, 48% (79/163) of subjects were diagnosed with a lifetime SUD, and 17% (28/163) of subjects were diagnosed with a current SUD. Of those with a current SUD, 9 (6%) had either alcohol abuse or dependence only, 5 (3%) had comorbid alcohol- and drug-use disorders, and 14 (9%) had a drug-use disorder only. Alco-

hol and cannabis were the most commonly abused substances. Subjects with a current SUD did not significantly differ from those without an SUD with respect to gender, marital status, race, education, receipt of mental health services, or lifetime self-help attendance. Subjects with an SUD were significantly younger (mean = 27.36 [12.45]) than those without an SUD (mean = 33.87 [12.09]; $F = 6.67$, 1 df, $p < .01$). Lower levels of helping behaviors were found among SUD subjects (mean = 2.36 [0.67]) than among subjects without an SUD (mean = 2.67 [0.84]; $F = 3.70$, 1 df, $p = .0495$).

Using Kaplan-Meier survival estimates, the probability of achieving remission from both an SUD and a BDD over the course of 3 years was prospectively examined. The majority of subjects continued to meet criteria for an SUD diagnosis for all 3 years of follow-up. The estimated probability of remission from an SUD by Year 3 was .29; of the 28 individuals with an SUD, 8 SUD remissions were observed. The course of BDD was also chronic. The estimated probability of BDD remission by Year 3 was .17; of the 163 subjects, 23 full BDD remissions were observed.

Results of the Cox regressions indicated no significant main effects of gender or age or interaction effects with helping behaviors as predictors of either SUD or BDD remission. Thus, results of Cox regressions are reported without age and gender as covariates in the models. Using Cox regressions, levels of helping behaviors were found to predict SUD remission (hazard ratio [HR] = 2.59, $p = .0134$).

A trend was found when examining the relationship between helping behaviors and BDD remission (HR = 1.51, $p = .0676$), indicating that for each one-point increase in prosocial behavior, the likelihood of BDD remission increased by an estimated 51%. There was no interaction between SUD status and helping behaviors (HR = 1.16, $p = .7922$).

Discussion

This study makes several novel contributions that extend previous work regarding the relationship between helping others and behavior change. First, this study prospectively examined the link between helping behaviors and becoming sober, whereas previous findings demonstrated the contribution of helping behaviors to staying sober. Second, helping behaviors linked to sobriety are broadened beyond being a sponsor, a limited indicator of helping behaviors used in previous studies. Third, the prospective, naturalistic design of this study addresses methodology limitations of prior work: a longer follow-up period, a real-world perspective in terms of the course of an SUD, and a broadly ascertained sample from community resources that did not include alcohol-treatment facilities. Fourth, this is the first study to prospectively examine the link between helping behaviors and SUD remission within a BDD

population. Fifth, the relationship between helping behaviors and SUD and BDD outcomes was determined by using complex statistical methodologies that allow for examination of changes in helping behaviors in relationship to SUD and BDD outcomes over time.

Our results are consistent with the few studies of SUD that demonstrate an association between helping others and positive substance-use outcomes (Crape et al., 2002; Pagano et al., 2004; Zemore et al., 2004). For each one-unit increase in level of helping behaviors (going from "rarely" to "sometimes" meeting the needs of friends or relatives), the likelihood of SUD remission more than doubled.

There are several possible mechanisms for why helping behaviors are linked to a higher likelihood of SUD remission. First, focusing on helping others enables alcoholics to shift their focus from self to others (McCrary et al., 2003) and thus may distract alcoholics from obsessions to drink and their own problems. Second, helping others may result in a reduction of factors associated with drinking, such as social isolation and obsessions with self (Carroll, 1993). Third, the positive emotions that alcoholics may experience when helping others can reinforce continual involvement in helping behaviors. ("Though they knew they must help other alcoholics if they would remain sober, that motive became secondary. It was transcended by the happiness they found in giving themselves for others" [AA, 2001, p. 159]). With the accumulating evidence of the benefits of helping behaviors on drinking outcomes, future work is needed to explore the factors that help sustain helping behaviors over time.

Overall, helping behaviors were not as strongly predictive of remission from BDD (HR = 1.51) as found with SUD (HR = 2.59). The potential benefits of helping behaviors, such as providing distraction from one's problems or reducing isolation, may be insufficient to markedly reduce the severity of BDD symptomatology. However, the small number of BDD remissions limited power to detect a significant effect of the relationship between helping behaviors and BDD remission. Yet the magnitude of the HR and the *p* value close to significance found with the limited power available suggest that this result is noteworthy and warrants further investigation.

Considering limitations, several are of note. First, the limited power indicates the need for longer follow-up periods of assessment to observe more BDD remissions. This will increase power to clarify the relationship between helping behaviors and BDD psychopathology, to examine other predictors of remission, and to include additional covariates in Cox regression models. Second, although adequate internal reliability was demonstrated at multiple assessments, the construct of helping behaviors was measured with three items. Measurement of helping behaviors in alcoholism research is limited. Future investigations, such as the National Institute on Alcohol Abuse and Alcoholism-sponsored

Helping Others and Long-term Outcomes, will provide the necessary development of a valid and reliable measure of helping behaviors that assesses the myriad ways in which alcoholics help others.

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