

Using Mindful Self-Compassion to Improve Self-Criticism, Self-Soothing, Cravings, and
Relapse in Substance Abusers in an Intensive Outpatient Program

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Dedication

This dissertation is dedicated to one particular self-compassion group study participant, who after maintaining sobriety during and after the study completion, fell victim to random street violence and lost his life two months after finishing this study. Those with whom you interacted throughout your life are fortunate to have known you.

Acknowledgements

This dissertation would not have been possible without the unyielding love and support I received from my parents. Their passion for life and respective careers allowed me to strive to create a professional and personal life full of meaning. I will never be able to adequately articulate my deep appreciation to them, but I hope they know that I am forever indebted to them and aspire to some day find a way to show my gratitude.

I am equally grateful to Kristina C. Gordon for her mentorship, wisdom, and guidance throughout my graduate training. She modeled how one can be a curious and sharp researcher, a perceptive and caring clinician, and an effective and inspiring teacher, all while valuing integrity above all else. I hope that I never forget that these qualities can coexist in one person and that I never lose sight of my own moral principles.

Abstract

Applying mindfulness techniques to the treatment of substance use disorders is relatively new; however, initial studies show promising results (e.g. Bowen et al., 2009; Witkiewitz & Bowen, 2010). Similarly, treatment-seeking substance users may find benefits in treatments that increase levels of self-compassion, a construct that uses mindfulness and allows awareness of personal faults (e.g. relapses) without becoming paralyzed by shame. Instead, individuals who are compassionate toward their failures are more likely to take healthy steps to address them (Leary, Tate, Adams, Allen, & Hancock, 2007). This study added a brief self-compassion group treatment to an existing Intensive Outpatient Program (IOP) of substance users at a community mental health center to explore the potential benefits of increasing self-compassion in this population. Overall, 20 persons were recruited for participation in this study; 10 of those received the 5-session self-compassion group treatment and 10 were recruited for a treatment as usual control. Results found self-compassion to be related to decreased drug use, cravings, general psychological symptoms, and an increase in self-soothing behaviors. Additionally, all participants experienced a significant reduction in cravings, and those who participated in the self-compassion group therapy showed increased and maintained levels of self-compassion and self-soothing behaviors. Limitations and future directions are discussed.

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Section 1: Introduction

Alcohol and illicit drug use are significant public health problems, amounting to 5.4% of the total burden of disease worldwide (World Health Organization, 2012), and current statistics suggest that between 3.4-6.6% of the world's population aged 15-64 are current drug users (United Nations Office on Drugs and Crime, 2012). Whereas substance use disorders prove to be a major public health concern requiring economic and social action, perhaps more devastating are the personal negative consequences associated with problem alcohol and drug use, including car accidents, domestic violence, neurological problems, pregnancy problems, co-morbid psychological distress, and even death (Hasin, Stinson, Ogburn, & Grant, 2007).

Although individuals who seek treatment for their substance use abstain more than non-treated individuals (e.g. Tonigan, Toscova, & Miller, 1996), substance use disorders are often a chronic problem and multiple relapses are common (Weisner, Matzger, & Kaskutas, 2003). In fact, recent research suggests that the relapse rate following substance abuse treatment is over 60% (McLellan, Lewis, O'Brien, & Kleber, 2000). In order to better understand the high rate of relapse, researchers have identified numerous risk factors that appear to be the most influential and immediate predictors of post-treatment substance use relapse, including negative affect, craving urges, stress, motivation, self-efficacy, and ineffective coping skills (Connors et al., 1996; Witkiewitz & Marlatt, 2004).

Currently, the most commonly used substance use treatment approaches are mutual support groups and 12-step programs such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA), which advocate abstinence (Room, 1998). Research suggests that these approaches are better than no treatment (Tonigan, Toscova, & Miller, 1996); however, these approaches may not be indicated for some substance users (Marlatt & Witkiewitz, 2002), particularly those with co-

morbid psychiatric problems in need of pharmacotherapy (e.g. Zweben & Smith, 1989). Given the high comorbidity rates of substance use disorders and other psychiatric disorders, this poses a potential problem. As such, recent researchers and practitioners have utilized additional treatments for a variety of addictive disorders across diverse populations, many of which address the underlying psychological and comorbid disorders as well as the aforementioned risk factors related to relapse (e.g. Kadden, 2001; McCrady & Ziedonis, 2001).

Mindfulness-Based Treatments for Substance Abuse

Even more recently, clinicians and researchers have included mindfulness practices in substance use treatment programs, either as an adjunct to existing treatments or as a stand-alone treatment of substance use disorders (e.g. Bowen, et al., 2009; Witkiewitz, Marlatt, & Walker, 2005), as substance users tend to have lower levels of mindfulness when compared to normative data (Shorey, Brasfield, Anderson, & Stuart, 2014). Mindfulness practice has been described as “paying attention in a particular way: on purpose, in the present moment, and non-judgmentally” (Kabat-Zinn, 1994, p. 4). This present-focused awareness can be developed through the practice of meditation, which is defined as the intentional self-regulation of attention from moment to moment (Goleman & Schwartz, 1976). Using mindfulness meditation in the context of therapy or group interventions involves teaching individuals several mindfulness meditation techniques during which participants are instructed to focus their attention on the target of observation (e.g. breathing) and to be aware of it in each present moment (Baer, 2003). According to Kabat-Zinn (1982), when participants notice emotions, sensations, or cognitions arising, they are to be observed non-judgmentally, and then attention is to be returned to the present moment. The theory behind mindfulness meditation in the context of psychotherapy suggests that these practices help participants notice their thoughts and feelings, without becoming absorbed in their

content (Kabat-Zinn, 1982).

Many mindfulness-based clinical interventions exist, including, but not limited to Compassionate Mind Training (CMT; Gilbert & Irons, 2005), Dialectical Behavior Therapy (DBT; Linehan, Armstrong, Suarez, Allmon, & Heard, 1991), Acceptance and Commitment Therapy (ACT; Hayes, Luoma, Bond, Masuda, & Lillis, 2006), and Mindfulness Based Stress Reduction and Meditation (MBSR; Kabat-Zinn, 1982). Learning mindfulness meditation techniques can be time-consuming. One critique of this type of intervention is that one must be proficient in mindfulness meditation in order to use it clinically, yet there is no professional credentialing mechanism; however, according to Kabat-Zinn, the feedback from patients seeking these treatments tends to be “highly enthusiastic and positive” regardless of the potential training challenge (2003). Additionally, critics highlight methodological flaws of many mindfulness-based treatment studies, including uncontrolled designs, the use of unvalidated measures, and inappropriate statistical analyses (Bishop, 2002). Despite these criticisms and potential limitations, multiple sources have shown mindfulness-based clinical interventions to be helpful in treating a variety of presenting complaints in many different populations, potentially leading to improvements in problematic symptoms and experiences, including pain, stress, anxiety, depressive relapse, disordered eating, and substance use (e.g. Baer, 2003; Witkiewitz & Bowen, 2010). Research suggests that mindfulness practices help to reduce negative symptoms by allowing participants to safely face and tolerate negative affect, rather than avoiding it or use unhealthy coping strategies to manage it (Baer, 2003).

Furthermore, according to Groves and Farmer (1994), “in the context of addictions, mindfulness might mean becoming aware of triggers for craving... and choosing to do something else which might ameliorate or prevent craving, so weakening the habitual response”

(p. 189). Theoretically, mindful awareness and acceptance of the constantly changing experiences of the present moment allows participants to not immediately give in to cravings, but instead “urge surf” (i.e. “ride” the waves of cravings and urges until the wave crests and subsides). This leads to the ability to experience pain and negative affect without excessive emotional reactivity, which often leads to impulsive behaviors like drinking or using drugs (Baer, 2003).

Integrating mindfulness techniques into the treatment of substance use disorders is relatively new; however, as described above, initial studies show promising results. Clinical outcome studies have demonstrated that mindfulness practice can aid in addressing substance abuse in a variety of ways, including: reducing alcohol and drug use, reducing alcohol related problems and psychiatric symptoms (Bowen et al., 2006); decreasing craving and increasing acceptance and acting with awareness (Bowen et al., 2009); attenuating the relation between depressive symptoms and craving, which was found to be related to less substance use (Witkiewitz & Bowen, 2010); and even reducing overall stress levels (Brewer, et al., 2009). One treatment in particular has shown promising results: Mindfulness-Based Relapse Prevention (MBRP; Witkiewitz, Marlatt, & Walker, 2005), which was designed to directly target negative mood, cravings, and their roles in relapse (Witkiewitz & Bowen, 2010). Specifically, Witkiewitz and Bowen (2010) found significantly lower rates of substance use and greater decreases in cravings when MBRP was offered as an aftercare program following either an inpatient or intensive outpatient treatment stay, when compared to post-treatment as usual.

Self-Compassion and Substance Use

Recent research is promising for the efficacy of mindfulness-based substance use treatments; however, it is possible that these treatments could be enhanced by the inclusion of the

construct of self-compassion. Self-compassion, a concept originating in Buddhism, provides positive self-affect in the face of personal suffering or perceived inadequacy that is based on self-kindness and empathy, a feeling of common humanity, and mindfulness, rather than self-worth judgments (Neff, 2003). Theoretically, self-compassion allows awareness of personal faults without becoming paralyzed by shame. Instead, individuals who are compassionate toward their failures are more likely to take healthy steps to address them (Leary, Tate, Adams, Allen, & Hancock, 2007). Self-compassion appears to be uniquely associated with general well-being (Neely, Schallert, Mohammed, Roberts & Chen, 2009), compassionate self-soothing (Gilbert & Irons, 2004), and to have an inverse relation with shame (Gilbert & Irons, 2005), self-critical thoughts and feelings (Gilbert & Irons, 2004), negative self-attributions, rumination, and depression (Neff, Kirkpatrick & Rude, 2007), all of which have been linked to problematic drinking and drug use.

Self-compassion is comprised of three bipolar constructs: mindfulness vs. over-identification, self-kindness vs. self-judgment, and common humanity vs. isolation. As outlined above, extensive research has found the presence of mindfulness to be associated with less problem alcohol and drug use. Additionally, the common humanity component of self-compassion may be an important addition to the mindfulness-based conceptualization and treatment of substance users, as the effect of recognizing one's faults and failings as a part of the common human experience helps reduce feelings of isolation and break the cycle of self-absorption associated with substance use (Campbell, 1993). Furthermore, common humanity may be important given that group support and the sharing of common struggles between substance users is a core principle of many treatments for substance abuse, including Alcoholics Anonymous (Flores, 2001). The self-kindness component of self-compassion also may allow

patients to be more sensitive rather than self-critical of their underlying unpleasant emotional states, which may help them to better manage these states, as opposed to using alcohol or drugs to numb the inner pain and emotional distress, a common yet maladaptive coping mechanism found to be related to substance use and increased relapse rates (Ireland, McMahon, Malow, & Kouzekanani, 1994; Potter-Efron, 2002). To assess the effectiveness of self-compassion as a predictor of psychological well-being, a recent study found that not only was self-compassion a robust predictor of symptom severity and quality of life in anxious and depressed individuals, it accounted for more than 10 times the unique variance than mindfulness (Van Dam, Sheppard, Forsyth, & Earleywine, 2010). Since substance abuse is highly comorbid with anxiety and depressive disorders (as high as 40%; NIDA, 2010), it is possible that self-compassion provides a more comprehensive approach to treating substance abuse than simply mindfulness alone.

To the knowledge of this writer, few previous studies have examined the relation between self-compassion and substance use, specifically (e.g., Rendon, 2006; Brooks, Kay-Lambkin, Bowman, & Childs, 2012). In an undergraduate sample, Rendon (2006) found a significant negative relation between alcohol use and self-compassion. Additionally, a longitudinal study examining changes in self-compassion in a treatment seeking sample found the mindfulness component to be predictive of less alcohol use over time in men, the self-kindness component to be predictive of less alcohol use in older individuals, and the common humanity component to be predictive of less alcohol use in women (Gilbert, Shorey, Gordon, & Moore, under review). These findings suggest a nuanced approach to understanding the relation between self-compassion and substance use, suggesting that whereas there may be age and gender differences, all three positive components of self-compassion (mindfulness, self-kindness, and common humanity) may play some role in understanding and predicting substance use.

Increasing Self-Compassion Therapeutically

Over the past decade, researchers and clinicians have examined the effect that self-compassion focused therapies have on mental health. In a small-scale open clinical trial, Gilbert and Proctor (2005) found that CMT, a group treatment developed to help individuals high in shame and self-criticism, yielded significant reductions in depression, anxiety, self-criticism, shame, inferiority, submissive behavior, and increases in self-soothing and self reassurance. Whereas this study was not targeted for substance abusers in particular, it is likely that compassion focused treatments would be beneficial for this population, as shame and self-criticism, and inadequate self-soothing techniques are frequently associated with problem substance use and relapse.

Christopher Germer (2009) also has written about compassion-focused therapy in a self-help book, *The Mindful Path to Self-Compassion: Freeing Yourself from Destructive Thoughts and Emotions*. In this work, Germer (2009) provides a theoretical rationale for why self-compassion is so critical and how readers can become more compassionate toward themselves. According to Germer (2009), many individuals feel the urge to actively avoid pain; however, he argues that absorbing the pain and responding compassionately to imperfections (or relapses) without judgments or self-blame may help people to punish themselves less and make steps toward healing. Additionally, Germer (2009) suggests that self-compassion is easier when patients “give up the struggle” to feel better, stop trying to “fix” their problems/faults/failings, and simply start caring for themselves. The principle of “giving up the struggle” may be particularly beneficial to a substance using population, as it mirrors the AA/NA theme of the “gift of desperation” (Alcoholics Anonymous, 2001). Learning how to “give up the struggle,”

experience pain, tolerate it, and respond to it compassionately and without judgment may be particularly useful for individuals struggling to overcome addiction.

In an accessible and practical way, Germer's (2009) work guides participants through mindfulness exercises to help increase self-kindness, body awareness, tolerance of difficult emotions, self-care, and helps troubleshoot when these new techniques become difficult to manage. Additionally, he provides exercises to help readers better understand how to best care for themselves by helping to identify underlying problematic schemas that may be related to their current struggles. Due to the research supporting the use of mindfulness and compassion-focused therapies to help treat substance abuse, it is possible that using Germer's (2009) book as a treatment guide could help individuals increase their self-compassion and better manage their feelings of stress, inadequacy, and learn to tolerate intense negative emotions while decreasing emotional reactivity.

Current Study

This study aimed to explore the effectiveness of an adjunct self-compassion treatment for substance users enrolled in a community mental health center group Intensive Outpatient Program (IOP). The proposed study utilized a repeated case study methodology per the design recommendations of recently published repeated case studies of similar nature (e.g. Gilbert & Irons, 2004). The five-session self-compassion treatment was based on Germer's "The Mindful Path to Self-Compassion" (2009) and employed Germer's core principles and activities to teach ways to be more self-compassionate during challenging times through the use of mindfulness, self-kindness, and common humanity exercises and discussions. The treatment designed was five sessions in length (for session-by-session treatment guide, see Appendix B).

To test the initial efficacy of Germer's (2009) self-compassion approaches, baseline, post treatment, and follow-up assessments tracked participants' self-compassion, self-criticism, self-soothing, substance use, cravings, and general symptom severity. Given the preliminary nature of this treatment in a substance abusing sample, this study aimed to a) identify whether or not individuals receiving this treatment did, in fact, experience increases in self-compassion, b) explore the associations and changes throughout treatment between self-compassion, substance use and cravings, self-judgment, and compassionate self-soothing, c) evaluate whether participants experienced reliable and clinically significant change as a result of treatment and d) determined effect sizes to inform the research design of future randomized control studies regarding this treatment. In order to control for existing IOP group effects, this study tracked the progress of some individuals who did not receive the self-compassion adjunct treatment (Treatment As Usual, [TAU]) and effect sizes were compared to determine if the relationship between time and self-compassion is stronger for the self-compassion treatment group than TAU.¹

Hypothesis 1

It was hypothesized that self-compassion would be negatively associated with self-judgment, substance use, cravings, and general psychopathological symptoms, and positively associated with compassionate self-soothing at baseline, post-treatment, and follow-up.

Hypothesis 2

It was hypothesized that self-compassion would increase throughout the self-compassion treatment and benefits would be maintained through post and 1-month follow-up assessments.

¹ It should be noted that at the time of this study, there was no published protocol for a mindful self-compassion treatment utilizing Germer's (2009) approaches; however, at the time of this paper, one such publication exists (Neff & Germer, 2013).

Hypothesis 3

It was hypothesized that self-judgment, substance use, and cravings would decrease and compassionate self-soothing would increase during active self-compassion treatment and would be maintained through post and 1-month follow-up assessments.

Hypothesis 4

It was hypothesized that study participants would exhibit (a) reliable change and (b) clinically significant change following participation in the self-compassion treatment on the outcome variable of self-compassion, whereas TAU participants would not exhibit reliable change or clinically significant change in level of self-compassion.

Hypothesis 5

It was hypothesized that effect sizes of self-compassion would be stronger for those receiving the self-compassion treatment than TAU.

Section 2: Methods

Participants

Participants were recruited from an 8-week Intensive Outpatient Program (IOP) in an east Tennessee community mental health center. The IOP at this center was well established and designed to help individuals maintain sobriety following the diagnosis of one or more substance use disorders. Group members also attended “aftercare,” a less-involved outpatient program, for four additional weeks post IOP completion. The precedent in the literature for exploratory repeated case studies of this nature has been approximately 6-10 active treatment participants (e.g. Gilbert & Irons, 2004; Gilbert & Proctor, 2006); as such, this study recruited 10 self-compassion group treatment patients and 10 TAU patients over the course of a 9-month period. All IOP participants were 18-years or older and both males and females were eligible to participate. Exclusionary criteria included: psychosis, active suicidality, and severe cognitive impairment. Patients of all race, ethnicity, age, and living arrangements were eligible. At any given time there were approximately 8-15 persons in the rolling-admission IOP group and all eligible members were given the opportunity to participate in the study.

A total of 20 participants were recruited for this study; 10 persons gave informed consent to begin the self-compassion group treatment and 10 gave consent to complete questionnaires but received no additional treatment outside of the standard IOP protocol (TAU group). There were no significant differences in demographics between the treatment and TAU groups. Of the 20 total participants, 60% identified as male and 40% as female. Participants’ ages ranged from 20-59, with the average age of participant being 39 in both the self-compassion group treatment and TAU group. With regard to racial demographics, 85% of the participants identified themselves as Caucasian and 15% self-identified as African American. It should be noted that the average

household income was between \$10,000-\$24,999, and only 15% of participants were employed at baseline assessment. With regard to retention rates, of the 10 persons who participated in the treatment group, 6 finished the self-compassion group and completed post-treatment assessment, and 4 returned 1 month later for follow-up assessment. Similar retention rates applied to the TAU group; of the 10 persons who completed baseline measures, 7 returned for the post-assessment, and 4 returned 1-month later for the follow-up assessment.

Procedure

All eligible IOP group members were invited to take part in this collaborative research project investigating the importance of self-compassion in substance use related difficulties. This study recruited a total of 10 individuals to participate in the self-compassion group treatment. In order to collect enough individuals and provide a rich experience for group participants, two consecutive groups were recruited and run by trained therapists. There were 6 participants in the first self-compassion group, and 4 participants in the second. Both groups were led by the same two group leaders and used the same protocol. Once both treatments were completed, 10 individuals for TAU participation were recruited. Whereas random assignment is typically the preferred method for a two-group research design, given the limited access to participants, due to the low numbers of IOP patients and the short duration of the program, it was unlikely that the active treatment group would have had enough participants to be successful if a random assignment methodology was employed.

Self-Compassion Treatment Group Protocol

When recruiting for the self-compassion treatment group, information about the study and the option to participate was offered to group members by the IOP leaders and study coordinator at the IOP intake assessment and also during each patient's first week in IOP. Self-compassion

treatment participants began attending the weekly self-compassion group during the first three-weeks of IOP treatment and completed the adjunct self-compassion group treatment by the end of the 8-week IOP. Meetings were held during the 1-hour before regularly scheduled IOP meetings and were led by two advanced clinical psychology graduate students trained in Germer's (2009) approach to increasing self-compassion. Study participants were asked to not speak about the content of the self-compassion group meetings during the regularly scheduled IOP meetings to help control for contamination effects. Participants were required to complete outcome questionnaires at baseline (week 1), post-treatment (week 8), and 1-month follow-up (week 12, during their last week of "aftercare"). All IOP group members were required by group therapists to participate in two weekly external substance abuse group meetings (AA/NA), and as incentive for participation in the current study, 1-hour of external substance abuse group meetings was waved for participants' attendance in the self-compassion group treatment during study treatment weeks. Additionally, participants were compensated \$10 in grocery store gift cards for completing the first two assessments and \$15 in grocery store gift cards for completing the follow-up assessment, earning a total of \$35 upon study completion. The self-compassion group treatment protocol was strictly followed for all participants and no aspects were changed or tailored throughout the study.

Treatment As Usual (TAU) Protocol

When recruiting TAU participants, interested IOP patients were informed of the participation requirements at their initial IOP intake meeting or during their first week in IOP. TAU requirements included completing questionnaires assessing factors related to self-compassion and substance use at three time-points throughout the 12-week study. Once potential TAU participants expressed interest in the study, the study coordinator or research assistant

provided consent forms and baseline measures. All participants completed the same measures again upon completion of IOP (week 8) and once more 1-month post-treatment (week 12). As compensation for their time and efforts, TAU participants were compensated \$10 in grocery store gifts cards for completing the first two assessments and \$15 in grocery store gift cards for completing the follow-up assessment, earning a total of \$35 upon study completion.

Measures.

Demographics

A general demographic questionnaire was administered asking participants about topics including, but not limited to: age, gender, housing arrangements, relationship status, yearly income, years of education, and employment status.

Alcohol Use

The Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De La Fuente, & Grant, 1993) is a 10-item self-report measure that assesses quantity and frequency of drinking, drinking intensity, symptoms of dependence and tolerance, and alcohol-related negative consequences. The AUDIT has high internal consistency and good validity (Saunders, Aasland, Amundsen, & Grant, 1993). Scores on the AUDIT are continuous and may range from 0-40, and a score of 8 or higher is indicative of harmful or hazardous drinking. A recent review of the literature indicated that the AUDIT was superior to other alcohol screening instruments (Reinert & Allen, 2002).

Drug Use

The Drug Use Disorders Identification Test (DUDIT; Stuart, Moore, Kahler, & Ramsey, 2003; Stuart, Moore, Ramsey, & Kahler, 2003) is a 14-item self-report measure used to screen for use of the following substances: cannabis, cocaine, hallucinogens, stimulants,

sedatives/hypnotics/anxiolytics, opiates, and “other” substances (e.g. nitrous oxide). The DUDIT was modeled after the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De La Fuente, & Grant, 1993), and the DUDIT has been employed in previous studies with adequate reliability ($\alpha = .83$; Stuart et al., 2003), and high convergent validity ($r = .85$) when compared to the Drug Abuse Screening Test (DAST-10; Skinner, 1982) (Voluse, et al., 2012).

Monthly Alcohol and Drug Use

The Timeline Follow-Back interview (TLFB; Sobell & Sobell, 1996) was used to assess substance use at different time points. The TLFB interview is a calendar-assisted structured interview, which provides a way to cue memory so that accurate recall is enhanced. The TLFB has shown to provide reliable drinking information (Sobell & Sobell, 1996). At baseline, it was administered to provide data on the frequency of drug and alcohol use as well as average number of standard drinks consumed per day for the 1 month before beginning IOP. The TLFB was also used to assess participant’s drug and alcohol at follow-ups, and covered the period since its last administration.

Alcohol and Drug Cravings

The Penn Alcohol Craving Scale (PACS; Flannery, Volpicelli, Pettinati, 1999) is a 5-item self-report measure used to assess frequency and intensity of cravings of alcohol. The PACS is a reliable scale with high convergent reliability with other commonly used alcohol urge and cravings questionnaires, and has good predictive validity for relapse (Flannery, Volpicelli, & Pettinati, 1999). This same measure has been adapted successfully to measure the frequency and intensity of drug cravings by replacing alcohol-related words with drug-related words (Bowen et al., 2009).

Self-Compassion Composite Measure

The Self-Compassion Scale (SCS; Neff, 2003) is a 26-item self-report questionnaire to assess level of self-compassion. The SCS has demonstrated good validity, test-retest reliability, and good internal consistency (Neff, 2003). In addition to a total mean score, the SCS has 6 subscales, assessing three bipolar constructs: self-kindness vs. self-judgment, mindfulness vs. over-identification, and common humanity vs. isolation. For this scale, the self-judgment, over-identification, and isolation subscales are reverse coded so that higher scores indicate higher levels of self-compassion.

Self-Judgment

The self-judgment subscale of the Self-Compassion Scale (SCS; Neff, 2003) is comprised of 5 questions assessing one's level of self-criticism and judgment (e.g., "when times are really difficult, I tend to be tough on myself"). For this scale, higher scores indicate higher levels of self-criticism and judgment. The self-judgment subscale of the SCS was used to assess separately for levels of self-criticism, but was not correlated with self-compassion, as it is a subscale of the composite self-compassion score. For this study, all 5 questions were added together to create one total self-judgment score.

Self-Soothing

This study used a 5-item quantitative interval rating scale (0-50) created for use by Gilbert and Irons (2004) to assess ease of compassionate self-soothing when faced with a challenging situation. High scores on this scale indicate more self-soothing thoughts and behaviors, and ratings for self-soothing are given for how easy it was to: self-reassure, self-comfort, self-support, self-care, and self-soothe.

General Psychopathology Symptom Assessment

The *Brief Symptom Inventory (BSI)* (Derogatis & Melisaratos, 1983) is a 53-item self-report inventory that uses a Likert-scale to assess the extent to which participants have been bothered by various symptoms. The BSI has nine subscales designed to assess individual symptom groups: somatization, obsessive-compulsive, depression, interpersonal sensitivity, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The BSI also includes a measure of global psychological distress (GSI). The BSI has good reliability (Derogatis & Melisaratos, 1983) and research suggests it using this assessment, and the GSI in particular, is an appropriate measure of general psychopathology and distress (Skeem, Schubert, Odgers, Mulvey, Gardner & Lidz, 2006).

Section 3: Results

Descriptive Statistics and Correlations

Descriptive statistics were calculated and all measures were within expected range at baseline (Table 1). Initially, to test Hypothesis 1, Pearson Product Moment correlations were calculated to assess whether self-compassion was, in fact, negatively associated with substance use and cravings, global severity of psychological symptoms (GSI) and positively associated with self-soothing behaviors at all time-points². At baseline, the total self-compassion score was negatively associated with drug use ($r = -.63$, $p > .01$) and GSI ($r = -0.71$, $p < .01$), but not alcohol use or cravings, nor was it positively associated with self-soothing behaviors (Table 2). At the post-treatment assessment, self-compassion was negatively associated with drug use ($r = -.60$, $p > .05$) and GSI ($r = -0.64$, $p < .05$) and positively associated with self-soothing behaviors ($r = .72$, $p > .01$), but showed no association with alcohol use or cravings (Table 3). At follow-up assessment, self-compassion was not significantly associated with either alcohol or drug use; however, it was negatively associated with cravings ($r = -.90$, $p > .01$) and GSI ($r = -0.72$, $p < .05$) and associated with more self-soothing behaviors ($r = .77$, $p > .05$) (Table 4). In order to test Hypothesis 2, change scores were calculated for the 6 persons who completed the self-compassion group treatment, by subtracting post-treatment scores from baseline scores for alcohol use, drug use, self-soothing, cravings, and GSI, and then correlated with the change scores for self-compassion to explore which variables changed most during treatment. Whereas all persons in the self-compassion group experienced a reduction in drug and alcohol use and cravings, and an increase in self-

² The self-compassion composite score and self-judgment score were not correlated, since the self-judgment construct is a subscale of the SCS and any relation between the two could be misleading.

compassion and self-soothing, the only significant correlation in change scores was with the GSI ($r=-0.93$, $p<.01$), when compared to the changes in self-compassion (Table 5).

Treatment Efficacy

To assess for treatment effectiveness, within subject variance was examined with repeated measures analyses of variance at baseline, post-treatment, and 1-month follow-up. If significant main effects of time were found with self-compassion, self-soothing, substance use, cravings, and GSI, post hoc Bonferroni analyses were calculated to assess when during the study the significant changes occurred. Only 6 of the 10 participants completed the treatment, and only 4 of those 6 completed the 1-month follow-up assessment, resulting in a low number of subjects ($n=4$). According to analyses, a significant main effect of time occurred in cravings between post-assessment and follow-up assessment ($p<.05$) (Table 6), but no significant main effect of time occurred on alcohol use, drug use, self-soothing behaviors, total self-compassion, self-judgment, or GSI. Posthoc analyses were conducted to assess whether time had a main effect on any of the other components of self-compassion and none were found to be significant.

Effect Sizes

In order to test hypothesis 5, effect sizes were calculated for all outcome variables in both the self-compassion treatment group and TAU to assess whether or not there were measurable differences in the size of the changes between baseline and post-treatment and baseline and follow-up (Tables 7 and 8). According to Cohen (1973), effect sizes of .2, .5, and .8 are considered small, medium, and large, respectively. In addition to reporting effect sizes (r , which is a correlation), Cohen's d , the mean difference between two groups across time in standard deviation units, was calculated by using the following formula [$d = M1 - M2/SD$] where $M1$ is the mean at time 1 and $M2$ is the mean at time 2 and SD is the standard deviation for this data at

the pre-assessment. This method, which standardizes the change in functioning based on the dispersion of pre-assessment distress scores, is the simplest method for calculating effect sizes and is recommended as the “first step” for understanding and measuring clinical change, according to Seidel, Miller, and Chow (2013). This statistic is useful when comparing effect sizes of two different groups of individuals. Specifically, for the purpose of this study, differing effect sizes can be compared to identify and assess which group (e.g., self-compassion group treatment or TAU) had a stronger change from baseline to post-treatment. Positive effect sizes indicate that the participant reported a lower score at post-assessment (time 2) than at baseline assessment (time 1) and negative effect sizes indicate that the participant reported an increased score at post-assessment (time 2) than at baseline assessment (time 1) (e.g., positive effect sizes for alcohol use indicate a decrease in use over time and negative effect sizes for self-compassion indicate an increase in self-compassion over time).

Self-Compassion Treatment Group

Small positive effect sizes, in the hypothesized direction, were found between baseline and post-treatment for the self-compassion treatment group in the areas of cravings, GSI, and number of days drinking and using drugs, as measured by the TLFB. Medium negative effect sizes were found between baseline and post-treatment assessments in self-soothing and self-compassion, indicating an increase in these scores, and medium positive effect sizes were found for alcohol and drug use, as measured by the AUDIT and DUDIT, respectively, indicating decreased levels in substance use. Additionally, there was a medium effect size in the hypothesized direction in self-judgment, such that participants reported less self-judgment between post-assessment and baseline assessment. When baseline and 1-month follow-up scores were compared, small-to-medium positive effect sizes were found and maintained on almost all

of the outcome measures, including: cravings, GSI, number of days drinking, number of days using drugs, and alcohol and drug use as measured by AUDIT and DUDIT, respectively, suggesting maintenance of treatment effects. A medium negative effect size was found for self-soothing, suggesting that individuals were able to maintain their increase in these self-care behaviors. When changes in composite self-compassion were assessed between baseline and 1-month follow-up, a small effect size was found. When changes in self-judgment were assessed from baseline to 1-month follow-up the effect size was close to zero, suggesting low maintenance of effect (for all self-compassion treatment group effect sizes, see table 7).

Treatment As Usual Group

Small-to-medium positive effect sizes (suggesting decreased scores over time) were found between baseline and post-treatment in the TAU group in the following outcome measures: cravings, GSI, days using alcohol, as measured by the TLFB, and days using drugs, as measured by the TLFB. Medium positive effect sizes, suggesting decreased use, were found between baseline and post-assessment in alcohol and drug use, as measured by the AUDIT and DUDIT, respectively. Additionally, small-to-medium negative effect sizes were found for self-soothing and self-compassion suggesting that levels of self-compassion and self-soothing behaviors increased over time for the TAU group at post-assessment. Finally, a small positive effect size was found between baseline and post-treatment in the area of self-judgment, suggesting a small decrease in self-judging attitudes over time. Additionally, effect sizes were calculated to assess the strength of change between baseline and 1-month follow-up, with the hopes of measuring maintained benefits after treatment ended. Whereas a small effect size was maintained for decreased cravings and GSI, and medium effect sizes were maintained for decreased alcohol and drug use, as measured by the AUDIT and DUDIT and TLFB for number

of days using drugs, effect sizes for self-soothing, self-compassion, self-judgment and number of days drinking became close to zero, suggesting no maintenance of previous gains in these areas.

Treatment Observations, Reliable Change, and Clinically Significant Change

Due to the small sample size and repeated case study design of this study, perhaps the most appropriate assessment of change over time is through Jacobson and colleagues' method of assessing reliable and clinically significant change. For the purposes of this study, reliable change was assessed for each group participant ($n = 6$) across the following domains: alcohol use, drug use, cravings, self-soothing, self-compassion, self-judgment, and GSI. This method involves using the formula $[c = (M^1 + M^2)/2]$, where M^1 is the mean of healthy controls and M^2 is the score of the participant at post-treatment. If the score of the patient at post-treatment is less than c , clinically significant change can be inferred. To determine whether this is a statistically significant change, the reliable change index (RCI) is calculated, which involves subtracting the patient's post-treatment score(s) from the pre-treatment score(s), divided by the standard error of the estimate (Jacobson & Truax, 1991). This score is then multiplied by 1.96 and if the difference in the participants' scores is greater than the RCI, reliable change is indicated.

Additionally, clinically significant change was assessed for all participants for all outcome variables. Kendall and Grove (1988) imply that clinically significant change can be assessed by comparing a participants' post-treatment score to the mean of a normative group; if the treated person's score falls within 1 standard deviation of the mean of the normative group, then the treated person is undistinguishable from the normative group, and clinically significant change can be inferred. In order to calculate this cutoff score, the following formula is used $[c = M1 \pm SD1]$ where $M1$ and $SD1$ are the mean and standard deviation of the normative group, respectively. This formula was used to assess clinically significant change in self-compassion

and self-judgment. If no normative data exist, a cutoff score can be calculated by using the formula ($c = M2 \pm 2(SD2)$), $M2$ and $SD2$ are the mean and standard deviation of the clinical group and a score of 2 standard deviations away from the mean of the clinical sample is considered clinically significant change (Jacobson & Truax, 1991). This method will be utilized to assess clinically significant change in cravings (Richardson et al., 2008). When assessing clinically significant change in alcohol use, a score of 8+ on the AUDIT is a reliable and valid identification of hazardous drinking; consequently, this cutoff score will be utilized to assess whether or not participants' substance use better matches those of a clinical or normative population after treatment. In one study, Stuart, Moore, Ramsey, and Kahler (2004) found that the mean of non-hazardous drug users was 2.7 with a standard deviation of 5.7; consequently, if a participants' drug use score drops to less than 8.4, then clinically significant change can be inferred. Clinically significant change could not be calculated for self-soothing, as the only norms that exists are from the clinical sample and 2 standard deviations from the mean of the clinical sample yields a negative cutoff score.

Self-Compassion Treatment Group

Qualitative data was collected by group therapists, and reliable and clinically significant change were calculated for all outcome variable for each of the six participants who completed the treatment, as well as baseline and post-treatment assessment measures. For the purpose of best assessing significant change, participants who dropped out of the study between baseline and post-assessment can be assumed to have relapsed or not achieved reliable change, as all persons who ended their participation in this study also quit the IOP or were asked to leave the IOP. Those who dropped out of the study between baseline and post-assessment are included in the percentages of persons who achieved reliable change in order to offer the most conservative

and accurate statistics of treatment success. Overall, of the 10 persons who began the self-compassion group treatment, the percentages of achieved reliable change or maintained sobriety for all outcome variables were: alcohol (50%), drugs (60%), self-judgment (50%), total self-compassion (40%), cravings (10%), self-soothing (40%), and GSI (20%). More specific statistics are reported below, along with treatment notes that may help complete the clinical picture of each participant who completed the treatment. For a comparison of these percentages, see Table 9. For all reliable change statistics in the self-compassion group treatment, see Table 10.

Participant 101

Qualitative Data. Participant 101 was a Caucasian male in his mid 30's working part-time as a server at a restaurant who presented to the IOP for treatment of his polysubstance abuse, after being referred by an employer. He reported being "invested" in mindfulness meditation at the first group meeting and expressed great interest in the study for this reason. He reported having extensive experience in mindfulness meditation in the past. He attended 3 of the 5 group therapy sessions and some days participated more than others. In one meeting, he appeared to "shut down" approximately halfway through the hour and refused to speak during the rest of the session; the following week he did not attend the meeting, but returned for the last session and his post-treatment paperwork. Whereas he never shared the explanation for his emotional shift during the third session, the group therapists hypothesized that he had a tendency to vacillate between high levels of interest and engagement and sudden emotional distance without warning. After his emotional "shut down" in the middle of the third session, he never returned to his baseline reported level of interest or motivation in the study. During the final session, to which he arrived late, the group therapists paid close attention to his emotional reactions, working to not offend him, in hopes of allowing the final session be a positive

experience. He seemed disinterested and completed his assessment questionnaires quickly, but seemed happy to receive his grocery store gift certificate upon completion. He did not return for 1-month follow-up assessment, which was not surprising given his decrease in motivation and engagement in the study over time.

Quantitative Data. Results suggest that Participant 101 achieved reliable change from baseline to post-treatment in the areas of: total self-compassion, self-judgment, alcohol use, and cravings. Whereas he did report sobriety from drugs during this time, he did not achieve reliable change from baseline to post-treatment in this area. The two areas in which Participant 101 did not achieve reliable change and/or maintain sobriety were in his self-soothing behaviors and GSI. Unfortunately, Participant 101 did not return for 1-month follow-up assessment, so his maintenance of improvements was unable to be assessed.

Clinically significant change was assessed using the previously mentioned methods. Participant 101 achieved clinically significant change, or maintained abstinence in the areas of: alcohol use (AUDIT = 0), drug use (DUDIT = 1, $1 < 8.4$), self-compassion (self-compassion = 15.83, $15.83 > 15.1$), and self-judgment (self-judgment = 3.8, normal range = 2.13-3.80), but did not achieve a clinically significant reduction in cravings (cravings = 16, $16 > 4.6$) or GSI (GSI = 1.55, $1.55 > 0.61$ cutoff).

Participant 102

Qualitative Data. Presenting to the IOP program with a history of alcohol abuse, Participant 102 was a homeless and jobless African American male in his late 50's with a long history of alcohol abuse, but no drug use. Despite the many barriers to treatment, including not owning a cell-phone to schedule and communicate with the study coordinators, and no access to transportation, Participant 102 attended all 5 group therapy sessions, was never late, and actively

participated in group sessions. He had no previous experience with mindfulness meditation practices, but noted in one of the last sessions that the skills he learned had been “very helpful” in a stressful interchange with an acquaintance. Whereas it was unclear at the time how or if he used the self-compassion skills in the way they were taught, or if he was correctly grasping the core themes of self-compassion and its usefulness, it did not seem to matter to this patient. Regardless of whether or not he understood the self-compassion teachings, he reported feeling connected to the treatment and thus thought of it during times of need, which seemed to help him manage his stress in some way. It seemed as though his dedication, connection to the treatment, and willingness to openly engage with the group therapists allowed him to feel as though it was useful. Unfortunately, he was unable to be reached for follow-up assessment, as the patient was homeless, had no phone, and was out of contact with the community mental health center at that time.

Quantitative Data. Participant 102 achieved reliable change from baseline to post-treatment in self-judgment and self-soothing. Participant 102 reported no drug use at either baseline or post-assessment, and reported total abstinence from alcohol, despite not meeting criteria for statistically reliable change in this area. He reported no significant change in total self-compassion, cravings, or GSI. At 1-month follow-up, Participant 102 was unable to be contacted and thus did not complete questionnaires at this time, resulting in an inability to assess whether or not his improvements were maintained.

Clinically significant change was assessed at post-assessment and Participant 102's scores suggest that he achieved clinically significant change in the areas of: drug use (drug use = 0), alcohol use = 0), self-judgment (self-judgment = 2.4, normal range = 2.14-3.80), and self-compassion (self-compassion = 16.1, $16.1 > 15.1$), but did not achieve clinically significant

change in the areas of cravings (cravings = 13.0, $13.0 > 4.6$), or GSI (GSI = 1.89, $1.89 > 0.61$ cutoff).

Participant 103

Qualitative Data. Participant 103 was a 20-year-old Caucasian single female who presented to the IOP after a 6-month history of polysubstance abuse. According to Participant 103, she rarely discriminated between substances and used them to “get rid of” whatever emotions she was feeling. She reported having no previous experience with mindfulness meditation. At times she arrived late to sessions, which was indicative of her chaotic living situation and emotional life; however, once she was present, she was actively engaged and showed high levels of insight. She was warm to other group members, respectful, and appeared eager to learn. She reported practicing the meditations outside of group multiple times each week, noting that she believed them to not only help her feel calm and more in control of her emotions, but also allowed her the space to be introspective, which helped her “think more clearly” about her future choices. One week she brought to group a piece of writing she composed listing the areas in her life with which she wished she had more self-compassion. Of all the self-compassion group members, Participant 103 seemed to best grasp the core teachings and themes of the self-compassion treatment and made efforts to use these skills to tolerate the hurt she felt regarding her recent break-up and even empowered her to feel more worthy of love. She attended all 5 sessions, completed all three assessments, and reported feeling sad that she would lose contact with the group therapists at the end of the treatment.

Quantitative Data. Participant 103 achieved reliable change from baseline to post-treatment in the areas of: total self-compassion, self-judgment, GSI, alcohol use, and drug use. Whereas she reported a reduction in cravings and an improvement in self-soothing from baseline

to post-treatment assessments, these reduction did not achieve reliable change. When her baseline and 1-month follow-up reports were assessed, Participant 103 maintained her significant improvements in total self-compassion ($RCI = 2.79$, $\Delta = 3.3$, $p < .05$), GSI ($RCI = 0.51$, $\Delta = -0.63$, $p < .05$) and her reduction in alcohol use ($RCI = 10.40$, $\Delta = -26.00$, $p < .05$) and drug use ($RCI = 11.43$, $\Delta = -23.00$, $p < .05$). She did not maintain reliable change in self-judgment between baseline and 1-month follow-up ($RCI = 3.65$, $\Delta = -1.00$, $p > .05$).

Clinically significant change was assessed for Participant 103's post-treatment scores and suggest that she achieved clinically significant change or abstinence in the areas of: alcohol use (alcohol use = 0), drug use (drug use = 0), and self-judgment (self-judgment = 3.2, normal range = 2.14-3.80). She did not achieve clinically significant change in self-compassion (self-compassion = 14.50, $14.50 > 15.1$) cravings (cravings = 17.0, $17.0 > 4.6$), or GSI (GSI = 1.62, $1.62 > 0.61$ cutoff).

Participant 104

Qualitative Data. Participant 104 was an African American man in his late 50's with an 8th grade education, who presented to the IOP for a few year history of alcohol abuse, following the loss of his home due to a hurricane. At the time of the study, he was currently unemployed and seeking social security assistance. Participant 104 actively participated in sessions and attended all five group meetings. He appeared to have a high level of insight and was able to actively engage in the mindfulness meditations, often sharing stories about how he used the self-compassion skills to help "ride the wave" of cravings. He openly shared his experiences in group sessions, noting the ways in which learning the self-compassion meditations helped him to feel less ashamed about being unable to appropriately care for his children. He shared with the group his hope to regain custody of his children now that he was sober and continuing to make efforts

to be a positive influence on his children. His openness and willingness to apply the skills to important and relevant life struggles seemed to help him stay connected to and motivated to complete the treatment. It should be noted that Participant 104 was one of the few group participants who returned 1-month after treatment to complete follow-up questionnaires.

Participant 104 achieved reliable change from baseline to post-treatment in three areas: total self-compassion, self-judgment, and self-soothing. He reported no drug use at either baseline or post-assessment, and reported abstinence from alcohol. Despite reporting a reduction in cravings and GSI, reliable change from baseline to post-treatment was not found. When assessed 1-month after treatment ended, Participant 104 showed maintenance of reliable change in the areas of self-judgment ($RCI = 3.65$, $\Delta = -5.00$, $p < .05$) and self-soothing ($RCI = 10.87$, $\Delta = 11.00$, $p < .05$), but did not maintain reliable change in his total self-compassion score ($RCI = 2.79$, $\Delta = 1.66$, $p < .05$).

Clinically significant change was assessed for Participant 104's post-treatment scores and suggest that he achieved clinically significant change or abstinence in the areas of: alcohol use (alcohol use = 0), drug use (drug use = 0), and self-compassion (self-compassion = 19.00, 19.00 > 15.1). He did not achieve clinically significant change in cravings (cravings = 6.0, 6.0 > 4.6 cutoff), self-judgment (self-judgment = 5.0, normal range = 2.14-3.80), or GSI (GSI = 1.36, 1.36 > 0.61 cutoff).

Participant 105

Qualitative Data. After few year history of drug abuse, Participant 105, age 25, presented to IOP after family members encouraged her to seek treatment in order to “recover” and “be a better parent” to her young daughter. She had a history of marijuana, opiate and sedative abuse, and appeared to respond more to extrinsic motivation, rather than intrinsic. She reported being

excited to join the study, stating she was partially motivated by the financial incentives and also by one of her friends from the IOP, Participant 103, who encouraged her to join. She appeared talkative and impulsive at times, and struggled to stay on task. She attended every group session, but often appeared disengaged. At times she was found looking at her phone during meditations, but noted that the time she spent in group was the “only time each week” she had to sit quietly, relax, and focus on herself. Whereas she verbally reported that the study was useful to her, it was rare to hear her apply the meditations or self-compassion themes to any of her current life stressors. Despite struggling to maintain healthy relationships with her son and significant other, she rarely spoke of these issues in group. It was apparent that she joined the IOP because family members recommended she seek treatment, and that she joined the self-compassion study because her friend suggested they do it together. This is a patient who seemed to struggle with self-identity and would likely have benefitted from gained insight in this area before engaging in a mindful self-compassion study.

Quantitative Data. She achieved reliable change from baseline to post-treatment in the areas of: total self-compassion, self-judgment, drug use, self-soothing, and GSI. Participant 105 reported abstinence from alcohol use, although did not achieve reliable change. She did not meet criteria for reliable change in cravings. At 1-month follow-up, Participant 105 showed maintained reliable change in the areas of total self-compassion ($RCI = 2.79, \Delta = 6.2, p < .05$), self-judgment ($RCI = 3.65, \Delta = -5.00, p < .05$), drug use ($RCI = 11.43, \Delta = -14.00, p < .05$), GSI ($RCI = 0.51, \Delta = -0.53, p < .05$) and self-soothing ($RCI = 10.87, \Delta = 24.00, p < .05$).

Clinically significant change was assessed for Participant 105' post-treatment scores and suggest that she achieved clinically significant change or abstinence in the areas of: alcohol use (alcohol use = 0), drug use (drug use = 0), and self-compassion (self-compassion = 18.17, 18.17

> 15.1). She did not achieve clinically significant change in cravings (cravings = 11.0, 11.0 > 4.6 cutoff), self-judgment (self-judgment = 5.0, normal range = 2.14-3.80), or GSI (GSI = 1.09, 1.09 > 0.61 cutoff).

Participant 106

Qualitative Data. Participant 106 was a 59-year-old Caucasian male brought to the IOP by himself after a long on-and-off history of alcohol abuse. He was currently unemployed, but previously had a successful work history. Unlike some of the other group members, Participant 106 had practiced mindfulness meditations in the past, which initially drew him to the study. He was well versed in the benefits of such practices and reported enjoying the group immensely, as it helped him “get back into” using meditation to help improve his overall level of functioning. He used his experience with mindfulness meditation to help other group members tailor the mindfulness techniques to be more appropriate for their specific circumstances. Although he noted that these practices benefitted him, he rarely used time in group to share how the self-compassion meditations applied to his current emotional and social stressors, and instead often acted as an “unofficial” group leader, sharing his suggestions for improving the mindfulness practices of other group members. Additionally, at times he presented with rigid thinking and an advantaged attitude and he became frustrated with the group leader upon finding out that he could not participate in the group a second time after completing the program and worked to negotiate with the group leaders to make an exception for him. He did attend all five group sessions and completed all three assessments.

Quantitative Data. Participant 106 achieved reliable change from baseline to post-treatment in the area of alcohol use and reported abstinence from drugs. He showed no improvements in the areas of self-judgment, cravings, or self-soothing. Although his self-

compassion scores increased and his GSI decreased, neither met criteria for reliable change. At 1-month follow-up, Participant 106 maintained reliable change in decreased alcohol use ($RCI = 10.40$, $\Delta = -12.00$, $p < .05$).

Clinically significant change was assessed for Participant 106's post-treatment scores and suggest that he achieved clinically significant change or abstinence in the areas of: alcohol use (alcohol use = 1, $1 < 8$ cutoff), drug use (drug use = 0), and self-judgment (self-judgment = 3.00, normal range = 2.14-3.80). He did not achieve clinically significant change in cravings (cravings = 24.00, $24.00 > 4.6$ cutoff), self-compassion (self-compassion = 13.33, $13.33 < 15.1$ cutoff), or GSI (GSI = 2.49, $2.49 > 0.61$ cutoff).

Treatment As Usual Group

Whereas less clinically relevant information was gathered about the treatment as usual study participants, RCI and clinically significant change were calculated for these individuals, as well, to assess whether or not they achieved reliable change without the self-compassion group treatment. Overall, of the 10 TAU participants, 7 completed post-assessment measures; the 3 persons who dropped out of the study between baseline and post-assessment can be considered to have relapsed or not achieved statistically significant change, as they also were either asked to leave the IOP or quit without warning. The percentages of achieved reliable change or maintained sobriety for all outcome variables were: alcohol (60%), drugs (60%), self-judgment (40%), total self-compassion (30%), cravings (30%), self-soothing (20%), and GSI (40%). See Table 9 for a comparison of percentages of change. For specific reliable change scores for the TAU group, see Table 11.

Participant 201. Working as a full-time cashier, Participant 201 was a 35-year-old Caucasian female who was in the TAU group and completed the IOP, as well as baseline, post-

treatment, and 1-month follow-up measures for this study. She achieved reliable change between baseline and post-IOP assessment in only one area: drug use. She did not achieve reliable change in the following outcome variables: total self-compassion, self-judgment, self-soothing, cravings, GSI, or alcohol use; however, it should be noted that she did not report high levels of alcohol abuse at baseline and instead reported a history of drug use. When her baseline scores were compared to her 1-month-follow up scores, her drug use increased from post-assessment to 1-month follow-up, but she maintained reliable change, despite this ($RCI = 11.43$, $\Delta = -18.00$, $p < .05$).

Clinically significant change was assessed for Participant 201's post-treatment scores and suggest that she achieved clinically significant change or abstinence in the areas of: alcohol use (alcohol use = 5, $5 < 8$ cutoff), drug use (drug use = 7.00, $7.00 < 8.4$ cutoff), and she did not achieve clinically significant change in cravings (cravings = 15.00, $15.00 > 4.6$ cutoff), self-judgment (self-judgment = 1.40, normal range = 2.14-3.80), self-compassion (self-compassion = 9.00, $9.00 < 15.1$ cutoff), or GSI (GSI = 2.89, $2.89 > 0.61$ cutoff).

Participant 202. Participant 202 was a 35-year-old single male with no children working in retail part-time. He participated in the baseline and post-IOP assessments, but was unable to be reached for the 1-month follow-up questionnaires. He achieved reliable change between baseline and post-IOP assessment in the following areas: total self-compassion, self-judgment, cravings, GSI, and alcohol use. He did not achieve reliable change in the areas of self-soothing or drug use, reporting 1 use each of stimulants, cannabis, cocaine, and hallucinogens during the 30 days prior to the post-IOP assessment. This participant did not return for follow-up assessment, thus an assessment of his ability to maintain his change was unable to be calculated.

Clinically significant change was assessed for Participant 202's post-treatment scores and suggest that he achieved clinically significant change or abstinence in the areas of: drug use (drug use = 0) and self-judgment (self-judgment = 2.60, normal range = 2.14-3.80). He did not achieve clinically significant change in alcohol use (8.00, 8.00 = 8.00 cutoff), cravings (cravings = 16.00, 16.00 > 4.6 cutoff), self-compassion (self-compassion = 13.00, 13.00 < 15.1 cutoff), or GSI (GSI = 2.09, 2.09 > 0.61 cutoff).

Participant 203. Participant 203 was a 44-year-old Caucasian male with some college education who participated in the TAU group of this study and completed assessment measures at all 3 time-points. He achieved reliable change between baseline and post-IOP assessment in the areas of: total self-compassion, self-judgment, self-soothing, GSI, reported no alcohol use at either baseline or post-assessment, and reported full sobriety from drugs while in the IOP (although he did not achieve reliable change due to reporting a low amount of drug use at baseline assessment). Despite maintaining sobriety, he did not achieve reliable change in cravings. When his baseline scores were compared to his 1-month follow-up, Participant 203 maintained reliable change in the area of total self-compassion and maintained sobriety from drugs and alcohol, but did not maintain his change in self-soothing, self-judgment, or GSI, and did not gain reliable change in cravings.

Clinically significant change was assessed for Participant 203's post-treatment scores and suggest that he achieved clinically significant change or abstinence in the areas of: alcohol use (alcohol use = 4, 4 < 8 cutoff), drug use (drug use = 3.00, 3.00 < 8.4 cutoff), and self-judgment (self-judgment = 2.20, normal range = 2.14-3.80). He did not achieve clinically significant change in cravings (cravings = 24.00, 24.00 > 4.6 cutoff), self-compassion (self-compassion = 11.83, 11.83 < 15.1 cutoff), or GSI (GSI = 1.64, 1.64 > 0.61 cutoff).

Participant 204. Working part-time as a bus driver, Participant 204 was a 51-year-old Caucasian male who participated in the TAU group and completed baseline and post-IOP assessment measures. He achieved reliable change from baseline to post-IOP in the following areas: alcohol use, cravings, and quit using drugs, but did not achieve reliable change in this area due to reporting a low baseline drug use. He did not achieve reliable change in the areas of total self-compassion, self-judgment, GSI, or self-soothing. Maintained change was unable to be assessed due to the participant being unreachable to return for follow-up assessment.

Clinically significant change was assessed for Participant 204's post-treatment scores and suggest that he achieved clinically significant change or abstinence in the areas of: drug use (drug use = 0) and self-judgment (self-judgment = 3.40, normal range = 2.14-3.80). He did not achieve clinically significant change in alcohol use (alcohol use = 8.00, 8.00 = 8 cutoff), cravings (cravings = 8.00, 8.00 > 4.6 cutoff), self-compassion (self-compassion = 14.00, 14.00 < 15.1 cutoff), or GSI (GSI = 1.60, 1.60 > 0.61 cutoff).

Participant 205. Participant 205 was a 25-year-old college educated unemployed female who participated in the TAU arm of the study. She completed baseline and post-IOP questionnaires, but did not return for follow-up assessment and was unreachable by phone. When the changes in scores from baseline to post-IOP, she achieved reliable change in the areas of: total self-compassion, self-judgment, self-soothing, GSI, drug use, and completely quit using alcohol; however, she was using so little to start that it appears as though she did not achieve reliable change in this area. She did not achieve reliable change in the areas of cravings. Since this participant did not return for follow-up assessment, her gains were unable to be assessed for maintenance.

Clinically significant change was assessed for Participant 205's post-treatment scores and suggest that she achieved clinically significant change or abstinence in the areas of: alcohol use (alcohol use = 1.00, $1.00 < 8$ cutoff), drug use (drug use = 0). She did not achieve clinically significant change in cravings (cravings = 10.00, $10.00 > 4.6$ cutoff), self-judgment (self-judgment = 4.00, normal range = 2.14-3.80), self-compassion (self-compassion = 15.00, $15.00 < 15.1$ cutoff) or GSI (GSI = 1.40, $1.40 > 0.61$ cutoff).

Participant 206. Participant 206 was a 35-year-old unemployed and single Caucasian male who completed the IOP, as well as baseline, post-IOP, and 1-month follow-up questionnaires for the TAU group of this study. He achieved reliable change from baseline to post-IOP in the areas of: cravings, self-judgment, GSI, alcohol use, and quit using drugs all-together; however, he was using so little to start that it appears as though he did not achieve reliable change in this area. He did not achieve reliable change in the areas of total self-compassion or self-soothing. When his baseline and 1-month follow-up scores were compared, participant 206 maintained reliable change in the areas of: alcohol use, cravings, GSI, and self-judgment. He reported a slight increase in drug use between post-assessment and 1-month follow-up, but still reported less drug use at follow-up than his baseline report. Finally, he continued to show no reliable change in the areas of total self-compassion or self-soothing.

Clinically significant change was assessed for Participant 206's post-treatment scores and suggest that he achieved clinically significant change or abstinence in the areas of: drug use (drug use = 0) and self-judgment (self-judgment = 3.20, normal range = 2.14-3.80). He did not achieve clinically significant change in alcohol use (alcohol use = 9.00, $9.00 > 8$ cutoff), cravings (cravings = 15.00, $15.00 > 4.6$ cutoff), self-compassion (self-compassion = 11.83, $11.83 < 15.1$ cutoff), or GSI (GSI = 1.64, $1.64 > 0.61$ cutoff).

Participant 207. Participant 207 was a 36-year-old unemployed and single African-American male who completed the IOP, as well as baseline, post-IOP, and 1-month follow-up questionnaires for this study. He maintained sobriety and achieved reliable change in the area of alcohol use, and reported no drug use at baseline or post-assessment. He did not achieve reliable change in the areas of total self-compassion, self-judgment, cravings, GSI, or self-soothing. He returned 1-month after IOP ended to complete follow-up questionnaires for this study and maintained sobriety and reliable change in alcohol use and maintained sobriety from drugs. Similarly to his scores at post-assessment, he did not achieve reliable change from baseline to follow-up in total self-compassion, self-judgment, cravings, GSI, or self-soothing.

Clinically significant change was assessed for Participant 207's post-treatment scores and suggest that he achieved clinically significant change or abstinence in the areas of: alcohol use (alcohol use = 2.0, $2.0 < 8$ cutoff), drug use (drug use = 0) and self-judgment (self-judgment = 3.20, normal range = 2.14-3.80). He did not achieve clinically significant change in cravings (cravings = 8.00, $8.00 > 4.6$ cutoff), self-compassion (self-compassion = 11.67, $11.67 < 15.1$ cutoff), or GSI (GSI = 1.42, $1.42 > 0.61$ cutoff).

Anecdotal Data

IOP members and study participants offered feedback throughout this 9-month study. First, it should be noted that there was a strong interest in participation in this study, and in particular, most participants indicated that they hoped to receive the self-compassion group therapy, instead of the TAU. In fact, some TAU participants reported feeling disappointed that the study was no longer recruiting self-compassion group treatment participants, as they had heard other IOP members voice positive reviews of the treatment. Additionally, a few of the self-compassion group participants requested to receive the adjunctive treatment again. Taken

together, many group participants indicated interest in ongoing mindfulness meditation practice to be offered within the structure of their ongoing substance use treatment.

In regards to feedback related to specific aspects of the self-compassion group treatment, most members indicated that the most useful aspect of the protocol was the established time each week to focus on relaxation, self-care, and acceptance. The group members noted that the protocol was accessible and easy to understand, despite differences in education level, racial and ethnic backgrounds, SES, and previous experience with mindfulness meditations. Whereas a few members struggled at times to verbalize the ways in which the self-compassion meditations helped them when they practiced outside of session times, most members seemed to connect to the program, as evidenced by good attendance during the treatment phase of the study and openness in sessions. Three of the 10 self-compassion participants noted that the most difficult aspect of the treatment was the fifth and final session that involved participants offering compassion to others, even those towards whom you experience negative or painful feelings.

Overall, the group therapists were struck by the insight and openness of group members who shared their successes and struggles with efforts to stay clean and sober. No changes were made to the protocol during this study; however, for those participants who struggled to articulate the benefits of the self-compassion meditations would have likely benefitted from more in depth or close attention from the group therapists in order to ensure a mastery of the concepts.

Section 4: Discussion

This current paper assessed the effectiveness of a brief adjunctive self-compassion group treatment in a sample of persons in an intensive outpatient program for substance use. Informed by Germer's (2009) meditation skills to increase levels of self-compassion, the treatment was designed for this study by these co-authors. To the best knowledge of these authors, this is the first attempt to test a self-compassion treatment in a substance-using sample. The preliminary nature of this study aimed to a) identify whether individuals who received the treatment did, in fact, experience increases in self-compassion, b) explore the associations and changes throughout treatment between self-compassion, substance use and cravings, self-judgment, compassionate self-soothing, and general symptom severity, c) evaluate participants' experienced reliable and clinically significant change as a result of receiving the self-compassion group treatment or TAU and d) determine effect sizes to perhaps inform the research design of future randomized control studies regarding this treatment.

Specifically, it was hypothesized that self-compassion would be negatively associated with substance use, cravings, and overall symptom severity (as measured by the Global Severity Index (GSI) score on the *Brief Symptom Inventory*; Derogatis & Melisaratos, 1983), and positively associated with compassionate self-soothing at baseline, post-treatment, and 1-month follow-up. Results of such analyses suggested that self-compassion was significantly associated in the hypothesized direction with drug use and GSI at baseline; at post assessment, self-compassion was significantly associated with drug use, GSI and self-soothing, and at 1-month follow up assessment, self-compassion was associated with GSI and self-soothing. Overall, these findings match previous research that suggests that self-compassion is associated with more positive and healthy behaviors (Neff, Kirkpatrick, & Rude, 2007). Interestingly, it should be

noted that self-compassion was not correlated with alcohol use at any time point. Given the negative relation between self-compassion and alcohol use that is found in previous studies (e.g., Rendon, 2006; Brooks, Kay-Lambkin, Bowman, & Childs, 2012), the explanation for this result is unclear. Although most other outcome variables were correlated with self-compassion in the expected direction, given the low number of participants in this study, it is possible that this finding is just an artifact of this data set and thus replication is needed.

Additionally, it was hypothesized that self-compassion would increase throughout the course of the treatment and would be maintained through post and 1-month follow-up assessments. A within subjects repeated measure design was used for this study, as it allows statistical inference to be made with fewer subjects than a between subjects design would require (Keren, 2014). Whereas some participants experienced increases in levels of self-compassion, time had no significant main effect on self-compassion or any of the components of self-compassion, when posthoc analyses were conducted. Additionally, results suggested that there was no significant main effect of time on alcohol use, drug use, or self-soothing behaviors. The only outcome variable that significantly changed over time was cravings, which could be explained by multiple theories. First, given the neurobiological nature of cravings, research consistently shows that with reduced use or abstinence, cravings naturally decrease over time (e.g., Shiffman, et al., 1997). Since abstinence was strongly encouraged in the IOP for both self-compassion group treatment and TAU, it is possible that the reduction in use was related to a decrease in cravings. Additionally, research suggests that negative emotional experiences often lead to cravings, and one study found that implementing a “Coping with Cravings and Urges” module, which included psychoeducation about cravings and “urge-surfing” exercises, helped participants better manage negative emotional experiences that often lead to cravings

(Witkiewitz, Bowen, & Donovan, 2011). For all participants in this study, psychoeducation and skills instruction were an important focus of the IOP, and results of this study suggest that this emphasis may have helped all participants reduce their cravings. Whereas the only significant change that occurred over time was a reduction in cravings, it is not altogether surprising that most outcome variables were not found to change over time; given the very small number of participants and the high attrition that is often seen in substance using samples, this study was limited in the number of participants who completed all three assessments. Consequently, it is possible that with more participants, and an increase in power, more associations and changes over time would be found.

Furthermore, this study hypothesized that the effect sizes of the outcome variables in the self-compassion treatment group would be stronger than the effect sizes of the outcome variables in the TAU group. Overall, the effect sizes for both the self-compassion group treatment and TAU were very similar, although the effect sizes in the self-compassion group tended to be larger on the measures most closely related to self-compassion. Furthermore, another notable difference between the groups was the self-compassion group treatment's maintenance of benefits in self-soothing and self-compassion at follow-up assessment. Specifically, the self-compassion treatment group showed the maintenance of effect at 1-month follow-up in self-soothing behaviors, whereas the medium effect found in increased self-soothing from baseline to post-assessment in the TAU group became close to zero 1-month post-treatment. Additionally, whereas the TAU group's effect of increased self-compassion was not maintained at follow-up, a small effect size was maintained for the self-compassion group treatment in this area. Stronger and more better maintained effect sizes in self-compassion and self-soothing behaviors for those who received the self-compassion group treatment suggests that practicing mindfulness

meditation may help to increase positive self-care behaviors in multiple ways. This effect might be due to the fact that individuals higher in self-compassion are less likely to suppress unwanted thoughts and are more willing to validate their emotional experiences, both positive and negative (Leary et al., 2007). These kinds of behaviors are indicative of a less punitive way of self-relating, and perhaps promote more willingness to take care of and soothe oneself, rather than berate oneself.

Whereas both groups seemed to improve in areas of alcohol use, drug use, and cravings, all of which were emphasized in the IOP and in all substance use treatment programs, only those in the self-compassion group treatment maintained the improvements in self-compassion and self-soothing behaviors, which were a key emphasis of the mindful self-compassion meditation groups. This suggests that the self-compassion group treatment alone may not have significantly influenced or improved participants' substance use or cravings over and above the effects of the IOP, but self-compassion group participants did seem to gain more self-soothing abilities. Whereas the self-compassion group treatment may not have significantly affected participants' substance use and cravings, it should be noted the brief treatment was comprised of five 1-hour mindful meditation groups, when compared to 9-hours per week for eight weeks that IOP members spent in the community mental health center's program.

Furthermore, the results of the reliable change and clinically significant change statistics suggested some support of the current study hypotheses. The data suggest that perhaps more self-compassion group treatment participants achieved reliable change in self-soothing. The primary difference in clinically significant change was seen with self-compassion. Specifically, 40% of the self-compassion group achieved clinically significant change in overall self-compassion, whereas none of the TAU participants achieved clinically significant change in this area.

Clinically significant change was unable to be calculated for self-soothing behaviors, and there was little difference in drug and alcohol use and self-judgment between treatment and TAU groups. Overall, these findings mirror the effect size findings that suggested that those who received the self-compassion group treatment may gain and maintain stronger benefits in viewing themselves more compassionately and behaving in more self-nurturing ways.

Interestingly, more TAU participants achieved reliable change in reduction of cravings (30%) when compared to the 10% of self-compassion treatment participants who experienced a reliable change reduction in cravings. Additionally, although 40% of the TAU participants reported a reliable change in reduction of overall symptoms, as measured by the GSI, only 20% of the self-compassion treatment participants experienced a reliable reduction in overall psychological symptoms. Whereas it appears that those who received the self-compassion treatment did not achieve as much reduction in cravings or symptom relief as those in the TAU group, it is possible that the intended increased awareness and acceptance of participant's thoughts, feelings, and bodily sensations resulted in an amplified, and thus perhaps more accurate and more negative, view of one's experiences. Specifically, in Session 1: Mindfulness and Session 3: Difficult Emotions, participants were asked to pay close attention to the parts of their bodies that were feeling tense and notice where in their bodies they experienced negative and painful thoughts and emotions. Perhaps this increase in bodily and emotional reactions allowed the self-compassion group participants to more accurately label their symptoms, feelings, and cognitions, than those in the TAU group who may not have been encouraged to pay as close attention to their physical and emotional experiences (e.g., those who are continuing the avoidance of one's symptoms). It is possible that with more time and practice, study participants would find an improvement in symptoms, which often can take longer to change than the 8-12

week participation in this study. In fact, a recent study by Neff and Germer (2013) found that increases in self-compassion were related to the number of days per week that individuals meditated, as well as the number of times per day that participants practiced informal self-compassion.

Furthermore, the anecdotal data that was collected in the form of verbal feedback to the study recruiters, self-compassion group therapists, and IOP leaders, suggested that overall self-compassion group participants were pleased with the five session adjunctive treatment. Participants gave this feedback directly to the group therapists, IOP leaders, and other IOP members who were not participating in the study. This word-of-mouth positive feedback increased participant interest in the study, and many were disappointed when the study no longer recruited for the self-compassion group and only offered TAU participation. This may help explain why it took approximately five months to recruit all 10 participants in the TAU group, as opposed to the two months it took to recruit for the self-compassion treatment group. For those who received the self-compassion group treatment, many reported that the most difficult task was practicing the mindful compassion for themselves and for others who have hurt them in the past. It is possible that the self-criticism and shame that is often so high in substance using populations make it difficult to look kindly towards the self. Furthermore, it is quite difficult to offer compassion to others with whom you find it challenging to love; consequently, it is possible that with more time and practice, this specific meditation would become easier.

When participant characteristics were assessed, the group therapists noticed some differences that may have affected participant engagement with and the achieved benefits from the self-compassion group treatment. Specifically, it seemed as though neither of the two participants who had previous experience with mindfulness meditation and/or self-compassion

achieved reliable change in the area of self-soothing behaviors, while 3 of the 4 participants who had no prior experiences with mindfulness achieved reliable change in self-soothing. It is possible that participants with previous mindfulness experience may have already achieved improvements in self-soothing prior to treatment, and may not have learned enough “new” information or skills to achieve a reliable change in this area. Alternatively, it is possible that those with previous meditation experience were not able to approach the task with a beginners mind and were more invested in appearing as though they were proficient in the practice.

Additionally, there seemed to be differences in engagement in the treatment, which likely impacted the benefits. Specifically, participants who joined the IOP on their own will, and were not referred by family members or coworkers, engaged more fully with the study, as evidenced by improved attendance and focus during sessions. Furthermore, participants who actively and accurately applied the meditations and self-compassion skills to their current life stressors seemed to engage more fully in the study, as evidenced by improved attendance rates and commitment to completion of the study. These findings are not uncommon in treatment outcome research, where higher levels of engagement, motivation, and readiness to change are linked to improved outcomes in therapy, and in substance use treatment, in particular (e.g., Miller & Rollnick, 1991; Miller & Wilbourne, 2002). Perhaps those who are intrinsically motivated for treatment and change are also more open to allowing the treatment program to change their current way of functioning.

Limitations and Future Directions

Findings from this study further support previous studies that have found a significant relation between self-compassion and problematic substance use, and drug use in particular (e.g., Brooks, Kay-Lambkin, Bowman, & Childs, 2012; Gilbert, Shorey, Gordon, & Moore, under

review; Rendon, 2006). Additionally, this longitudinal study assessed the benefits of the self-compassion group treatment designed for the purpose of this study. Despite findings that suggest that self-compassion may be related to drug use, and that a self-compassion group treatment might elicit long term improvements in self-compassion and self-soothing behaviors, this study is not without limitations.

Perhaps the most glaring limitation is that of the sample size and attrition rate. As previously mentioned, 10 participants completed baseline measures and began the self-compassion group and four of those 10 dropped out of the study before the five treatment sessions were complete (60% of participants completed the treatment). Another two were unable to be reached for follow-up measures 1-month after the treatment ended (33% of those who completed the treatment), resulting in only four persons from the treatment group who completed the study from start to finish. Because of the small sample size and high attrition rates, many of the hypothesized relations between self-compassion and other outcome variables possibly were not detected, likely due to low power and an insufficient sample size. Poor retention rates are a challenge in most substance use research (e.g., McCaul, Svikis, & Moore, 2000); however, the attrition rates in this study are particularly low, and thus, very problematic for statistical reasons. In addition to the increased vulnerability towards drop-out and relapse found in substance users, given the limited resources of this particular sample (financial, social support), it is not surprising that many participants left the study and were unreachable by phone. It should be noted that 100% of the persons who dropped out of this study either relapsed and dropped out of the entire intensive outpatient program at the community mental health center, or were asked to leave the program due to IOP leaders' concern with patient dishonesty about substance use. Whereas study participants were informed that they could continue to participate in the self-compassion study

even without continuing in the IOP- and assured that there would be no negative consequences- none continued. It is likely that returning to the location of the IOP was too shaming or uncomfortable for these patients. In an effort to build on the findings of this study, future research should recruit more participants, in order to increase power and allow for further statistical analyses, including stronger correlations, between subjects-designs, and more accurate effect sizes.

In an effort to determine whether study participants changed as a result of the self-compassion treatment, TAU participants were assessed. Whereas the 8-week IOP included no mindfulness or self-compassion related skills instruction, it is likely that participants receiving any substance use treatment would benefit in areas related to: reduced alcohol and drug use, cravings, and even some self-care behaviors. Furthermore, all IOP members were required to attend at least two AA/NA meetings each week and the AA/NA program includes aspects of self-compassion, including acceptance, recognizing the importance of community support and shared experiences (common humanity). Specifically, Germer (2009) explains that:

When an Alcoholics Anonymous (AA) member says at a meeting, ‘I’m an alcoholic,’ he or she is speaking from a larger frame of self-acceptance- nothing to hide. Resisting the idea that one is an alcoholic, or becoming engulfed in shame when a relapse occurs, can be obstacles of staying clean and sober. (p. 215)

Consequently, all IOP members, and therefore all study participants, were interacting with themes and issues related to self-compassion throughout their time in treatment at the community mental health center. Subsequently, even if AA/NA attendees were not explicitly taught mindfulness meditations and self-compassion techniques, the implicit value of self-acceptance and common humanity are likely confounding variables in this study.

Due to the small sample size, between-group analyses were unable to be conducted; consequently, it is difficult to know how much *more* the self-compassion group improved participants' self-care behaviors. Additionally, the adjunctive self-compassion group treatment was only five sessions in total; it is likely that with more sessions and more practice, participants would achieve more benefits from the newly learned skills. This, paired with the positive feedback given to the group therapists by the self-compassion group participants, suggest that future studies should strive to lengthen the number of treatment sessions, in order to allow participants more time, experience, and practice with the mindfulness skills. Additionally, given the interest in participation in the treatment arm of this study, and the potential improvements in self-compassion and self-soothing behaviors, perhaps the existing IOP curriculum would benefit from including psychoeducation on self-compassion and teaching mindful self-compassion meditations.

Finally, random assignment is the ideal methodology of treatment outcome research (e.g., Abel & Koch, 1999). Random assignment equates the groups on all known and unknown extraneous variables at the beginning of the study, which increases the likelihood that any significant observed differences between groups can be attributed to the effect of the treatment. Because this study was exploratory in nature and the authors wanted to ensure a certain number of participants received the self-compassion group treatment, all self-compassion group treatment participants were recruited before the TAU data were collected and a repeated case-study methodology was employed. It is possible that some of the differences seen between the groups in this study are at least partially explained by unknown confounding variables, rather than differences that can be attributed to the treatment; however, the two groups were quite similar in demographic characteristics. Future studies of this nature should use a randomized

controlled trial design, in order to best distinguish treatment effects from other confounding variables related to group bias.

General Discussion

This exploratory repeated case-study piloted a mindful self-compassion group treatment for substance users in an intensive outpatient program. This study found that self-compassion may be related to decreased drug use, cravings, general psychological symptoms, and self-soothing behaviors at various time-points in the study. Whereas alcohol use was not correlated with self-compassion in this study, it is possible that this is either an artifact of this small sample size, or future studies should be completed in order to better identify if self-compassion has a different relation to alcohol and drug use. Results of this study found a significant reduction in cravings for all study participants (both in the self-compassion group therapy and TAU) over the course of the 12-week involvement in the study. With regards to differences between the self-compassion group and the TAU group, efforts to increase self-compassion (through a mindful self-compassion meditation group treatment) were found to be effective in this population, and significant increases in self-soothing behaviors were found for those who completed the self-compassion treatment (those who were in the TAU group did make gains in self-compassion and self-soothing at post-assessment, but did not maintain significant gains at 1-month follow-up in either area). Although this study is limited in sample size, and subsequently was unable to formally assess between-group differences, it is possible that future studies in this area may find similar results and may be able to help illuminate the methods through which self-compassion might increase psychologically healthier behaviors in substance using populations.

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Appendices

Appendix A: Tables

Table 1: *Descriptive Statistics at Baseline Assessment*

	N	Minimum	Maximum	Mean	Std. Deviation
AUDIT	20	1.00	30.00	16.40	10.16
DUDIT	20	0.00	34.00	14.90	12.09
Cravings	20	5.00	34.00	20.10	7.75
Self-Compassion	20	5.67	18.67	11.61	3.55
Self-Judgment	20	10.00	25.00	16.95	4.99
Self-soothing	20	5.00	28.00	21.70	9.54
GSI	20	1.17	4.13	2.17	0.83

Table 2: *Correlations at Baseline Assessment (N = 20)*

	AUDIT	DUDIT	Cravings	Self-Compassion	Self-judgment	Self-soothing	GSI
AUDIT	1.00	-	-	-	-	-	-
DUDIT	-0.38	1.00	-	-	-	-	-
Cravings	0.01	-0.12	1.00	-	-	-	-
Self-compassion	0.31	-0.63**	-0.12	1.00	-	-	-
Self-judgment	-0.39	0.58**	0.29	-	1.00	-	-
Self-soothing	0.23	-0.29	0.16	0.25	-0.14	1.00	-
GSI	-0.34	0.34	0.56*	-0.71**	0.61*	-0.19	1.00

* = $p < .05$, ** $p < .01$

Table 3: *Correlations at Post-Assessment (N = 13)*

	AUDIT	DUDIT	Cravings	Self-Compassion	Self-judgment	Self-soothing	GSI
AUDIT	1.00	-	-	-	-	-	-
DUDIT	0.57	1.00	-	-	-	-	-
Cravings	0.01	0.28	1.00	-	-	-	-
Self-compassion	-0.32	-0.60*	-0.45	1.00	-	-	-
Self-judgment	0.55*	0.62*	0.54	-	1.00	-	-
Self-soothing	-0.18	-0.43	-0.02	0.77**	-0.42	1.00	-
GSI	0.31	0.62*	0.50	-0.64*	0.78**	-0.40	1.00

* = $p < .05$, ** $p < .01$

Table 4: *Correlations at Follow-Up Assessment (N = 8)*

	AUDIT	DUDIT	Cravings	Self-Compassion	Self-judgment	Self-soothing	GSI
AUDIT	1.00	-	-	-	-	-	-
DUDIT	0.29	1.00	-	-	-	-	-
Cravings	0.40	0.74*	1.00	-	-	-	-
Self-compassion	-0.23	-0.62	-0.85**	1.00	-	-	-
Self-judgment	0.19	0.61	0.69	-	1.00	-	-
Self-soothing	-0.08	-0.37	-0.74*	0.77*	-0.64	1.00	-
GSI	0.52	0.50	0.90**	-0.72*	0.61	-0.74*	1.00

* = $p < .05$, ** $p < .01$

Table 5: *Change Scores for Treatment Group*

	AUDIT	DUDIT	Cravings	Self-Compassion	Self-judgment	Self-soothing	GSI
AUDIT	1.00	-	-	-	-	-	-
DUDIT	-0.68	1.00	-	-	-	-	-
Cravings	0.20	-0.06	1.00	-	-	-	-
Self-compassion	-0.25	-0.68	0.20	1.00	-	-	-
Self-judgment	0.37	0.27	0.01	-	1.00	-	-
Self-soothing	0.66	0.25	-0.67	-0.04	-0.52	1.00	-
GSI	0.69	-0.81*	-0.11	-0.93**	0.72	0.60	1.00

Table 6: *Change in Cravings Over Time*

	Type III Sum of Squares	df	Mean Square	F	Sig.
Time Effect	123.17	2	61.58	20.24	.002
Sphericity Assumed					

Table 7. *Effect Sizes for Self-Compassion Group Participants.*

	Cohen's <i>d</i> T1-T2	Effect Size (<i>r</i>) T1-T2	Cohen's <i>d</i> T1-T3	Effect Size (<i>r</i>) T1-T3
AUDIT	$d = 1.69$	$r = 0.65$	$d = 1.90$	$r = 0.69$
DUDIT	$d = 1.57$	$r = 0.62$	$d = 1.56$	$r = 0.61$
# Days Drinking	$d = 0.71$	$r = 0.34$	$d = 1.07$	$r = 0.47$
# Days Using Drugs	$d = 0.93$	$r = 0.42$	$d = 0.84$	$r = 0.39$
Cravings	$d = 0.87$	$r = 0.40$	$d = 1.83$	$r = 0.67$
Self-Compassion	$d = -1.15$	$r = -0.50$	$d = -0.34$	$r = -0.17$
Self-Judgment	$d = 0.93$	$r = 0.42$	$d = 0.22$	$r = 0.11$
Self-Soothing	$d = -1.35$	$r = -0.56$	$d = -0.83$	$r = -0.38$
GSI	$d = 0.46$	$r = 0.23$	$d = 0.55$	$r = 0.27$

Table 8. *Effect Sizes for Treatment As Usual Group*

	Cohen's <i>d</i> T1-T2	Effect Size (<i>r</i>) T1-T2	Cohen's <i>d</i> T1-T3	Effect Size (<i>r</i>) T1-T3
AUDIT	$d = 1.48$	$r = 0.59$	$d = 1.08$	$r = 0.48$
DUDIT	$d = 1.62$	$r = 0.63$	$d = 1.80$	$r = 0.67$
# Days Drinking	$d = 0.92$	$r = 0.42$	$d = 0.37$	$r = 0.18$
# Days Using Drugs	$d = 0.95$	$r = 0.43$	$d = 1.20$	$r = 0.52$
Cravings	$d = 0.85$	$r = 0.39$	$d = 0.70$	$r = 0.33$
Self-Compassion	$d = -0.74$	$r = 0-.35$	$d = 0.05$	$r = 0.03$
Self-Judgment	$d = 0.46$	$r = .23$	$d = 0.14$	$r = 0.07$
Self-Soothing	$d = -0.75$	$r = -0.35$	$d = -0.14$	$r = 0.07$
GSI	$d = 0.79$	$r = 0.37$	$d = 0.43$	$r = 0.21$

Table 9. *Percentages of Persons Achieving Reliable Change/Sobriety and Clinically Significant Change*

	RCI (Self-Compassion Group)	RCI (TAU)	CSC (Self-Compassion Group)	CSC (TAU)
AUDIT	50%	60%	50%	40%
DUDIT	60%	60%	60%	70%
Cravings	10%	30%	0%	0%
Self-Compassion	40%	30%	40%	0%
Self-Judgment	50%	40%	40%	50%
Self-Soothing	40%	20%	-	-
GSI	20%	40%	0%	0%

Table 10. *Reliable Change for Self-Compassion Group*

	AUDIT RCI = 10.40	DUDIT RCI = 11.43	Cravings RCI = 8.24	Self- Compassion RCI = 2.79	Self- Judgment RCI = 3.65	Self- Soothing RCI = 10.87	GSI RCI = 0.51
101	$\Delta = -23.00^*$	$\Delta = -8.00$ abstinent	$\Delta = -10.00^*$	$\Delta = 3.83^*$	$\Delta = -5.00^*$	$\Delta = 1.00$	$\Delta = -0.41$
102	$\Delta = -3.00$ abstinent	$\Delta = 0.00$ abstinent	$\Delta = -5.00$	$\Delta = -2.17$	$\Delta = -8.00^*$	$\Delta = 31.00^*$	$\Delta = -0.32$
103	$\Delta = -26.00^{*\wedge}$	$\Delta = -23.00^{*\wedge}$	$\Delta = -2.00$	$\Delta = 4.5^{*\wedge}$	$\Delta = -4.00^*$	$\Delta = 7.00$	$\Delta = -0.63^{*\wedge}$
104	$\Delta = -7.00$ abstinent	$\Delta = 0.00$ abstinent	$\Delta = -4.00$	$\Delta = 2.83^*$	$\Delta = -7.00^{*\wedge}$	$\Delta = 15.00^{*\wedge}$	$\Delta = -0.02$
105	$\Delta = -6.00$ abstinent	$\Delta = -14.00^*$	$\Delta = -1.00$	$\Delta = 6.20^*$	$\Delta = -6.00^*$	$\Delta = 12.00^*$	$\Delta = -0.53^{*\wedge}$
106	$\Delta = -13.00^*$	$\Delta = -6.00^*$	$\Delta = 0.0$	$\Delta = 1.5$	$\Delta = 0.0$	$\Delta = -5.00$	$\Delta = -0.13$

* = $p < .05$; $\wedge$ = maintained RC at follow-up.

Table 11. *Reliable Change for Treatment As Usual Group*

	AUDIT RCI = 10.40	DUDIT RCI = 11.43	Cravings RCI = 8.24	Self- Compassion RCI = 2.79	Self- Judgment RCI = 3.65	Self- Soothing RCI = 10.87	GSI RCI = 0.51
201	$\Delta = 3.0$ abstinent	$\Delta = -24.00^{*\wedge}$	$\Delta = -7.00$	$\Delta = 1.13$	$\Delta = -1.00$	$\Delta = 4.00$	$\Delta = -0.15$
202	$\Delta = -23.00^*$	$\Delta = -5.00$	$\Delta = -14.00^*$	$\Delta = 4.5^*$	$\Delta = -5.00^*$	$\Delta = -4.00$	$\Delta = -0.70^*$
203	$\Delta = 0.0^{\wedge}$ abstinent	$\Delta = -1.00^{\wedge}$ abstinent	$\Delta = -2.00$	$\Delta = 5.5^{*\wedge}$	$\Delta = -5.00^*$	$\Delta = -20.00^*$	$\Delta = -1.38^*$
204	$\Delta = -16.00^*$	$\Delta = -9.00$ abstinent	$\Delta = -12.00$	$\Delta = 0.02$	$\Delta = -1.00$	$\Delta = -2.00$	$\Delta = -0.12$
205	$\Delta = -6.00$ abstinent	$\Delta = -34.00^*$	$\Delta = -5.00$	$\Delta = 7.0^*$	$\Delta = -12.00^*$	$\Delta = 12.00^*$	$\Delta = -1.11^*$
206	$\Delta = -16.00^{*\wedge}$	$\Delta = -4.00$ abstinent	$\Delta = -16.00^{*\wedge}$	$\Delta = 1.17$	$\Delta = -8.00^{*\wedge}$	$\Delta = -1.00$	$\Delta = -1.81^{*\wedge}$
207	$\Delta = -28.00^{*\wedge}$	$\Delta = 0.00^{\wedge}$ abstinent	$\Delta = -6.00$	$\Delta = 2.33$	$\Delta = 1.00$	$\Delta = -7.00$	$\Delta = +0.19$

* = $p < .05$; $\wedge$ = maintained RC at follow-up.

Appendix B: Self-Compassion 5-Session Treatment Guide

Session 1: Mindfulness

General Information (10 minutes)

- Introduce mindfulness as a concept (e.g., knowing what you are experiencing it while you are experiencing it, moment to moment awareness without judgment).
- One can increase mindfulness with practice.
- You don't have to be calm to be mindful, just need to be aware.

“Mindfulness of Breathing” Exercise (30 minutes total)

- Complete the exercise
- Activity Discussion- what was it like? What was difficult? How did you feel while doing it? (15 minutes)

Mindfulness at Home/In The Real World Discussion (15 minutes)

- Mindful walking
- Mindful breathing

HOMEWORK: Do a mindfulness activity for 20 minutes, two times this week (e.g., focus on breathing or mindful walking).

Session 2: Emotional Acceptance

General Information (15 minutes)

- Labeling Emotions: This helps free our brain up. They are “just emotions;” not as scary.
 - More than just noticing
 - Make sure labels are kind and compassionate
 - Talk about how to label emotions and practice together

“Labeling Emotions” Exercise (30 minutes)

Bring awareness to body, hand on heart, mindful awareness of breathing, 5 minutes. Release breath, keeping attention to heart region. What am I feeling? Let attn be drawn to strongest emotion. Give strongest feeling a name. At first you might feel “contentment” or “curious” but let the other emotions come to you also. Repeat the label two, three times in a kind, gentle voice to yourself, return to breath. Go back and forth between breath and emotions in relaxed way. Don’t force an emotion. If you feel overwhelmed, stay with breath until feel better. (15 minutes)

Discuss what it was like to sit with emotions and label them. (15 minutes)

Homework: When feelings stressed/worried/angry etc., take 20 minutes to notice and label emotions. Sit with them, and write down any thoughts/feelings to share with the group.

Session 3: Difficult Emotions

General Information (10 minutes)

- Steps to Accepting and Moving on From Negative Emotions
 - o Aversion: resistance, avoidance, rumination
 - o Curiosity: turning toward discomfort with interest
 - o Tolerance: safely enduring pain
- Benefits of Negative Emotions: they provide important information for us.
- Cycle of Negative Emotions
 - o Emotions get stronger when we fight them
 - o I don't like this feeling → I wish I didn't have this feeling → I shouldn't have this feeling → I'm wrong to have this feelings → I'm bad.

"Mindfulness of Emotion in Body" and "Soften, Allow & Love" Exercise (35 minutes)

"Mindfulness of Emotion in Body:" Need to locate emotions first and be aware of them. Think of a difficult emotion that you're feeling. If you aren't currently feeling anything difficult, think of one that commonly occurs. Feel your body, bring attention to heart region, put hand on heart, find breath in heart region and feel chest move as you breathe. After few minutes, release attn to breath let yourself recall the difficult emotion, remember situation when you've felt it/brought it on. Now expand awareness to body as a whole, where do you feel it most? Sweep body head to toe. Choose single location in body feeling most. Incline to that spot, breathe naturally, allow gentle rhythmic motion of breath to soothe body. If you feel overwhelmed, stay with breath until feel better and then return to emotion.

"Soften Allow and Love": *Soften* to location in body, let muscles be soft without requiring they be soft, *allow* discomfort to be there, abandon wish for feeling to disappear, *love* yourself for suffering this way, hand over heart and breathe, direct love at part of body under stress, think of body as beloved child. Soften, allow, love, mantra.

Discuss what it was like to give comfort toward self while feeling something negative.

Homework: Softening meditation as needed, at least 1 time this week.

Session 4: Caring for Ourselves: Self-Kindness

5 Pathways to Self-Compassion Handout! (20 minutes)

- Physically
 - Softening into your body when under stress. Nap, eat nourishing food, take 10 minutes in the sun, exercise, talk to medical doctor.
 - How can each of you care for yourselves physically?
- Mentally
 - Allowing your thoughts to come and go, stop resisting.
 - Mantras: “this too will pass” or “one day at a time.”
 - Put things into perspective
 - Come up with Mantras together
- Emotionally
 - Befriend painful emotions and stop fighting them. Be kind toward ourselves.
 - Treat ourselves to enjoyable activities (listen to music, go for a walk, read, eat your favorite meal).
- Relationally
 - Connect with others. Don’t isolate; it makes us more uncomfortable. Be helpful to others.
- Spiritually
 - Our values, God, etc.
 - Take the time to cultivate the values that we hold dear. If we don’t attend to our values, we’ll absorb the values of our consumer culture.

Cultivating Positive Emotions (10 minutes)

- Positive emotions 1) feel good and 2) reach beyond the individual

Examples: affection, cheerfulness, hope, surprise.

- a. Read story (Germer 2009, pp 120) “feeding the emotion you want to win-out”

“Loving Kindness Meditation” (15 minutes)

- b. Sit down, close eyes, bring attention to heart region. Slow easy breaths. Form image of self sitting down, as if seeing yourself from the outside. Recall that every living being wants to live peacefully and happily, “Just as all beings wish to be happy and free from suffering, may I be happy and free from suffering.” Let self feel warmth of loving intention. Repeat phrases silently: “May I be safe. May I be happy. May I be healthy. May I live with ease.” Let each phrase mean what it says. Take time.

HOMEWORK: Repeat the phrases of love to yourself during times of stress/difficulty. See what happens when you do.

Session 5: Common Humanity: Staying Connected to Others

General Information (15 minutes)

- Importance of a support network
- It can be hard to “let people in.” Why? Share positive experiences of letting others in.
- What happens when we feel isolated? Cravings? Sadness? Frustration?
- The power of compassion for physical and mental health.

Metta Meditations for Self and Others (20 minutes)

Can be done walking or sitting. Sit still for a moment, anchor your attention in your body. Recall that every living being wants to live happily and peacefully. “Just as all beings wish to be happy and free from suffering, may I be happy and free from suffering.” Feel the sensations of your body. “safe, happy, healthy, ease.” When mind wanders, return to phrases. Halfway through, send it to others: “May you and I be safe. May you and I be happy. May you and I be healthy. May you and I live with ease.” Include everything and everyone in this group. Others with similar or different struggles. End with: “May all things be happy and free from suffering.”

Loving Others without Losing Yourself (15 minutes)

- How to offer help to others in ways that feels good
- How to stay connected and not lose yourself in the process
- How to know when you need to care for yourself?

Vita

Sarah E. Gilbert received her B.A. in Psychology in May of 2007 from The University of North Carolina at Chapel Hill. In the fall of 2008, she began her doctoral studies in Clinical Psychology at The University of Tennessee, Knoxville, and successfully earned an M.A. in Psychology at this institution. Currently, Sarah's primary clinical and research interests focus on the effects of interpersonal relationships on mental health and the ways in which awareness and compassion can improve general functioning. She recently completed her clinical psychology pre-doctoral internship at Columbia University Medical Center, and has recently begun a postdoctoral fellowship at this same institution.