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A preliminary investigation of the relationship between dispositional mindfulness and eating disorder symptoms among men in residential substance use treatment

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Abstract

The comorbidity between eating disorders (EDs) and substance use disorders (SUDs) is of particular concern given the high rates of mortality, relapse and poor treatment outcomes associated with both disorders. As a result, there has been a growing impetus within the field to elucidate factors that might influence and aid treatment for this comorbidity. One such factor is dispositional mindfulness, as past literature has demonstrated a significant relationship between mindfulness and both EDs and SUDs. However, we are unaware of any research that has examined the relationship between dispositional mindfulness and ED symptoms in a sample of men in residential treatment for SUDs. Medical records from 152 men were included in the current study. Alcohol and drug use and problems, ED symptoms, and dispositional mindfulness were assessed with self-report measures. Hierarchical regression analysis indicated that dispositional mindfulness was inversely related to ED symptoms after controlling for alcohol use, drug use, and age. Although results are preliminary and continued research in this area is needed, our findings suggest that there may be potential usefulness in targeting and enhancing mindfulness among patients in residential treatment for SUDs with co-occurring psychiatric symptoms (e.g., EDs).

Keywords

Eating Disorders; dispositional mindfulness; substance use disorders; bulimia nervosa; binge eating disorder; residential treatment

DECLARATION OF INTEREST: Gregory Stuart started conducting psychoeducational treatment groups for patients at Cornerstone of Recovery for a maximum of 4 hours per week. None of this research project pertains to any of the psychoeducational groups. Dr. Stuart does not ever do any study recruitment, is not informed which patients do or do not participate in research, and does not mention anything about research to the patients attending groups. Ryan Shorey started working as a research consultant at Cornerstone. There is no restriction on what Ryan can publish and his research consultation does not influence the study results in any way. Ryan does not interact with Cornerstone patients. Ryan has reported all of his consultation activities to Ohio University and no concern about financial conflict of interest has been raised.

Substance use disorders (SUDs) and eating disorders (EDs; bulimia nervosa and binge eating) are among the most difficult to treat psychiatric disorders, as both are associated with high morbidity (e.g., Dickey, Normand, Weiss, Drake, & Azeni, 2002; Winkler, Christiansen, Lichtenstein, Hansen, Bilenberg, & Støving, 2014), mortality (e.g., Arcelus, Mitchell, Wales, & Nielsen, 2011; Finney, Moos, & Timko, 1999), and relapse rates (e.g., DeJong, Broadbent, & Schmidt, 2012; McLellan, Lewis, O'Brien, & Kleber, 2000). A number of common underlying mechanisms have been proposed to explicate the co-occurrence between EDs and SUDs, such as problems with impulsivity and loss of control and a heightened risk for self-destructive behavior (Harrop & Marlatt, 2010). Given the high mortality and relapse rates for both disorders, there has been a growing impetus to elucidate factors that are associated with both disorders that could be targeted in treatment.

One such factor that has been the focus of a growing body of research is dispositional mindfulness. Indeed, extant literature has supported the relationship between SUDs and mindfulness (Dakwar, Mariani, & Levin, 2011; Shorey, Brasfield, Anderson, & Stuart, 2014) and EDs and mindfulness (Lavender, Jardin, & Anderson, 2009; Lavender, Wonderlich, Engel, Gordon, Kaye, & Mitchell, 2015). However, no known research has examined the relationship between mindfulness and EDs in a substance use sample. Thus, the current study sought to examine this important relationship among men in residential treatment for substance use disorders.

For the purposes of the current study, mindfulness is conceptualized as a disposition. Dispositional mindfulness has been defined as a trait or disposition to remain aware and attentive to the present moment (Bowen & Ryan, 2003). Dispositional mindfulness has been the focus of research and interventions, as it can be assessed with self-report measures and altered through targeted and enhanced in mindfulness-based interventions (Bowen & Ryan, 2003; Eberth & Sedlmeier, 2012; Gu, Strauss, Bond, & Cavanagh, 2015; Keng, Smoski, & Robins, 2011).

Mindfulness and SUDs

There has been a growing interest in the use of mindfulness with substance use populations. Research has supported a relationship between dispositional mindfulness and substance use such that substance use samples report lower levels of dispositional mindfulness (Brooks, Kay-Lambkin, Bowman, & Childs, 2013; Dakwar, Mariani, & Levin, 2011; Shorey, Stuart, & Anderson, 2013). For example, in a study utilizing a clinical substance use sample, Bowen and Enkema (2014) found evidence for a significant inverse relationship between dispositional mindfulness and substance use, such that participants reporting lower dispositional mindfulness also reported more substance use. Moreover, in a meta-analysis examining the relationship between dispositional mindfulness and substance use, Karyadi et al. (2014) found support for a significant, inverse relationship between dispositional mindfulness and substance use, and this relationship was more robust for patients in inpatient versus outpatient treatment and for individuals with more problematic substance use.

Mindfulness and EDs

A significant negative relationship between eating disorders (EDs) and mindfulness has also been supported by extant empirical and theoretical literature. For instance, Lavender et al (2009) examined the relationship between dispositional mindfulness and eating disorder symptoms and results indicated that low levels of mindfulness significantly contributed to bulimia symptoms even after controlling for known covariates (e.g., body mass index). According to Lavender and colleagues (2009), individuals low in dispositional mindfulness are more likely to engage in experiential avoidance in response to negative emotions and thoughts. Experiential avoidance is one proposed mechanism that contributes to the etiology and maintenance of eating disorder behaviors (Lavender, 2009).

Theoretical literature has further posited that emotion dysregulation is an important mechanism underlying eating disorder symptoms (Lavender, Wonderlich, Engel, Gordon, Kaye, & Mitchell, 2015). For instance, according to the affect regulation model of eating disorders, individuals engage in binge eating and/or bingeing and purging in order to cope with distressing emotions, affect, and cognitions. This theory suggests that individuals who engage in disordered eating behaviors have difficulty with emotion regulation, emotional reactivity, and distress tolerance. For instance, in a meta-analytic review of literature, Lavender and colleagues (2015) utilized a multidimensional model of emotion dysregulation to examine the relationship between bulimia nervosa and emotion dysregulation. Results demonstrated that individuals with bulimia nervosa had lower emotion regulation scores, relative to non-clinical controls, in the following facets of emotion regulation: (1) global emotion dysregulation deficits (e.g., decreased likelihood of using cognitive reappraisal strategies); (2) impulse control deficits and a decreased likelihood to engage in goal-directed behavior under distress; (3) deficits in emotional acceptance and awareness; and (4) decreased likelihood to approach and tolerate emotionally laden situations (Lavender et al., 2015). Thus, it is possible that individuals with ED symptoms will also have deficits in dispositional mindfulness, as emotion dysregulation has also been found to be associated with deficits in mindfulness (Greeson, Garland, & Black, 2014 ; Lavender, Gratz, & Tull, 2011).

There has been an increased interest and a growing focus on mindfulness-based interventions in the treatment of EDs. Past work has supported the effectiveness of these interventions in the treatment of EDs (Kristeller, Baer, & Wuillian-Wolever, 2006). For instance, dialectical behavior therapy (DBT; Linehan, 1993), mindfulness-based cognitive therapy (MBCT; Arch & Caske, 2006; Segal, Williams, & Teasdale, 2002), acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999), and mindfulness-based eating awareness training (MB-EAT; Kristeller & Hallett, 1999) have been adapted for the treatment of EDs. For example, ACT and DBT interventions have been adapted for the treatment of EDs and both treatments include a mindfulness component that seek to enhance emotion regulation through acceptance (Juarascio, Forman, & Herbert, 2010; Linehan & Chen, 2005).

Extant research has supported the effectiveness of both DBT and ACT in increasing acceptance and emotion regulation skills and decreasing eating pathology (Juarascio et al.,

2010; Kristeller et al., 2006; Kristeller, Wolever, & Sheets, 2014; Linehan & Chen, 2005). Moreover, ED interventions that focus exclusively on mindfulness (e.g., MBCT, MB-EAT) have also been empirically supported in the extant literature. For instance, MB-EAT includes mindfulness interventions and guided mindfulness practices that seek to reduce ED symptomatology through enhancing awareness to the negative emotional states that influence disordered eating behaviors (Kristeller et al., 2006; Kristeller & Wolever, 2010; Kristeller, Wolever, & Sheets, 2014).

In terms of the relationship between EDs and dispositional mindfulness among substance dependent populations, theoretical and empirical literature suggests that negative affectivity (i.e., disposition to experience negative affect and emotions) and emotional reactivity are common mechanisms maintaining many psychiatric disorders, including SUDs and EDs (Greeson et al., 2014). Negative affectivity is marked by difficulties with emotion regulation, metacognitive awareness, attentional capacities, and rumination while emotional reactivity is characterized by “reacting intensely, automatically, and habitually to the experience of negative emotions and stress” (Greeson et al., 2014, p. 538). It is posited that individuals with negative affectivity and emotional reactivity (e.g., ED and SUD samples) use suppression in order to cope with negative and distressing emotions (Greeson et al., 2014). For individuals with EDs and SUDs, this suppression is likely manifested in the use of substances (i.e., alcohol, drugs) and disordered eating behaviors (bingeing/purging; Greeson et al., 2014). In sum, difficulties with negative affectivity and emotional reactivity are suggestive of deficits in dispositional mindfulness, and these deficits are ultimately associated with the use of maladaptive behaviors (e.g., substance use and disordered eating) to cope with negative emotional states (Greeson et al., 2014).

Current Study

The empirical literature indicates that there is a significant and inverse relationship between mindfulness and EDs (e.g., Lavender et al., 2009, 2015) and SUDs (Bowen & Enkema, 2014; Dakwar et al., 2011). However, we are unaware of research that has examined the relationship between mindfulness and EDs in a substance dependent population in residential treatment. Thus, the current, exploratory study sought to examine this relationship in a sample of men in residential treatment for SUDs. Given previous literature supporting deficits in dispositional mindfulness among individuals with ED symptoms (e.g., Lavender et al., 2009; 2015), it was hypothesized that dispositional mindfulness would be inversely related with ED symptoms after controlling for age and problematic alcohol and drug use. It should be noted that the current study focused exclusively on men, as there is a dearth of research examining ED symptoms and factors influencing ED symptoms among male samples (Schooler & Ward, 2006). Men are an understudied and important group particularly given the recent increase in ED symptoms and body image concerns among men (Schooler & Ward, 2006). Furthermore, men are less likely than women to seek treatment for their ED symptoms, thus men with comorbid EDs and SUDs are an important at-risk population that need further examination (Berger, Levant, McMillan, Kelleher, & Sellers, 2005). In sum, the current study sought to extend the literature by (1) examining the relationship between mindfulness and EDs in substance dependent population in residential

treatment and (2) examining this relationship in men, an understudied population in ED research.

Method

Participants and Procedures

One hundred fifty-two men in a 12-step based residential treatment program located in the Southeastern United States were included in the current study. All patients who are admitted to the program engage in treatment for between 28 and 35 days, are 18 years of age or older, and have a primary substance use diagnosis. After admission to the residential program, all patients complete medical detoxification, as needed, and an intake assessment that includes a number of self-report and clinical interviews. Treatment staff, comprised of a licensed psychologist, a psychiatrist, a general physician, and substance abuse counselors, utilize these intake assessments in order to make substance use diagnoses. All substance use diagnoses are based on the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition – Text Revision (DSM-IV-TR) criteria. As part of the informed consent for treatment, patients are informed that their de-identified assessment data could be used for research. De-identified assessments between February 2013 and April 2014 were used in the current study. All of the aforementioned procedures were approved by the last author's Institutional Review Board (IRB).

The sample consisted of primarily non-Hispanic Caucasian men (88.8%) with a mean age of 41.5 ($SD = 10.1$) and a mean of 13.8 ($SD = 2.0$) years of education. At the time of admission to the treatment facility, 40.8% of the sample was married, 24.3% was never married, 21.7% was divorced, 6.6% was separated, and 6.6% was "other" (e.g., engaged). The substance use diagnoses were as follows: 59.9% alcohol dependence, 22.4% opioid dependence, 6.6% alcohol abuse, 3.3% cannabis dependence, 2.1% "other" (e.g., opioid abuse), 2.0% sedative dependence, 2.0% polysubstance dependence, and 2.0% amphetamine dependence.

Measures

Eating Disorder Symptoms—Symptoms of bulimia nervosa and binge eating disorder were assessed using the ED subscale of the Psychiatric Diagnostic Screening Questionnaire (PDSQ; Zimmerman, 2002). There are 10-items on the ED subscale and patients are asked to rate whether or not each item applies to their personal experience. All items are rated on a "yes/no" scale, with all "yes" responses scored as "1" and all "no" responses scored as "0". Scores on this scale range from 0 to 10. Numerous studies have supported the reliability and test-retest reliability of this measure (Zimmerman & Mattia, 1999).

Dispositional Mindfulness—The 14-item Mindful Attention Awareness Scale (MAAS) was used to measure dispositional mindfulness (Brown, West, Loverich, & Biegel, 2011). The MAAS specifically assesses the extent to which patients are able to observe and be aware of what is taking place in the present moment without evaluating or judging the overall experience (Brown et al., 2011). Patients are asked to answer each of the 14-items on a 6-point Likert scale (1= *almost always*; 6= *almost never*). Mean scores are calculated by summing the individual items and dividing by the total number of items, with lower scores

indicating less dispositional mindfulness. Past work has supported the reliability and validity of the 14-item MAAS (Brown et al., 2011).

Substance Use—Frequency and duration of alcohol use, intensity of drinking, symptoms of tolerance and dependence, and consequences associated with drinking were assessed using the 10-item Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De La Fuente, & Grant, 1993). In the current study alcohol use and problems was assessed in the 12-months prior to treatment. Extant literature has supported the reliability of the AUDIT across multiple populations (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001).

Drug use (i.e., cannabis, cocaine, hallucinogens, stimulants, opiates, sedatives/hypnotics/anxiolytics, and other substances [e.g., steroids, inhalants]) and problems associated with drug use was assessed using the 14-item Drug Use Identification Test (DUDIT; Stuart, Moore, Kahler, & Ramsey, 2003; Stuart, Moore, Ramsey, & Kahler, 2004). In the current study drug use and problems was assessed in the 12-months prior to treatment. Past work has documented good psychometric properties of the DUDIT. For both the AUDIT and DUDIT, higher scores correspond to more frequent alcohol/drug use and problems.

Data Analytic Strategy

In order to determine the relationship between dispositional mindfulness and comorbid EDs and SUDs the following data analytic strategy was employed. First, the ED variable was positively skewed and thus we log-transformed the ED variable to correct for this skewness. The skew statistics for the original and log-transformed ED variable are 2.54 ($SD = .15$) and 1.67 ($SD = .15$), respectively. First, descriptive statistics (i.e., means and standard deviations) and bivariate correlations among all study variables were determined. Second, a hierarchical linear regression was utilized to determine if dispositional mindfulness was related to ED symptoms after controlling for problematic alcohol and drug use, age, and education. The log-transformed ED variable was used in the hierarchical regression analysis. The hierarchical regression was conducted in two steps. In the first step, problematic alcohol and drug use and demographic variables were entered as predictors of ED symptoms. In the second step, dispositional mindfulness was added as a predictor for ED symptoms.

Results

Results from the descriptive and correlational analyses are presented in Table 1. As expected, dispositional mindfulness was inversely and significantly associated with ED symptoms ($r = -.32, p < .001$). Dispositional mindfulness was also negatively related to problematic drug use ($r = -.20, p = .013$) and positively related with age ($r = .20, p = .012$). Alcohol and drug use were negatively associated with each other ($r = -.51, p < .001$). Age was inversely related to problematic drug use ($r = -.34, p < .001$) and positively associated with problematic alcohol use ($r = .25, p = .001$).

Results from the hierarchical linear regression are presented in Table 2. All covariates (i.e., problematic alcohol use and drug use and age) were entered into the first step of the model. Results indicated that problematic alcohol use was significantly related to ED symptoms (β

= .01, $p = .026$), while problematic drug use and age were not significantly related to ED symptoms. When dispositional mindfulness was entered to the second step of the model, the proportion of variance accounted for in ED symptoms significantly increased from 3.60% to 12.70%. In the second model, dispositional mindfulness was significantly and negatively associated with ED symptoms ($\beta = -.20$, $p = .00$), while all control variables were not significantly associated with ED symptoms (p 's > .05). Thus, analyses indicated that dispositional mindfulness was significantly and negatively associated with ED symptoms after controlling for problematic alcohol use, drug use, and age.

Discussion

Given the continued high rates of mortality, morbidity, and relapse associated with SUDs and EDs (Arcelus et al., 2011; Bowen & Enkema, 2014; Konkolý Thege et al., 2014; McLellan et al., 2000), there has been an increased emphasis on factors that might aid in treatment of these difficult to treat disorders. One such factor is mindfulness. Extant research has established a significant relationship between mindfulness and SUDs and mindfulness and EDs. However, no known research has examined the relationship between mindfulness and ED symptoms in a SUD sample. Thus, the current, exploratory study sought to explore this relationship in a sample of men in residential treatment for SUDs. There is a dearth of research examining ED symptoms among men and there is also a dearth of research examining the relationship between mindfulness and ED symptoms in a residential substance use sample. Thus, the current study expands the extant literature.

We hypothesized that mindfulness would be inversely associated with ED symptoms. Findings supported and were consistent with this hypothesis. Furthermore, the inverse association between SUDs and EDs and mindfulness aligned with extant literature supporting a significant relationship between mindfulness and both EDs and SUDs. This finding makes sense as both EDs and SUDs have been found to be associated with deficits in specific facets of mindfulness (i.e., non-reactivity to inner experience or emotion, acting with awareness in daily life, and being nonjudgmental to inner experience or emotion; Levin, Dakrymple, & Zummerman, 2014; Lavender et al., 2011). Non-reactivity refers to the ability to not react impulsively when exposed to aversive, negative experiences and emotions; nonjudgmental refers to the ability to accept emotions and to refrain from self-criticism when experiencing negative emotions and feelings; and acting with awareness is conceptualized as attending to the present moment and refraining from operating automatically and without thought (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006).

Men in residential treatment for substance use with co-occurring ED symptoms are at heightened risk for having deficits in dispositional mindfulness. Furthermore, the aforementioned deficits in mindfulness (e.g., non-reactivity to inner experience or emotion, emotion reactivity) might make it more difficult for patients with co-occurring EDs and SUDs to adhere to the highly structured and rigid nature of residential treatment (Fassino, Pierò, Tomba, & Abbate-Daga 2009; Fernández-Serrano, Pérez-García, Verdejo-García 2011). However, future research is needed that examines how different facets of dispositional mindfulness impacts substance use treatment for men with co-occurring EDs.

Theoretically, findings from the current study make sense as individuals with ED symptoms and SUDs who have emotional reactivity and negative affectivity are likely to engage in maladaptive behaviors (bingeing/purging, substance use) when exposed to aversive and negative cognitions, affect, and emotion (Greeson et al., 2014; Levin et al., 2014). Deficits in acting with awareness among individuals with comorbid EDs and SUDs may result in a continued use of maladaptive behaviors due to a tendency to behave without stopping and thinking (Levin et al., 2014). Additionally, deficits in acting with awareness may make it significantly less likely for individuals with co-occurring EDs and SUDs to recognize potential triggers for the continued use of maladaptive behaviors (e.g., substance use, disordered eating), which ultimately might increase the risk for relapse. Thus, it is possible that these patients might be at a heightened risk for relapse following treatment; however, future research is needed to examine this potential relationship.

As previously mentioned, in order to extend previous literature, the current study focused exclusively on a sample of men, as limited research has examined ED symptoms among male samples. Given the robust negative relationship between dispositional mindfulness and both ED symptoms and SUDs, it is likely that there would also be a significant relationship among female only and mixed male and female samples. It is possible that there are mediating factors (e.g., impulsivity) that differentially influence the relationship for men compared to women. For example, research has supported that impulsivity is more significantly related to risky behaviors (e.g., alcohol use) among men compared to women (Stoltenberg, Batien, & Birgenheir, 2008). Future research is needed to examine these potential mediating factors.

Implications and Directions for Future Research

Continued research is needed to replicate and further examine the relationship between mindfulness and co-occurring ED and SUD symptoms, as the current study was a preliminary examination. The novelty of this study provides potentially important and interesting directions for future research. For example, as previously discussed, empirical literature has demonstrated a significant relationship between specific domains of mindfulness (i.e., acting with awareness, nonjudgment, non-reactivity, negative affectivity, emotional reactivity) and both SUDs and EDs. Thus, future research should utilize measures that enable an examination of specific facets of mindfulness, like the Five Facet Mindfulness Questionnaire (Baer et al., 2006). Second, limited research has examined factors influencing ED symptoms among men, thus the current study sought to expand the literature by focusing on a sample of men. However, there is a dearth of research examining the relationship between mindfulness and EDs among women in treatment for SUDs, and this relationship should also be studied in women. Given the empirical and theoretical support for the negative relationship between dispositional mindfulness and both EDs and SUDs, it is likely that the significant negative relationship between dispositional mindfulness and EDs among a substance use sample would remain among women. Research examining factors that might mediate or differentially influence this relationship for men compared to women would be particularly interesting and important. Third, future research should examine if the relationship between dispositional mindfulness and ED symptoms varies for individuals with different drug use disorders (e.g., stimulant, opioid) compared to individuals with an alcohol

use disorder. Finally, extant work has indicated that the peak of eating disorder symptoms occurs during late adolescence/young adulthood (i.e., 16–20 years of age; Taylor et al., 2006). Thus, future research examining the relationship between mindfulness and ED symptoms in young adults seeking treatment for SUDs is important.

Findings from the current study, while preliminary, highlight a number of possible clinical implications. For example, findings from the current study, in conjunction with past theoretical and empirical literature, suggest the importance of including interventions that are designed to enhance mindfulness, as both populations experience deficits in mindfulness. For example, mindfulness based interventions, such as Mindfulness-Based Stress Reduction (MBSR) and Mindfulness Based Relapse Prevention (MBRP), are of particular importance and interest for this population, as MBSR and MBRP have shown efficacy in enhancing dispositional mindfulness among a variety of clinical populations (Bowen et al., 2009; Greeson et al., 2014). MBSR and MBRP might provide patients with co-occurring EDs and SUDs with more adaptive coping mechanisms and skills (e.g., emotion regulation, non-reactivity to emotions), which might ultimately reduce the likelihood of treatment dropout and future relapse. Future research examining the relationship between different facets of dispositional mindfulness and ED symptoms will provide important information about which facets are of particular importance to target in mindfulness interventions.

Limitations

The following study limitations need to be taken into account when interpreting the aforementioned results and clinical implications. To begin, this study was cross-sectional, and the temporal relationship among study variables could not be determined. Moreover, the assessment measure used to assess dispositional mindfulness did not enable an examination of specific facets of mindfulness, and the assessment measure used to assess ED symptoms did not enable an examination of specific ED symptoms and behaviors. Future research using additional mindfulness and ED measures, particularly measures that examine different facets of mindfulness and specific ED symptoms and behaviors, is needed. The assessment measures used in the current study were also limited in that diagnosis of SUDs and EDs were based on self-report assessments and non-structured clinical interviews, thus limiting the reliability of diagnoses. Continued research using structured diagnostic interviews to diagnose SUDs and EDs is needed. Finally, the sample included in the current investigation was ethnically homogenous, as the majority of the sample was non-Hispanic Caucasian. In order to improve the generalizability of findings, future research is needed that examines the relationship between mindfulness and co-occurring EDs and SUDs in ethnically diverse samples.

Conclusion

This is the first known study to examine the relationship between mindfulness and ED symptoms in a sample of men seeking residential treatment for SUDs. Results demonstrated that dispositional mindfulness was inversely related to ED symptoms after controlling for problematic alcohol and drug use and age. The current study is preliminary, thus continued research is needed to further elucidate relationship between dispositional mindfulness and

comorbid EDs and SUDs. However, results suggest that interventions enhancing mindfulness could potentially aid treatment for individuals with ED symptoms and SUDs.

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Table 1

Descriptive Statistics and Bivariate Correlations for Study Variables

	1	2	3	4	5
1. AUDIT	---				
2. DUDIT	-.51***	---			
3. Age	.26**	-.34***	---		
4. Eating Disorder Symptoms	.16	-.00	-.04	--	
5. Dispositional Mindfulness	-.11	-.20*	.20*	-.32***	
<i>M</i>	14.07	8.58	41.57	.84	4.37
<i>SD</i>	11.28	11.66	10.01	2.10	1.06

*
 $p < .05$

**
 $p < .01$

 $p < .001$

Hierarchical Regression Analysis for the Relationship between Eating Disorder Symptoms and Dispositional Mindfulness

Table 2

	B	SE	β	R²	F
Model 1				.04	1.85
Alcohol Use	.01	.01	.21*		
Drug Use	.01	.01	.10		
Age	-.01	.01	-.08		
Model 2				.13	5.35***
Alcohol Use	.01	.01	.11		
Drug Use	.00	.01	.01		
Age	-.00	.01	-.02		
Dispositional Mindfulness	-.20	.05	-.32***		

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