

# The Relationship Between Mindfulness and Compulsive Sexual Behavior in a Sample of Men in Treatment for Substance Use Disorders

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**Abstract** Substance use disorders (SUDs) are a serious worldwide problem. Despite years of research on the treatment of SUDs, relapse remains high. One factor that may complicate SUDs treatment for some patients is compulsive sexual behavior. Factors that are related to both SUDs and compulsive sexual behavior could be targeted in SUDs treatment. In the current study, we examined dispositional mindfulness, a protective factor for a range of mental health problems, and its relationship to compulsive sexual behavior in a SUDs treatment sample. This is the first study to examine this relationship in a SUDs sample. Medical records from men in residential SUDs treatment were reviewed for the current study ( $N=271$ ). Upon admission to treatment, men completed self-report measures on alcohol and drug use, dispositional mindfulness, and compulsive sexual behavior. Bivariate correlations demonstrated dispositional mindfulness to be negatively associated with a variety of indicators of compulsive sexual behavior. After controlling for alcohol and drug use and problems in hierarchical regression analyses, which were both associated with compulsive sexual behaviors, dispositional mindfulness remained negatively associated with all of the compulsive sexual behavior indicators. Our results provide the first empirical association between dispositional mindfulness and compulsive sexual behavior in a SUDs

sample. Although continued research is needed in this area, our findings suggest that it may be beneficial for SUDs treatment to incorporate mindfulness-based interventions for individuals with comorbid compulsive sexual behavior.

**Keywords** Alcohol · Drugs · Mindfulness · Compulsive sexual behavior · Substance use

## Introduction

Substance use disorders (SUDs) are a serious and prevalent problem worldwide (Grant et al. 2015; Whiteford et al. 2013). Despite an abundance of research on risk and protective factors for SUDs (e.g., Kendler et al. 2003; Swendsen et al. 2010), as well as research on SUDs treatment (e.g., Bowen et al. 2014; Carroll and Onken 2014), relapse rates following SUDs treatment remain high (Walitzer and Dearing 2006). Factors that may complicate SUDs treatment outcomes include comorbid mental health problems (Bradizza et al. 2006). One comorbid mental health problem that has received only minimal attention with SUDs, but may negatively impact treatment outcomes and increase the risk for relapse, is compulsive sexual behavior (Elmquist et al. *In press*). Indeed, research suggests that there is high comorbidity between SUDs and compulsive sexual behavior (Sussman et al. 2011) and that untreated compulsive sexual behavior may increase the risk for relapse, due to substances being used to cope with the shame associated with these behaviors (Schneider and Irons 2001). Due to this, it is important for research to examine factors that may influence both problems; these factors could be targeted in treatment programs. Toward this end, recent research has examined the relationship between mindfulness and SUDs, as well as between mindfulness and hypersexual behavior, which is similar to compulsive

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sexual behavior. However, we are unaware of any research that has examined the relationship between mindfulness and compulsive sexual behavior in a SUDs sample.

Mindfulness is commonly defined as “paying attention in a particular way: “on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn 1994, p. 4). Theoretically, mindfulness allows individuals to experience feelings, thoughts, and behaviors with awareness, nonjudgmentally, and nondefensively (Heppner et al. 2008). With mindfulness, thoughts and feelings are allowed to naturally arise and fall away, and efforts to remove unpleasant thoughts or feelings or engage in reactive behavior are diminished (Segal et al. 2002). Over time, mindfulness may become a “way of being” that permeates all aspects of living (Kabat-Zinn 2003).

In the current study, we examined mindfulness as a disposition. Dispositional mindfulness can be conceptualized as a naturally occurring individual characteristic, or trait, which can be ascertained through self-report measures that assess individual tendencies to have sustained awareness and attention to what occurs in the present moment of everyday life (Bowen and Enkema 2014; Brown and Ryan 2003). Not surprisingly, research has found that dispositional mindfulness and mindfulness-based interventions, which attempt to increase dispositional mindfulness through various mindfulness meditation practices, are associated with a wealth of positive mental and physical health outcomes, such as decreased rumination and worry, decreased depression, and increased subjective well-being (Eberth and Sedlmeier 2012; Gu et al. 2015; Keng et al. 2011).

Recently, there has been increased attention on mindfulness in SUDs populations. For instance, research has shown that dispositional mindfulness is lower among individuals in SUDs treatment relative to the general population (Dakwar et al. 2011; Shorey et al. 2014). Bowen and Enkema (2014) found that dispositional mindfulness was negatively associated with substance use dependence severity in men and women enrolled in outpatient SUDs treatment. Moreover, mindfulness-based relapse prevention (MBRP; Bowen et al. 2009), an 8-week outpatient group therapy for SUDs, has been shown to reduce substance use 12 months posttreatment to a greater degree than traditional relapse prevention (Marlatt and Gordon 1985) and a 12-step-based intervention (Bowen et al. 2014). Therefore, mindfulness interventions are an important consideration among individuals in treatment for substance use.

Compulsive sexual behaviors (CSBs) can be defined as “a clinical syndrome characterized by the experience of sexual urges, fantasies, and behaviors that are recurrent, intense, and a distressful interference in one’s daily functioning” (Miner et al. 2007). Specifically, CSBs encompass problems with preoccupation with thoughts surrounding sexual behavior, loss of control over sexual

behavior, disturbances in relationships due to sexual behavior, and disturbances in affect (e.g., shame) due to sexual behavior (Carnes et al. 2010). It is estimated that in the general population, the prevalence of CSBs ranges from 3 to 17 % (Cooper et al. 2000; McKeague 2014; Roller 2004) and is a chronic problem (Grant et al. 2005). This wide range in the prevalence of CSBs is largely due to different terminologies (e.g., hypersexual behavior; sexual addiction) and assessment techniques used in the literature, which is likely due to CSBs not being acknowledged as a diagnosable mental health disorder in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychological Association 2013). Thus, for the purposes of the current study, we have decided to utilize the term “CSBs” to be consistent with the terminology used in the assessment measure used in the current study (Carnes et al. 2010), as well as recent research (Karim and Chaudhri 2012; Najavits et al. 2014).

Related to SUDs, it is estimated that 40–60 % of individuals with CSBs also meet diagnostic criteria for a SUDs (Sussman et al. 2011). There are a number of theoretical explanations for this high level of comorbidity between CSBs and SUDs. First, it has been theorized that individuals who engage in CSBs may use substances to cope with negative feelings (e.g., shame, guilt) that they may experience as a result of their sexual behavior and resulting negative consequences (McKeague 2014). Moreover, it is possible that individuals with both CSBs and SUDs have a difficult time tolerating negative affect, which may lead to both SUDs and CSBs. Second, the high comorbidity between CSBs and SUDs may be due to “cross-addiction,” which is defined as the cycling between multiple, different, addictive behaviors and which is prevalent among individuals in treatment for SUDs (McKeague 2014). It is also plausible that both SUDs and CSBs have similar etiological factors, such as impulsivity, which is known to be associated with both problems (Raymond et al. 2003; Verdejo-García et al. 2008). Thus, it is clear that CSBs and SUDs co-occur at high rates, warranting continued research on their association.

To date, there is a dearth of research on the relationship between dispositional mindfulness and CSBs, and no known research on this association among individuals in treatment for SUDs. Reid et al. (2014a) examined the relationship between dispositional mindfulness and hypersexual behavior, which is similar to CSBs and is defined as “a phenomenon involving repetitive and intense preoccupation with sexual fantasies, urges, and behaviors, leading to adverse consequences and clinically significant distress or impairment in social, occupational, or other important areas of functioning” (p. 314), in a sample of male hypersexual patients and nonclinical controls. Findings demonstrated dispositional mindfulness to be negatively associated with hypersexual behavior, even after controlling for impulsivity. Similar findings were observed among men reporting hypersexual behavior at outpatient

clinics where hypersexual behavior negatively associated with self-compassion, an important component of mindfulness (Reid et al. 2014b). In addition, in a community sample of male and female adults, Spinella et al. (2013) demonstrated dispositional mindfulness to be negatively associated with CSBs. Thus, there is a small literature demonstrating dispositional mindfulness to be negatively associated with CSBs among non-SUDs populations.

There are empirical and theoretical reasons to suspect that mindfulness will also be inversely associated with CSBs among men in treatment for SUDs. Theoretically, mindfulness is believed to exert its beneficial influence through a number of mechanisms, including increased self-control and emotion regulation, and reduced impulsivity (e.g., Hill and Updegraff 2012), all of which are problems associated with various indicators of CSBs (Kafka 2010; Reid et al. 2011). Consequently, it is speculated that mindfulness-based interventions may be beneficial for individuals with hypersexual behavior (Reid et al. 2014a). Moreover, as the empirical literature demonstrates mindfulness to be associated with reduced substance use severity (Bowen and Enkema 2014) and lower hypersexual behavior (Reid et al. 2014a) and CSBs in a community sample (Spinella et al. 2013), and research also demonstrates a high comorbidity between SUDs and CSBs (Sussman et al. 2011), it stands to reason that mindfulness would be negatively associated with CSBs in a SUDs population.

In the current study, we investigated the relationship between dispositional mindfulness and CSBs among men in residential treatment for SUDs. This study is important as it is the first known investigation of this relationship in a population at-risk for a high co-occurrence between CSBs and SUDs. Based on prior research demonstrating negative associations between dispositional mindfulness and CSBs, and similar behaviors, in non-SUDs populations, as well as theory suggesting their association, we hypothesized that CSBs would be inversely associated with dispositional mindfulness. We hypothesized that this relationship would be found even after controlling for alcohol and drug use and problems, known correlates of CSBs, due to the strong theoretical link between dispositional mindfulness and CSBs.

## Method

### Participants

The current study sample consisted of 271 men in residential SUDs treatment. The primary diagnoses for this sample included alcohol dependence (54.5 %), opioid dependence (17.9 %), and polysubstance dependence (14.9 %). The remaining patients had a mix of primary substance use diagnoses (e.g., cannabis dependence; amphetamine dependence).

The mean age of patients was 40.86 (SD=10.65). The mean number of years of education completed was 13.83 (SD=2.10). The majority of patients were non-Hispanic Caucasian (91.0 %). This sample is a subsample of men reported on elsewhere (Elmquist et al. 2015).

### Procedures

Male patient medical records between March 2013 and April 2014 from a private residential SUDs treatment facility, located in the Southeastern USA, were reviewed and utilized for the current study. All medical records during this time period were included and there were no exclusion criteria. To be admitted into residential treatment at this facility, patients must be 18 years of age or older and have a primary SUD. The residential treatment program is approximately 28–30 days and largely follows a traditional 12-step (abstinence-based) model. Upon admission to the facility, and after medical detoxification (if necessary), patients complete a battery of self-report measures to aid in their treatment (discussed below). Diagnoses were based on the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition – Text Revision (DSM-IV-TR) criteria (American Psychiatric Association 2000). All substance use diagnoses are made through consultation and the consensus of a licensed psychologist, a psychiatrist, a general physician, and substance abuse counselors. As part of their treatment informed consent, patients are informed that their medical records may be de-identified and utilized for research. All procedures were approved by the Institutional Review Board.

### Measures

**Dispositional Mindfulness** The Mindful Attention Awareness Scale (MAAS), 14-item version, was employed to assess dispositional mindfulness (Brown et al. 2011). The MAAS, one of the most widely used measures of dispositional mindfulness, is designed to measure a receptive state of mind, in which awareness of what is taking place in the present moment is simply observed, without appraising or evaluating experience. The MAAS has demonstrated good psychometric properties. A mean score is obtained by summing all items, which are rated on a 6-point Likert scale (*1=almost always; 6=almost never*), and dividing by the total number of items. Higher scores correspond to greater dispositional mindfulness.

**Compulsive Sexual Behaviors** CSBs were measured with the Sexual Addiction Screening Test-Revised (SAST-R; Carnes et al. 2010). The SAST-R consists of 45 self-report items that screen for possible CSBs. A SAST Core scale is

designed to capture four dimensions thought to be early indicators of addiction, including preoccupation (obsessive thoughts of sexual behavior), loss of control (inability to stop/control sexual behavior), relationship disturbance (sexual behavior has caused problems in relationships), and affect disturbance (e.g., depression, anxiety due to sexual behavior; Carnes et al. 2010). These four areas can also be examined individually. Thus, in the current study, we utilized the following SAST-R subscales: preoccupation (e.g., “Has sex (or romantic fantasies) been a way for you to escape your problems?”), loss of control (e.g., “Do you ever think your sexual desire is stronger than you are?”), relationship disturbance (e.g., “Has your sexual behavior ever created problems for you and your family?”), affect disturbance (e.g., “Do you ever feel bad about your sexual behavior?”), and core (a combination of all subscales). The SAST-R has additional subscales (e.g., Internet items), and we decided to only utilize the above four subscales due to the preliminary nature of the current study. All items are answered using a “yes”/“no” format, with items endorsed as “yes” coded as “1” and items endorsed as “no” coded as “0.” Total scores were obtained by summing all items within each respective subscale. SAST-R has evidence of adequate reliability and validity (Carnes et al. 2010).

**Alcohol Use and Problems** The Alcohol Use Disorders Identification Test (AUDIT; Saunders et al. 1993), which contains 10-items, assessed alcohol use and problems in the year prior to treatment. The AUDIT measures the frequency of alcohol use, symptoms that might indicate tolerance to alcohol, and negative consequences of alcohol use. The AUDIT is a widely used measure of alcohol use and problems with good psychometric properties (Babor et al. 2001).

**Drug Use and Problems** The Drug Use Disorders Identification Test (DUDIT; Stuart et al. 2003; Stuart et al. 2004), a 14-item measure, assessed drug use in the year prior to treatment. The DUDIT measures the frequency of drug use, symptoms that may indicate tolerance, and negative consequences associated with drug use across seven different types of drugs (cannabis, cocaine, hallucinogens, stimulants, sedatives/hypnotics/anxiolytics, opiates, and other substances [e.g., steroids, inhalants]). The DUDIT has good psychometric properties (Stuart et al. 2004).

### Data Analytic Plan

All analyses were conducted using SPSS version 18.0. We first examined all variables for normal or skewed distributions and whether demographic characteristics were associated with the variables of interest. Next, bivariate correlations among study variables were examined. Lastly, we conducted hierarchical multiple regression analyses to examine whether

dispositional mindfulness remained associated with CSBs after controlling for alcohol and drug use and problems. This was done in two steps. In the first step, alcohol and drug use and problems were entered as predictors of CSBs. In the second step, dispositional mindfulness was added as a predictor of CSBs. This was done for each indicator for CSBs separately.

### Results

We first examined all study variables for skew and kurtosis, with results demonstrating that all SAST-R subscales were positively skewed and kurtotic. Thus, these variables were log-transformed prior to analyses to reduce skew and kurtosis. Next, we examined whether demographic characteristics were associated with the SAST-R subscales, and results demonstrated that age and years of education were not significantly associated with any subscale. Thus, these demographic variables were not included in additional analyses.

Table 1 displays bivariate correlations, means, and standard deviations among study variables. As displayed, dispositional mindfulness was negatively and significantly associated with all five SAST-R subscales. Alcohol use was positively and significantly associated with all five SAST-R subscales, whereas drug use was only positively and significantly associated with the relationship disturbance subscale. Both alcohol and drug use were negatively and significantly associated with dispositional mindfulness.

The findings for the hierarchical multiple regression analyses are displayed in Table 2. As displayed, dispositional mindfulness remained a significant predictor of each indicator of CSBs (i.e., core, preoccupation, loss of control, relationship disturbance, and affect disturbance) after controlling for the effects of alcohol and drug use and problems. Alcohol use remained positively associated with all indicators of CSBs, and drug use was positively associated with the Core and Affect Disturbance indicators of CSBs.

### Discussion

Recent research has demonstrated a high comorbidity between SUDs and compulsive sexual behaviors (CSBs) in the general population (Sussman et al. 2011), and recent research has begun to examine CSBs in SUDs treatment populations (e.g., Elmquist et al. *in press*). Moreover, dispositional mindfulness has been observed to negatively associate with CSBs in the general population (e.g., Spinella et al. 2013) and substance use among individuals in treatment for SUDs (Bowen and Enkema 2014). Additionally, mindfulness-based interventions are known to improve SUDs treatment outcomes (Bowen et al. 2014). Thus, in the current study, we

**Table 1** Bivariate correlations, means, and standard deviations among study variables

	1.	2.	3.	4.	5.	6.	7.	8.
1. AUDIT	–	–.24***	–.18**	.26***	.20**	.20**	.22***	.21***
2. DUDIT		–	–.21***	.11	.07	.11	.10	.18**
3. MAAS			–	–.32***	–.28***	–.22***	–.23***	–.22***
4. SAST Core Items				–	.84***	.69***	.77***	.76***
5. SAST Affect Disturbance					–	.59***	.49***	.63***
6. SAST Loss of Control						–	.52***	.58***
7. SAST Preoccupation							–	.48***
8. SAST Relationships								–
<i>M</i>	16.03	11.10	4.19	1.57	.49	.25	.41	.34
<i>SD</i>	11.65	13.21	1.04	2.96	1.06	.78	.76	.81
Range	0–40	0–70	1.43–6	0–17	0–5	0–4	0–4	0–4

Means and standard deviations for all SAST scores are presented as raw scores

*AUDIT* alcohol use disorders identification test, *DUDIT* drug use disorders identification test, *MAAS* mindful attention awareness scale, *SAST* sexual addiction screening test

\*\* $p < .01$ ; \*\*\* $p < .001$

investigated the relationship between dispositional mindfulness and CSBs in a sample of men in residential treatment for SUDs. Findings supported our hypothesis that dispositional mindfulness would negatively associate with CSBs.

Specifically, findings demonstrated that dispositional mindfulness was negatively associated with the CSBs subscales of affective disturbance, loss of control, preoccupation, and relationship disturbance (as well as the combination of these subscales), even after controlling for alcohol and drug use and problems, which are known correlates of CSBs. These findings are important for several reasons, such as adding to the growing literature on the potential beneficial effects of high levels of dispositional mindfulness among individuals in SUDs treatment. Although our findings should be considered preliminary until replicated and extended, this is the

first study to demonstrate dispositional mindfulness to be negatively associated with CSBs in a sample of men in SUDs treatment.

From a theoretical standpoint, it makes sense that dispositional mindfulness would be negatively associated with CSBs. That is, mindfulness is believed to exert its beneficial effects by enhancing emotion regulation, impulse control, and decreasing reactive behavior (Baer 2003), which are all counter to CSBs. It is possible that higher levels of dispositional mindfulness reduce thoughts about CSBs in general, thus reducing actual engagement in CSBs. However, it is also possible that higher levels of dispositional mindfulness reduce impulsive and reactive behavior when faced with thoughts about engaging in CSBs. Future research will need to clarify this distinction, although our preliminary study adds to the growing literature suggesting that dispositional mindfulness

**Table 2** Hierarchical multiple regression analyses predicting compulsive sexual behavior

	Core items $\beta$	Affect disturbance $\beta$	Loss of control $\beta$	Preoccupation $\beta$	Relationship disturbance $\beta$
Model 1	$R^2 = .10$ $F = 15.72***$	$R^2 = .05$ $F = 7.96***$	$R^2 = .06$ $F = 9.96***$	$R^2 = .07$ $F = 10.84***$	$R^2 = .10$ $F = 14.91***$
AUDIT	.31***	.23***	.25***	.26***	.26***
DUDIT	.19***	.12*	.17**	.16**	.24***
Model 2	$R^2 = .16$ ( $\Delta R^2 = .06$ ) $F = 16.91***$	$R^2 = .11$ ( $\Delta R^2 = .06$ ) $F = 10.47***$	$R^2 = .09$ ( $\Delta R^2 = .03$ ) $F = 8.96***$	$R^2 = .10$ ( $\Delta R^2 = .03$ ) $F = 9.81***$	$R^2 = .12$ ( $\Delta R^2 = .02$ ) $F = 11.77***$
AUDIT	.24***	.17**	.21**	.22***	.23***
DUDIT	.12*	.06	.12*	.11	.21**
MAAS	–.25***	–.24***	–.16*	–.16**	–.14*

*AUDIT* alcohol use disorders identification test, *DUDIT* drug use disorders identification test, *MAAS* mindful attention awareness scale, *SAST* sexual addiction screening test

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

is associated with lower CSBs/hypersexual behavior. As this is the first study to examine the relationship between dispositional mindfulness and CSBs in a SUDs sample, there are a number of avenues for future research. One area for future research is to investigate mediators of the relationship between dispositional mindfulness and CSBs. Theoretically and empirically, lower dispositional mindfulness is associated with higher levels of impulsivity (Peters et al. 2011); impulsivity is associated with increased substance use (Verdejo-García et al. 2008), and impulsivity is associated with CSBs (Raymond et al. 2003). Thus, impulsivity may be one possible mediator of this relationship.

Another area for future research on the intersection between SUDs, CSBs, and dispositional mindfulness is that the examination of these relationships is more diverse samples that utilize different methodological designs. For instance, our study only examined male residential SUDs patients. However, women in SUDs treatment also evidence high comorbidity with CSBs (Sussman et al. 2011) and benefit from mindfulness-based interventions (Bowen et al. 2014). Thus, it is plausible that the relationships identified in the current study would also be evident in women. It will also be important for research to examine this relationship among individuals who are not in SUDs treatment, as it is possible that this relationship is only evident for individuals with more severe substance use problems (e.g., individuals in treatment). Moreover, longitudinal studies are needed to determine whether these relationships hold up over time, as well as to clarify the potential causal relationships among SUDs, CSBs, and dispositional mindfulness.

Finally, we believe that it will be important for future research to examine whether concurrent treatment for SUDs and CSBs is effective, as preliminary research in this area suggests some success when both problems are treated concurrently (i.e., Hartman et al. 2012). Specifically, we believe that it would be fruitful for future research to examine whether mindfulness-based interventions are effective at treating this comorbidity. First, research demonstrates that mindfulness-based interventions enhance dispositional mindfulness (Bowen et al. 2009). Second, research has demonstrated mindfulness-based interventions to be effective in reducing substance use after treatment (Bowen et al. 2014). Third, it has been proposed that mindfulness-based interventions may be effective for problems similar to CSBs (i.e., Reid et al. 2014a), which is further supported by recent theoretical writings on mindfulness-based interventions being appropriate across diagnostic categories (Greeson et al. 2014). It will be important for future research to determine whether mindfulness-based interventions need to be developed specifically for CSBs and comorbid

SUDs, or whether general mindfulness-based programs (e.g., mindfulness-based stress reduction, mindfulness-based relapse prevention; Bowen et al. 2009; Kabat-Zinn 1990) are effective for this problem.

### Limitations

There are several limitations that should be addressed in future research. We utilized a cross-sectional chart review methodology, hindering our ability to determine causation among study variables. Longitudinal research is therefore needed to determine whether deficits in dispositional mindfulness precede and increase the risk for SUDs/CSBs. The generalizability of our findings is limited and future research should examine these relationships in nontreatment seeking populations and more diverse treatment samples, as the majority of the patients included were Caucasian. Diagnostic interviews were not conducted by the treatment facility to confirm substance use diagnoses, or to establish nonsubstance use diagnoses (e.g., personality disorders, depression), which should be utilized in future research to provide greater confidence in diagnoses. The assessment measures also had limitations. The MAAS, although widely used, only examines one specific aspect of dispositional mindfulness: moment-to-moment awareness. Other self-report measures of dispositional mindfulness capture different aspects of this complex construct (e.g., nonjudgment, nonreactivity; Baer et al. 2006), and future research would be improved with the inclusion of more comprehensive measures of dispositional mindfulness. Similarly, there are additional measures of CSBs and similar constructs (e.g., hypersexual behavior), which would be fruitful for future research to include (e.g., Carnes et al. 2012; Miner et al. 2007), as the measure utilized in the current study includes items that would not reflect CSBs (e.g., items about childhood sexual abuse). Due to the chart review nature of the current study, we did not have access to individual items for each self-report measure and are therefore unable to report internal consistencies for our measures. Finally, as there is no agreed upon criteria for CSBs, the assessment of this construct is limited.

In summary, this is the first study to examine the relationship between dispositional mindfulness and CSBs in a sample of men in residential treatment for SUDs. This research is important due to the high comorbidity between SUDs and CSBs; recent research suggesting an empirical and theoretical relationship between CSBs and mindfulness, and research demonstrating mindfulness-based interventions are effective for the reduction of substance use. Pending replication and extension by future research, this research suggests that mindfulness-based interventions should be investigated for individuals with comorbid SUDs and CSBs.

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### Compliance with Ethical Standards

**Conflict of Interest** The first and last authors receive consulting compensation from Cornerstone of Recovery.

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