Abstract

The aim of the study was to test the effects of mindfulness meditation on attentional abilities, perceived stress and emotional acceptance. A quantitative composite post-intervention approach was also included. Participants (n = 25) reported an increase in attentional abilities and perceived stress following a three week mindfulness program. Mixed results were observed for self-control and emotional acceptance, as with the mediation of executive control by emotional acceptance. Four major themes emerged from the qualitative data: increased self-regulation, individual variations, necessity of an open attitude, and practice. Results supported previous literature identifying mindfulness as an important factor in positive well-being and complex cognition. Further implications are discussed in relation to theory and practice.

Introduction

Mindfulness involves purposely guiding attention to internal and external experiences, occurring from moment-to-moment and accepting them with an open attitude, non-judgementally (Schreiner & Malcolm, 2008).

Mindfulness Meditation and Attentional Abilities

Attentional training and enhancement are fundamental to meditation practices as they involve a repeated practice of self-regulation of attention (Kabat-Zinn, 1982; Jensen, Vangkilde, Trojaer & Hasselbalch, 2012). Ivanovski and Mali (2007) and A. Krompinger and Baime (2007) reported that mindfulness meditation increases an ability to inhibit distracting stimuli and to sustain attention, as well as to decrease tendency of having an expectancy response when met with unexpected stimuli.

There is conflicting evidence regarding self-regulation of attention (vigilance) on immediate experience, associating mindfulness with awareness instead of attentional abilities (Anderson, Lau, Segal & Bishop, 2007). These studies showed to move into more specialized processes without a basic confirmation of whether attention is even affected by mindfulness was one of the current study was the effect of mindfulness on basic attentional abilities.

Mindfulness, Executive Control and Emotional Acceptance

Acceptance of emotions associated with thoughts is another important factor of mindfulness (Tepner & Inzlicht, 2012). Cognitive neuroscientists characterise this as a prominent function of executive control and associates directly with mediation, due to a need to monitor the mind and return focus back to the present (Marlatt & Kristeller, 1999). This self-control is important for processes like emotion regulation (Compton et al., 2008; Wenk-Sormaz, 2005). However, Tepner & Inzlicht (2012) asserted that it was the augmented acceptance of emotional states that arbitrated meditation experience and executive function. This was supported by Niemiec et al. (2010) who contended that meditators are hugely tuned with ones emotions, acknowledging them instantaneously. One limitation of these studies is that they did not adopt a direct measure of emotional sensitivity. The present study intended to explore this by using a direct measure of emotional sensitivity and measure association with self-control.

A Qualitative Perspective on Mindfulness

Shapiro, Carlson, Astin & Freedman (2006) argue that mindfulness ought to be studied comprehensively. While much quantitative research has measured the efficacy of mindfulness, the processes of mindfulness through which subjective changes arise has been overlooked. Qualitative studies have been employed within the context of oncology (e.g., Mackenzie et al., 2007) and nursing (e.g., Lindén et al., 2001), the latter of which is one of a few mixed method analyses.

The current study further incorporated a qualitative aspect of post-intervention, to explore experiences of the mindfulness program. Furthermore, the current study set out to extend previous research on changes in perceived stress following mindfulness meditation (Baer, Carmody & Hunsinger, 2012).

It was hypothesized that attentional ability, perceived stress, emotional sensitivity, and self-control will significantly differ between pre and post three week MBSP intervention.

It was further hypothesized that a relationship will be observed between self-control scores and emotional sensitivity scores.

Methods

Participants (n = 25) were recruited through self-selection for this mixed-method, longitudinal study.

Participants completed the Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2004), Perceived Stress Scale-10 item (PSS; Cohen, Kamarck & Mermelstein, 1985), Brief Self-control Scale-13 item (BSCS; Tangney, Baumeister, & Boone, 2004), Emotional Sensitivity Subscale extracted from the Social Skills Inventory -15 item (ESSSI; Riggs & Carney, 2003), both pre- and post intervention, along with two open-ended questions post intervention.

The intervention consisted of three group sessions over a period of three weeks. The first session consisted of a pre-intervention questionnaire and progressive muscle relaxation exercises. Participants underwent guided imagery exercises in the second week and the third session focused entirely on mindfulness meditation exercises. The participants were trained in sitting meditation in all sessions. The fourth session involved filling out the post-intervention questionnaire. E-mails enclosing practice exercises were sent to all participants after each session anonymously using Qualtrics.

Results

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Means and SDs for all measures at pre–meditation and post–meditation, Paired samples t Tests, and Pre–Post effect sizes (N=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Pre-MM (M/SD)</td>
</tr>
<tr>
<td>MAAS</td>
<td>3.44 (5.2)</td>
</tr>
<tr>
<td>PSS</td>
<td>19.76 (9.3)</td>
</tr>
<tr>
<td>BSCS</td>
<td>3.05 (8.0)</td>
</tr>
<tr>
<td>ESSSI</td>
<td>51.40 (9.31)</td>
</tr>
</tbody>
</table>

Note. MM = Mindfulness Meditation, SD = Standard Deviation p < .05

A paired samples t test demonstrated a significant differences between mindfulness attention and awareness pre to post intervention (t (24) = 4.92, p < .001) and in perceived stress levels pre and post intervention (t (24) = 2.4, p = .024).

No differences was observed in self-control pre and post intervention on Self-control or Emotional sensitivity, but differences did approach significance with the former. No significant association between self-control scores and emotional sensitivity scores were found either at pre or post intervention.

Qualitative Results

Written transcripts were thematically analysed, with four major themes identified:

1) Necessity of an open attitude – Approaching mindfulness sessions with an open attitude, led to participants finding the exercises interesting, educational, and relaxing.

2) Enhanced Self-regulation – Participants frequently reported increases in self-regulation and higher levels of control over one’s emotions while describing their experiences, which is contrary to the non-significant correlation between self-control and emotional sensitivity.

3) Practice leads to greater mindfulness – This was a theme that often relates to ‘enhanced self-regulation’ and ‘emotional sensitivity’ (the graphical association). Participants acknowledged the requirement to practice to enhance mindfulness skills.

4) Individual variations in experiences and relaxation – Participants reported their experiences being dependent on the type of relaxation exercise i.e. their experiences differed with each exercise.

Discussion

Findings were consistent with the first hypothesis, with self-reported increases of mindfulness awareness increasing following meditation sessions. This result establishes a need for study into the specific mechanisms of attention that mindfulness arbitrates and trains.

The second hypothesis was also supported, with a decrease in perceived stress following mindfulness intervention, contributing to the growing literature suggesting that increases in mindfulness skills are important in fostering positive mental health.

The third hypothesis was not supported, whether the intervention would enhance emotional acceptance. No significant relationship between emotional sensitivity measures and self-control at pre- and post-test levels was also observed. Rausch, Gramling & Auerbach (2006), identified that mediation for a brief period of time does not have a large effect. This current study was condensed down to three weeks from a traditional 8-10 week MBSPR program. It may be the case that the emergence of greater self-control requires further practice or participation in a longer course. This presumption was contrary to the qualitative analysis however, through its emergence as a prominent theme.

Further research could analyse effects of practice by adapting a mixed-method design, but with a standard 8-10 week program, checking-in with participants individually instead of sending email with mediated exercises. The provision of assistance for participants could be incorporated which was beyond the limits of this current study. This may address some of the issues highlighted from the qualitative data, so the mechanism of emotional acceptance and executive control be studied in-depth (see figure 1 for proposed structure).

Figure 1. Progression towards Improved Executive Control; author’s proposal for the reconceptualization of the phenomenon of improved emotional acceptance and executive control.

References