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Accounting for Self-Selected Drinking Goals in the Assessment of Treatment Outcome

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Abstract

Many treatment outcome studies are abstinence-based and rely on achieved abstinence as an indicator of success, making the implicit assumption that participants have an abstinence goal. However, it is often the case that participants self-select controlled drinking goals, even in the context of an abstinence-based treatment. The current study explored the use of an outcome variable, percent weeks meeting goal (PWMG), which takes into account individual goal choice at baseline. The sample consisted of 57 women who participated in a cognitive-behavioral therapy treatment for alcohol dependence and were followed for 18 months after baseline. Twenty-two (39%) women self-selected controlled drinking goals, and 35 (61%) self-selected an abstinence goal at baseline. A repeated measures analysis of variance with PWMG as the dependent variable revealed that both goal groups were equally successful in meeting their goals during the 6-month treatment period. After treatment, participants with a goal of abstinence had more PWMG than did participants with a self-selected controlled drinking goal, but the difference was significant at a trend level. The two goal groups did not differ in outcome when the authors compared them using more traditional measures of outcome, percent days abstinent and percent heavy drinking days.

Keywords

controlled drinking; alcohol; treatment outcome; drinking goal; goal choice

In most research articles on treatments for alcohol use disorders (AUDs), outcome is reported as the percentage of abstinence days achieved by participants. In addition, most treatment programs for AUDs explicitly state abstinence as the sole goal of treatment, encouraging drinkers to develop skills to abstain from drinking. However, even when abstinence is encouraged, many clients self-select controlled drinking goals (Hall, Havassy, & Wasserman, 1990). Participants for the current study were drawn from a clinical trial for women with AUDs that was explicitly abstinence-based. Yet more than one third of the women stated they had controlled drinking goals on an intake self-report measure, consistent with past studies showing that when participants were given a choice of drinking goal, 32% to 44% of them selected a controlled drinking goal (Booth, Dale, & Ansari, 1984; Hodgins, Leigh, Milne, & Gerrish, 1997).

Participants in clinical trials who select drinking goals other than abstinence may be working toward their self-selected drinking goals even after agreeing overtly to an abstinence goal. There is evidence to suggest that participants are more likely to work harder to achieve goals they set for themselves, rather than goals that are imposed on them (Hodgins et al., 1997).

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Therefore an outcome measure of abstinence may underestimate true success rates in treatment, at least from the perspective of those who have chosen nonabstinent goals. Thus, an assessment of treatment success that accounts for each individual's self-selected drinking goal may be more informative than the customary approach of defining success as abstinence from drinking.

Few studies have examined the association of goal choice with treatment outcome, especially in the context of abstinence-based treatment, and findings have been inconsistent. In most of these studies, researchers have allowed participants to choose a goal of abstinence or moderation, but then they have reported outcome in terms of traditional outcome measures (i.e., not the participant's self-selected goal; Booth et al., 1984; Booth, Dale, Slade, & Dewey, 1992; Orford & Keddle, 1986). They found no differences in outcome between participants who chose a goal of abstinence and those who chose a goal of moderation.

In only one study did researchers report outcomes with success defined by the participants' self-selected drinking goals (Hodgins et al., 1997). Participants were allowed to choose their drinking goals. Nearly half (44%) of the 106 participants chose a goal of controlled drinking, meeting their goals only 34% of weeks compared to 90% of weeks for those who chose a goal of abstinence. In terms of traditional outcome measures, participants with a goal of controlled drinking had significantly more drinks per drinking day and a greater number of intoxicated days, and they exceeded the recommended limits of moderated drinking more quickly than did individuals who selected a goal of abstinence.

In the current study, we examined several questions. First, we examined whether there was a significant difference in outcome when results were reported in terms of self-selected goals rather than achieved abstinence. We predicted that when outcome was defined in terms of percentage of time self-selected drinking goals were achieved, treatment would be deemed more efficacious than when outcome was defined in terms of percentage of time abstinence was achieved. Second, we examined whether individuals who selected an abstinence goal at baseline were more successful at meeting their goals during and after treatment than individuals who self-selected controlled drinking goals at baseline. We predicted that abstinent participants would be more successful than controlled drinkers. Third, we examined whether individuals with abstinence versus controlled drinking goals had different outcomes on the traditional outcome measures of the percentage of days abstinent (PDA) and percentage of heavy drinking days (PDH) over time. We predicted that the goal groups would not differ in these terms.

Method

Participants

Study data were drawn from participants in a randomized clinical trial of an abstinence-based cognitive-behavioral treatment for women with alcohol dependence that compared the efficacy of individual and couples cognitive-behavioral therapy (McCrary, Epstein, Cook, & Jensen, 2008). Inclusion criteria and study details are discussed elsewhere (see McCrary et al., 2008).

Procedure

For the current analysis, individuals were included if they reported a valid drinking goal at baseline and if they had sufficient drinking data (see Table 1). Participants could be missing data because of prolonged periods of hospitalization (3 participants). The current study included only those participants for whom daily drinking estimates were available for two thirds or more of days in each 3-month follow-up period. Included participants did not differ

from those excluded on baseline drinking variables or demographic variables. This exclusion criterion reduced the sample to 57 women; 35 women selected abstinence goals, and 22 selected controlled drinking goals. Participants were predominantly White (94.8%; the remaining 3 participants were Black) and had a mean age of 46.1 years ($SD = 9.7$). Participants reported a mean of 15 years of education ($SD = 2.7$), and approximately 88% were married. During the 3 months prior to the baseline interview, participants reported drinking on an average of 67.1% ($SD = 30.0$) of the days, consuming an average of 8 drinks per drinking day ($SD = 4.8$). Of the 90 days prior to baseline, 54.9% ($SD = 31.6$) of the days were classified as heavy drinking days (more than three drinks per day).

Participants with a self-selected abstinence goal and those with a self-selected controlled drinking goal did not differ significantly in age or pretreatment PDA and PDH. Individuals with abstinence goals reported more drinks per drinking day ($M = 8.74$, $SD = 4.66$) than did those with a self-selected goal of controlled drinking ($M = 6.29$, $SD = 2.51$), $t(55) = 2.33$, $p = .02$. All subsequent analyses comparing the two goal groups controlled for baseline drinks per drinking day. Participants with an abstinence goal also were more likely to have reported receiving treatment for alcohol problems over their lifetime (40.6%) than individuals with a controlled drinking goal (12%), $\chi^2(1, N = 57) = 5.70$, $p = .02$. The two groups did not differ in terms of treatment condition.

The Drinking Goals questionnaire used to obtain baseline drinking scores was adapted from Hall, Havassy, and Wasserman (1991). It offers seven goal choices. For the purpose of the current analyses, baseline goals were dichotomized into abstinence goals ($n = 35$) and controlled drinking goals ($n = 22$). A goal of abstinence was indicated by a choice of either of the following statements: "I have decided to quit drinking once and for all, be totally abstinent, and never drink alcohol again for the rest of my life," or, "I have decided to quit drinking once and for all, even though I realize I may slip up and drink once in a while." A goal of controlled drinking was indicated by a self-selected goal of some drinking, entered as a maximum number of drinks per time period. A controlled drinking goal also could be indicated by the following choice: "I have decided to stop drinking regularly but would like to have an occasional drink when I really have the urge." The remaining choices, for example, "none of this applies to me," could not be quantified and were thus excluded from the analyses. Only one participant with a controlled drinking goal (three drinks per day) exceeded the recommended governmental guidelines for low-risk drinking (National Institute on Alcohol Abuse and Alcoholism, 2007). The Timeline Follow Back (Sobell & Sobell, 1996) was used to obtain daily drinking data covering the last 90 days. It was administered at baseline and once every 3 months thereafter, for a total of six administrations over 18 months.

Analysis

The primary dependent variables were the percentage of weeks that the participant met their personally stated goal (percent weeks meeting goal; PWMG)¹ and the percentage of weeks that the participant was abstinent (percent weeks abstinent; PWA). To determine the percentage of weeks that the individual met these goals, we counted a week as a "failure" if the goal was not met at any point in that week. Individuals with controlled drinking goals could state their goal per day or per week; for individuals who stated a goal in terms of not exceeding a number of drinks per day, the week was counted as a failure if they did not meet their goal on any day during that week. For individuals with a goal of controlled drinking who selected the option of "I have decided to stop drinking regularly but would like to have

¹Distributions for PWMG, PWA, PDA, and PDH were significantly skewed and remained so after transformation attempts were made.

an occasional drink when I really have the urge,” the week was counted as a failure if they drank more than one drink that week.

We chose to define success in terms of weeks and not days for two reasons. First, our definition of occasional drinking, obtained from the Department of Health and Human Services (2005), was preframed as one drink per week. Second, most participants who chose a goal of controlled drinking specified a desire to drink a certain number of drinks per week, making the week the most common self-selected metric. Two participants specified a certain number of drinks per day, which we multiplied by seven to obtain a number of drinks per week (e.g., a goal of no more than one drink per day was translated into a goal of no more than seven drinks per week). One participant had a goal of 5.5 drinks per month, which we divided by four to obtain a weekly goal of no more than 1.38 drinks per week. We recognize that the method we chose is not exact, but we desired to have a similar denominator across participants.

In addition, we sought to explore goal group differences using the traditional outcome measures of PDA and PDH, defining *heavy drinking* as more than three drinks on a drinking day (McCrary et al., 2008). We predicted that the controlled drinking goal group would demonstrate larger decreases in PDA and increases in PDH over time, suggesting that controlled drinking is more difficult to maintain than abstinence.

For all analyses, the data were separated into two time periods, within treatment and posttreatment, to differentiate the period of active change from the posttreatment maintenance period. The first 6 months of data were treated as within treatment because participants could be in treatment for 6 months, and the data were divided into two 3-month blocks to test for time-related trends. Data from Months 6 to 18 were treated as posttreatment data and were divided into four 3-month blocks to test for time-related trends. Analyses were run for both time frames and are reported separately below.

Results

To determine whether reporting outcomes as PWMG resulted in higher frequencies of “successful” cases than reporting outcomes as PWA, we ran paired samples *t* tests to determine whether PWMG and PWA differed significantly. Within treatment, results revealed that success in terms of PWMG ($M = 64.19$, $SD = 36.11$) was significantly greater than success in terms of PWA ($M = 61.42$, $SD = 36.42$), $t(56) = 2.39$, $p = .02$. During follow-up, PWMG ($M = 57.95$, $SD = 38.06$) and PWA ($M = 55.88$, $SD = 38.19$) did not differ significantly.

To determine whether individuals with a controlled drinking goal as well as individuals with an abstinence goal could sustain success, we conducted a repeated-measures analysis of variance (ANOVA) with baseline goal choice (controlled drinking or abstinence) and follow-up wave (time) as independent variables and PWMG as the dependent variable (see Table 2 and Figure 1). The first repeated-measures ANOVA, examining the within-treatment period, found no significant main or interaction effects for time or goal choice. The second repeated-measures ANOVA examined the posttreatment period, revealing a between-subjects main effect for goal choice significant at a trend level, $F(1, 55) = 3.64$, $p = .06$, such that individuals who chose a goal of abstinence demonstrated greater PWMG than did those who chose a goal of controlled drinking. The within-subjects variable of time was also significant at a trend level, $F(3, 54) = 2.49$, $p = .07$, such that PWMG declined over the posttreatment period across the sample. Pairwise comparisons between consecutive time points revealed a significant decrease in PWMG between 6 and 9 months from baseline ($p = .03$; see Figure 2). The interaction between time and goal choice was not significant.

To determine whether individuals who chose a goal of abstinence had better drinking outcomes during and after treatment when we defined *success* using traditional drinking outcome measures (see Table 2 and Figure 2), we conducted four repeated-measures ANOVAs using two dependent variables: PDA and PDH. Two separate repeated-measures ANOVAs were run for each of the two dependent variables, one for the within-treatment period and the other for the posttreatment follow-up period. Baseline goal choice and follow-up wave were the independent variables. There were no significant main or interaction effects for either PDA or PDH, either during treatment or posttreatment.

Discussion

In the present study we compared two ways of defining success in treatment for alcohol dependence by examining whether participants with a treatment goal of controlled drinking were more likely to meet their goal than remain abstinent. In addition, the study examined whether individuals who desired moderated drinking were able to maintain this goal, as well as individuals who desired complete abstinence. Although the treatment protocol was abstinence-based, and all participants agreed overtly to a goal of abstinence to participate in the study, almost half of participants indicated a preference for a controlled drinking goal. Given that most treatments for alcohol dependence focus on helping the client achieve abstinence and that most of these studies report outcome in terms of achieved abstinence, the fact that many individuals chose controlled drinking goals has substantial implications for treatment planning. We found that regardless of their baseline goal, participants were more successful in meeting their self-selected goals than in maintaining abstinence, but only during treatment. The percentage of positive outcomes during treatment appears lower if success is defined only in terms of achieved abstinence. Therefore, for more accurate outcome reports it may be necessary to calculate success using participants' self-selected goals at baseline.

Although participants with a controlled drinking goal were more likely to meet their stated drinking goal than maintain abstinence, our findings also suggest that after the completion of treatment, individuals with a goal of controlled drinking may have more difficulty maintaining success even in their self-selected goal than do individuals with an abstinence goal. These findings suggest that abstinence may be easier to sustain after treatment is completed than controlled drinking. However, the differential success at meeting self-selected goals may be the result of the current treatment focus being on strategies to maintain abstinence rather than moderated drinking. Furthermore, as with most alcohol treatment-outcome studies, neither goal choice group was immune to declines in outcome as time progressed.

We also analyzed our data in terms of more traditional outcome measures for AUD treatment studies, such as PDA and PDH. We found that for both measures during the treatment period, individuals with a goal of abstinence had similar outcomes to those with a goal of controlled drinking. In addition, there were no differences between the two goal choice groups in the posttreatment period in terms of PDA and PDH. This is consistent with past research suggesting that individuals with controlled drinking goals and individuals with abstinence goals do not differ on heavy drinking days throughout follow-up (Ojehagen & Berglund, 1989). These results differed from those obtained when treatment success was determined by the percentage of weeks that participants met their self-selected goal, whereby participants with a goal of abstinence demonstrated better drinking outcomes than did participants with controlled drinking goals in the posttreatment period. The two methods for reporting treatment success result in different outcomes. Clearly, an awareness by researchers and treatment providers of the discrepancy between participants' self-selected

goals and the goals of treatment is critical given the potential impact on drinking-outcome reports and the apparent efficacy of treatments.

There are some limitations to the current study. The operationalization of occasional drinking as no more than one drink per week is open to debate. We were unable to find a clear consensus in published research for what occasional drinking might be. A decision was made to operationalize occasional drinking as suggested by a Department of Health and Human Services (2005) publication, but the operationalization may not reflect participants' implicit definition of occasional drinking.

For the current analyses, baseline goal selections were used. However, it is possible that some participants changed their goals during the treatment and follow-up period. Prior research on goal choice variation is mixed. Some research has suggested that many participants first experiment with moderation and then move toward a goal of abstinence (Hodgins et al., 1997; King & Tucker, 2000). Other research has suggested that many participants who initially select abstinence goals move toward controlled drinking over follow-up (Ojehagen & Berglund, 1989). Even if participants do change their goals, the reasons for this change are unknown— do they change their goals to be more abstinence-oriented after failures with controlled drinking, or do they change to controlled drinking goals because they learn that they dislike abstinence? Analysis of outcomes using baseline goals, however, is useful to do for the purpose of treatment planning. Our findings suggest that clients entering treatment with a goal that deviates from the treatment goal are not likely to find success according to their own definition.

Finally, a relatively high number of participants were excluded from the analyses. Exclusion was due mostly to the necessity of having complete and specific data for participants throughout follow-up. However, in the current sample, those excluded did not differ from those included in terms of any of the baseline drinking variables of drinking frequency and intensity or any of the demographic variables.

The current study used a novel measure of drinking outcome (percent weeks meeting goal; PWMG) that accounts for self-selection of drinking goals, regardless of the treatment goal. The measure revealed that participants were more likely to meet their self-selected goals than the ostensible abstinence goal while in treatment. Also, relative to more traditional measures that equate abstinence with success and assume that all participants share the same goal of abstinence, PWMG demonstrated a trend divergence in outcome over time between participants with an abstinence goal and participants with a self-selected controlled drinking goal. The more traditional measures of outcome, PDA and PDH, indicated a decline in performance over time for both goal groups but did not reveal a difference in outcome between the two goal groups. The current analyses encourage the use of idiographic measures in research that account for individual choice (Doss, 2004). Such research possesses greater ecological validity and, in the case of the current measure, provides insight into the true efficacy of treatment.

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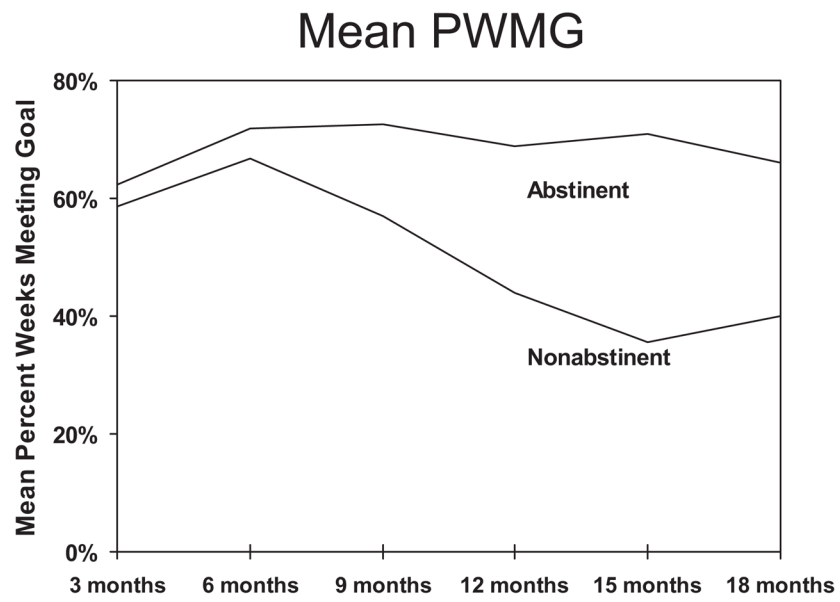


Figure 1.
Mean percent weeks meeting goal over the 18 months of follow-up.

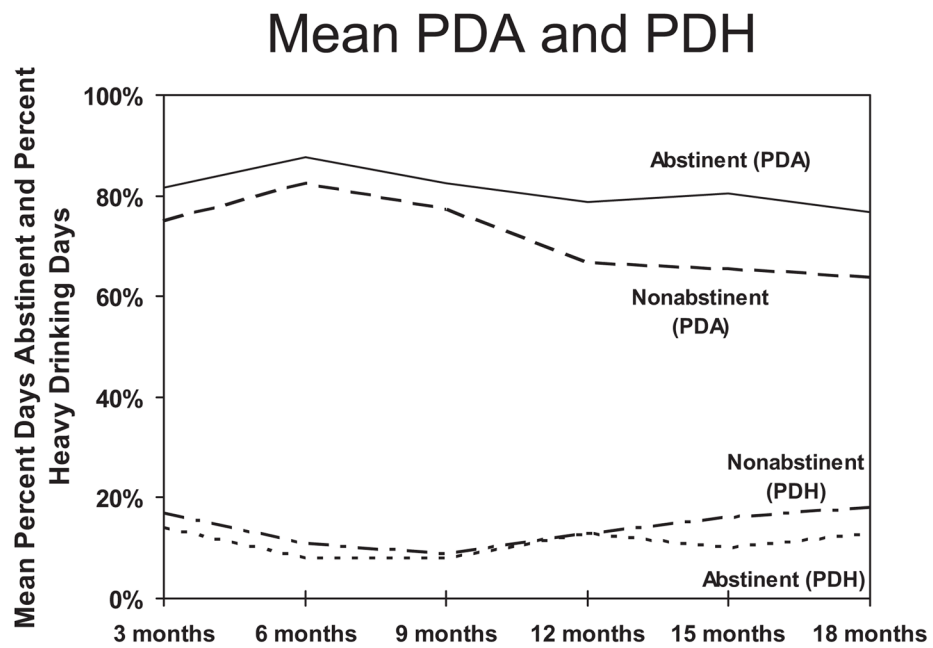


Figure 2. Mean percent days abstinent (PDA) and mean percent heavy drinking days (PDH) over the 18 months of follow-up.

Table 1

Participant Exclusion Criteria

Participant category	Frequency
Entered treatment	102
Missing baseline drinking data	2
Unusable drinking goals ^a	22
Insufficient drinking outcome data	21
Final sample	57

^aGoals not stated clearly, questionnaire was filled in incorrectly, or response of “none of this applies to me.”

Table 2

Repeated Measures Analysis of Variance Results

Variable	<i>df</i>	<i>F</i>	η^2
PWMG			
Within treatment			
Goal	1	0.14	.00
Time	1	1.83	.03
Interaction	55	0.10	.00
Posttreatment			
Goal	1	3.64*	.06
Time	3	2.49*	.13
Interaction	53	1.56	.08
PDA			
Within treatment			
Goal	1	0.47	.01
Time	1	0.90	.02
Interaction	55	0.25	.01
Posttreatment			
Goal	1	0.42	.01
Time	3	1.63	.09
Interaction	53	0.52	.03
PDH			
Within treatment			
Goal	1	0.29	.01
Time	1	0.14	.02
Interaction	55	0.00	.00
Posttreatment			
Goal	1	0.07	.00
Time	3	1.50	.08
Interaction	53	0.44	.03

PWMG = percent weeks meeting goal; PDA = mean percent days abstinent; PDH = mean percent heavy drinking days.

* $p < .10$.