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John Paulson
University of Southern Indiana

Veronica Huggins
University of Southern Indiana

Douglas A. Gentile
Iowa State University

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Mindful Awareness Training: A Pilot Study Integrating Mindfulness Practices into a Rural Jail-Based Substance Abuse Program

John Paulson
Veronica Huggins
University of Southern Indiana

Douglas A. Gentile
Iowa State University

Abstract. Mindfulness practices are now utilized in a variety of behavioral healthcare settings, including the criminal justice system. This article summarizes the findings of a pilot project incorporating mindfulness practices into a jail-based substance abuse program in a rural county jail. Participants that engaged in a psychoeducational mindfulness group that utilized practices adapted from the Mindfulness-Based Relapse Prevention (MBRP) curriculum had improved scores on measures of mindfulness, self-compassion, and quality of life. A mediated path model suggested that the length of time participants were involved in the group and their estimated amount of mindfulness practice outside the group was related to increases in mindfulness, which appeared to support subsequent increases in self-compassion and quality of life. Implications for incorporating these practices into jail-based programs and limitations are discussed.

Keywords: mindfulness, self-compassion, substance abuse, jail-based services

Mindfulness, a quality of open, non-judgmental present moment awareness towards one's experiences, is a type of attention that can be systematically cultivated through practice. Clearly seeing and relating to inner and outer experiences through mindful awareness, especially challenging and difficult circumstances, can transform one's recognition of and response to habitual patterns of psychological struggle and suffering, thus allowing for more skillful and productive coping responses (Kabat-Zinn, 2013). Structured programs and protocols based on mindfulness practices have been developed for a variety of conditions, including substance use and addictive disorders (Hayes & Levin, 2012). These programs are also increasingly implemented in corrections settings (Malouf, E.T., Youman, K., Stuewig, J., Witt, E.A., & Tangney, J.P., 2017; Morley, 2018; Lyons, T., Womack, V.Y., Cantrell, W.D., & Kenemore, T., 2018). This study attempted to explore the impact of integrating an adapted, unstructured mindfulness program into the Substance Abuse Program (SAP) of a rural county jail on self-reported measures of mindfulness, self-compassion, and quality of life. We predicted that participants who engaged in the mindfulness practices would show improvements in these areas, and that these improvements would be related either to the number of times they attended program, their overall length of participation in the program, or both.

Literature Review

Mindfulness skills and practices, first systematized and researched as the Mindfulness-Based Stress Reduction (MBSR) curriculum developed by Dr. Jon Kabat Zinn, are now a core feature for several current psychotherapy approaches. These include Mindfulness-Based Cognitive Therapy (MBCT), Dialectical Behavior Therapy (DBT), Acceptance and Commitment

Therapy (ACT), Compassion-Focused Therapy (CFT), and several additional derivative programs (Holt & Cottone, 2014; Sears, Tirsch & Denton, 2011). These approaches have demonstrated efficacy for addressing and improving a wide variety of behavioral and physical health conditions (Dimidjian et al., 2016; Dimidjian & Segal, 2015; Gotink et al., 2015; Keng, Smoski, & Robins, 2011). This broad scope of mindfulness-based interventions (MBI) includes the utilization of mindfulness in the treatment of substance use and addictive disorders (Hayes & Levin, 2012).

Although not the only program to use mindfulness for problematic substance use and addictive behaviors, Mindfulness-Based Relapse Prevention (MBRP) (Bowen, Chawla, & Marlatt, 2011; Witkiewitz, Marlatt, & Walker, 2005) is arguably the most well known and most widely implemented and accepted MBI for addiction. MBRP is a program that integrates cognitive-behavior therapy principles and techniques with traditional relapse prevention approaches and mindfulness practices. The program is a highly structured curriculum conducted as an eight-session closed-ended group. Each week in addition to learning cognitive-behavioral coping strategies, participants engage in a series of progressive mindfulness practices introduced in a prescriptive order. Participants are expected to practice daily outside group between weeks and to self-monitor their practice, along with completing other treatment exercises. Researchers have found that those who complete MBRP following their initial phase of intensive inpatient or outpatient addiction treatment have significantly decreased substance use, drug craving and rates of relapse over those receiving either treatment as usual or traditional relapse prevention and that these gains were maintained even a year following services (Bowen et al., 2009; Bowen et al., 2014).

Given the connection between problematic substance use, its negative psychological and behavioral effects, and criminality a natural progression of mindfulness research for addiction has been a focus on the use of mindfulness in correctional settings. The foundational studies in this area have examined the efficacy of vipassana meditation (a historical term for mindfulness practices) carried out in multiple day retreats within prison settings. Witkiewitz, Marlatt and Walker (2005) along with Bowen and colleagues (2006) reported on the outcomes of a vipassana retreat in a minimum-security prison. They found that program participants had reduced substance use and related difficulties, along with reduced psychiatric symptoms compared to inmates receiving standard treatment and rehabilitative programming, and that these gains were maintained for several months following the conclusion of the program. Perelman and colleagues (2012) evaluated the outcomes of vipassana retreats conducted at a maximum-security prison and found that retreat participants scored higher on self-report measures of mindfulness, emotional intelligence and lower on mood disturbance than a comparison group. The retreat group also had lower numbers of rule violations and infractions, even up to a year after the program. Samuelson, Carmody, Kabat-Zinn, and Bratt (2007) explored the use of Mindfulness-Based Stress Reduction in six Massachusetts prisons. They found that inmates who participated in MBRP reported decreases in hostility, mood disturbance and increases in self-esteem, and that these changes were most significant for offenders who were in minimum-security settings and close to release. Several reviews have concluded that despite concerns over methodological issues with the research mindfulness-based interventions appear to be generally feasible and effective in corrections settings. These approaches tend to promote decreases in substance use and related attitudes, negative affect, anger and hostility while generally increasing relaxation, self-esteem

and well-being (Auty, Cope, & Leibling, 2017; Dafoe & Stermac, 2013; Howells, Tennant, Day, & Elmer, 2010; Lyons & Cantrell, 2016; Shonin, Van Gordon, Slade, & Griffiths, 2013).

Recent research has begun to focus on the use of MBI's in correctional settings other than prisons, most specifically county jails where individuals are serving extended sentences for substance-related offenses. Often these individuals are serving their time in a county jail acting as a department of corrections holding facility as opposed to serving that time in a state prison. Malouf et al. (2017) found that inmates in a Mid-Atlantic urban jail who participated in a structured mindfulness program experienced decreased self-judgement and shames versus an active control group and had lower rates of post-release criminal activity. A recent study by Morley (2018) in a metropolitan jail in the Southwest examined the connection between mindfulness, compassion and criminal impulsivity and found that increases in mindfulness and compassion were related to decreases in criminal impulsivity, and that compassion appeared to mediate the gains in mindfulness and reductions in impulsivity. This investigation also found that these changes were associated with the length of time one had practiced. Another recent study by Lyons et al. (2018) adapted MBRP for use in an urban jail setting and compared it against a communication skills training group. Although they used a very structured and defined protocol, they shortened the length of the MBRP program from eight weeks to six. They found that participants in both groups showed improvements in drug craving, anxiety and PTSD symptoms and that the MBRP group had more significant improvements in mindfulness than the communications group.

The project that is the focus of this article is a pilot study exploring the feasibility and effectiveness of incorporating mindfulness practices into an established jail-based substance abuse program in a rural county jail. We sought to see if participants who attended an optional, adapted mindfulness coping skills psychoeducational group and engaged in the practices over an extended period of weeks and months would show improvements in self-report measures of mindfulness, self-compassion and quality of life.

Method

Participants

Forty male participants completed both pre and post-test measures. The participants ranged in age from 21 to 55 ($M=35.66$) and were 85% Caucasian ($n=36$) and 15% African-American ($n=6$). All participants were part of the Substance Abuse Program (SAP) in a rural Western Kentucky county jail. SAP is a six to nine month residential treatment program that inmates with histories of substance abuse can complete while incarcerated. The SAP program utilizes a therapeutic community model (De Leon, 2000) and combines professional addiction treatment with peer-to-peer support communities guided by peer mentors. Program participants are housed together separate from other inmates and even wear different uniforms. The peer community promotes personal responsibility and accountability. In addition to addiction treatment, participants also receive services supporting successful re-entry once released, including parenting skills, financial literacy, GED and literacy skills and vocational counseling. Inmates who successfully complete the SAP program receive reductions in their sentences to the

amount of time they must serve. The current investigation only included males due to this facility only having a SAP program for male inmates.

Materials

Freiberg Mindfulness Inventory (FMI). The Freiberg Mindfulness Inventory (Walach, Buchheld, Bутtenmuller, Kleinknecht, & Schmidt, 2006) is a 14 item self-report scale that measures mindfulness. Higher scores on the scale reflect higher levels of mindfulness. The FMI reports good internal reliability and construct validity. The FMI is also sensitive to change over time and easily utilized with individuals who do not have previous meditation experience. *Self-Compassion Scale-Short Form (SCS-SF)*-The Self-Compassion Scale-Short Form (Raes, Pommier, Neff, & Van Gucht, 2011) is a 12 item self-report scale that measures self-compassion, with higher scores reflecting higher levels of self-compassion. The SCS-SF was derived and adapted from the original 26 item Self-Compassion Scale (Neff, 2003) and reports good internal consistency and significantly correlates with the SCS while offering an overall self-compassion score (Raes et al., 2011).

Quality of Life Scale (QOLS). The Quality of Life Scale, originally developed by Flanagan (1978, 1982), is a 16 item self-report scale assessing different domains related to quality of life, including perspectives on the quality of one's material and physical well-being, relationships, sense of independence, and the value of meaningful activities and personal fulfillment. The QOLS has good internal consistency and test-retest reliability. It also demonstrates convergent and discriminant construct validity and appears responsive to changes in circumstances and improvements resulting from treatment (Burckhardt & Anderson, 2003).

Procedure

While most of the activities and classes in SAP are mandatory, this particular class was optional. SAP participants could attend the class if, when and how often they decided. They were also able to attend throughout the duration of their participation in SAP. SAP participants receive time reductions to their sentences for successfully completing SAP, and they can earn additional time reductions for completing other optional programs offered. SAP participants who attended the mindfulness group did not receive any additional time reductions or increased privileges for participating in or completing this particular class.

The mindfulness group was psychoeducational in nature and had open enrollment, allowing participants to start whenever they chose. The lead investigator, who is an experienced clinical social worker and mindfulness instructor, facilitated the groups. Despite this clinical background, the lead investigator's role in the current study was as a community volunteer for the SAP program and not as one of its service providers.

The group utilized a variety of mindfulness practices derived from the MBRP program, including mindfulness of the breath, the body scan, mindfulness of breath, body sound, and thought, the SOBER breathing space, mindful movement, mindful walking, mindful eating, the mountain meditation, and kindness practice. Unlike MBRP this group did not include any therapeutic focus or activities, only mindfulness practices, and did not engage in the before

mentioned practices in any prescribed order. While practice outside the class was encouraged, participants were not expected or required to document outside practice. During groups, participants received psychoeducational information on mindfulness, engaged in two different periods of practice, reflected on their experiences with the practices, and discussed strategies for successfully continuing to engage in the practices, both while incarcerated and once released.

The groups typically occurred once a week and lasted from an hour to an hour and a half. Although scheduled each week, it was often not feasible to offer it weekly due to both the facilitator's schedule and facility issues, such as weeks when the jail would be on lockdown. Sometimes there were 2-4 weeks between classes. Over the course of twenty months from 2016 to 2018, the group met 55 times, resulting in the group occurring an average approximately every two weeks. On average about twelve participants attended, with the lowest attendance being four and the highest 22. Those in SAP who decided not to participate in the study but who wanted to come to the group were also allowed to attend.

First time attendees of the mindfulness group were invited to participate in the study. Those who chose to participate were asked at their first group to complete the FMI, SCS-SF and QOLS. The investigators then tracked the number of times they attended the group and the number of months during which they participated. Upon completing SAP, participants were asked to complete post-test measures and a brief exit survey about their experience in the group and characteristics of their practice outside the group.

Results

Preliminary Analyses

Fifty-nine participants attended an introductory session and completed only the pretest measures. Those who did not complete post-test measures did not do so due to either deciding to discontinue involvement in the study, removal from SAP for rule violations, transfer to other facilities or release from the facility before completing post-test measures. Forty participants (68%) completed multiple sessions and completed the posttest measures. We compared the pretest scores between those who did not return and those who did, and found no statistically significant differences based on age, race, Freiberg Mindfulness score, or overall Quality of Life, and a marginally significant difference on Self-Compassion score, [$M_{\text{Completed}}=32.63$ (6.49), $M_{\text{Withdrew}}=27.74$ (9.44); $t=-2.04$, $df=263$, $p=.051$; 95% $CI_{\text{Diff}} = -9.81, 0.03$]. There is not strong evidence, therefore, that the participants who withdrew were not particularly different from those who continued in the program. Table 1 displays the descriptive statistics for those who completed both the pretest and posttest measures.

Table 1

Descriptive Statistics (N = 40)

	<u>Mean</u>	<u>Std Dev</u>
Age	35.7	8.5
Number of Classes Attended	10.33	4.60
Number of Months Attended	4.55	1.34
Freiburg Mindfulness Pretest	31.42	7.05
Freiburg Mindfulness Posttest	41.20	5.85
Self-Compassion Pretest	32.62	6.49
Self-Compassion Posttest	41.70	6.07
Quality of Life Pretest	65.58	13.63
Quality of Life Posttest	83.55	11.40

Planned Comparisons

Pre- and post-test scores were significantly correlated for Mindfulness ($r = .442, p = .004$) and Self-Compassion ($r = .428, p = .006$), but not Quality of Life ($r = .170, p = .293$). We used planned comparison paired sample t-tests to test our hypothesis that there would be a significant increase in our outcome variables. As predicted, participants showed statistically significant increases in Mindfulness [$M_{diff}=9.78 (6.89); t=8.97, df=39, p<.001; 95\% CI_{Diff} = 7.57, 11.98$], in Self-Compassion [$M_{diff}=9.08 (6.73); t=8.53, df=39, p<.001; 95\% CI_{Diff} = 6.92, 11.23$], and Quality of Life [$M_{diff}=17.98 (16.21); t=7.01, df=39, p<.001; 95\% CI_{Diff} = 7.01, 23.16$].

Follow-up Analyses

The gains in each variable were not uniform, as evidenced by the somewhat large standard deviations around each mean change. Thus, some people gained more benefit than others did. To examine whether there were differences based on age, race, number of classes attended, or number of months participating, we conducted multiple regression analyses for each outcome variable, controlling for the pretest levels of that variable. For Mindfulness, only the number of classes attended emerged as a significant predictor, after controlling for initial levels and age and race ($\beta = .293, p = .049$). For both Self-Compassion and Quality of Life, no additional variables significantly predicted increases after controlling for initial levels.

At the end of the program, participants were asked to rate how often they practiced the mindfulness skills on their own outside of the class time. Most participants did some practice on their own, with only 2.5% saying “Rarely” and 2.5% saying “Occasionally.” Of the remaining participants, 30% said “Sometimes,” 40% said “Often,” and 25% reported “Very Often.” We

included this self-report of practice in the regression models described above, and it predicted a significant amount of variance ($\beta = .359, p = .015$) in Mindfulness after controlling for age, race, pretest levels of Mindfulness, and number of classes attended (indeed, number of classes attended became non-significant after personal practice was included in the model). A similar pattern was found for Self-Compassion ($\beta = .339, p = .034$), but not Quality of Life ($\beta = .259, p = .145$).

Exploratory Model

We tested a mediated path model in MPlus (version 7.2), in which we predict that demographic and amount of participation might predict the amount of change in Mindfulness, which in turn predicts the amount of change in Self-Compassion, which in turn predicts the amount of change in Quality of Life. We found that amount of months and number of classes were highly correlated, and when combined with amount of personal practice outside of class, we observed a change in the direction of the sign for number of classes. We therefore dropped it from the model shown in Figure 1. This model demonstrates excellent goodness of fit. Of particular interest is how strongly change in Mindfulness predicts changes in Self-Compassion and Quality of Life. The mediated pathway from change in Mindfulness to change in Quality of Life is $\beta = .530 (p < .001)$. It should be noted, however, that these data are cross-sectional and any directional hypotheses will need to be tested experimentally or longitudinally. Nonetheless, this exploratory analysis may be useful to help design future studies.

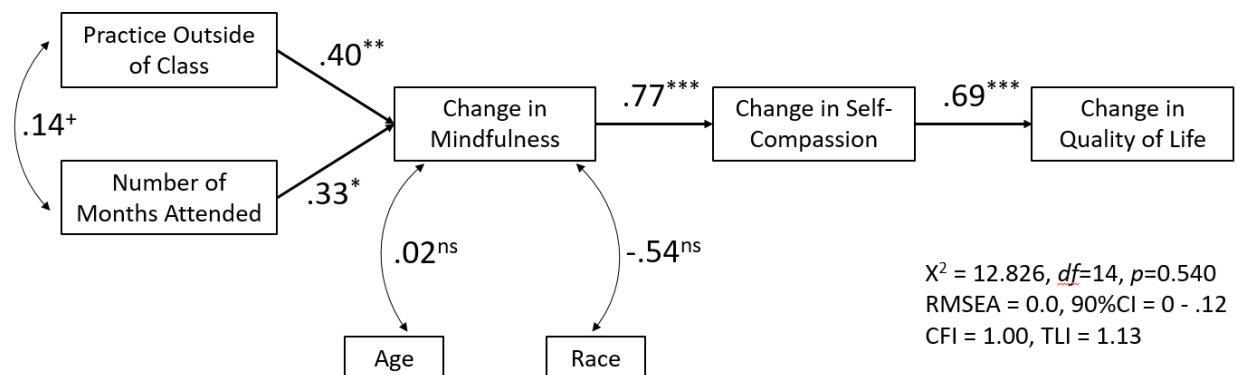


Figure 1: Exploratory Path Model examining the Predictors of Change in Quality of Life.

Discussion

Participants in the current study had improved mindfulness, self-compassion and quality of life scores from pre to post- test. Mediated pathway analysis suggests the possibility that the number of months in which participants were engaged in the group coupled with their self-report estimates of practice outside the group generally predicted increases in mindfulness, and that increases in mindfulness generally led to subsequent increases in self-compassion and quality of life perspective. Surprisingly these gains occurred despite the unstructured nature of the program and gaps between times the group met. Unlike other mindfulness-based curricula, participants could start at any point, the practices were not introduced in any prescriptive order, attendance

was voluntary, and while consistent attendance was encouraged, there were no attendance requirements or penalties. Participants were encouraged to practice outside the group and between weeks, but they were not required to monitor and report on their outside practice.

Our program also contained several additional adaptations. Whereas most programs have a set number of groups or weeks, typically six to eight, participants in this mindfulness group could attend throughout their time in the SAP program. They were not required to attend any minimum number of groups, and some participants completed far more than six to eight groups over the course of their six to nine-month involvement in SAP. Since this group was psychoeducational in nature, we did not utilize the therapeutic aspects of MBRP, nor did we use any between group homework assignments. MBRP is typically used as an aftercare approach once someone has completed an initial phase of addiction treatment. The current study engaged participants in the practices at the same time they were completing their initial treatment.

Several studies have established the relationship between mindfulness, self-compassion, and that increases in one are generally associated with increases in the other (Jazaieri et al., 2013; Jazaieri et al., 2014; Neff & Germer, 2013). This is especially true when one engages in consistent, on-going practice, which leads to greater strengthening of these attributes (Jazaieri et al., 2013; Jazaieri et al., 2014; Parsons, Crane, Parsons, Fjorback, & Kuyken, 2017). The connection between mindfulness and self-compassion is an understandable one. Cultivating an open, non-judgmental awareness towards one's internal experiences, especially unpleasant ones, softens criticism and increases acceptance for the totality of one's inner world. This supports a stance of kindness towards one's experiences and one's self, as well as a greater perspective on one's personal suffering and its connection to the suffering of others and a shared humanity, a necessary understanding for compassion generally and self-compassion specifically (Neff & Germer, 2013).

Previous studies have also shown a connection between mindfulness, self-compassion and quality of life (Bonifas & Napoli, 2014, Neff & Germer, 2013). Cultivating the gentle, non-critical stances of mindfulness and self-compassion seems to allow individuals to hold their experiences in a space that allows them to reframe their circumstances and shift their perspectives on their lives. Bonifas and Napoli (2014) found that MSW students practicing mindfulness while completing their graduate program had increases in their self-report quality of life scores. These gains were not associated with any reductions in experiences of stress, meaning that mindfulness helped strengthen their perspective on the quality of their life in the presence of significant stressors. Incarcerated is incredibly stressful, and the fact that participants in both studies experienced increases in quality of life while encountering stressful circumstances in challenging environments is encouraging. Interestingly this positive linear trend between mindfulness, self-compassion and quality of life holds up even when various investigators have used different yet comparable quality of life scales.

Surprisingly the number of groups that participants attended had less of an impact than the number of months during which they attended and participated in the mindfulness group and their estimates of the amount of time they practiced the skills outside the group. As mentioned previously, outside and on-going practice of the skills between groups in one's natural surroundings is very important to achieving and maintaining gains (Parsons et al., 2017). It

makes sense that individuals reporting that they engaged in the practices more frequently than others would have greater gains and benefits. It can be difficult to establish and maintain a mindfulness practice and having multiple weeks and months to do so appears to have been key in the current study. In fact Lyons and colleagues (2018) speculate that the reason their MBRP condition did not outperform the communication control group was that the length of the group (six weeks) was too short to allow gains in mindfulness and the establishment of a consistent practice. The Morley (2018) study also highlights the benefit of engaging in the practices over an extended length of time and improvements in mindfulness scores. Our study suggests that access to programs of longer duration and that offer more on-going practice opportunities over several months may hold greater benefit than shorter ones, and that programs should aspire to find ways to encourage and support practice outside structured group meetings.

The intensity level of the participants' confinement in the current study likely also played a role. While the Perelman and colleagues (2012) study occurred at a maximum-security prison, the program evaluated by Witkiewitz, Marlatt and Walker (2005) and Bowen et al. (2006) occurred in a minimum-security facility. This is also true of the work done by Samuelson, Carmody, Kabat-Zinn and Bratt (2007). Although their study included medium and minimum-security facilities, they found that participants who were in the minimum-security settings and closer to release did better than participants in higher security did. The participants in Lyons and colleagues (2018) study were part of a therapeutic community in a jail housed separately from those in general population. Participants in the current study were also part of a segregated therapeutic community within the jail and were often closer to release back into the community than those serving longer sentences in state prisons. This raises the question of whether such programs might be more effective for individuals under such circumstances than those in general population or in more secure settings where they are not likely to be released in the near future.

This current study shares many similarities with the recent before mentioned investigations focused on mindfulness and self-compassion in jail environments (Malouf et al., 2017; Morley, 2018; Lyons et al., 2018). Our study and each of these had comparable numbers of participants in the mindfulness groups. Participants in the Lyons and colleagues study (2018) were part of a therapeutic community as were participants in this one. Similar to these authors, we observed improvements in mindfulness and self-compassion, and our study had similar mediated relationships between mindfulness, self-compassion and other subsequent variables to the one found by Morley (2018). Although this study was developed and conducted without knowledge of and independent from these other efforts, it is affirming that each of these efforts focused on mindfulness and self-compassion in jail settings has found similarly consistent results. Despite these similarities, a unique aspect of the current study is that whereas the others have each taken place in urban jails located in diverse geographic regions, this current study occurred in a rural county jail.

Implications

There are several important implications for future research based on the results of this study. Unlike Lyons and colleagues (2018), we did not gather detailed background about participants and their legal, substance use and psychiatric histories. Doing so in future investigation could prove valuable. Perelman and colleagues (2012) in their prison study

monitored participant behavior and rule infractions within the facility and found that those engaging in mindfulness had fewer administrative violations and sanctions. This would also be an important variable to monitor to see if those engaging in mindfulness and compassion practices, especially in a jail community, had fewer rule violations. Another possibility would be to assess whether those engaging in the practices as part of a therapeutic community would have fewer violations than either other members of the same therapeutic community not engaging in the practices or those in general population. Although many other studies in this area have utilized self-report measures of substance use, drug craving, general mood disturbance and specific areas of emotional distress (anxiety, depression, PTSD symptoms, etc.) (Bowen et al., 2006; Lyons et al., 2018; Perelman et al., 2012; Samuelson et al., 2007), these were not part of this investigation. Expanding study variables to include these would help explore important relationships between these practices and their effects on substance use and psychiatric symptoms. Malouf and associates (2017) tracked the progress of their participants following their release from the facility back into the community. Monitoring rates of substance use, relapse, criminal offenses and recidivism post-release would be incredibly valuable to investigate. Unfortunately, each of these considerations was beyond the scope of the current study and the authors' resources and degree of access to participants.

Facilities exploring the possibility of incorporating mindfulness programs need to consider several dynamics before doing so, including the feasibility of such a program for their facility and population, associated financial costs, training of staff and the interest and response of participants, staff, and facility administrators to the program (Howells et al., 2010; Paulson & Huggins, 2018). This is especially relevant for jails as opposed to prisons, and for rural facilities that might have fewer financial and community resources. Programs might struggle with incorporating a highly structured program, especially trying to incorporate it into existing curricula. Programs might choose, if resources and training allow, to implement a more specific curriculum, such as MBSR or MBRP, rather than an adapted, less structured mindfulness coping skills psychoeducational group such as this one. The results of this study do provide a rationale and support for smaller, less resourced, and rural programs incorporating these strategies even if they cannot implement a more structured program. Facilities and programs deciding to implement mindfulness groups would also need to decide whether such groups would become part of the required treatment program or optional. In this study, the group was optional. This appeared to strengthen the benefit and promote better outcomes because those interested in the practices could choose to attend, and those not interested could choose not to participate without penalty or repercussion. If a mindfulness-based group became a required part of the treatment program, outcomes might not be as strong.

Although this study shows that such practices and programs can be incorporated in a flexible manner, the primary obstacle to development and implementation is deciding who will facilitate mindfulness groups and the training background of facilitators. Clinical staff facilitating mindfulness practices need to receive training and supervision on the competent use of MBI's (Paulson, 2018). Facilities and programs also need to determine whether program staff, such as counselors, will implement the practices as part of broader therapeutic and rehabilitative programming or if community volunteers will be used. While mindfulness leaders from the community might be an option, especially for psychoeducational as opposed to therapeutic

groups, programs might have limited access to such individuals, especially in rural communities (Paulson & Huggins, 2018).

Limitations

There are several important limitations of the current study, most notably the lack of a control group, randomization and alternative treatment condition. Since the participants were able to choose if they attended and when they participated, this can create a selection bias in that participants who chose to engage in the practices might be more likely to benefit from them. Given the relatively small sample size and the fact that the current study only included male participants, this also raises issues with the generalizability of results. The small sample size also invites caution in interpreting the results of the mediated path model.

Although mindfulness practices are now a common part of behavioral healthcare and are gaining greater public acceptance and popularity, there continue to be important criticisms raised about their utility and rapid expansion. These include philosophical concerns over separating and removing the practices from their broader historical Buddhist origins, misrepresenting the purpose and scope of mindfulness, and overstating the benefits of mindfulness (Feldman & Kuyken, 2019; Rosenbaum & Magid, 2016). Researchers have also raised issues about the nature and quality of mindfulness research, including vast differences in definitions of mindfulness between studies, methodological issues, and a lack of attention to potential risks and contraindications for these practices (Hartelius, 2015; Van Dam et al., 2017).

Criticisms of the FMI have been raised by several investigators (Belzer et al., 2013; Sauer, Ziegler, Danay, Ives, & Kohls, 2013), including questions about its usefulness with less experienced and unexperienced meditators, the ability of such practitioners to comprehend and understand the wording of items, and issues about whether the FMI measures a one-dimensional or multidimensional construct of mindfulness. The developers of the FMI (Kohls, Sauer, & Walach, 2009) acknowledge this issue and note that a two-factor approach to the FMI is valid (with those two factors being presence and acceptance), but that treating mindfulness as a one-dimensional construct seems to offer the most utility and applicability. A recent study (Feng, Krägeloh, Billington, & Siegert, 2017) examining the degree to which currently widely used mindfulness scales compare to definitions and descriptions of mindfulness offered by Buddhist teachers representing the major divisions of the Buddhist tradition found that the FMI was more congruent to those conceptualizations than some of the other scales. This also offers further support to the validity of the FMI, even when compared to other common mindfulness instruments. We chose the FMI for this current study for several reasons. In addition to being a widely utilized instrument in mindfulness research, it can be used with both experienced and novice meditators, clinical and non-clinical samples, the score is responsive to practice and change over time, and the utility of the scale in measuring mindfulness in individuals not from a Buddhist or meditation background (Walach, Buchheld, Buttenmuller, Kleinknecht, & Schmidt, 2006).

Several investigators (Brenner, Heath, Vogel & Crede, 2017; Hayes, Lockhard, Janis & Locke, 2016; Lopez et al., 2015) have also raised criticisms about the Self-Compassion Scale, both for the regular version and the short form. They suggest that the subscales fail to support

multiple factors and that there seem to be two distinct factors, self-compassion and self-criticism, which calls into question the utility of a single general self-compassion score. Other authors (Castilho, Pinto-Gouveia & Duarte, 2015; Neff, 2016) have defended the use of both scales, highlighting studies that suggest the factors demonstrate both good psychometric properties and utility in community and clinical samples. Neff (2016) specifically has defended the SCS by suggesting that self-compassion consists of both these positive and negative qualities and that recent investigation into self-compassion training shows reductions in the negative subscales and increase in the positive subscales. We avoided issues in the current study with subscales by only utilizing a general self-compassion score. We chose the SCS-SF due to reliability and validity, its use with clinical and non-clinical samples, and its ease of administration with the study participants.

Conclusion

Problematic substance use, mental health difficulties, and recidivism continue to affect both urban and rural areas. Social work practitioners are committed to expanding and enhancing their resources for assisting those affected by addiction and incarceration. Mindfulness and compassion-based interventions appear to be a promising resource for helping those affected by such difficulties successfully recover.

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