

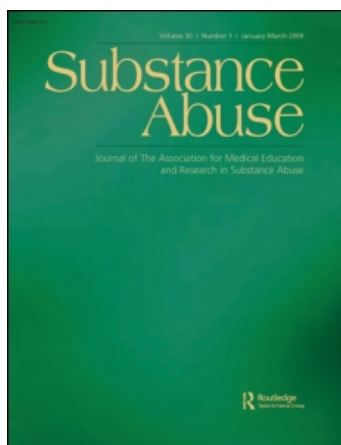
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# Development of an Acceptance-Based Coping Intervention for Alcohol Dependence Relapse Prevention

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**ABSTRACT.** Both psychological and neurobiological findings lend support to the long-standing clinical observation that negative affect is involved in the development and maintenance of alcohol dependence, and difficulty coping with negative affect is a common precipitant of relapse after treatment. Although many current approaches to relapse prevention emphasize change-based strategies for managing negative cognitions and affect, acceptance-based strategies for preventing relapse to alcohol use are intended to provide methods for coping with distress that are fundamentally different from, though in theory complementary to, approaches that emphasize control and change. This paper describes the development of Acceptance-Based Coping for Relapse Prevention (ABCRP), a new intervention for alcohol-dependent individuals who are within 6 months of having quit drinking. Results of preliminary testing indicate that the intervention is feasible with this population; and a small uncontrolled pilot study ( $N = 23$ ) showed significant ( $P < .01$ ) improvements in self-reported negative affect, emotional reactivity, perceived stress, positive affect, psychological well-being, and mindfulness level, as well as a trend ( $P = .06$ ) toward reduction in craving severity between pre- and postintervention assessments. The authors conclude that this acceptance-based intervention seems feasible and holds promise for improving affect and reducing relapse in alcohol-dependent individuals, warranting further research.

**KEYWORDS.** ABCRP, acceptance, alcohol dependence, mindfulness, relapse prevention

## INTRODUCTION

Numerous studies indicate that psychosocial distress and negative affect are associated with

the development and maintenance of substance dependence (1–6). Negative affect is one of the most commonly cited reasons for relapse following treatment for alcohol dependence in

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both adolescents and adults (7–11). The relationship between negative affect, addiction, and relapse has received additional empirical support from preclinical studies (12–17). For example, chronic stress appears to sensitize the brain reward system, rendering one more vulnerable to addiction (18). Drug-seeking may in part be explained by an affective downward spiral supported by negative reinforcement (relief of discomfort when drugs are taken), and a lower “hedonic set point” that reduces the efficacy of reinforcers, requiring increased intensity of use to maintain normal affect (19). Taken together, both psychological and neurobiological findings lend support to the long-standing clinical observation that people abuse alcohol and other substances despite serious consequences in part in order to regulate negative affect and cope with distress (20).

Reviews of the relapse prevention literature (21–23) provide support for the effectiveness of cognitive-behavioral therapy (CBT) approaches for relapse prevention in substance use disorders. Central to the CBT model of relapse is the identification of alcohol-related cues, potentially high-risk situations and relapse triggers—circumstances (e.g., people, places, events) in which an individual’s efforts to refrain from alcohol use are threatened (24). Once there has been an assessment of the potential risks or triggers, the central task of CBT-based relapse prevention is to strengthen clients’ capacity to cope more effectively with such situations by changing their approach to or level of engagement with these situations, and thereby reducing the risk of drinking behavior. CBT approaches to regulating negative affective states emphasize identifying and altering faulty cognitions that may lead to such states. Though CBT treatment and coping skills training have demonstrated considerable success in terms of helping individuals reduce the use of drugs and alcohol, a substantial proportion of treated individuals relapse (25, 26).

Our premise is that relapse prevention therapies could be enhanced by the inclusion of intervention components emphasizing acceptance. Although learning to avoid relapse triggers and controlling reactions to them using approaches such as “thought stopping” or cognitive reappraisal may be useful, the reality is that level of

engagement with environmental cues cannot always be altered (e.g., exposure to billboards with alcohol advertisements, or family members with whom one used to drink alcohol), and cognitions and affective states cannot always be changed or controlled (27–29). Acceptance-based therapies may be complementary to traditional change-based CBT methods insofar as providing a set of skills directed specifically toward increasing *tolerance* of physiological, cognitive, and emotional distress or craving. This may improve the ability to regulate behavior, especially in situations where avoiding or changing cognitive-affective content is not possible.

Acceptance-based modalities may also provide an alternative and potentially more effective approach to regulating negative affect and craving than methods emphasizing change and control of internal relapse triggers (such as CBT). We have witnessed over the course of the past decade the emergence of what some have termed a “third-wave” of behavioral therapies that emphasize acceptance rather than control/change as the central component in the treatment of mood dysregulation. Recent developments within the field of CBT have led to a questioning of the mastery and control model that has historically characterized most CBT approaches to dealing with mood disturbance and addictive behaviors. This is evidenced in part by the growing clinical interest in and study of therapeutic modalities such as Dialectical Behavior Therapy (30), Acceptance and Commitment Therapy (31), Mindfulness-Based Stress Reduction (32), and Mindfulness-Based Cognitive Therapy (33), all of which emphasize acceptance of unwanted internal experiences as a core therapeutic component.

In contrast to traditional CBT where the emphasis is on altering maladaptive cognitions, moods, or behaviors, the focus in mindfulness- and acceptance-based interventions is on altering one’s *relationship* to cognitive-emotional processes through the strengthening of a nonevaluative, metacognitive awareness (34). As noted by Baer (35), unlike most CBT methods, mindfulness does not involve the evaluation of cognitions as either rational or distorted, and does not attempt to change or dispute thoughts deemed to be irrational or maladaptive. Baer notes that, through mindfulness practice, one is

instead taught to “observe thoughts, to note their impermanence, and to refrain from evaluating them.”

The emphasis in many CBT approaches on avoidance/inhibition or alteration of negative cognitions and affective states may serve paradoxically to increase negative affect and maintain the association of negative affect with its cues (36–40). There is a growing body of experimental evidence suggesting that acceptance-based skills for coping with certain aversive experiences may actually be more effective than those emphasized by CBT. In a study of an anxiogenic stimulus (inhaled carbon dioxide), subjects employing mindful acceptance, when compared with individuals who attempted to control their experiences through the use of standard CBT techniques, reported less fear, appeared less behaviorally avoidant, and had fewer catastrophic thoughts during the noxious experience (41). Studies also suggest that the use of acceptance, as opposed to control/change-based strategies, can be more effective in helping subjects cope with laboratory induced pain (e.g., cold pressor test) (42, 43) and chronic pain (44). In alcoholics, evidence suggests that use of avoidant coping strategies predicts worse abstinence outcomes, (45) and that decreased cognitive avoidance and increased approach behaviors predict improved treatment outcomes (46).

Recent theoretical and empirical work by Marlatt and colleagues (47–51) suggests that mindfulness-based approaches may be effective for drug and alcohol use disorders. Compared to treatment-as-usual nonrandomized controls, incarcerated subjects who completed mindfulness training showed improvements on scales of impulse control, drug abuse severity, average weekly drug use, and drinking-related locus of control at 3-month follow-up. Subjects who received the mindfulness intervention also reported significant decreases in avoidance of thoughts when compared to controls, and this decrease partially mediated intervention effects on posttreatment alcohol use (52). Promising results of mindfulness-based interventions for smoking (53, 54) and eating disorders have been observed as well (55).

Studies suggest that Acceptance and Commitment Therapy (ACT) (31) may be a potentially

effective treatment for addictive disorders (56–58). ACT stresses the development of greater “acceptance,” which is defined as being “experientially open” to the reality of the present moment, and incorporates mindfulness exercises as part of its therapeutic approach. In a randomized trial with polysubstance abusing opiate addicts enrolled in a methadone maintenance program, those who received the ACT intervention evidenced a greater decrease in opiate use than “standard of care” or 12-step groups (57). A trial by Gifford found that among smokers, those receiving ACT exhibited significantly better smoking outcomes at 1-year follow-up when compared to those receiving nicotine replacement therapy, and that those outcomes were mediated by acceptance-related skills (58).

In summary, although traditional approaches to relapse prevention emphasize change-based strategies for reducing and managing stress and negative affect, these approaches are only partially effective and relapse continues to be a challenge. Our hypothesis was that an acceptance-based approach, based upon training in mindfulness, would improve outcomes in treated alcoholics by providing new skills for affect regulation that are different from, though in theory complementary to, traditional CBT approaches.

The goal of the present study was to develop and pilot test an acceptance-based relapse prevention intervention directed toward reducing relapse and improving affect regulation and psychological well-being in alcohol-dependent individuals who have recently quit drinking.

## METHODS

### *Intervention Development*

The first 3 months of the project were devoted to the development of a provisional manual for the Acceptance-Based Coping for Relapse Prevention (ABCRP) intervention. This process started with a review of the literature on mindfulness- and acceptance-based interventions for behavioral, mood and anxiety disorders, negative affect, affect regulation, coping, and predictors of both relapse and successful treatment response. The intervention

was developed using a “problem formulation” approach (59) that calls for tailoring interventions to match the targeted population and problems. We detailed the symptoms we hoped to alleviate, as well as the skills we hoped to enhance with the intervention, and then selected or developed intervention components that would address each of these problems. In addition, we consulted with other groups developing mindfulness interventions for substance abuse and behavioral disorders. This intervention drew upon several mindfulness- and acceptance-based interventions: Mindfulness-Based Stress Reduction (32), Mindfulness-Based Cognitive Therapy (33), Mindfulness-Based Relapse Prevention (50), and Acceptance and Commitment Therapy (60). Through an iterative process of revisions among investigators and consultants, we developed a provisional ABCRP treatment manual, which focused on mindfulness training and applications of acceptance-based coping for managing stress, craving, and negative affect.

Several elements distinguish our protocol from other, above-mentioned, mindfulness-based therapies. Whereas the development of more focused attention and the skills of observation and concentration are central to most mindfulness-based interventions, our protocol emphasized cultivation of nonresistance to, non-avoidance of, and capacity to tolerate and even explore one’s internal states (e.g., thoughts, feelings, sensations), rather than the development of greater control over one’s attentional faculties. In addition, rather than viewing acceptance strictly as a skill one must train and develop, the ABCRP intervention emphasized discovery of, and increasing familiarity with, one’s natural capacity for experiential openness and nonresistance to challenging mental-emotional states as inherent qualities of awareness itself. Based on the theory that relapse is in part the result of an individual’s efforts to manage or control unwanted internal experiences, we hypothesized that increasing one’s willingness, capacity, and self-efficacy to experience (i.e., accept) stress, craving, and negative affect, rather than reflexively attempting to avoid, change, or control these states, would reduce the likelihood of relapse.

The intervention consisted of 8 weekly 2-hour group-based sessions and a follow-up “booster”

session 4 weeks later. Groups took place in an urban hospital and were facilitated by the first 2 authors—a licensed clinical psychologist with experience in addiction treatment and a health psychologist, both experienced in delivering mindfulness-based interventions. The following topics constituted the central focus of the 8-week intervention: (1) introduction to the concept of mindfulness and its potential to impact one’s relationship to the experience of unwanted internal experiences (including stress and craving) that are frequent precipitants of alcohol relapse; (2) the attitudinal foundations of mindful awareness (i.e., learning to observe internal and external experiences with the qualities of acceptance/nonjudgment, curiosity, openness, and nonstriving; (3) cultivation of greater willingness to experience rather than avoid or attempt to alter distressing mental-emotional states, with the intention of making such states more manageable and less aversive; (4) gaining familiarity with the “observing self,” or the capacity to be “metacognitively” and “nonreactively” aware of one’s own internal affective states and mental perspectives, with the intention of having greater understanding, and, thus, freedom of behavioral choice in response to such states; and (5) gaining greater objectivity in relationship to one’s own mental processes, i.e., being able to recognize that thoughts are not necessarily accurate representations of self or reality.

### *Feasibility*

Following the 3-month intervention development phase, over the next 6 months, we tested the feasibility of the provisional ABCRP intervention in 2 consecutive cohorts of 22 individuals participating in a local substance abuse treatment program.

Based on participant feedback as well as weekly discussion among the research team, the intervention manual was refined. Changes included reducing the length of weekly sessions from 2 hours to 90 minutes; shortening the length of in-class meditation sessions; and incorporating more direct links between the taught mindfulness skills and relapse prevention, particularly in terms of applying the skills

of mindful acceptance on a day-to-day basis to common relapse triggers of craving and negative affect. Another important change was the inclusion of additional, between-session contact with participants, in the form of weekly e-mails or letters. These communiqués served as a reinforcement of what was discussed in the prior-week class, and of the mindfulness and acceptance skills by bringing additional attention to them. Feedback from participants who underwent the revised study intervention indicated that these additional contacts were very helpful, and appeared anecdotally to enhance treatment retention and adherence.

Following this 6-month period of manual refinement, we pilot-tested, over the course of 1 year, the developed ABCRP intervention using 3 consecutive cohorts of individuals participating in a local substance abuse treatment program. Pilot-level findings on feasibility and efficacy of ABCRP intervention, based on these 3 cohorts ( $N = 33$ ), are presented in this article.

### **Recruitment**

Study participants were recruited from the general community as well as from local treatment centers, 12-step programs, and physicians' offices. Eligible participants were English-speaking adults over the age of 18, in their first 6 months of having quit drinking, and who meet the ICD-10 screening criteria for alcohol dependence. Exclusion criteria were a self-reported history of psychiatric disorders involving hallucinations or delusions. This study was approved by the Institutional Review Board of California Pacific Medical Center prior to any procedures.

### **Measures**

Negative affect was assessed using the Positive and Negative Affect Scale (PANAS) (61), a 20-item questionnaire measuring the degree to which the respondent experienced positive affect (e.g., active, enthusiastic, inspired) or negative affect (e.g., afraid, irritable, distressed) over a specified time period on a scale from 1 (slightly or not at all) to 5 (extremely). Good reliability has been demonstrated in both subscales (Cronbach  $\alpha = 0.85\text{--}0.89$ ) (62). Subjects'

appraisals of their degree of life stress was assessed using the Perceived Stress Scale (PSS) (63), a 10-item measure that is the most widely used psychological instrument for measuring the perception of stress, with well-established internal consistency ( $\alpha = .78$ ) and reliability ( $r = .85$ ). Craving or urge for an alcoholic drink was measured using the 8-item Alcohol Urge Questionnaire (AUQ) (64), which has demonstrated high internal consistency (0.91), retest reliability (1-day acute craving complete interval, 0.82), and good construct validity evidenced by strong correlations with measures of alcohol dependence severity (64). Overall psychological well-being was assessed using the Psychological General Well-Being Index (PGWBI), a 22-item measure of subjective well-being (65) that has demonstrated validity and reliability in numerous studies (66). Emotional reactivity was measured using a subscale of the investigator-developed Affect Regulation Measure (ARM), a 72-item scale measuring affect tolerance, cognitive regulation, discharge, preoccupation, somatization, emotional reactivity, and lability. This measure demonstrates good internal consistency ( $\alpha = .87$ ), Rasch person separation reliabilities (Person  $R = .89$ ), and test-retest reliabilities over 8 weeks of .84. Mindfulness was assessed using the brief Five-Factor Mindfulness Questionnaire (67), a 23-item measure that assesses 5 distinct but intercorrelated facets of mindfulness, including the capacity to observe and describe one's state, nonreactivity, nonjudgmentalness, and the capacity to act with greater awareness/attention, with strong concurrent validity and internal consistencies ranging from .72 to .92. At each time point, percent days abstinent served as our primary alcohol use outcome and was assessed using Timeline Follow Back Method (TLFB) (68) for the previous 3 months. The TLFB has been shown to be reliable ( $r = .77\text{--}.90$ ) when administered by phone (69).

All measures were administered via Web-based survey software (questionnaires) or telephone (TLFB) prior to participation in the intervention, following the 8-week intervention (between 9 and 12 weeks postentry, prior the 4-week postintervention booster session), and 6 months postentry.

## Statistical Analysis

SPSS for Windows version 13 statistical software was used for data analysis. An examination of histograms indicated that data were normally distributed. Subjects from the last three cohorts who completed the study intervention ( $N = 23$ ) were included in the analysis. Using paired  $t$  tests, baseline and postintervention data were compared for psychological outcomes, and postintervention and 6 months postenrollment data for drinking outcomes (percent days abstinent) were compared. Significance level was set at .05, 2-tailed. Data are presented as mean (standard deviation, SD) unless otherwise specified.

## RESULTS

### Sample Characteristics

Women constituted 39% of the sample ( $N = 33$ ), the mean age was 45 ( $SD = 7.2$ ); 29% were 25 to 40 years old, 58% were 40 to 55, and 13% were over 55 years of age. Eighty percent were Caucasian, 10% Hispanic, 3% African American, 3% Asian, 3% other. Just over half of the sample (55%) was single, 39% were married or had a long-term partner, and 6% were divorced, separated, or widowed.

### Attendance and Attrition

Ten out of 33 individuals failed to complete the intervention, defined as attendance at less than 50% of the 8 sessions, and were lost to follow-up. Among these 10 noncompleters, 3 attended no classes, 5 attended 1 class, and 2 attended 2 classes; 5 were in the first, 3 in the second, and 2 in the third cohort, suggesting an improved retention, possibly due to refinement of the intervention and study methods. At 6 months postenrollment, 18 of the 23 study completers provided data, the remaining 5 subjects were lost to follow-up.

### Results

Paired-samples  $t$  tests of data of study completers ( $N = 23$ ), collected pre- and postintervention, indicated positive changes in level of the following variables: craving (decrease of 32%;

$P = .06$ ); positive affect (increase of 20%;  $P = .004$ ); negative affect (decrease of 32%;  $P = .0001$ ); emotional reactivity (decrease of 17%;  $P = .0001$ ); psychological well-being (increase of 15%;  $P = .004$ ); perceived stress (decrease of 23%;  $P = .002$ ); and mindfulness (increase of 21%;  $P = .002$ ).

At postintervention, study completers ( $N = 23$ ) reported mean percent days abstinent of 97.6 (10.1). At 6 months postenrollment ( $N = 18$ ), percent days abstinent decreased to 87.5 (21.5), but this change was not statistically significant. During the study, no side effects or adverse events were reported.

## DISCUSSION

The goals of the project were to develop an acceptance-based intervention targeted toward preventing relapse in alcohol-dependent individuals attempting to quit drinking, and to pilot-test the feasibility and potential effectiveness of the intervention. Our preliminary findings suggest that Acceptance-Based Relapse Prevention holds promise for preventing alcohol relapse, and improving mood, emotional reactivity, and levels of craving, negative affect, positive affect, and mindfulness, and warrants further research. The promise of mindfulness-based interventions for relapse prevention is supported by similar research by Zgierska et al. (70) who conducted a small pilot study using a similar intervention in alcohol-dependent adults and found similar results.

Mindfulness- and acceptance-based treatments challenge traditional notions of affect regulation in that they focus on allowing distressing cognitions and affective states to remain as they are, rather than working to alter or change their content. A relatively recent addition to some CBT relapse prevention models, "urge surfing," has some similarity to a mindfulness/acceptance perspective, but is part of a comprehensive treatment approach, and its impact alone has not yet been studied. Twelve-step-based programs have long recommended "acceptance," embedded in a highly structured spiritual and social context, as the primary strategy for approaching negative affect and difficult life circumstances.

But most conceptualizations of emotion regulation rest upon the premise that negative affect needs to be controlled, managed, or regulated, and emotion regulation is often construed as the processes by which one decreases negative affect and increases positive affect.

However, as we have reviewed, exactly the same motivational process (e.g., the desire to reduce negative affect and increase positive affect) is involved in addiction. It may be that a more adaptive form of affect regulation would enhance the capacity to tolerate negative affect without necessarily decreasing it, and would allow to derive reward from positive affect without needing to enhance it, and would facilitate experience of mental-emotional states without reflexively feeling driven by conditioning to act upon them.

The extent to which acceptance- and mindfulness-based therapies are compatible and overlap with traditional CBT approaches remains to be seen. In treating addiction and preventing relapse, it may be equally useful to (1) acquire skills to identify and avoid relapse triggers and change thoughts that may lead to relapse, and (2) to increase tolerance for difficult cognitions, emotions, and craving states through acceptance. However, it may be difficult to discern which skill is needed at what times, and although the approaches may be complementary, they also differ from one another.

In this formative work, we developed and refined an acceptance-based intervention for relapse prevention (manual available from the authors upon request) that can be used in combination with or in addition to other treatment modalities. We have shown that teaching acceptance-based coping appears to be feasible in a mixed treatment for alcoholics who have quit drinking within the past 6 months.

Our findings should be interpreted as preliminary support for the potential clinical promise of this intervention because they are limited by several factors, including lack of a control group, small sample size, high attrition, and lack of an intent-to-treat analysis. Future studies should test acceptance-based interventions in adequately powered controlled trials, and explore further whether acceptance-based strategies are more effective than change-based strategies for

relapse prevention in alcohol-dependent individuals in early recovery.

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