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The Short-Term Impact of a Brief Group-Based Mindfulness Therapy Program on Depression and Life Satisfaction

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Abstract The teaching of mindfulness skills is a central component of a number of therapies and has been successful in improving the functioning of individuals suffering from a range of clinical problems. Despite the apparent benefits of mindfulness skills training, most studies to date have targeted clinical samples with the aim of reducing specific symptomatology or general psychological distress. We evaluated a brief (three-session) group-based mindfulness training intervention with a community sample with the aim of enhancing life satisfaction or decreasing psychological distress. In addition, we aimed to determine whether any benefits would be associated with increases on a measure of mindfulness. Results showed that the intervention was successful in decreasing psychological distress and improving life satisfaction and that these benefits were observed in individuals who reported an increase on a measure of mindfulness. Overall, the results suggested that a brief mindfulness intervention can be beneficial for individuals in the community who may not be suffering serious symptoms of psychological distress but are aiming to derive a greater sense of life satisfaction.

Keywords Mindfulness · Depression · Life satisfaction · Emotional well-being · Group therapy

Introduction

Mindfulness has been described as a process of developing a nonjudgmental accepting awareness of moment-by-moment experience (Bishop et al. 2004; Kabat-Zinn 2005). Mindfulness involves intentionally attending to one's ongoing stream of sensations, thoughts, and emotions as they arise, without evaluating these phenomena as good or bad, true or false, healthy or sick (Baer 2003). This accepting awareness of moment-to-moment experience is believed to assist people in tolerating psychological distress. Further, insofar as mindfulness aims to increase an individual's awareness of positive experiences that otherwise would not be attended to, mindfulness training should enhance emotional well-being and life satisfaction. Importantly, mindfulness is conceptualized as a skill that can be learnt through practice.

The teaching of mindfulness skills is a central component of Mindfulness-Based Stress Reduction (Kabat-Zinn 1982), Mindfulness-Based Cognitive Therapy (Segal et al. 2002), Dialectical Behavior Therapy (Linehan 1993), and Acceptance and Commitment Therapy (Hayes et al. 2003). The teaching of mindfulness skills has been found to be beneficial in treating specific clinical disorders including binge eating (Kristeller and Hallett 1999), cancer (Brown and Ryan 2003; Foley et al. 2010; Lengacher et al. 2009), chronic pain (Vowles et al. 2009), anxiety disorders in adults (Hofmann et al. 2010; Kabat-Zinn et al. 1992), and developmental disabilities (Singh et al. 2010). Mindfulness skills have also been found to be beneficial in preventing the relapse of depression (Coelho et al. 2007; Hofmann et al. 2010; Ma and Teasdale 2004; Ramel et al. 2004; Scherer-Dickson 2004; Segal et al. 2002; Teasdale et al. 2000) and substance misuse (Bowen et al. 2006; Witkiewitz and Bowen 2010; Witkiewitz et al. 2005).

Despite the apparent benefits of mindfulness skills training, little research has been conducted to demonstrate that

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mindfulness is the mechanism mediating the positive outcomes. Many of the therapies referred to above have included mindfulness skills training as one of several therapeutic strategies, making it difficult to conclude that it was the mindfulness component that produced the positive outcomes. In fact, the therapies vary in the importance placed on mindfulness as opposed to other psychological constructs, such as distraction and rumination, to produce change. [Brown and Ryan \(2003\)](#) found support for the prediction that increases in mindfulness, as measured by the Mindful Attention Awareness Scale (MAAS), mediate outcomes. Increased mindfulness scores in this study predicted better adjustment and well-being in a sample of early-stage breast and prostate cancer patients. In addition, [Carmody and Baer \(2008\)](#) found in a randomized controlled trial of MBSR that increases in mindfulness, as measured by the five-facet mindfulness questionnaire, mediated the relationship between formal mindfulness practice and decreases in psychological symptoms and stress. [Jain et al. \(2007\)](#) used mindfulness training to reduce rumination which the authors proposed was the mediating factor in the relationship between group status (meditation versus standard relaxation) and outcome (psychological distress).

In addition to a lack of evidence that mindfulness mediates outcomes, there is little research on the amount of mindfulness training needed to benefit people. The Mindfulness-Based Stress Reduction program ([Kabat-Zinn et al. 1985](#)) consists of eight 2.5-h sessions. However, [Jain et al. \(2007\)](#) found a program of four 1.5-h sessions was sufficient to benefit a sample of university students. Further, [Carmody and Baer \(2009\)](#) could find no relationship between the number of hours of mindfulness training and psychological outcomes in a systematic review of the existing literature. Most of the programs that include a component of mindfulness training have been designed to reduce psychological symptoms (anxiety, depression) or pain. Fewer studies have investigated the impact of mindfulness training on emotional well-being ([Baer 2003](#)). Our aim in the present study was to investigate whether a brief (three-session) group-based mindfulness therapy program would be sufficient to decrease psychological distress in a community sample of adults. In addition, we aimed to determine whether the intervention would increase life satisfaction. Finally, we aimed to determine whether any observed changes would be related to changes in a measure of mindfulness.

Method

Participants

A total of 55 participants enrolled in the mindfulness therapy project. Participants ranged in age between 20

and 68, with a mean age of 38 years. The majority of participants (69.1%) were female. Most participants were either single (45.3%) or married (47.2%), while the remaining 7.5% were separated or divorced. Of the 55 participants who attended, 33 were assessed at post-intervention. Participants in the first four groups were asked to take away the postassessment assessment forms and return them by post. For these groups, the response rate ranged between 42% and 67% with a mean return rate of 52%. Participants in the remaining two groups were asked to complete the forms at the end of the final session. The return rate for these groups was 76%. The analyses reported below were conducted on the 33 participants who completed both the preintervention and postintervention assessments. An analysis of variance procedure found that the scores on demographic variables and outcome measures at preintervention did not vary from those that did not complete the postassessment questionnaires.

The majority of participants reported normal or mild levels of psychological distress at the preintervention assessment. Specifically, 56.3% scored in the mild or moderate range on the depression subscale of the Depression, Anxiety, and Stress Scale (DASS), 53.1% on the anxiety subscale, and 50.1% on the stress subscale. The percentage of participants scoring in the moderate range was 25.0%, 18.8%, and 21.9%, respectively, for the depression, anxiety, and stress subscales of the DASS. The percentage scoring in the severe or extremely severe range was 18.8%, 28.1%, and 28.0%, respectively.

Participants were allocated to one of six groups being offered. The number of participants in each group ranged between six and 12, with a mean of nine participants per group.

Procedure

Participants were recruited through a variety of channels, including press releases in the general media and posters within the University of Queensland grounds. There were no inclusion or exclusion criteria. Initial contact with interested participants was made by telephone. After initial contact, interested participants were posted an information sheet, consent form, and questionnaire package. Ethical approval for the study was gained from the University of Queensland research ethics committee in accordance with the standards required by the National Health and Medical Research Council of Australia.

Treatment was conducted by provisionally registered psychologists completing postgraduate training in clinical psychology. Therapists were trained in the use of the treatment manual developed for the project and received regular supervision from an experienced clinical psycholo-

gist. The therapists also met regularly for peer supervision. The therapists worked in pairs to conduct the intervention.

Measures

Assessments were conducted at pretreatment and post-intervention. Participants completed a demographic questionnaire at preintervention. The following questionnaires were administered preintervention and postintervention.

Depression Anxiety and Stress Scales The DASS is a 42-item measure of symptoms of depression, anxiety, and stress in adults (Lovibond and Lovibond 1995). The scale has high reliability for the depression ($\alpha=0.91$), anxiety ($\alpha=0.84$), and stress ($\alpha=0.90$) scales, as well as good discriminant and concurrent validity. Scores on each of the scales range from 0 to 42 with higher scores indicating greater distress.

Mindful Attention Awareness Scale The Mindful Attention Awareness Scale is a 15-item measure of the degree to which a participant is mindful in their daily life (Brown and Ryan 2003). It involves rating statements on a five-point Likert scale. The mindful attention awareness scale has high test–retest reliability ($r=0.81$) and good convergent and discriminant validity.

Positive and Negative Affect Scale The Positive and Negative Affect Scale (PANAS) is a 20-item measure (Watson et al. 1988). Participants are asked to rate on a five-point Likert scale the degree to which they have experienced 10 positive and 10 negative emotions within the past week. The PANAS has high internal consistency for the positive affect ($\alpha=0.86–0.90$) and the negative affect scales ($\alpha=0.84–0.87$), as well as good convergent and discriminant validity.

Life Satisfaction Scale The Life Satisfaction Scale is a five-item measure of global life satisfaction (Diener et al. 1985). It involves rating statements on a seven-point Likert scale. Scores range from 5 to 35 with higher scores representing greater satisfaction. It has high internal consistency ($\alpha=0.87$) and good convergent validity.

Intervention

The intervention was conducted in small groups of up to 12 participants. A pair of therapists, working together, conducted each group. The therapists were all trainee clinical psychologists enrolled in postgraduate training in clinical psychology. All therapists were registered or provisionally registered psychologists with the state registration board.

The therapist had all received training in the mindfulness intervention and had practiced mindfulness. The length of time therapists had practiced mindfulness varied from practicing for the first time as preparation for running the mindfulness program through to several years of regular mindfulness practice.

The intervention consisted of three 2-h sessions. The intervention included exercises in mindfulness practice as well as discussion of the participant's reactions to the mindfulness exercises. The mindfulness exercises used were based on the exercises described in the mindfulness-based cognitive therapy manual (Segal et al. 2002). The first session included mindful eating (the raisin/sultana exercise), body scan exercise, and practice in mindfulness of the breath. The second session consisted of a mindfulness of sounds exercise, mindful walking, a sitting meditation incorporating mindfulness of the breath and body, and a discussion on how the "3-min breathing space" can be used to incorporate mindfulness into daily life. The third and final sessions included mindfulness of thoughts, a discussion of allowing/letting be using the King Story from Segal et al. (2002), practice of the "3-min breathing space," and a body scan exercise. Throughout the program, participants were encouraged to develop a daily practice, and obstacles to this were discussed. Homework tasks were recommended to incorporate mindfulness into their daily lives, including regular mindfulness of the breath practice, mindfulness of walking, and being mindfully aware of one daily activity each day (e.g., washing dishes).

Results

As no control group was used in the present study, treatment effectiveness was evaluated in three ways. To assess whether the intervention would decrease psychological distress, a paired sample *t* test was conducted on the preintervention and postintervention scores on the DASS. As expected, the mean score on the DASS at preintervention (mean=41.6, SD=23.5) was significantly higher, $t(31)=3.84$, $p < 0.001$, than the mean score at postintervention (mean=30.3, SD=22.4). To further evaluate the statistical significance of this finding, the effect size of the difference between the preintervention and postintervention DASS scores was calculated using the G-Power 3 program (Buchner et al. 1997). This found an effect size of $d=0.67$, which compares favorably with the mean effect size of 0.59 reported by Baer (2003) in her review of the efficacy of mindfulness-based therapies. The third strategy for evaluating the impact of the intervention on psychological distress was to determine the clinical significance of the intervention by calculating the reliable change index (RCI; Jacobson and Traux 1991) for the DASS. The RCI is a

statistic used to determine whether the change in preintervention and postintervention scores for an individual participant exceeds a level that would be unlikely due to chance. RCI scores greater than 1.96 reflect clinically significant improvement in scores (Bauer et al. 2004). Using this procedure, it was found that 11 of the 33 participants (33.3%) reported a clinically significant decrease in DASS scores between preintervention and postintervention.

An aim of the present study was to determine whether an increase in mindfulness, the proposed mechanism of change, would be systematically related to a reduction in psychological distress. To assess this, we determined how many of the 11 participants who showed a clinically significant improvement in depression (DASS scores exceeded the RCI cutoff) also reported an increase in mindfulness scores (MAAS). It was found that 10 of these participants (90.9%) reported an increased score on the MAAS. On average, the increase in MAAS scores for these participants was 9.3 (SD=7.8). One participant showed a four-point decrease in their mindfulness score between preintervention and postintervention despite the clinically significant decrease in depression, suggesting that, for this participant, the decrease in psychological distress was not related to an increase in mindfulness.

Twenty-two participants did *not* show a clinically significant improvement in psychological distress. Of these, seven (32.0%) reported no change or a decrease in mindfulness scores. Contrary to expectations, 15 (68%) individuals reported an increase in mindfulness scores in the absence of a clinically significant improvement in depression. However, for these individuals, the increase in mindfulness scores was only 4.1 (SD=6.2), compared to the 9.3 increase in score reported by the group who did show a clinically significant reduction in psychological distress.

An aim of the present study was to assess whether mindfulness training would enhance positive emotions and life satisfaction. As the PANAS and Life Satisfaction measures were introduced following the commencement of the study and were not completed by all participants, the following results were conducted on a subset of the sample that completed the preintervention and postintervention assessments. Twenty participants completed the Positive Emotions subscale of the PANAS and 21 completed the Life Satisfaction Scale at preintervention and postintervention. A significant increase ($t(19)=2.76$, $p < 0.05$) was found on the Positive Emotions subscale between preintervention (mean=29.2, SD=7.8) and postintervention (mean=34.6, SD=8.8). A significant increase ($t(20)=2.96$, $p < 0.01$) was also found on the Life Satisfaction Scale between preintervention (mean=20.7, SD=7.7) and postintervention (mean=24.3, SD=6.9).

To test the hypothesis that participants would show an increase on the measures irrespective of whether they reported a decrease in psychological distress, analyses were carried out separately for the group of participants who reported significant decreases in psychological distress and the group that did not. Only six participants who reported a decrease in psychological distress completed the PANAS and Life Satisfaction Scales. Results of the t test nevertheless showed that there was a statistically significant improvement on both scales for this group. Specifically, the Positive Emotions subscale of the PANAS increased from a mean of 26.5 (SD=6.8) to 36.5 (SD=9.3), $t(5)=2.8$, $p < 0.05$, while the Life Satisfaction scores for this group increased from a mean of 18.8 (SD=6.3) to 23.7 (SD=6.6), $t(5)=2.1$, $p < 0.05$. There was a similar increasing trend in the Positive Emotions subscale of the PANAS and Life Satisfaction scale between preintervention and postintervention for the group that did not show a decrease in psychological distress, with the results of the t test approaching but failing to reach significance. Specifically, the Positive Emotions subscale of the PANAS for this group increased from a mean of 29.8 (SD=8.3, $n=13$) to 33.2 (SD=8.7), $t(12)=1.4$, $p=0.09$, while the Life Satisfaction scores increased from a mean of 21.3 (SD=6.3, $n=14$) to 23.9 (SD=6.6), $t(13)=1.8$, $p=0.05$. These results suggest that the mindfulness intervention enhanced increased positive emotions and life satisfaction, irrespective of whether there was a decrease in the level of psychological distress.

Discussion

We aimed to evaluate the short-term effectiveness of a brief, group-based mindfulness therapy program on depression and well-being. Our results provide evidence that the intervention was beneficial for the group as a whole and resulted in a clinically significant reduction in psychological distress for around a third of participants. The size of the effect was comparable to the effect size of similar psychological interventions in community samples (Baer 2003).

The results of the present study provided support to the hypothesis that an increase in mindfulness was a necessary component in achieving clinically significant reduction in psychological distress. With the unexplained exception of one individual, all participants who reported a clinically significant reduction in DASS scores between preintervention and postintervention showed an increase in mindfulness as measured by the MAAS.

The majority of participants in our study did not show a clinically significant reduction in psychological distress. The most likely explanation for this finding is that the sample was recruited from the community and was only mildly symp-

tomatic at preintervention. Thus, for these participants, a floor effect reduces the ability to detect a decrease in psychological distress. However, as mindfulness aims to promote awareness in the present moment, including acknowledging positive experiences, it would be expected that participants would report an increase in psychological well-being, even in the absence of a reduction in psychological distress. An analysis of a subset of the participants in our study confirmed that positive affect and life satisfaction did improve for the group of participants who did not show a clinically significant decrease in psychological distress. Our preliminary results, then, suggest that the intervention may result in benefits for people who are not showing significant psychological distress but would like to derive greater satisfaction from life.

Our results do not provide any information on the lasting benefits of the brief group-based mindfulness therapy program used in the present study. Further research with a follow-up period would be required to determine whether there is a maintenance of observed benefits or, in fact, increasing benefits for people who start practicing mindfulness on a regular basis. It is also not possible to generalize the findings beyond the community sample used in our study.

A limitation of our study is that participants were not requested to keep a daily log of their mindfulness practice. Thus, the increase in mindfulness found using the MAAS may have reflected a greater understanding of the construct of mindfulness, rather than the benefits of regular practice. Future research on the mechanism of change would benefit from information on the actual practice individuals engaged in to determine whether the observed benefits arise from the duration and quality of regular practice.

Our study was intended as a pilot study to determine whether there was value in offering a brief group-based intervention. The results of our study suggest that the program did result in short-term benefits for participants. The participants found the program very acceptable as indicated by low attrition and positive qualitative feedback. Suggestions from participants for improving the program were to offer two additional sessions several weeks after the initial three sessions. This would allow time to integrate a regular practice into their daily routine and experience the difficulties that arise in maintaining a regular practice. Overall, our results suggest the intervention is a worthwhile intervention for individuals in the community who may not be suffering serious symptoms of psychological distress but are aiming to derive a greater sense of life satisfaction.

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