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## Mindfulness-Oriented Recovery Enhancement for Alcohol Dependence: Therapeutic Mechanisms and Intervention Acceptability

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### Abstract

Mindfulness-based interventions may decrease addictive behaviors while promoting non-reactivity to stressors. This study employed qualitative methods to enhance understanding of mindfulness-related treatment effects. Study participants were eighteen alcohol dependent adults residing in a therapeutic community who had participated in a Mindfulness-Oriented Recovery Enhancement (MORE) intervention. Interviews were conducted to elicit participant narratives. Responses to open-ended questions were analyzed using a grounded theory approach and the method of constant comparison. Narrative accounts suggested that MORE enhanced self-awareness while helping clients to cope more effectively with emotional distress and addictive impulses. MORE appears to be acceptable to participants and feasible to implement within a residential treatment setting. Mindfulness training may assist marginalized persons recover from addiction.

### Keywords

addiction; mental health; mindfulness; recovery; stress; substance dependence

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Mindfulness-based interventions have demonstrated clinical efficacy in a host of well-controlled studies. Moreover, numerous investigations have begun to probe the therapeutic mechanisms of mindfulness, using an array of sophisticated methodologies, including cognitive tasks (e.g., Zeidan, Johnson, Diamond, David, & Goolkasian, 2011), psychophysiological measures (e.g., Garland, Gaylord, Boettiger, & Howard, 2010; Garland, 2011), and neuroimaging techniques (e.g., Farb et al., 2010). Yet, despite the ever-increasing methodological rigor of research on mindfulness, many questions remain unanswered. What is the process by which clinically and socioeconomically vulnerable individuals learn how to use mindfulness to cope with stress and adverse life circumstances? Furthermore, which

aspects of mindfulness training, which often occurs within a multimodal treatment package, are perceived to be most useful and acceptable to participants? Although these questions are to some extent tractable to quantitative research methods, we believe they may be perhaps more fruitfully addressed through qualitative means.

Many etic theories (i.e., descriptions of behavior by observers) have attempted to explain mindfulness, yet none fully capture the lived experience of mindfulness as a “first-person” phenomenon (Depraz, Varela, & Vermersch, 2003); that is, one that is directly accessible only to the person who is experiencing it. Different theoretical conceptualizations have described the mechanisms by which mindfulness facilitates coping using a variety of psychological constructs. Some theorists hold that mindfulness works through decentering, i.e., the capacity to observe one’s thoughts and feelings with the awareness they are ephemeral in nature, not necessarily important or reflective of self-worth or reality, and do not invariably require a response (Segal, Williams, & Teasdale, 2002). Alternatively, some maintain that mindfulness exerts therapeutic effects by generating metacognitive awareness, i.e., an encompassing awareness that contemporaneously monitors the object and processes of cognition (Garland, 2007). Yet others believe that mindfulness promotes positive reappraisal, i.e., reinterpreting or reframing a stressful event as a source of personal growth and meaning (Garland, Gaylord, & Fredrickson, 2011). Common to most such theories is the notion that mindfulness *practice* involves techniques that engender the *state* of mindfulness, characterized by an attentive and nonjudgmental metacognitive monitoring of moment-by-moment experience without fixation on thoughts of past or future. In turn, the evocation of this state promotes awareness of automatized, habitual, or unconscious patterns of thought and behavior, such that the mindfulness practitioner may increase his or her ability to consciously respond, rather than react, to challenging life events and experiences. This non-reactivity is held to facilitate coping and the regulation of strong emotional responses such as anger, fear, and sadness. Mindfulness practice also involves acceptance of experiential content previously held to be undesirable, such that the practitioner learns to attend to and “be with” experiences they once attempted to shun, suppress, or avoid. In so doing, a profound sense of equanimity may develop. Recurrent practice evoking the state of mindfulness is thought to promote the development of *trait* mindfulness-- an attentive, nonjudgmental, and nonreactive disposition toward present moment experience. In other words, as one repeatedly engages in the specific practices of mindfulness, they become a more mindful person generally.

While these experiences and attitudes may be therapeutic in themselves, the past decade has witnessed the proliferation of tailored mindfulness interventions targeting specific clinical disorders. Mindfulness-based interventions have been successfully adapted to treat conditions as diverse as depression (Segal et al., 2002), irritable bowel syndrome (Gaylord, Palsson, Garland Faurot, Coble, Frey, Mann, & Whitehead, 2011), chronic pain (Rosenzweig et al., 2010), and relationship difficulties (Carson, Carson, Gil, & Baucom, 2004). Mindfulness training seems especially well-suited to addressing risk mechanisms implicated in substance dependence. Addiction involves linkages between stress, negative emotion, automatic cognitive processes, and habitual compulsions to consume the desired substance (for a review, see Garland, Boettiger, & Howard, 2011). In brief, repeated substance misuse in the context of stress and negative affect may establish automatic substance-use action schemas, memory structures that coordinate and compel behaviors involved in the consumption of alcohol or drugs (Tiffany & Conklin, 2000). These schemas focus attention on the substance of addiction (Field & Cox, 2008) and increase the urge to use as a means of palliative coping (i.e., coping that is not active in nature, but rather, designed to help the individual feel better despite the stressor). However, among substance dependent persons in recovery, such urges are often perceived as intrusive and incongruent with the goal of abstinence, and may result in feelings of guilt or shame. In an attempt to

regulate such urges, individuals may employ “willpower” to suppress the urge to drink. Inadvertently, suppression of substance-related thoughts and urges may cause an increase in their frequency and intensity (Klein, 2007) as the individual becomes hypervigilant for the presence of undesired mental content to be suppressed, thereby exhausting self-control resources and leading to eventual relapse (Garland, Carter, Ropes, & Howard, 2011).

Given this risk chain (i.e., an interactive set of risk conditions that probabilistically increases the likelihood of a deleterious outcome), mindfulness interventions may hold promise for the treatment of addiction because mindfulness is thought to increase awareness of habitual activity and promote non-reactivity to emotionally-distressing events, and nonjudgment or acceptance of one’s own mental responses. Recent quantitative research indicates that participation in mindfulness interventions for addiction leads to reductions in substance use (Bowen et al., 2009) and craving (Witkiewitz & Bowen, 2011). Although mindfulness training appears to produce salutary outcomes, less is known about how persons recovering from substance dependence utilize mindfulness to cope with the challenges in their lives.

Previously, we conducted a randomized controlled pilot trial of a novel mindfulness intervention, Mindfulness-Oriented Recovery Enhancement ([MORE] (Garland, forthcoming; Garland et al., 2010), as a treatment for persons suffering from alcohol dependence and comorbid drug use and psychological symptoms. Our prior quantitative study found that, compared to an alcohol dependence support group, MORE significantly reduced perceived stress and thought suppression, while modulating attentional fixation on alcohol cues and facilitating heart rate variability recovery from such cues (Garland et al., 2010). Hence, the purpose of the present study was to use qualitative methods to enhance understanding of these mindfulness-related treatment effects and to explore the acceptability and feasibility of MORE among a sample of alcohol dependent residents of a therapeutic community. MORE was designed by the first author as a low cost cognitive intervention that facilitates recovery from alcohol dependence. Like many clients served by social workers, MORE participants faced multiple adversities, including the challenges of incarceration and re-integration into society, poverty, homelessness, lack of higher education, family discord and violence, extensive trauma histories, and various forms of psychological distress above and beyond the addiction for which they sought treatment. Yet, many also appeared to evidence remarkable resiliencies that, by their own accounts, were augmented through mindfulness training.

## METHODS

### Sample

Fourteen men and four women completing a ten-week MORE group as part of a randomized controlled pilot trial (Garland et al., 2010) were interviewed for the present qualitative investigation. Participants were graduates or near-graduates of a long-term, modified therapeutic community program located in Durham, North Carolina serving approximately 600 persons with substance-use disorders annually. These individuals resided on the agency campus or in agency-owned transitional housing. In addition to MORE, treatment services at this program consisted of participation in a therapeutic milieu, psychoeducation on topics related to addiction (e.g., information about living with addiction, building social support, etc.), and process therapy groups. All participants met current Diagnostic and Statistical Manual of Mental Disorders-IV alcohol dependence criteria (American Psychiatric Association, 2000), and had resided in the therapeutic community for 18 months. In this program, 18 months marks the time of transition to employment and residence outside of the therapeutic community, and thus represents a point of increased relapse risk. All participants in this investigation were fully informed as to the purpose of the study and provided written

informed consent. The study was formally certified by the Behavioral Science Institutional Review Board of the University of North Carolina at Chapel Hill in 2008.

More men than women participated in the MORE intervention due to the gender distribution of the therapeutic community where the intervention was held. The ratio of male to female participants of MORE paralleled the gender ratio at the therapeutic community. No systematic differences in reactions to MORE were observed between men and women, nor did men and women differ with regard to the number of sessions attended or attrition from the intervention (Garland et al., 2010).

The mean age of study participants was 39.7 (SD = 9.5). A majority of participants were African American (61.1%), with the remainder being Caucasian (39.9%). Participants were predominantly low-income, with 44.4% having annual family incomes of < \$20,000 in the year before entering treatment, and 83.3% having family incomes of < \$40,000. However, participants came from all walks of life, from being homeless or living in government housing projects to residing in suburban developments, from engaging in manual labor and blue-collar manufacturing work to conducting business in the corporate environment.

Participants had resided in the TC for a mean of 22.5 months (SD = 2.4) and reported high rates of lifetime exposure to traumatic violence, moderate psychiatric symptomatology, and high levels of alcohol dependence: for example, the mean number of DSM-IV alcohol dependence criteria met by participants was  $6.4 \pm 1.0$ , and the mean number of standard alcoholic drinks consumed per day in the year before entering treatment was 20.6 (SD = 12.4). Participants drank, on average, 24.1 days (SD = 7.5) in the month before entering treatment. Approximately 51% of the sample reported lifetime use of at least one psychoactive drug in addition to alcohol, with cocaine being the most commonly used substance. All participants remained continuously abstinent from substance use during their residence in the TC.

### The MORE Intervention

The ten-session, manualized MORE intervention (Garland, forthcoming) was adapted by the first author as a treatment for alcohol dependence from Mindfulness-Based Cognitive Therapy, an empirically-supported, mindfulness intervention designed to prevent depression relapse (Segal et al., 2002). MORE is innovative in that it integrates mindfulness training, cognitive restructuring (i.e., the process of learning to identify and modify maladaptive thoughts via methods such as logical disputation), and techniques drawn from positive psychology (i.e., the scientific investigation of virtues and strengths that allow individuals to thrive). Intervention sessions involve mindfulness meditation exercises, as well as experiential exercises relating general mindfulness principles to addiction-specific issues such as relapse triggers, craving, thought suppression, stress, and unconscious substance use behaviors (see Table 1). MORE participants completed a total of 20-hours of group sessions and weekly homework assignments.

The first author delivered the intervention in modular format following the outline presented in the MORE treatment manual he developed (Garland, forthcoming), but had no other formal relationship with the treatment facility. Detailed descriptions of the MORE intervention are available in Garland et al. (2010) and Garland (forthcoming); the first quantitative evaluation of MORE treatment efficacy was reported in Garland, Gaylord, Boettiger, & Howard (2010).

### Interview Procedures

One-on-one, individual interviews with MORE group members were conducted by graduate research assistants 1 to 2 weeks after the end of the MORE intervention. Participant

responses were elicited through semi-structured interviews guided by an interview schedule. Interviews were conducted in a private room and were 15 to 30 minutes in length. Most interviews were 30 minutes long; however, three participants were terse in their responses, and thus responded to all interview questions within 15 minutes. The following open-ended questions were asked as prompts during the semi-structured interview:

1. What did you like about the group?
2. How do you think the group helped you?
3. How have you used what you learned in the group to improve your life?
4. What was the most useful thing you learned in the group?
5. How could the group be improved?
6. How did the group instructor affect the group?
7. How have you changed as a result of the group?
8. Is there anything else you would like to add?

Audio recordings of all group sessions were transcribed, verbatim. The interviewer made notes about gestures and tone of voice, whenever possible. A transcript template was established to ensure that the data were uniform in appearance and compatible with Atlas.ti qualitative data analysis software.

### Qualitative Analysis

The first and second author individually reviewed transcripts and created a summary of the transcript data with initial themes and response categories. We then met to discuss findings, develop consistency in coding, and agree on a protocol with which to analyze the transcripts. The following qualitative analysis protocol was employed: (1) line-by-line coding by identifying key words, (2) developing code phrases to structure the data, (3) reducing code phrases by subsuming substantially overlapping categories, (4) creating higher-level conceptual clusters of codes, (5) developing abstract categories and comparing them to differentiate grouped concepts, (7) abstracting central themes from these categories, (8) uncovering the basic psychosocial processes at work, (9) generating a provisional conceptual framework to explicate patterns in the data, and (10) matching this emergent framework back to the actual meanings of participants.

A central requirement of grounded theory analysis is constant comparison of one element of data to others (Gilgun, 2006; Padgett, 1998). In practice, constant comparison requires members of the research team to compare code phrases, clusters, concepts, and categories from each new interview to previous interviews. In the present study, we employed the method of constant comparison in our own individual analyses and then met to compare, contrast, and synthesize new codes that could subsume the similarities and differences between each of our coding schemes.

## RESULTS

Qualitative findings based on MORE participants' responses to open-ended interviews are summarized below under three general categories: effects of MORE on participant awareness, effects of MORE on coping, and participant perceptions regarding the most beneficial aspects of MORE.

## Effects of Mindfulness-Oriented Recovery Enhancement on Awareness

**Being present**—Many participants expressed receiving benefit from learning to become aware of their present moment experience. For most, cultivating awareness of the breath was a foundational practice, one that enabled a shift in focus from thoughts of the past or future onto the experience of the present. One participant stated that mindfulness training enabled him to focus on “just that moment, and just breathe. You know, at that moment, no matter how stressful my day was, or how many things I got going on, or how frustrated I was, at that moment I felt at peace.”

A number of individuals reported that such attentional focus on the here-and-now, or savoring, generated feelings of pleasure, amplifying enjoyment of the naturally-rewarding events and experiences of their day-to-day lives. Given that addiction involves neurobiological processes causing natural rewards to lose their “luster” that drive the individual to consume increasing dosages of the drug in order to maintain their hedonic equilibrium (Koob & Le Moal, 2001), this benefit of mindfulness practice was significant. Indeed, one participant viewed awareness of present moment experience as a way of reversing the anhedonia (that is, the inability to experience pleasure and/or to enjoy doing things one normally enjoys doing): “Just listening to the birds and looking at the sunset, things that you enjoyed in the beginning of your life but through addiction you got thrown off, I mean just going back to the basics of life.”

**Training Attention**—Group members trained their attention through a number of formal mindfulness practices (including mindful breathing techniques) throughout the class as a foundation for cultivating broader awareness and acceptance. Many participants reported experiencing a sense of empowerment as they recognized how their attention had been strengthened by this training process. One individual explained that this strengthening of his attentional capacity gave him confidence in his ability to re-orient his attention from frustrating distractions:

Even though you may be sitting and trying to listen to your breathing and listen to your heartbeat, and there may be lots of things going on around you that may distract you, and your mind is going to wander, but mindfulness has taught me that even though my mind may wander, I can always bring my mind back to the place where I was...

The subjective sense of one’s attention being strengthened by mindfulness practice has been corroborated by several studies indicating that mindfulness augments attentional processes (Brefczynski-Lewis, Lutz, Schaefer, Levinson, & Davidson, 2007; Jha, Krompinger, & Baime, 2007). This benefit of mindfulness practice is particularly germane to addiction and the phenomenon of the addiction attentional bias (see Field & Cox, 2008), in which addictive cues automatically and preferentially capture attention (such as when an recovering alcoholic arrives at a dinner party, and despite a room full of interesting people and delicious food, finds himself reflexively distracted by a bottle of wine on the table), as well when attention cannot be easily shifted away from drug-related cues (such as when the alcoholic finds himself unable to refocus from the bottle onto the conversation). Indeed, research indicates that by teaching persons in recovery to shift their attention away from substance-related cues onto innocuous or healthful objects and events such as the bodily sensations reported in the previous quote, mindfulness training may reduce the addiction attentional bias (Garland et al., 2010; Garland et al., 2011).

**Insight**—Participants also noticed that a basic awareness of their present moment experience increased their insight into how their thoughts and feelings affected their actions, and in turn other people. Several participants were able to integrate this conceptual insight

with direct sensory observation of the physical expression of their emotions. One participant departed from his usual laconic style to elaborate on this process: “I became more aware of how I was feeling, and how things that I did affected other people, became more aware of my surroundings and feelings... even walking felt a little different.” Such increased insight into the feeling states of self and others is notable in light of evidence that persons struggling with addiction have deficits in self-awareness (Goldstein et al., 2009).

**Awareness of addiction-action schema**—Among this sample of people recovering from substance dependence, mindful awareness illuminated the presence of addiction-action schemas, (i.e., the automatic sequences of thoughts and behaviors that coordinate and compel the nonvolitional use of substances). Having an awareness of such schemas helped participants to disrupt their addictive habits. The following individual explained that mindfulness:

helped me be more aware of the thoughts that lead to craving... things that I would've done that would've lead to getting high, drinking, or going to a party. And now, whenever those thought patterns come into play, it's like, I realize it, you know what I mean, I see it... It helps me realize it more, and when I'm able to realize it more, I'm more able to find something else to do.

For others, the awareness afforded by mindfulness helped to disrupt addiction-action schema by allowing for more conscious choice to be interjected into what prior to mindfulness training had largely been unconscious, compulsive behavior patterns. The following participant used substances for the first time in nearly two years prior to the penultimate MORE session, and subsequently felt dejected and compelled to use from a sense that he had “already fallen off the wagon.” This abstinence violation effect (Marlatt, 1985) is often the decisive factor that results in a singular instance of substance use (i.e., a *lapse*) becoming a recurrent or chronic period of substance use (i.e., a *relapse*) through self-sabotaging behavior. He explained how the practice of mindfulness helped him to become aware of his all-or-nothing thinking and disrupt strong compulsions to relapse:

I had every opportunity in the day that I relapsed to just stop and take a moment, but I chose not to, knowing that I would feel convicted. And since then, I've had urges and cravings, and of course moments of despair where I was like, well, what's the difference, I might as well use, but I've taken time to think the whole thing through, and actually taken time to sit down and take fifteen, twenty minutes of mindfulness, and just help calm me down, relax me, and make me more focused on not just that moment in time with mindfulness, but also the greater end with my sobriety and recovery.

Clearly, for this participant and others, mindful awareness was a means of strengthening the core commitments so necessary to maintaining recovery from addiction in the long-term (Gagne, White, & Anthony, 2007).

### Effects of Mindfulness-Oriented Recovery Enhancement on Coping

**Non-reactivity**—Mindfulness training involves instruction in maintaining an awareness of negative thoughts and emotions without reacting to them (Garland, 2007). Participants are taught to allow distressing mental contents to come and go without engaging with them or being caught up in them. One participant described how she learned to curb her impulsive reactions to emotional provocations:

It just helped me learn a little more about myself, that I am able to take control over certain situations, and see if I can think about it, rather than react like I used to do, I was one who always, if something got in my way, would speak my mind, instead of

just thinking it out first. And maybe if I sat down and thought about it, the outcome would be a lot different than me just reacting and blowing up on the situation.

Thus, by cultivating non-reactivity in the face of stressful situations, one may become better able to respond skillfully. One key component of responding skillfully to stress via mindfulness involves viewing stressors and irritants as momentary challenges rather than global catastrophes, illustrated in the following quote:

It has allowed me to not be so stressed and tense, and upset about nothing. Because in the past I could have a bad morning and I could have a bad day, but now in a sense I'm just kind of able to let things go and deal with them and move on.

As participants trained themselves to become aware of their emotional experiences without reacting to them, they became better able to respond in an adaptive fashion. According to one participant, "Someone would say something to me or look at me in a certain way, and I would realize what was going on, and then deflect it and keep on going, naturally. Like I had trained myself."

**Reappraisal**—Participants learned to incorporate mindfulness techniques when reappraising the meaning of every day challenges, thereby attenuating excessive emotional reactivity to common life stressors. This use of mindfulness may increase the accuracy of stress appraisals and reduce catastrophizing (Garland, 2007). In the words of one participant, The practice of mindfulness helped me to assess situations... therefore I wasn't stressed, throughout that process, it's amazing how just having that little tool, when little situations came up in my day to day, that became my first thought, what do you do here?

**Acceptance**—The attitude of acceptance at the crux of mindfulness helped participants assume a mature detachment from their thoughts and refrain from backfiring attempts to suppress or control them. One participant highlighted the key role of acceptance when he stated that the most useful thing he learned in the group was:

that you can't control your thoughts... You're going to think a certain way, whether it be negative or positive, but it's not accurate, you know what I mean? Just 'cause I'm thinking a bad thing doesn't mean I've got to go act it out.

This realization was a radical departure from the feelings shame and guilt that so often fuel the vicious cycle of compulsive substance use. Rather than engaging in self-condemnation, this participant observed thought patterns from a decentered perspective, and by realizing that his "thoughts are not facts" (Segal et al., 2002) he was able to refrain from reacting.

Another participant explained that by cultivating an attitude of acceptance, he had reduced the difficulties in his life without making many external changes. His ability to accept situations became an alternative coping mechanism to alcohol: "I used to get all upset when I was drinking and doing drugs, and the first thing I would do was get a drink and try to wash it out of my mind, but now I'm just HEY, it is what it is..."

**Coping with craving:** Relapse is typically preceded by the feeling of "craving" for the addictive substance, often induced by a stressful event (Garland et al., 2011). In response to stress-precipitated craving, participants learned to use mindful breathing techniques to reduce the urge to use alcohol as well as the stress of the precipitating event:

Whenever I had a craving, I could just immediately stop what I was doing and take a few minutes to breathe and relax. And after practicing I felt better, and didn't have as strong an urge to use or didn't feel as stressed as before when the incident had stressed me out.



**Coping with addiction triggers:** Cues regularly associated with habitual drinking (e.g., “old people, places, and things”) may activate cravings and compulsive, appetitive responses towards alcohol (Tiffany & Conklin, 2000). Several participants, who worked in restaurants where alcohol was served, used mindfulness to disengage from intrusive drinking-related thoughts and feelings triggered by alcohol cues. One participant described coping with addictive triggers by using a mindful breathing technique:

I work at Red Lobster, where they do serve alcohol, and it played a very big part when I had to deal with some customers that were drinking. And, it played a big part in helping me get through it. I had to go outside and breathe.

**Coping with difficult emotions:** Alcohol may be used as a form of palliative coping in an effort to alleviate negative affect associated with stress (Garland et al., 2011). Using mindfulness techniques, participants were better able to cope with negative emotions spurred by challenging, uncontrollable circumstances. Drawing on the skills learned in mindfulness training, the following participant described coping with a traumatic event:

I had a challenge because my son got shot, so I had to practice some mindfulness techniques on my way to go see him, and to find out what happened. So I really had to practice mindfulness, and holding on to what I say, and saying the right thing.

Several participants used mindfulness to cope with anxiety over managing the demands of their lives. A participant whose anxieties were more general described how mindfulness allowed her to distinguish excessive worries from realistic concerns: “I started thinking about whether or not it was a worry or concern... is this something to worry about or is this something I should be concerned about? And making the differentiation between those two.”

Another participant discussed how the practice of mindfulness had, over time, enabled her to cope with anxiety by first becoming aware of potential anxiety triggers and then responding in a non-reactive fashion to situations and people that would have triggered panic attacks in the past:

It also helped me with my anxiety... and that can lead me to drinking and using. While I was going to work I would get an anxiety attack, because it was a whole new place, and everything was different. And about the third week into my new job, I started noticing that my awareness had picked up so much that the things that would normally distract me or throw me off, I would realize it and just sort of react off of it in a way that would be positive, I guess you could say.

This quote is congruent with empirical research demonstrating the therapeutic effects of mindfulness training on anxiety and negative mood states (Hofmann, Sawyer, Witt, & Oh, 2010). As exemplified in the foregoing account, the ability to skillfully respond to difficult emotions rather than react impulsively demonstrates the adaptive behavioral and emotional responses cultivated through mindfulness training.

**Coping with interpersonal stress—**Many participants reported benefitting from the calming and impulse-regulating effects of mindfulness in coping with interpersonal stressors, particularly those which occurred in relation to work. One participant described how mindfulness helped him to respond thoughtfully and skillfully to challenging interpersonal encounters at work, rather than “blow up”:

I deal with hundreds of people every day, so it helps me... just knowing what to expect, and how I’m going to react to it, ‘cause I already know what the outcome’s going to be. It helps me on the day to day, everyday, especially on the job...

A number of participants reported using mindfulness to take a broader perspective and place other's behavior in context by realizing that he or she "might be having a bad day, and it has nothing to do with you."

In an effort to proactively prevent interpersonal stress from negatively influencing their professional comportment, many participants arranged to practice on a regular basis before their workday began. For the following participant and several others, a morning mindfulness practice became an essential part of starting their day: "I get up and do the breathing technique every morning, before I go to work, because I know what my day is going to consist of."

### The Most Useful Aspects of Mindfulness-Oriented Recovery Enhancement

**Mindful breathing**—Most participants favored mindful breathing as a portable and quick method for gathering focus and calm. As one participant put it emphatically, "really and truly, the breathing technique, I use it every day, because it gives me focus, I use it quite a bit." The connection between one participant's practice of mindful breathing and his level of non-reactivity was visible to his coworkers in customer service, who even encouraged him in his practice: "I've got people on the job who'll tell me, "you need to go over there and sit down and breathe [laughter]."

**Developing a routine**—For a number of participants, the most useful and also the most challenging aspect of mindfulness training was making time for daily practice. One participant who had trouble sitting still found that he could instead incorporate mindful awareness into his everyday activities with promising effects: "What I learned to do for myself was just practice, to incorporate it into my day, and to use it throughout the day, rather than actually sitting."

The majority of participants found that designating a routine time for formal mindfulness meditation helped them to maintain a regular practice. Along with periods of formal mindful breathing practice, body scan exercises (i.e., mindfully focusing attention on sensations throughout the body) before sleep were the most commonly practiced technique. Importantly, several of the participants with a consistent formal meditation practice referred to the practice as "their practice" or "their mindfulness," illustrating the power of taking personal ownership of a skill. As one participant articulated, "It made a lot of difference, I use what I learned every morning, you have a set time where you use it, I use *mine* in the morning, to keep my awareness up and everything."

**Practice effects**—Multiple participants noted that the effects of regular mindfulness practice were concretely visible to them, and that this in part motivated their continued practice. In something of a paradox, several participants observed that consistent practice helped them to automatically shift into a mindful, deliberate attitude when confronted with provocative situations. The following participant had trouble beginning a regular practice routine, but found that mindful awareness became immediately accessible to him once his practice grew more consistent:

I started noticing, the more time I put into it... that it might just kick in at any second... I might not be thinking about it, but if I was to get upset, get into a situation that it would, by just practicing away from the sessions, it would come in handy.

Some participants noticed nearly instantaneous effects from their practice routine. The following participant described becoming aware of his ability to interrupt his automatic

responses in the middle of a provocative situation. Struck by his newfound increased self-regulation, the following participant devoted twenty minutes to daily practice:

I noticed after going through at least two classes, that anytime a stressful situation at work, or at home, or whenever I had a craving, I could just immediately stop what I was doing and take a few minutes to breathe and relax. And after practicing I felt better, and didn't have as strong an urge to use or didn't feel as stressed as before...

**Group process**—Although not intended as the primary mechanism of change, group discussions were a helpful component for participants in speaking about their experience of addiction and recovery. The following participant describes a common process of effective support groups in which a few people opening up encourages others to disclose:

I felt more comfortable opening up and talking about some things that I really wouldn't have ever brought up if some people hadn't spoken... I know that other people feel and act the same way I do, we're all recovering addicts, and alcoholics, but just to be able to hear someone else open up made me feel more comfortable about opening up. And at the same time too, hope that maybe someone else would open up, if they heard me.

**Therapist modeling**—A large number of participants expressed their belief that the instructor helped them to surmount their own obstacles to using mindfulness by modeling mindfulness in his facilitation of the group, and to adopt, through practice, the central attitude of acceptance:

if people veered off in the meditation or in their thoughts, or even in their expressions, he was very patient, and he steered them back, patiently, as you would do a child, not so much a new born, but as you would do a toddler... in a lot of ways, just watching him do that taught me, or gave me another tool... in my thinking process, that when you have thoughts just running through your head, it's okay, don't beat yourself up cause you started thinking about something else. Just remember what you were working on and come on back over there and do it. If you're driving off the street and your car veers over to right to the yellow line and you see it before you drive down into the ditch, then ease your car back onto the road, and it's OK. Don't flip out, 'cause you veered over toward the line a little.

Several participants reported that the instructor's ability to express the potency of mindfulness from the depth of his own practice was important in drawing them over the hump of uncertainty until they could experience the positive effects of the practice themselves.

**Praise**—Most participants felt that MORE would greatly benefit other residents of the therapeutic community, and recommended the program be continued. One participant recommended the program more broadly in recognition of the effects of mindfulness on general well-being: "I would recommend mindfulness for not only people with substance abuse problems, but people in general, because there's so much about the mind that we don't really pay attention to." Uniformly, the only way participants felt the MORE intervention could be improved would be to offer MORE to residents earlier in their recovery process (e.g., shortly after admission into the therapeutic community). Several participants believed that offering MORE to newly admitted residents would prevent relapse and attrition from treatment while improving quality of life in the therapeutic community.

## DISCUSSION

Based on the aforementioned accounts, it appears that participation in MORE had a substantial, positive impact on the lives of some individuals in recovery. This finding is significant, given the fact that participants had faced years of poverty, homelessness, violence, and trauma without the benefits of advanced education, economic resources, or political capital. It is unfortunate that many prior studies of mindfulness have been conducted with samples of white, middle- to upper-class individuals (with notable exceptions; e.g., Bowen et al., 2006). Given the low cost of mindfulness interventions and the promising findings reported herein, further study of mindfulness training in vulnerable populations is warranted for scientific and social justice reasons.

The themes of awareness, acceptance, and non-reactivity permeated the narratives of participants, many whom appeared to believe that mindfulness was a useful means of coping with addiction and stress. On the whole, it appeared that as individuals engaged in mindful breathing practice over time, they discovered it to be an increasingly potent means of decentering or “stepping back” from the stressors and hassles of their everyday lives. Out of this practice, many participants gradually gained insight into their own patterns of emotional reactivity, and found they indeed had a choice to respond intentionally, rather than react habitually, to the many stressful events and circumstances of their existence in the treatment facility and beyond in the larger community.

Ultimately, for many participants, the practice of mindfulness became a way of building inner strength, a well of resourcefulness from which they could draw skillful means to cope with the numerous challenges in their lives. Paradoxically, through repeated, highly intentional practice, mindful coping became an automatic form of emotion regulation (Gyurak, Gross, & Etkin, 2011), albeit a beneficial one that was well-positioned to replace the self-destructive habitual patterns that had brought these individuals to “rock bottom” and, eventually, to treatment. Thus, a number of participants disclosed that the practice of mindfulness elicited salutary cognitive-emotional states and adaptive coping behaviors, which when repeatedly engaged over time, accrued into durable changes in their very approach to life. Such change was, by many accounts, transformative. In the words of one woman:

By me using it every day, breathing, taking time to sit down and think about what I'm going to do before I react, not reacting on impulse. I used to be very self-destructive, and if something got in my way, I would hide behind the alcohol and the drugs to get past it. So now instead of doing that, I would take whatever time I need to sit down and collect my thoughts, not stay in my head about nothing.

Rather than impulsively self-medicating with substances as a means of coping with the challenges of life as they used to, through mindfulness the participants in this sample became people who were often able to rise above “rush and the chaos of the day” by learning:

To be able to put on hold, or just put aside, the million things that are going through my mind at a hundred miles an hour, and to be able to focus on just that moment, and just breathe. You know, at that moment, no matter how stressful my day was, or how many things I got going on, or how frustrated I was, at that moment I felt at peace, very much, you know, and was very happy... It used to be that I would have disturbing thoughts the minute I stopped thinking about other things, those thoughts would come. It was nice to be able to take a hiatus from that, and not have to worry about the thoughts coming, because of the simple fact that my mind was just clear.

Mindfulness training may be an effective means of promoting enduring behavior change. During the course of mindfulness training, one learns to work with negative emotions in a metacognitive context, resulting in non-reactivity to difficult mental contents and improved self-regulation in the face of stressors. The developmental progression of learning the techniques of mindfulness to cultivating and embedding its principles into all aspects of one's life may enable the individual to consolidate gains made in prior treatment and strengthen his or her recovery process.

Our study findings inform the literature on mindfulness treatment development and outcomes. While prior quantitative studies have identified therapeutic effects of mindfulness-based interventions on addiction, the present qualitative reports illuminate the process by which individuals in recovery may integrate mindfulness techniques into their everyday lives. Thus, these findings have the potential to inform the future optimization and delivery of mindfulness-based treatments. For example, quantitative data from previous investigations indicates that mindfulness training targets addictive behaviors by reducing the suppression of unwanted thoughts and feelings (Bowen et al., 2007; Garland et al., 2010). Congruently, our qualitative findings suggest that, among other therapeutic mechanisms, mindfulness training may alleviate negative emotions like guilt and shame, which commonly occur among individuals in early recovery when they experience craving for the substance of addiction (Soutullo, McElroy, & Goldsmith, 1998). The experience of guilt and shame can impede the recovery process, as the attempt to escape from these negative emotions through suppression may result in self-medication and relapse (Garland et al., 2011). Results indicate that instead of attempting to suppress cravings, negative emotions, and consequent feelings of guilt and shame, mindfulness practitioners in this study successfully disengaged from these undesirable mental experiences by cultivating an attitude of non-reactivity and acceptance toward them. This therapeutic benefit of mindfulness practice, as revealed through the first-person experience of the study participants, might be explicitly promoted by clinicians providing mindfulness training to clients in recovery.

### Study Limitations

Although we consider the findings reported herein to be a novel contribution to the social work addictions literature, our study is not without limitations. In the future, we plan to carefully distinguish MORE-related treatment effects from those associated with therapeutic community (TC) treatment generally. We also plan to systematically assess nonspecific treatment variables and therapist factors, so that the influence of these "common factors" variables can be differentiated from those specifically associated with the mindfulness intervention (Garland, in press; Sprenkle, David, & Lebow, 2009). In a significantly larger mixed methods randomized controlled trial of the MORE intervention we are currently planning, we will also interview members of the control group to determine what benefits they have experienced from TC treatment, will interview MORE group members about any perceptions of negative or unhelpful aspects of the MORE intervention, and will ask participants about any factors in their lives other than the MORE and TC treatments that may have exerted significant effects on their treatment outcomes. We also plan to implement a quality control procedure so that MORE and control group participants can check our conclusions to ensure they agree with our perceptions and will ask group leaders about their perceptions of MORE. Future longitudinal studies should also be conducted to determine if the processes associated with mindfulness training influence clinical outcomes in a sustained and durable way, and to evaluate to what extent those outcomes systematically differ by gender. Until such time as this larger and substantially more sophisticated investigation is performed, the study results reported herein must be considered tentative and interpreted with caution. At present, a full-scale randomized controlled trial is being conducted to test MORE with drug dependent clients, and pilot work is underway to examine the effects of

MORE on prescription opioid misuse among chronic pain patients. Future studies might examine MORE as a treatment for persons experiencing a range of behavioral addictions such as binge eating and pathological gambling.

## CONCLUSION

Unlike some forms of addictions treatment available to underserved and marginalized persons, mindfulness training through MORE appears to target the very pathogenic mechanisms that maintain addictive behavior (Garland et al., 2010). The practice of mindfulness may attenuate stress reactivity while increasing awareness and disrupting the automatic compulsion to consume psychoactive substances, leading to an increased ability to cope with emotional upsets and substance urges in stressful contexts. Importantly, the current study suggests that MORE is acceptable to socioeconomically disadvantaged individuals and feasible to implement within a residential treatment setting. If future studies continue to yield promising findings, mindfulness-oriented interventions should not only be made available to the privileged, but should also be accessible to the more vulnerable members of society, who may in fact need them the most.

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**Table 1****Session-Specific Description of Mindfulness-Oriented Recovery Enhancement**

<b>Session</b>	<b>Therapeutic Focus and Activities</b>
1	Discussion of mindfulness and automatic drinking; mindfulness of craving; mindful breathing and body scan
2	Discussion of cognitive reappraisal; practice of mindful decentering and mindful breathing
3	Discussion of attentional re-orienting as means of coping with negative emotions and craving; mindful breathing; mindfulness of perceptions & sensations; savoring natural pleasures
4	Discussion of craving; practice of “urge surfing,” mindfulness of craving, and contemplation of negative consequences of drinking; imaginal alcohol cue-exposure; mindful breathing practice
5	Discussion of the relationship of the stress response to craving; imaginal stress exposure; mindful breathing
6	Discussion of thought suppression, aversion, and attachment; exercise in the futility of thought suppression; mindful breathing and acceptance
7	Discussion of the deleterious effects of alcohol on the body; mindful interoceptive awareness; mindful walking
8	Discussion of relational triggers for relapse; mindful communication; compassion meditation
9	Discussion of interdependence, meaning, and spirituality; meditation on interdependence; mindful breathing
10	Review; discussion of how to maintain mindfulness practice; development of mindful relapse prevention plan; imaginal rehearsal of mindful relapse prevention; mindful breathing