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Pre-Treatment Assessment-Related Reductions in Drinking Among Women with Alcohol Use Disorders

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Abstract

Background—Preliminary studies (e.g., Epstein et al., 2005) have suggested that patients entering research trials for alcohol use disorders (AUDs) may show substantial reductions in drinking prior to beginning treatment.

Objectives—Determine whether significant pre-treatment reductions in drinking are present in a sample of alcohol-dependent women entering a psychotherapy trial for AUDs, and whether such pre-treatment drinking reductions predict lower levels of drinking during and post-treatment.

Method—The study included 136 women with DSM-IV alcohol dependence who participated in a trial of individual or couples-based cognitive behavioral therapy for AUDs. Repeated-measures ANOVAs were used to examine changes in drinking across the pre-treatment assessment period, and hierarchical multiple regression was used to test whether pre-treatment reductions in drinking predicted continued reduced drinking during treatment and follow-up at 12 months post-treatment.

Results—Patients had significant reductions in drinking quantity and frequency throughout the pre-treatment period, with one third of the sample becoming abstinent prior to treatment. Controlling for baseline quantity and frequency of drinking, reductions in pre-treatment drinking were predictive of reduced frequency of drinking within- and post-treatment, and lower quantity of drinking per drinking occasion in the within-treatment period but not the post-treatment period. Motivational level and treatment arm did not predict the level of change in drinking across the pre-treatment period.

Conclusions—The overall reductions in drinking are consistent with previous findings suggesting that female participants in AUD treatment trials can show a substantial amount of reduction in drinking during the pre-treatment assessment phase, before therapy skills are imparted.

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Keywords

alcohol; assessment reactivity; assessment; substance use; alcohol dependence; treatment

Some preliminary studies have suggested that individuals with alcohol use disorders (AUDs) may reduce their drinking during or after completing assessment procedures such as self-monitoring (Kypri et al., 2007), phone-based monitoring (Helzer et al., 2002), paper-and-pencil questionnaires (McCambridge & Day, 2008) and mixed batteries of questionnaires and interviews (Epstein et al., 2005). This phenomenon, which has been labeled assessment reactivity (AR), is consistent with research findings on brief interventions, in which individuals with AUDs have shown significant reductions in drinking behavior after minimal contact with a care provider (Bien et al., 1993).

Regardless of why AR may occur, if AR is common there are substantial implications for research generalizability. First, if strong AR effects exist, the generalizability of results of clinical trials may be reduced, as treatment outcomes may be in part attributable to assessment procedures rather than the treatment interventions. Patients seen in community practice are typically not administered pre-treatment assessment batteries that are as lengthy and detailed as those in clinical trials. Second, the potential differential impact of competing treatments could be obscured because there may be limited room for differences to emerge above and beyond drinking reductions that occurred during the pre-treatment assessment. For example, Project MATCH (Matching Alcoholism Treatments to Client Heterogeneity; Project MATCH Research Group, 1998) found no differences among study treatments on drinking outcomes; however, all participants had completed a lengthy (approximately eight-hour) assessment battery before treatment commenced. It is possible that the assessment served as an intervention unintentionally administered to all participants (Clifford & Maisto, 1999). Third, if many patients reduce drinking during the pre-treatment assessment period, this period may not reflect an accurate “baseline” for that participant; research studies often use the pre-treatment period as a baseline time frame to compare with within- and post-treatment outcomes. In addition, variations across studies in the pre-treatment time window selected to use as a comparison point (for comparison with post-treatment outcomes) could greatly influence outcomes.

Despite the likelihood of these pre-treatment reductions in drinking, only two studies thus far have examined the presence of this effect. Therefore, more studies are needed to verify the presence of pre-treatment reactivity. Results of both of these studies suggested that there was substantial reduction in drinking prior to the commencement of formal therapy. First, Epstein et al. (2005) used data from 102 women who participated in a clinical trial of individual and conjoint cognitive behavioral therapy (CBT) therapy for AUDs. Epstein et al. (2005) examined changes in drinking between each pre-treatment contact point, including the telephone screen (initial contact), a clinical screen assessment, a baseline assessment, and the first treatment session. Epstein et al. (2005) found that across the entire assessment period participants showed a significant decrease in both quantity and frequency of drinking, with a significant increase in abstinence rates occurring between the telephone screen and the subsequent in-person clinical screen. Furthermore, reductions in percent drinking days

during the entire pre-treatment assessment period were predictive of continued positive outcome in treatment and follow-up (a total of 18 months post-baseline). In the second study, Kaminer et al. (2008) examined 177 adolescents with AUDs entering group CBT for a substance use disorder (SUD). Similar to the findings of Epstein et al. (2005), Kaminer et al. found that 51.4% of the adolescents became abstinent during the pre-treatment period, after completion of an intake assessment but before entry into treatment.

Hypothesizing that assessments have therapeutic impact, several other researchers have examined the impact of brief assessment as a stand-alone intervention for AUDs. For example, McCambridge and Day (2008) found that university students who completed the Alcohol Use Disorders Identification Test (AUDIT; Bohn et al., 1995), a brief self-report questionnaire, had lower scores on the measure at follow-up (two to three months post-assessment) compared with a condition receiving the AUDIT at the follow-up only. Kypri et al. (2007) examined 975 students who were randomized either to a condition receiving an informational leaflet and 10 minutes of web-based assessment, or to a condition receiving the informational leaflet alone. The participants receiving the leaflet plus the web-based assessment had lower levels of alcohol use quantity and frequency, and fewer alcohol-related problems at 12-month follow-up. Walters et al. (2009) randomized 147 university students to either an immediate assessment condition, in which a set of alcohol questionnaires was completed every three months for a year, or a delayed assessment condition, in which the self-report measures were completed only at 12 months. Walters et al. found that participants in the immediate assessment condition reduced past-month peak blood alcohol level and alcohol-related consequences (but not frequency of drinking). Taken together, these results suggest that assessment procedures alone may influence drinking behavior.

Understanding the degree to which reactivity to assessments is present, how it may occur, and to what extent it may impact research outcome reports may elucidate not only what variables are associated with reactivity, but also variables that propel recovery from SUDs in general. The aim of the current study was to attempt to replicate our prior findings on pre-treatment AR (Epstein et al., 2005) with a separate sample of women presenting to outpatient AUD treatment, and to examine whether pre-treatment reactivity was predictive of treatment outcome. Based on the findings of Epstein et al. (2005), it was predicted that approximately one half of the participants would show pre-treatment assessment reactivity, as evidenced by reported reductions in drinking quantity and frequency during the pre-treatment assessment period. It was expected that pre-treatment reductions in drinking would be associated with maintenance of abstinence throughout treatment and follow-up.

Method

Participants

Data were analyzed from a sample of 168 women who took part in the Women's Treatment Project II, a clinical research study examining cognitive-behavioral treatment for women with alcohol use disorders. After 10 participants dropped from the study during the pre-treatment assessment period, the remaining 158 women were randomized to either 12 weekly sessions of alcohol behavioral couple therapy (ABCT, $n = 31$), or "blended ABCT" - 6

sessions of ABCT integrated with 6 sessions of alcohol behavioral individual therapy ($n = 28$), in the couple arm, and to standard alcohol behavioral individual therapy (ABIT, $n = 55$), or female-specific ABIT ($n = 44$), in the individual arm. Participants were recruited by advertisements in local newspapers, and given a choice at the telephone screen of entering either the couple or the individual treatment arm. Inclusion criteria were: diagnosis of either alcohol abuse or dependence according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 2000), alcohol consumption in the 60 days prior to the initial telephone screen, married to or in a committed relationship with a male partner, and at least 18 years of age. Exclusion criteria for both study arms included: physiological dependence on a non-alcohol substance other than nicotine or caffeine, psychotic symptoms in the past six months, or gross cognitive impairment. For the couple arm additional exclusion criteria included: psychotic symptoms in the past six months or gross cognitive impairment in the male partner, or severe domestic violence in the 12 months preceding baseline. Gross cognitive impairment was defined as a score of 25 or lower on the MMSE. Cases close to the cutoff were staffed and included only if deemed appropriate for the treatment. Figure 1 shows the flow of participants from the telephone screen to treatment.

Mean age of the women was 47.13 ($SD = 9.21$) years. Seventy-six percent of the women were married, with the remainder in either a committed or cohabiting relationship. Ninety-five percent of the sample was white. The mean windsorized household income was \$99,365.88 ($SD = \$52,775.51$). The women had a mean of 15.09 ($SD = 2.53$) years of education. Sixty-six percent of the women were employed full or part time.

Of the 158 participants who were randomized, 136 had sufficient data throughout the pre-treatment period, that is, they completed at least one treatment session and had timeline follow-back data for the entire pre-treatment period. The current analyses therefore focused on this sample of 136. Included participants did not differ from those who did not have pre-treatment TLFB data on age $t(166) = -.96, p = .34$; household income, $t(163) = -.73, p = .51$; total years of education, $t(166) = -.85, p = .40$; or marital status $\chi^2(4, n = 168) = 9.02, p = .06$.

Measures

Table 1 lists all measures administered at each assessment wave and the estimated length of time for completion of each measure. Measures used in analyses for the current study are described in more detail.

Telephone screen—The participant's first contact with study personnel was a 10–15 minute telephone screen (TS) with a trained masters-level interviewer. The telephone screen was designed to provide information about the program, to assess basic eligibility criteria, and to present the choice of study arm.

Timeline Followback Interview (TLFB; Sobell & Sobell, 1996)—The TLFB allows the researcher to collect retrospective daily drinking information. It uses a calendar to prompt patients to identify patterns in drinking and to provide daily estimates of drinking prior to the assessment point, allowing for an assessment of drinking behavior prior to

contact with the patient. The TLFB has been shown to be accurate for up to 12 months of retrospective data; reported test-retest reliability estimates for outpatients with AUDs completing a 90-day TLFB typically are .85 or greater (Sobell & Sobell, 1992). The TLFB also has been shown to have moderate convergent validity with other self-report metrics of drinking quantity and frequency (Sobell & Sobell, 1992).

Form-90 (Miller, 1996)—The Form-90 is a structured interview designed to measure baseline psychosocial functioning and treatment outcomes. The Form-90 has been shown to have good to excellent reliability and validity.

Structured Clinical Interview for DSM-IV (First et al., 2002a; SCID, First et al., 2002b)—The SCID is a semi-structured clinical interview which was used to assess for current and lifetime diagnoses of alcohol and other substance use disorders, mood, anxiety and eating disorders. It was administered by trained masters- or doctoral-level interviewers.

Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES)—The SOCRATES (Miller & Tonigan, 1997) was used to measure women's readiness to change drinking behaviors. Reliability and validity data on the SOCRATES are strong (Green, Worden, Menges, & McCrady, 2008).

Procedures

At the telephone screen, participants who were potentially eligible and interested were offered an in-person clinical intake (clinical screen) appointment.

Clinical screen—The clinical screen (CS) was a 90- to 120-minute, in-person interview with the participant (in the individual arm) or the couple (in the couple arm). Prior to commencing the CS, clients and partners completed informational consent procedures approved by the university Institutional Review Board. Then, the treatment research program and requirements were described. A hand-held breath analyzer was administered at the start of the CS and all subsequent interviews and treatment sessions, and the session was rescheduled if the participant or her partner registered a blood alcohol concentration of .05% (50mg/dL) or higher. In the CS interview, the clinician queried the client's reasons for seeking treatment, recent consequences of alcohol use, and reviewed any other concerns the patient might have volunteered. The clinician also asked about recent drinking patterns and assessed for level of care. Participants completed paper-and-pencil questionnaires about demographics, domestic violence within the past year, motivation to stop drinking, drinking goal, recent consequences of alcohol use, and emotional distress. Clients also were administered the alcohol and drug sections of the SCID (First et al., 2002). Two additional measures were used if deemed necessary by the clinician: a brief psychotic screen with an optional more in-depth psychotic screen from the SCID (First et al., 2002), and the Mini-Mental State Examination (Folstein et al., 1975). Towards the end of the interview in the couples arm, each partner was seen individually for a brief review of any domestic violence noted over the past year, with the goal of assessing the safety of couple-based therapy. The CS interviews were administered by trained study clinical staff (master's- or doctoral-level clinicians including social workers, counselors, and psychologists). If eligible and interested

in the program, women (without their partners in both arms) were scheduled for a baseline research assessment (BL), ideally for the following week.

Baseline assessment—The baseline assessment (BL) took approximately 3 hours and included the Timeline Follow Back (TLFB; Sobell & Sobell, 1996) and an adapted Form-90 (Miller, 1996) to assess psychosocial functioning such as employment and living situations. The SCID I (First et al., 2002) was administered to assess non-alcohol or drug psychopathology. Participants also completed the Important People and Activities Interview (Clifford & Longabaugh, 1991), a semi-structured interview to assess social support for drinking and abstinence, and a battery of self-report questionnaires (see Table 1) administered on a computer. At the end of the BL, participants were randomly assigned to treatment condition within the chosen arm and were told that their therapist would be contacting them to arrange the first treatment session. All participants were paid \$50 for participation in the BL interview. Clinicians, who were assigned to cases based on mutual availability, usually called the participants within 24 hours to schedule a first treatment session, attempting to schedule it within a week of the BL interview. Phone contact with clinicians was minimal and focused only on scheduling session 1.

Treatment—Treatment consisted of 12 weekly scheduled sessions over 3 months (if participants had to miss weeks of treatment due to illness or holiday, the treatment period was extended up to 4 months) and was conducted by one of several master's- or doctoral-level social workers, counselors, or psychologists on the study team. Clinicians were cross-trained to administer all four treatment conditions to prevent therapist bias, and followed detailed session-by-session manuals written by two of the authors (Epstein & McCrady, 2009a,b; Epstein & McCrady, 2004; McCrady & Epstein, 2009a,b; McCrady & Epstein, 2004). The mean number of treatment sessions attended was 7.84 ($SD = 4.42$) for alcohol behavioral couples therapy (ABCT), 9.50 ($SD = 3.69$) for Blended ABCT, 8.91 ($SD = 4.12$) for female-specific alcohol behavioral individual therapy (ABIT), and 8.85 ($SD = 4.21$) for the non-female-specific ABIT. Treatment conditions did not differ significantly in the number of treatment sessions attended.

Follow-up—The follow-up interview was a shorter version of the baseline assessment battery, adapted to delete lifetime items and to assess for each follow-up wave. Participants were contacted at the end of treatment (3 months post-baseline), and at 9 and 15 months post-baseline for in-person follow-up research interviews. For the sample of 168 women who were randomized to treatment, follow-up participation ranged from 91.78% for the 3-month to 80.38% for the 15-month interview. Participants who completed the 15-month follow-up did not differ from those who did not in terms of percent drinking days at baseline, $t(166) = -.92, p = .36$; mean drinks per drinking day at baseline, $t(166) = 1.58, p = .12$; age $t(166) = -1.17, p = .29$; income $t(164) = -.78, p = .44$; total years of education, $t(166) = .80, p = .42$; or marital status, $\chi^2(2, n = 168) = 3.90, p = .14$.

Data analysis—Pre-treatment daily drinking data were broken up into four segments based on pre-treatment assessments: T1, the time period before the telephone screen was completed (the baseline assessment queried about daily drinking in the 90 days prior to the

last drink before baseline) (mean number days 69.4, $SD = 17$); T2, the time period from completion of the telephone screen to the day before the clinical screen (mean days 10.5, $SD = 11.06$); T3, the period between the clinical screen day and the day before the baseline assessment (mean days 10.1, $SD = 12.1$), and T4, the period from the baseline assessment to the day before the first treatment session (mean days 10.3, $SD = 7.5$). Dependent variables, including percent drinking days (PDD) and mean drinks per drinking day (MDD), were calculated for each time period. To examine changes in frequency of drinking between each pretreatment assessment point, two-way mixed ANOVAs were conducted, crossing time by treatment arm (couples versus individual). Treatment arm was included to control for arm choice, and also for the possibility that reactivity effects may have differed depending on whether one's spouse or partner was present at the assessment. Pair-wise comparisons were made for consecutive time periods and a family-wise Bonferroni adjustment was made to protect against the possibility of Type I error. To examine whether pretreatment assessment reactivity was predictive of drinking reductions in treatment and throughout follow-up, hierarchical multiple regression was used, regressing both within-treatment and post-treatment PDD and MDD on difference scores between each pre-treatment time period (i.e., T1 minus T2, T2 minus T3, T3 minus T4). Figure 2 illustrates the progression through the pre-treatment assessment waves.

Results

Pre-Treatment Change in Drinking

During T1 (days prior to telephone screen contact with study personnel), participants drank on an average of 51.9 (74.8%) days, and mean drinks per drinking day was 6.4 ($SD = 3.6$).

Due to the women's having to have drunk alcohol in the past 60 days in order to be included in the study, 0% of the sample was abstinent during T1 (prior to the telephone screen). Results of a repeated-measures ANOVA examining change in PDD across the pre-treatment period indicated a main effect of time such that women significantly decreased PDD across the entire (T1 through T4) pretreatment period, omnibus $F(3, 133) = 25.9, p < .001$. There was not a main effect for treatment arm $F(1, 134) = 1.0, p = .32$, nor was there an interaction between treatment condition and assessment time point $F(3, 134) = .47, p = .70$. Partial eta squared was .20, suggesting a large effect size (Cohen, 1988). Post hoc testing via paired samples t-tests with Bonferroni corrections revealed significant reductions in PDD between all consecutive time periods, $p < .001$. Figure 3 shows the reduction in PDD over the pretreatment period, collapsed across treatment arms. The entire change in PDD across the pre-treatment period, as computed by subtracting the pre-treatment PDD from the post-treatment PDD, did not vary by treatment arm (i.e., couples condition or individual condition), $t(134) = .59, p = .56$; or by any of the SOCRATES subscale scores (all $ps > .13$).

Examining the dependent variable of MDD, there was a significant reduction over time in MDD from T1 through T4, omnibus $F(3, 133) = 25.08, p < .001$. Like the dependent variable of PDD, there was not a significant main effect of treatment arm on MDD, $F(1, 134) = .06, p = .80$. Post-hoc t-tests using Bonferroni corrections revealed significant reductions in MDD between all consecutive pre-treatment time points except between assessment periods T2 (clinical screen) and T3 (baseline assessment). Figure 4 illustrates the change in

MDD across the pre-treatment assessment period collapsed across treatment condition. Thirty-three (33%) of the women became abstinent (ceasing drinking for at least one week and not resuming drinking prior to the end of the pre-treatment period) before starting session 1 of treatment. Eighteen of those women (41%) were able to sustain complete abstinence throughout the first month of treatment. The remaining 35 (85.4%) were able to sustain drinking on less than 80% of days throughout at least the first month of treatment. Similar to the PDD dependent variable, total change in MDD across the entire pre-treatment period was not predicted by treatment arm or any of the SOCRATES subscale scores, all $ps > .16$.

Relationship between Pretreatment Changes in Drinking and Treatment Outcomes

Hierarchical multiple regression was used to determine whether pre-treatment reactivity was predictive of reduced drinking levels both within treatment and throughout follow-up, and whether change during specific assessment windows were related to this effect. Change scores for each pre-treatment time period were calculated by subtracting PDD and MDD at the later time point from the earlier time point. Both within-treatment and post-treatment PDD and MDD were regressed on the difference scores between each pre-treatment time period. Regression assumptions were checked before analyses. Tolerance was high ($> .77$ for all variables), suggestive of lack of multicollinearity. There were no outliers in the data.

Pre-telephone screen PDD was entered as an initial step in order to control for varying baseline levels of drinking. Pre-telephone screen PDD was a significant predictor of within-treatment PDD, explaining 10.7% of the variance in within-treatment PDD. PDD pre-treatment change scores (i.e., T1 to T2, T2 to T3, T3 to T4) were entered as a second step, along with treatment condition (binary dummy coded as 0 = couples or 1 = individual). Condition was included to examine whether reactivity effects differed as a function of having one's partner/spouse involved in the pre-treatment assessment.

As shown in Table 2, after controlling for baseline PDD and treatment condition, pre-treatment changes in PDD predicted both within-treatment [R^2 change = .11, F change (5, 130), = 75.2] and post-treatment PDD [R^2 change = .22, F change (5, 111) = 10.07]. All change scores had significant betas ($p < .001$) in predicting both within-treatment and post-treatment PDD. Standardized betas were negative, indicating that larger PDD reductions between all pre-treatment assessment periods were predictive of low PDD both during and after treatment. Treatment condition did not add significant predictive value to the model suggesting that the participation of a spouse in pre-treatment assessments did not influence the relationship between pretreatment changes in PDD and within treatment PDD (beta = .01, $p = .64$), or post-treatment PDD (beta = .02, $p = .85$).

Results from similar analyses using MDD as the dependent variable are shown in Table 3. Tolerance was high ($> .58$ for all variables), suggestive of lack of multicollinearity. Pre-telephone screen MDD was predictive of within-treatment MDD, R^2 change = .17, $p < .001$, but not post-treatment MDD, R^2 change = .04, $p = .16$. Betas were negative, suggesting that larger pretreatment reductions in MDD predicted lower levels of MDD during the treatment period. Treatment condition did not add significant predictive value to the model, beta = .06,

$p = .87$. When pre-telephone screen MDD was controlled for, none of the pre-treatment change scores significantly predicted MDD post-treatment.

Discussion

The current study sought to extend previous findings of assessment reactivity among women seeking outpatient treatment for alcohol dependence to a second sample of women participating in a two-armed choice-based clinical trial for alcohol use disorders. In the previous study, all women attended both in-person pre-treatment assessments with their spouses; in the current study, only women in the couple arm had their spouses attend the clinical screen and no women had spouses attend the baseline assessment. In addition, predictors of pre-treatment reductions in drinking quantity and frequency were examined as well as the predictive utility of pre-treatment change for longer term treatment response. Participants participated in three pre-treatment assessments including a phone screen, a clinical interview, and a research (baseline) assessment; retrospective information on daily drinking quantity and frequency was obtained at each assessment period.

The current study found that 33% of participants became abstinent during the pre-treatment assessment, a figure somewhat lower than that found by Epstein et al. (2005), who found that 46% of participants reported becoming abstinent during the pre-treatment assessment. Across the pre-treatment assessment period, the women reduced their percent of days drinking from 72.4% of days in at the first assessment to 42.1% of days in the week prior to treatment commencement, and reduced their mean drinks per drinking day from 6.3 to 3.1 drinks.

Significant reductions in drinking occurred between all pre-treatment assessment time periods, including after the telephone screen, the clinical screen, and the baseline assessment. Significant change therefore occurred before in-person interaction with an intake clinician, and after completion of a brief telephone screen. Consistent with the findings of Epstein et al. (2005), higher pre-treatment reductions in the frequency of drinking (percent of days drinking) were associated with comparatively low frequency of drinking during treatment and throughout post-treatment follow-up. Pre-treatment reductions in quantity of drinking, as measured by mean drinks per drinking day, predicted continued low quantity of drinking within treatment, but did not predict quantity of drinking during the post-treatment period.

Reductions in PDD across the pre-treatment period were not predicted by treatment arm, suggesting that reductions in PDD were not influenced by whether or not the participant was assessed with her spouse/partner present. Pre-treatment reductions in drinking (both PDD and MDD) also did not vary by SOCRATES scores, suggesting that pre-treatment reductions in drinking were independent of motivational stage of change.

Individuals who showed higher reductions in drinking frequency across the pre-treatment period also had comparatively low drinking frequency both during treatment and over the course of the post-treatment period (for a total of 15 months of monitoring). Therefore, individuals who show pre-treatment reductions in drinking frequency may be rapid

responders, that is, they tend to reduce their drinking relatively rapidly in response to brief contact or assessment and are capable of maintaining these reductions. However, it is unclear why reductions in drinking quantity across the pre-treatment period did not predict drinking quantity during the post-treatment period. This finding was contrary to hypotheses and warrants more investigation. It is possible that while participants are able to reduce the frequency of drinking they are less able to moderate the amount of beverages consumed on those days they do drink. This effect may be similar to the abstinence violation effect proposed by Marlatt et al. (e.g., Curry, Marlatt, & Gordon, 1987; Larimer, Palmer, & Marlatt, 1999) in which the individual may experience a slip or lapse and then continue to drink as he or she considers him/herself “off the wagon.”

Results of the current study are in line with studies such as that by Epstein et al. (2005) and Kaminer et al. (2008), suggesting that participants in AUD treatment trials are likely to show reductions in drinking during pre-treatment assessments. These findings have important implications, as participants in clinical trials of therapy for AUDs nearly always participate in assessment procedures prior to treatment, while those in clinical settings do not. Therefore, clinical trials with lengthy pre-treatment procedures may allow for more change, although this needs to be investigated. Regardless, when assessing the efficacy of a therapy it likely will be important to consider the impact of assessment versus the impact of therapy. In addition, these treatment trials often include control or waitlist conditions that are administered assessment procedures in the absence of treatment. Given that participants who complete assessments may reduce their drinking significantly, these “control” conditions may not serve as effective controls and may obscure some treatment effects.

There are several limitations of the current study, including the lack of a condition that did not receive the assessment procedures, and also lack of a condition that did not have treatment following assessment. It is unclear whether participants would have made these reductions in drinking had they not participated in study assessment procedures or maintained these gains if they did not receive treatment. Therefore, from the current study, we are unable to infer whether the assessments themselves contributed to the change, or whether other pre-treatment processes, such as high motivation and/or readiness, or empathic patient contact, would have triggered change independent of assessments. However, pre-treatment reductions in drinking in the current study were independent of motivational level as measured by the SOCRATES. Rates of spontaneous remission (typically defined as abstinence for a year or more without treatment) range from 4 to 56% depending on the study, but tend to be around 18% (see Walters, 2000, for a review). The 33% rate of pre-treatment abstinence in the current study may simply reflect spontaneous remission processes occurring. Regardless as to mechanism, the presence of pre-treatment change is an important factor to consider when interpreting research outcome reports. Future research should compare conditions receiving assessments with those that do not, in order to understand the role the assessments themselves may play in triggering change.

Finally, the current study, similar to Epstein et al. (2005), was conducted with a select sample: all-female, treatment-seeking, outpatient sample, with a relatively high socioeconomic status. It is not clear whether these results will generalize to other populations. Replication is needed with additional samples with diverse characteristics.

However, in thinking about conducting this study we felt that there is such a paucity of research on this issue that replication with this separate (albeit similar) sample was indicated. Research on this topic is lacking and therefore the study is likely to be a stepping stone towards research that will isolate factors that lead to change after minimal/brief interventions. It is also hoped that the findings of the study underscore that the field needs to be careful drawing conclusions from research protocols that vary in many ways from routine clinical practice, and perhaps researchers can continue to consider ways of addressing or controlling for these lab-to-practice discrepancies.

In conclusion, it appears clear that pre-treatment reactivity occurs to a substantial degree in treatment trials for AUDs. However, it remains unclear how participation in assessments may lead to reductions in drinking, and if such strong pre-treatment assessment reactivity exists for other samples, such as those with other substance use disorders, predominately male samples, or those with high rates of comorbidity and complexity. Future studies should assess what mechanisms drive reactivity effects, and what types of assessments and contact with research personnel influence reactivity effects.

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Figure 1.
Participant flow

Figure 2.
Timeline of pre-treatment assessment waves

Figure 3.
Percent days drinking across all pre-treatment time periods

Figure 4.
Mean drinks per drinking day across all pre-treatment time periods

Table 1

Measures administered at each pretreatment assessment

Pretreatment assessment wave	Measure	Estimated minutes to complete
Telephone screen		10
Clinical screen		
	Clinical interview ^a	60
	Mini Mental Status Exam ^{a,c} (MMSE; Folstein et al., 1975)	5
	Alcohol & Drug SCID, lifetime ^a (First et al., 2002)	15
	SCID Psychotic Screen ^{a,c} (First et al., 2002)	5
	Beck Anxiety Inventory ^b (BAI; Beck, et al., 1988a)	5
	Beck Depression Inventory ^b (BDI; Beck, et al., 1988b)	5
	Conflict Tactics Scale ^b (Straus, 1979)	5
	Personal Drinking Goal ^b	2
	Stages of Change Readiness and Treatment Eagerness Scale ^b (SOCRATES; Miller and Tonigan, 1997)	5
Baseline interview		
	Timeline Followback Interview ^a (Sobell and Sobell, 1996)	25
	Form-90 (Miller, 1996)	20
	SCID I, current and lifetime ^a (First et al., 2002)	30
	Important People and Activities-Revised ^a (Clifford and Longabaugh, 1991)	10
	PRISM Post-Traumatic Stress Disorder module ^a (Hasin et al., 1996)	15
	Areas of Change Questionnaire ^a (Margolin et al., 1983)	5
	Coping Behaviors Inventory (Litman et al., 1983) ^b	5
	Dyadic Adjustment Scale ^b (Busby et al., 1995)	5
	Menstrual History Questionnaire ^b	2
	PDQ-4 (Hyler, 1994) ^b	10
	Quantity-Frequency Interview (Russell, Welte, & Barnes, 1991) ^b	10
	Revised Sociotropy-Autonomy Scale ^b (RSAS; Clark & Oates, 1995)	5
	Short Index of Problems ^b (SIP; Bender et al., 2007)	3

^a Interview,^b Paper-and-pencil or computer-administered self-report,^c optional; completed only if the clinician suspected current psychotic symptoms or organic deficits. The Personal Drinking Goal and Menstrual History Questionnaire were study specific-measures created by McCrady et al. (2011).

Table 2

Pretreatment change scores as predictors of within-treatment and post-treatment percent drinking days

Pretreatment change scores	B (SE)	β	p
Within treatment			
T1 – T2	–.63 (.06)	–.63	<.001
T2 – T3	–.73 (.06)	–.63	<.001
T3 – T4	–.63 (.04)	–.72	<.001
Post-treatment			
T1 – T2	–.47 (.10)	–.42	<.001
T2 – T3	–.46 (.09)	–.45	<.001
T3 – T4	–.32 (.08)	–.36	<.001

Notes: T1 = pre-telephone screen to telephone screen, T2 = telephone screen to clinical screen; T3 = clinical screen to baseline; T4 = baseline to day before treatment began.

Table 3

Pretreatment change scores as predictors of within-treatment and post-treatment mean drinks per drinking day

Pretreatment change scores	B (SE)	B	p
Within treatment			
T1 – T2	–.46 (.08)	–.46	<.001
T2 – T3	–.63 (.08)	–.67	<.001
T3 – T4	–.65 (.06)	–.92	<.001
Post-treatment			
T1 – T2	–.21 (.11)	–.20	.06
T2 – T3	–.04 (.11)	–.04	.71
T3 – T4	.01 (.08)	.02	.87

Notes: T1 = pre-telephone screen to telephone screen, T2 = telephone screen to clinical screen; T3 = clinical screen to baseline; T4 = baseline to day before treatment began.