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Coming to Terms With Reality: Predictors of Self-deception Within Substance Abuse Recovery

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Abstract

Objectives—It is argued that drug and alcohol addiction centers on denial and self-delusion, and successful recovery depends on coming to terms with such problems. Mutual-help programs for substance abuse recovery (eg, 12-step programs) and self-run recovery homes (eg, Oxford House) might decrease self-deception through emphasis on facing reality, strict abstinence rules, and empowering people to direct their own course of recovery.

Methods—The present study examined how recovery processes (12-step programs vs. recovery residence), substance use, and race/ethnicity predicted self-deception among adult residents of self-run recovery homes (359 men, 152 women).

Results—Twelve-step participation but not recovery home residency significantly predicted decreased self-deception across a 4-month period. In addition, race/ethnicity was a significant predictor of self-deception, with African Americans reporting higher levels of self-deception than participants of other racial groups.

Conclusions—It is suggested that substance abusing individuals look to 12-step programs such as Alcoholics Anonymous and Narcotics Anonymous to reduce denial and gain a realistic self-view, critical steps in addiction recovery.

Keywords

substance abuse recovery; self-deception; mutual-help programs

Socially desirable responding includes the tendency to supply answers on self-report surveys that make a respondent appear better to others than in reality.[1] Researchers argued that social desirability is important to examine especially when interpreting self-report data from substance abusers.[2] A negative relationship has been found between socially desirable responding and reports of substance abuse, and this response bias likely results in underestimated rates of use, with heavy users actually reporting less use than light users.[3-5] A strong desire for social approval may, therefore, be associated with minimizing reports of use. The prevailing model of social desirability proposed 2 dimensions of this construct: impression management and self-deception.[6-8] With a substance abuse sample, the current

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study focused specifically on *self-deceptive enhancement*, the tendency to believe augmented positive statements about one's self, even if they are not completely accurate.

Drug and alcohol addiction has long been conceptualized as a disorder characterized by denial, dishonesty, and self-delusion.[9-11] It is, therefore, not surprising that substance abusing individuals demonstrate more denial[12,13] and self-deception[4,14] than non-drug–using peers. An important part of treatment, therefore, involves confronting an addict's denial and resistance to treatment.[15-18] Addictions recovery may involve a switch in focus from denial to readiness for change,[19] or a restructuring of self-view from one of deception to one of honesty and realism.[20] This process has been empirically demonstrated: further stages of alcohol recovery related to decreased self-deception,[21] and substance abuse treatment seems to positively impact tendencies toward self-deception[22] and denial.[23,24]

One treatment approach that may be effective and cost-efficient in reducing self-deceptive enhancement among persons in recovery is the 12-step program [eg, Alcoholics Anonymous (AA) or Narcotics Anonymous (NA)]. Unlike conventional alcohol treatments, 12-step programs have no time restrictions, lack professional involvement, charge no dues, and keep no membership lists regarding its weekly meetings.[25,26] These widely used mutual-help programs for substance abuse recovery may decrease self-deception by forcing members to confront their alcohol or drug problem directly and admit to having a problem that they are unable to control (eg, "My name is Bob, and I am an alcoholic"). Twelve-step programs typically require members to examine their personal weaknesses, admit their mistakes, compile a list of people they have harmed, and make amends to these individuals.[27] Confronting one's problem and making amends are powerful ways to counteract the denial and self-delusion frequently displayed by addicts. However, no published study examined how involvement within mutual-support, nonprofessional program settings (such as AA, NA, or other 12-step programs) might decrease self-deceptive enhancement tendencies focused on one's tendency toward denial of personal addiction. The present study, therefore, examined the role of 12-step involvement in changes in self-deception over time.

In addition, no published study examined the impact of residence in a mutual-support, communal-living program on self-deceptive tendencies. Founded in 1975, Oxford House (OH) applies the principles of mutual-help, 12-step programs to residential alcohol and drug treatment.[28,29] OH provides a supportive, democratic, self-run, communal-living setting for recovering substance abusers to reside with no maximum length of stay.[30] Regardless of geographic location, OHs are located in mid to high SES neighborhoods with similar rules and policies.[31] Residents are held accountable to find and maintain a job, complete chores, and pay for rent, food, and utilities. Failure to comply with these rules along with any disruptive/criminal behavior or substance use is grounds for expulsion, and all rules are enforced by the house residents.[30] When OH residents begin to show signs of problematic behaviors that may lead to relapse (eg, withdrawing from others, aggressive or anti-social behaviors), they may be required to sit down and have one-on-one meetings with other house residents to discuss these behaviors.[30] In addition, residents are required to hold house positions (eg, president or treasurer) elected for 6-month intervals by 80% majority vote.[30] These strict rules and responsibilities may promote honest self-views through taking charge of one's own course of recovery and becoming honest and productive members of society.

Because the OH organization encourages 12-step participation,[30] and most residents are involved in AA or NA,[32,33] an OH sample provides an opportunity to study the impact of both mutual-support residence and 12-step participation on self-deception. Each of these mutual-help programs may individually decrease self-deception through emphasis on facing reality, strict rules, and empowering people to direct their own course of recovery. Given the emphasis both programs place on dealing with one's problems and discouraging avoidant

behaviors, it is possible a combination of both OH mutual-help residence and 12-step program involvement may ultimately produce the greatest decreases in self-deception. Thus, it was predicted in the present study that a combined effect of mutual support programs, such as 12-step involvement and residential communal-living (ie, living in an OH), would predict lower self-deception scores over a 4-month timeframe.

In addition, previous research found self-deceptive bias negatively correlated with self-reports of substance use.[3-5] This relationship may exist because heavier users actually tend to report less use compared with lighter users; thus, these problem users resort to self-deception and minimized their problematic symptomology. Thus, although somewhat counterintuitive, it was predicted that *less* reported alcohol and drug use over the past 90 days would predict *more* self-deception (ie, minimization of symptoms) at 4 months. However, it was believed that self-reported mutual help involvement would not show this counterintuitive effect because these variables are less sensitive and less subject to social desirability as compared with reports of substance use.

We also found it important to explore the impact of sociodemographic variables on self-deception. We did not expect age and sex to relate to self-deception because previous studies reported no significant differences on self-deceptive enhancement regarding these variables.[5,34] Regarding ethnicity and culture, several studies have suggested that individualistic cultures are more prone to self-deception. For instance, individuals from the United States scored higher on self-deception measures compared with those from Singapore, and European Americans also received higher scores than Asian Americans.[35] In addition, US individuals were more likely to self-enhance, whereas Japanese individuals were more likely to be self-critical.[36] Two studies suggested that the relationship between culture and social desirability is more complicated; people are inclined to self-deceive on culturally significant variables.[37,38] They found that Americans and independently minded people tended to self-enhance on individualistic attributes, whereas Japanese and interdependently minded individuals self-enhanced on collectivistic attributes. Nonetheless, 2 additional studies found no significant differences in social desirability tendencies between cultural/ethnic groups (viz, between Canadian and Japanese individuals[34] and between Hispanic and non-Hispanic individuals[39]). Given the inconsistent results from previous studies, we also examined the effects of race/ethnicity on self-deception. However, no a priori expectations for race/ethnicity differences were made.

MATERIALS AND METHODS

Participants

Although participants were drawn from a larger 2-year US nationwide longitudinal study conducted by Jason and colleagues,[40] the present study only included 511 adult OH residents (359 men, 152 women; M age = 38.40, SD = 9.40) recruited by field staff who successfully completed a self-report measure of self-deception. Participants were drawn from 139 different OHs mostly located in the Eastern, Western, and the Mid-Atlantic regions of the United States. The average length of stay in an OH before the start of the present study was 1.02 years (SD = 1.37). Most participants were white (59.7%), never married (52.2%), had 12.63 (SD = 1.90) years of formal education, and were employed full time (69.4%), earning a monthly income of $792.85 (SD = 892.77).

The present sample largely contained polysubstance abusers (95.2% reported lifetime alcohol abuse), and the most commonly reported drugs of abuse were cocaine (87.3%) and cannabis (72.78%). On average, participants consumed alcohol for 18.65 years (SD = 10.03), cannabis for 10.91 years (SD = 10.60), and cocaine for 8.10 years (SD = 8.12) before entry into the study. In addition, participants used multiple substances (which may

include alcohol) for an average of 10.35 years (SD = 9.93). The overall mean cumulative length of sobriety from both drugs and alcohol at the start of the study was nearly 1 year (M = 349.27 d, SD = 463.16). On average, participants underwent prior treatment in their lives for alcohol 2.44 times (SD = 3.41) and for drug abuse 2.75 times (SD = 3.12). During the 90 days before the start of the study, participants reported living in their present OH 70.30 out of the past 90 days (SD = 30.64) on average. During this time-frame, participant attended 12-step meetings an average of 44.37 days (SD = 28.82). In addition, during this 3-month period, 8.6% of the sample consumed any alcohol and 12.0% used drugs.

Procedure

The present study focused on data from a baseline and 4-month follow-up data collection from a larger study.[40] Participants in the present study were recruited through an announcement published in the monthly OH newsletter that provided contact information for the study. Members of the research team then contacted OHs via letters to House Presidents, conducted follow-up phone calls to the houses, and where possible, visited each house. In each case, the nature, purpose, and goals of the study were explained to the potential participants. As part of the consent process, research team members explained that participation was entirely voluntary and that withdrawal from the study was possible at any time. Payments of $15 were made to participants after each survey. These data were gathered by research staff who administered questionnaires in person to the participants.

Psychometric Scales

At the start of the study (ie, baseline) all participants completed the *Addiction Severity Index-lite* (*ASI*),[20] which assessed common problems related to substance abuse (eg, drug use, alcohol use, and illegal activity). The *ASI* was used extensively in substance abuse studies over the past 15 years and has excellent test-retest reliability (≥0.83).[20] The scale authors indicated that it is appropriate and psychometrically sound to analyze only subsections of this scale.[20] Instead of using the *ASI* composite scores, in the present study the following information was derived: sociodemographic data and substance abuse history. In each area, objective questions measured the number, extent, and duration of problem symptoms in the person's lifetime and in the past 30 days. The *ASI* has been used successfully in previous outcome studies with OH residents to assess these variables.[29,40]

At the baseline wave, participants also completed Miller and Del Boca's[41] *Form 90 Timeline Follow-back*, measuring general healthcare utilization, residential history, and past 90-day alcohol and drug use. The specific questions used in the present study were number of days in an OH in the past 90 days, number of days spent in AA or another 12-step program in the past 90 days, and number of days consuming any amount of alcohol in the past 90 days. This measure also was used successfully in other studies of OH.[29,40]

In addition, at follow-up data collection, participants completed half of the Paulhus'[42] *Balanced Inventory of Desirable Responding (BIDR)*, assessing exaggerated claims of positive attributes (overconfidence) in one's judgment and rationality. This scale contained 40 items rated along a 7-point Likert-type response scale (1 = *not true*; 7 = *very true*). Unlike other similar measures (eg, the Marlowe-Crowne Social Desirability Scale[43]), the *BIDR* separated social desirability into 2 separate but related concepts each measured by 20 items: self-enhancement (the focus of this study) and impression management. The *self-deceptive enhancement* subscale examined a person's tendency to engage in statements that enhance or over exaggerates one's abilities and skills (sample items = *I always know why I like things*; *People often disappoint me*). Factor analyses of the scale conducted by the author demonstrated strong discriminant validity for both subscales across numerous other response distortion scales.[6,8,44]

Relevant to the present study, only the *self-deceptive enhancement* subscale was administered at the second wave of the larger Jason et al (in press) project. This subscale was used in previous studies with substance abuse samples.[20-22,45] Paulhus[44] reported a Cronbach α of 0.74 for the self-deception subscale, and in the present study the coefficient α was 0.62 (M sum score = 81.10, SD = 12.91). Two scoring methods of the *BIDR* were authorized by Paulhus[46]: continuous (ie, all answers are used) and dichotomous (ie, only extreme scores are used). Because the continuous scoring method has stronger convergent and internal validity,[47] we decided in the present study to use the continuous scoring method in all data analyses.

RESULTS

Of the baseline sample of 659 participants who were recruited by field staff, 511 (75.2%) completed the *BIDR self-deceptive enhancement* scale at the follow-up wave of data collection. Those who failed to complete this scale were not able to be included in the final analyses. *Chi-square analyses* indicated that baseline sex, race/ethnicity, and marital status were similar for those who did and did not complete the measure. ***Analyses of variance*** indicated that completers and noncompleters were similar on the baseline variables of age, education, income, employment, and the number of past 90 days spent in a 12-step program. However, those who did successfully complete the *BIDR* had longer lengths of cumulative abstinence, $F(1, 651) = 27.22$, $P = 0.000$, had longer total lengths of stay in OH, $F(1, 651) = 24.37$, $P = 0.000$, spent more of the past 90 days in an OH, $F(1, 644) = 22.46$, $P = 0.000$, consumed alcohol on fewer of the past 90 days, $F(1, 654) = 10.28$, $P = 0.001$, and used drugs on fewer of the past 90 days, $F(1, 653) = 6.17$, $P = 0.01$.

A *stepwise regression analysis* was performed to determine which of the baseline variables described above significantly predicted self-deceptive enhancement scores 4 months later (ie, the follow-up assessment). To examine the main hypotheses, the number of days in an OH and the number of days spent in a 12-step group over the 90 days before baseline were entered in the regression analysis. In addition, length of time in recovery and number of days consuming alcohol and drugs were included because previous studies demonstrated relationships with self-enhancement.[3-5,20-22] Finally, on the basis of previous research,[35,36] the demographic variable of race/ethnicity was entered in the model.

Table 1 lists the β's for the 2 different models produced in the analysis. Model 2 was found to be the best model predicting self-deception scores, $F(2, 475) = 8.62$, $P = 0.000$. In this model, the number of days spent at 12-step meetings over the past 90 days, $\beta = -0.16$, $t(478) = -3.47$, $P = 0.001$, and racial/ethnic identity, $\beta = 0.11$, $t(478) = 2.57$, $P = 0.01$, were significant predictors of self-deceptive enhancement. However, there were no significant predictors of self-deceptive enhancement with the variables of number of days in an OH over the past 90 days, the length of cumulative sobriety, or the number of days using alcohol or drugs over the past 90 days. Furthermore, the interaction between the number of days in an OH and the number of days in 12-step programs was not significant.

A median split (81.00) of self-deceptive enhancement scores was performed to divide the sample into low (178 men, 82 women) and high self-deceivers (181 men, 70 women), and *analyses of variance* assessed whether these 2 groups had significantly different demographic and substance use scores. Results indicated that high versus low self-deceivers significantly differed with regard to the number of days in a 12-step program, $F(1, 490) = 6.18$, $P = 0.01$, and the number of days using drugs, $F(1, 506) = 6.56$, $P = 0.01$. On average, individuals with high self-deceptive tendencies reported spending 41.11 days (SD = 29.20) in a 12-step program, whereas individuals with low self-deceptive tendencies reported 47.53 days (SD = 28.15). In addition, high self-deceivers reported using drugs 2.59 days (SD =

11.97) on average, compared with 7.05 days (SD = 24.90) for low self-deceivers. However, high versus low self-deceivers did not differ on cumulative days sober, number of days in an OH, number of days consuming alcohol, or race/ethnicity. African Americans reported the highest self-deceptive enhancement scores (M sum score = 83.09, SD = 13.26), followed by the category of "others" (M sum score = 83.03, SD = 15.42), Hispanics/Latinos (M sum score = 82.06, SD = 10.10), and finally European Americans (M sum score = 79.83, SD = 12.54).

DISCUSSION

Researchers frequently conceptualize drug and alcohol addictions as disorders of denial, dishonesty, and self-delusion,[9-11] and believe effective treatment should confront these deceptive tendencies.[15-18] Twelve-step program usage along with mutual-support residence (found in OH) may present options for substance abuse recovery that decrease self-deception. The present study examined how involvement in these nonprofessional recovery processes predicted self-deception from drugs and alcohol.

Results from the present study demonstrated that days attending 12-step meetings was a significant predictor of less self-deceptive enhancement, and that high self-deceivers attended significantly fewer 12-step meetings than low self-deceivers. However, contrary to predictions, days spent in a mutual-support residence (ie, OH) did not significantly predict less self-deception, and low versus high self-deceivers did not differ on OH residency. In addition, the combination of the 2 mutual help programs did not have an additional effect on decreasing self-deception perceptions. As it is believed that 12-step attendance and OH residency are less sensitive and stigmatized constructs, we do not believe that participants were prone to misrepresent (ie, exaggerate) these variables. It is certainly possible that individuals who attended more 12-step meetings simply differed on self-deception, and that 12-step attendance did not actually lead to decreases in self-deception. However, we suggest that 12-step groups placed more emphasis on facing reality through self-identification with the disease and making amends to others, thereby creating a stronger association with self-deception. OH residence, in contrast, forces individuals to take charge of their life without dictating that members make amends for past transgressions.[28,31,33] On the basis of these findings, it is suggested that substance abusing individuals look to 12-step programs such as AA and NA to reduce denial and a gain a realistic self-view, which are critical steps in recovery from addiction.

Race/ethnicity also significantly predicted self-deception scores over time. Although not significant, African Americans had the highest self-deceptive enhancement scores, followed by others, Hispanics/Latinos, and last, European Americans. Cultural differences between groups may provide one feasible explanation for the outcomes obtained in the present study. Wing[48] argued that what might be viewed as alcoholic denial within a subculture may actually serve to sustain congruence between an addict and his or her culture. Lalwani et al[35] suggested that people from more collectivist cultures engage in self-deception to maintain positive relationships with others, whereas individuals from culture that promote individualistic aspect seek self-honesty. Furthermore, self-deception may be critical to African Americans' ability to develop a healthy and pluralistic self-concept in US society,[49] which could help explain why African Americans had higher self-deception scores than the other groups in the present study. However, few studies have examined the self-deceptive enhancement subscale of the *BIDR* with non-European American groups, and the relationship between race/ethnicity and self-deception is an area that merits further exploration.

Regarding substance abuse variables, our prediction that past 90-day alcohol and drug use would predict lower self-deception scores was not supported. However, high self-deceivers did report using drugs (but not alcohol) on significantly more days than low self-deceivers. This suggests to us that participants with self-deceptive tendencies minimized reports of drug use, which is consistent with the previous finding that socially desirable response bias negatively related to self-reports of substance use, indicating underreporting of symptomology.[3-5] It is likely that the 2 self-deception groups differed on drug but not alcohol use because self-reported drug use, which is highly sensitive and stigmatized, is more susceptible to social desirability than reports of alcohol use.

Additionally, past research showed that self-deception may decrease as a part of substance abuse recovery.[20-22] In the present study, it was expected that length of cumulative abstinence would be a significant predictor of decreased self-deception. However, these significant results were not obtained in the present study. It is possible that the present study differed from previous investigations in terms of sampling of participants. Participants from previous studies included traditional treatment samples whereas participants in the present study were residents of a self-run communal living setting. Perhaps, the course of recovery and self-discovery may be different for adults involved in different treatment modalities. Future research might examine changes in self-deception over time adults residing in communal recovery settings versus traditional in/out-patient facilities.

Limitations and Future Directions

Of course, there were several limitations in the present study. For example, some selection bias might have occurred, and the low rates of current alcohol and drug use by participants may indicate that only the more successful or motivated OH residents participated and completed the necessary measures. It is also possible that because all participants were existing OH residents, these individuals might be in a later stage of recovery, thereby reducing and variation within substance use. Perhaps, future research assessing self-deception should consider a sample with more variability with regard to substance use and stages of recovery.

Additionally, the present study might be limited by the utilization of Paulhus'[7] *BIDR* measure. The present study examined only the self-deceptive enhancement subscale of the measure, and it is suggested that both subscales be used in future research to examine what leads to decreased self-deception and impression management tendencies. We also chose to score the *BIDR* subscale in a continuous manner, although other scoring methods have been used in past studies.[47] There is little research comparing different scoring methods of this measure, and it is suggested that future researchers continue to examine these options to achieve maximum reliability. Nevertheless, the present study indicated that continuous scores of the *BIDR* over time demonstrated a relationship with 12-step participation and race/ethnicity. Thus, mutual-support treatment options (such as AA or NA) seem to produce positive impacts in decreasing self-deceptions for persons in recovery.

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TABLE 1

Summary of Stepwise Regression Analysis for Variables Predicting Self-deceptive Enhancement

Variable	B	SE B	B
Model 1			
Days spent in 12-step program	−0.07	0.02	−0.15*
Model 2			
Days spent in 12-step program	−0.07	0.02	−0.16*
Race/ethnicity	1.76	0.72	0.11†

n = 478.

R^2 = 0.02 for model 1; change in R^2 = 0.01 for model 2 (P = 0.01).

*P<0.01.

†P<0.05.