



Contents lists available at ScienceDirect

Consciousness and Cognition

journal homepage: www.elsevier.com/locate/concog

Distinguishing the cognitive processes of mindfulness: Developing a standardised mindfulness technique for use in longitudinal randomised control trials



Ben Isbel*, Mathew J. Summers

Shine Coast Mind and Neuroscience – Thompson Institute, University of the Sunshine Coast, Locked Bag 4 (ML59), Maroochydore DC, QLD 4558, Australia

ARTICLE INFO

Keywords:

Mindfulness
Attention
Cognition
Metacognition
Equanimity
Working memory

ABSTRACT

A capacity model of mindfulness is adopted to differentiate the cognitive faculty of mindfulness from the metacognitive processes required to cultivate this faculty in mindfulness training. The model provides an explanatory framework incorporating both the developmental progression from focussed attention to open monitoring styles of mindfulness practice, along with the development of equanimity and insight. A standardised technique for activating these processes without the addition of secondary components is then introduced. Mindfulness-based interventions currently available for use in randomised control trials introduce components ancillary to the cognitive processes of mindfulness, limiting their ability to draw clear causative inferences. The standardised technique presented here does not introduce such ancillary factors, rendering it a valuable tool with which to investigate the processes activated in mindfulness practice.

1. Introduction

Empirical studies to date have produced a large corpus of evidence supporting the beneficial effect of mindfulness-based interventions (MBIs) in the treatment of psychological disorders (see [Gotink et al., 2015](#); [Goyal et al., 2014](#); [Khoury et al., 2013](#)). At the same time, the mechanisms underlying these beneficial outcomes have yet to be clearly identified ([Gu, Strauss, Bond, & Cavanagh, 2015](#)). Investigation into these mechanisms has produced support for mindfulness-induced changes to sustained attention ([Jha et al., 2015](#); [Semple, 2010](#)), executive function ([Heeren, Van Broeck, & Philippot, 2009](#)), working memory ([Mrazek, Franklin, Phillips, Baird, & Schooler, 2013](#)), mood and affect ([Eberth & Sedlmeier, 2012](#); [Garland, Geschwind, Peeters, & Wichers, 2015](#)), and emotion regulation ([Chambers, Gullone, & Allen, 2009](#); [Teper, Segal, & Inzlicht, 2013](#)). For a wide-ranging review of the effects of mindfulness training on psychological outcomes, see [Sedlmeier et al. \(2012\)](#). While studies to date have contributed greatly to our understanding of mindfulness and its effects, many authors have raised significant concerns regarding the methodological rigour of much of this evidence, citing a lack of randomisation, the use of cross-sectional rather than longitudinal designs, absence of active control conditions, the use of mindfulness interventions with varying components, together with the lack of an accepted integrated theoretical model of mindfulness (see [Dahl, Lutz, & Davidson, 2015](#); [Davidson & Kaszniak, 2015](#); [Tang, Hölzel, & Posner, 2015](#)). These issues are reflective of a field of research still in its infancy ([Tang & Posner, 2013](#)).

In response to these concerns, the use of longitudinal randomised controlled trials (RCTs) has begun to increase as the field now matures toward more rigorous methodological designs. Well-designed RCTs enable researchers to directly examine the influence of

* Corresponding author.

E-mail addresses: Ben.Isbel@research.usc.edu.au (B. Isbel), msummers@usc.edu.au (M.J. Summers).

mindfulness on cognitive processes while reducing the influence of confounding factors (Jensen, Vangkilde, Frokjaer, & Hasselbalch, 2012). However, the move toward the use of longitudinal RCTs itself raises two further challenges. Firstly, in the absence of an integrated theoretical model of mindfulness, accurate hypothesis formulation and experimental design is impeded. Secondly, as long as the interventions utilised contain factors ancillary to the core practice of cultivating mindfulness, precise causal inferences between the various elements of the intervention and observed outcomes remain limited, even in the presence of rigorous methodological design. For example, in a recent longitudinal RCT studying the effects of a short-term mindfulness intervention, the authors reported that they were unable to determine which of the elements of the intervention was responsible for the observed attentional improvements in the mindfulness group since the intervention utilised mindfulness training together with several ancillary factors, including body relaxation and mental imagery (Tang et al., 2007). Reviews of the field have highlighted the need for a mindfulness technique that does not include confounding factors that can be used to make both accurate causal inferences regarding experimental outcomes and meaningful cross-study comparisons (Chiesa, Calati, & Serretti, 2011; Chiesa & Malinowski, 2011; Gallant, 2016). The use of such an intervention would allow greater understanding of the cognitive processes underlying mindfulness practice, thereby enabling the refinement of therapeutic MBIs to maximise beneficial outcomes (Gu et al., 2015).

This paper aims to address these issues by firstly introducing a theoretical model describing the cognitive processes recruited through mindfulness practice, and secondly, using this theoretical framework to develop a mindfulness technique for use in longitudinal RCTs that does not include confounding ancillary factors. While a range of views regarding what constitutes mindfulness exists amongst clinical and theoretical frameworks, the commonality across the range of MBIs is an emphasis on paying attention to the present-moment in a non-judgemental manner (Kabat-Zinn, 2004; Malinowski, 2013; Tang et al., 2015). The generation and maintenance of non-judgemental attention to the present-moment represents the core mindfulness practice (Bishop et al., 2004; Lutz, Jha, Dunne, & Saron, 2015; Shapiro, Carlson, Astin, & Freedman, 2006), and it is this process that warrants further investigation in order to identify the cognitive mechanisms cultivated in mindfulness-based applications.

The development of an evidence-based effective mindfulness technique relies upon a close analysis of the cognitive mechanisms involved in mindfulness practice (Chiesa & Malinowski, 2011). This requires precisely identifying and separating those faculties required to establish and maintain mindfulness from those that either derive from this process or are ancillary to it (Bishop et al., 2004; Brown, Ryan, & Creswell, 2007). The following analysis demonstrates how a fine-grained investigation of mindfulness can serve to elucidate these cognitive components.

2. Developing specificity in describing mindfulness

The term mindfulness has been variously used to refer to: (a) a trait quality; (b) a broad path constituting either a spiritual or lifestyle approach; (c) a therapeutic approach utilising an array of factors; or, (d) a cognitive process (Lutz et al., 2015; Vago & Silbersweig, 2012). It is important to note that the following discussion regarding the components and processes of mindfulness sits within the last usage of the term described above, of mindfulness as a cognitive process.

In order to precisely examine the cognitive processes recruited during mindfulness it is essential to distinguish between (a) the *cognitive faculty* of mindfulness, and (b) the *process of cultivating* the cognitive faculty of mindfulness. The cognitive faculty of mindfulness refers to non-judgemental attention, the cognitive faculty to be aroused and maintained in mindfulness practice. The process of cultivating and maintaining this cognitive faculty is known as mindfulness practice. This distinction between the faculty and practice of mindfulness corresponds to traditional accounts describing the mental factors of mindfulness and introspection as fundamental components of this practice (Bodhi, 2011; Purser & Milillo, 2015; Wallace, 2006). While such a distinction has its roots in traditional Buddhist psychological models, this division allows the components of mindfulness to be mapped on to contemporary psychological concepts while retaining their unique and distinguishing features (Kuan, 2012; Thera, 1962). Mindfulness has recently become the subject of increased debate as both clinicians and researchers attempt to interpret a practice whose origins lie in traditional Buddhist sources (Chiesa & Malinowski, 2011; Dreyfus, 2011; Monteiro, Musten, & Compson, 2015). This debate is due in part to the fact that when mindfulness was initially adopted into therapeutic applications it lacked reference to contemporary cognitive psychological theory. Accordingly, the terminology used here in making the distinction between the faculty and the practice of mindfulness permits modern conceptualisations of attention to be directly linked to the underlying cognitive processes of mindfulness.

2.1. The cognitive faculty of mindfulness

The cognitive faculty of mindfulness (a) retains an object in awareness such that it is continuously present as the object of attentional processes in (b) a non-elaborative manner free of affective and cognitive reactivity (Bishop et al., 2004). As such, the cognitive faculty of mindfulness comprises two sub-components: (1) an attentional component; and (2) equanimity, a quality of even-minded stability such that attention is unperturbed and balanced, and captures the ‘non-judgemental’, ‘non-elaborative,’ and ‘non-reactive’ elements found in many definitions of mindfulness (Desbordes et al., 2015). In advanced stages of practice these sub-components describe two qualities of the awareness that pays attention rather than discrete processes operating independently. However, in a novice practitioner the quality of equanimity is not fully developed, and is present as a mentally adopted similitude of actual equanimity (Bishop et al., 2004; Shapiro et al., 2006).

2.1.1. The attentional component of the cognitive faculty of mindfulness

The attentional component of the cognitive faculty of mindfulness is the quality of mind that continuously attends to an object

Download English Version:

<https://daneshyari.com/en/article/5041772>

Download Persian Version:

<https://daneshyari.com/article/5041772>

[Daneshyari.com](https://daneshyari.com)