

2.1 The evidence-base for mindfulness

At many mindfulness conferences I have heard leaders in the field of mindfulness extoll the necessity of providing the empirical basis for the benefits of mindfulness when presenting it to new or wary audiences. In his reflections upon the development of the MBSR, Kabat-Zinn (2011) muses upon his own experiences as he attempted to increase the awareness and application of mindfulness in the 1980s. In a testament to his success here, by 1985 the Journal of Behavioral Medicine had published the report of a study into the benefits of the MBSR for the self-regulation of chronic pain (Kabat-Zinn, Lipworth and Burney, 1985).

As the number of publications increased from the year 2000, it was evident that the majority of published articles concerned the benefits of various MBIs designed for specific contexts and populations (Black, 2013; 2018). Grossman et al. (2004) conclude that the growing evidence-base supported the hypothesis that mindfulness had a positive influence upon mental and physical health. The power of such evidence is best seen with MBCT, which has been included in the National Institute for Health and Care Excellence (NICE) guidelines since 2004 and is currently recommended by the NHS (MAPPG, 2015).

2.1.1 Benefits for stress, anxiety and depression

In a comprehensive meta-analysis covering 12,145 diverse participants from 209 studies, Khoury et al. (2013a) conclude that Mindfulness-based Therapies (MBTs) are especially effective for stress, anxiety and depression. Results also indicate that MBIs are at least as effective as Cognitive-Behavioural Therapy (CBT) and pharmacological treatments. Where growth in mindfulness is directly measured, results show an increase following the MBI, as would be expected. Importantly for this thesis, the authors state that there is a strong correlation between gains in mindfulness and the clinical outcomes reported.

In another systematic review and meta-analysis of MBIs in healthcare, Gotink et al. (2015) report that MBSR and MBCT significantly improve depressive symptoms (N=2814), anxiety (N=2525), stress (N=1570), quality of life (N=511) and physical functioning (N=1015). Various measures of mindfulness and health or wellbeing were used in the studies reviewed but all were standardised. Inclusion criteria for the analysis also included a control comparison, either in the form of a wait-list (WL), Treatment as Usual (TAU) or Active Treatment (AT) group. These two features add rigour to the findings that growth in mindfulness produced the improvements in the health and wellbeing areas reported.

In terms of depression specifically, Lenz, Hall and Smith (2015) report that MBCT is effective from a meta-analysis of 31 studies (N=2352). A large effect size is reported for MBCT compared to WT or no intervention controls. Compared to alternative treatment controls, MBCT yielded a moderate effect size. The authors therefore conclude that mindfulness interventions (in the form of MBCT here) led to significant reductions in the reporting of depressive symptoms and that this occurred during the intervention and was evident beyond it too.

Taken together, the findings from meta-analysis studies presented here support the argument advocated for in this thesis, being that growth in mindfulness has a causal relationship with improvements in stress, anxiety and depression.

2.1.2 Other clinical benefits

Veehoff et al. (2016) conducted a meta-analysis upon mindfulness interventions (MBSR/MBCT/Acceptance and Commitment Therapy) for chronic pain. Twenty-five randomised controlled trials were included covering 1285 patients. Medium and large effect sized were found for related anxiety and pain-interference. Although ACT was found to be most successful, the authors conclude that MBIs provide effective alternatives to other treatment methods currently employed. Interestingly, again the effect of the MBIs were also reported to remain following the programme.

A meta-analysis of ACT specifically revealed that it “is more effective than treatment as usual or placebo” and that it “may be as effective in treating anxiety disorders, depression, addiction, and somatic health problems as established psychological interventions” (A-Tjaka et al., 2015, p30). This conclusion emerged from the analysis of 39 randomised controlled studies covering 1821 participants. An interesting addition of this study was that ACT was found effective compared to a psychological placebo condition, although it is not clear how this was defined or operationalised in the study.

Alongside ACT, another second generation MBI to receive empirical attention is Dialectical Behaviour Therapy (DBT). From an analysis of 5 RCTs (N = 247) concerning DBT with sufferers of Borderline Personality Disorder (BPD), it was concluded that DBT was effective for ‘self-destructive behaviour’ and ‘improving patient compliance’ (Panos et al., 2013).

As is evident in the latter study mentioned above, mindfulness interventions have also been applied to other psychological problems. Khoury et al. (2013b) report a meta-analysis on MBIs for psychosis or schizophrenia. A wide range of MBIs were included in the search criteria and yielded 13 studies covering 468 participants. Results suggest that MBIs are moderately effective in treating the negative symptoms of schizophrenia but less so for the positive symptoms. Interestingly, levels of mindfulness, acceptance and compassion were strong moderating factors, suggesting once more that increases in mindfulness (and the attitudinal qualities that underpin it) are associated with the clinical benefits found.

Problems arising from work-induced stress have also been studied. In this area Hülshager et al. (2012) used a mixed-methods approach to study diary entries (N=219) of employees before employing an experimental field study (N=64) to investigate emotional exhaustion and job satisfaction. Findings indicate that mindfulness is effective in reducing burnout and promoting job satisfaction. Interestingly, the mindfulness practices introduced to the intervention condition of the field experiment

is self-directed in nature (based upon MBSR/MBCT practices and home-assignments) yet still had a significant impact.

In a related follow-up study that is also relevant to the learners on the mindfulness course being studied, Hülshager et al. (2014) studied the impact of mindfulness upon sleep quality, detachment from work and recovery during the work week. From the analysis diary entries, they conclude that increased mindfulness is related to improved sleep quality and detachment from work in the evenings. Further, this detachment remained high during the working week and suggests a mediating influence upon recovery.

Another salient area for learners of the course being studied related to weight management and eating. Concerning this, the philosophy and practices of mindfulness eating are explored in week 9 of the course being studied. In this area, a recent review by Carrière et al. (2017) analysed 19 studies covering 1160 participants suffering from obesity. MBSR, MBCT and Mindfulness-based Eating Awareness Training (MB-EAT) programmes were included in the review. From the studies selected, the authors conclude that:

MBIs are moderately to largely effective in reducing weight loss and improving obesity-related eating behaviours. Although average weight loss was modest at post-treatment (3.3% of initial body weight), continued decreases in weight at follow-up (3.5%) is encouraging and highlights the potential of using mindfulness training to support weight loss and its maintenance. (p12)

2.1.3 Other benefits: General wellbeing, spirituality and the Self

As has been discussed previously (section 1.5), many learners enrol on the course being studied for reasons that are non-clinical or concern personal or spiritual development motivations. Researchers have also been interested in the impact of mindfulness on non-clinical, personal and/or spiritual dimensions. Chiesa and Serretti (2009) studied the effects of the MBSR upon healthy individuals in terms of stress, spirituality, rumination,

empathy and self-compassion. Mindfulness was found to be effective for each of these dimensions, although the authors note that the active ingredients of the MBSR in relation to the varied aspects of these dimensions cannot be ascertained from their study. It can, however, be concluded that healthy people who are learning about and practicing mindfulness gain benefits in many areas of their lives.

These findings are supported by a more recent meta-analysis by Khoury et al. (2015), who reviewed 28 studies concerning healthy individuals (N=2668). Focussing upon MBSR programmes once more, results show significant effects for stress, anxiety, depression, distress, burnout and quality of life. Interestingly, and in-line with previous findings presented here, the effects were maintained at an average of 19 weeks following the completion of the programme. Once more though, the most effective components of the MBSR for the individual dimensions (and their component features) remain undiscovered and provide a crucial area for future research. The positive impact of mindfulness upon healthy individuals, however, does seem well established and strengthens the argument for MBPs that span the spectrums of intentions and outcomes proposed by Crane (2016).

In a discussion of mindfulness and the Self, Carson and Langer (2006) conclude that the cultivation of mindfulness is related to greater self-acceptance. This seems to be the product of a change of perception and a shift in attention away from internal or external judgements (or perceptions or judgements) towards the novel distinctions of moment-to-moment experience. This allows the person to live authentically in the moment, with their cognitive, affective and behavioural responses being more appropriate to the immediate environment. This authenticity then allows the person to greater accept themselves and each moment, thus reducing ego defences that protect a fragile self-esteem. From this state, the person has a clearer perception of themselves and their current experience, thus allowing the appropriateness of their responses to be further increased.

In the course being studied here, this process of the constant refreshing of perception (Kasamatsu and Hirai, 1973) is a central theme and features specifically in the

'detachment' or 'non-attachment' practices of sitting meditation. In my experience, it is the core element of the transformative process of mindfulness. It is also one of the most difficult components of mindfulness meditation, however, as the ego defence mechanisms and habitual responses of the mind are very resistant to change. With consistent practice a person can journey towards a "deeper understanding of the changing nature of one's bodily and mental states so as to free our mind from the habits and tendencies that bind us to suffering" (Dreyfus, 2011, p43).

From another study that explored the relationship between mindfulness and facets of the Self, Birnie, Speca and Carlson (2009) examined the impact of the MBSR on self-compassion, empathy, mood disturbance and spirituality. In this study, the MAAS was used as a measure of mindfulness and a range of standardised instruments were employed to measure the other facets. From the data analysed, significant findings were reported for increases in mindfulness itself, self-compassion and spirituality. Significant reductions were also found for symptoms of mood disturbance. In terms of empathy, significant increases in 'perspective taking' (being able to see other perspectives in a given situation) were accompanied by significant decreases in personal distress. Overall, the authors conclude that:

individuals high in self-compassion also tended to have high levels of spirituality and mindfulness and exhibit low levels of stress symptoms and mood disturbance. (p365)

With the benefits of mindfulness in relation to issues concerning the Self being established, and along with the findings that low ego-involvement is a feature of Flow experiences, the field of positive psychology has also incorporated mindfulness into its models and techniques. According to Csikszentmihalyi (1990), the state of Flow is described by the several specific properties of experience. These are:

1. A high degree of concentration on the present moment
2. The loss of self-consciousness (or ego)
3. The merging of action and awareness
4. Having a clear goal, in which there is immediate feedback and reward
5. A sense of control over the situation

6. A transformed perception of time.

When considering these properties, the relationship with mindfulness becomes clear. In my experience of teaching mindfulness, learners have often reported such properties of experience following a guided meditation (particularly the Body Scan and detachment practices). The most commonly reported property was the alteration of the perception of time and I often used this to reinforce the practice and experience by referring it to it as a marker of the mindful state. There remains some debate as to whether mindfulness produces the flow state or whether it acts as a primer to move from the active mind (mindfulness) to the transcendental flow mind (*ibid*), but the association is one that I felt warranted inclusion in the curriculum of the course.

Baer et al. (2006) provide a useful summary of the variables that have been shown to be correlated with mindfulness. Both the variables and mindfulness were measured using existing specific standardised instruments. From this an increase in mindfulness is associated with an increase in certain variables and decreases in others (see table 2.1).

Table 2.1

Selected variables found to correlate with increases in mindfulness by Baer et al. (2006).

Increases	Decreases
Meditative experience	Psychological symptoms
Openness to experience	Neuroticism
Emotional intelligence	Thought suppression
Self-compassion	Difficulties in emotional regulation
	Alexithymia
	Dissociation
	Experiential avoidance
	Absent-mindedness

It is evident to me that the improvements in the areas listed above could support the personal journey of a person across the full spectrum of orientations and intentions described by Crane (2016) and inherent in the course being studied.

2.2 The study and measurement of mindfulness

As a consequence of the influence of the Western and Scientific discourses upon the direction of travel for the field of mindfulness, the study and measurement of mindfulness has developed in a mostly quantitative direction. Despite this, there has been a growing call for an increase in more diverse methods (e.g. Crane et al., 2015; van Aalderen, 2012; Grossman, 2011, Brown et al., 2011). Further, as mindfulness is itself a multi-faceted construct and experience, multiple and varied data sources may be required alongside other methods to triangulate emerging findings (Crane et al., 2015).

2.2.1 Quantitative instruments

An important aspect for the Scientific discourse has been the development of quantitative measurement instruments for mindfulness. This is crucial for attempts to demonstrate the empirically-based outcome-effectiveness of mindfulness in the many interventions and programmes developed (Bergomi et al., 2013).

Despite the weight given to the outcome-studies that have utilised quantitative instruments in the field, their limitations are well known and discussed (Grossman, 2011). Many in the field agree that it is an ongoing challenge to develop instruments that accurately measure mindfulness (Park et al., 2013). From the perspective of the Scientific discourse, Medvedev et al. (2017) recognise the importance of this development by stating that:

precise mindfulness instruments with robust psychometric properties are required for accurate assessment of psychological and cognitive changes in individuals undergoing MBIs (p1)

Although this statement may be valid, it again demonstrates the disconnect between the fundamental elements of mindfulness and the development of the field from within the dominant Scientific discourse. The pursuit of a quantitative, snap-shot

measurement of a person is contradictory to the personal, experiential, qualitative and multi-faceted nature of a persons’ continual journey with mindfulness. According to Hyland (2015), this pursuit “means that contemporary MBIs are quite some way from the Buddhist home of mindfulness and also the original secular therapeutic aims” (p182). From my perspective, there are aspects of the assessment of psychological, cognitive and other characteristics pre- and post-course that are in direct contrast to the attitudinal qualities of mindfulness that learners are being invited to cultivate, such as non-judgement and non-agenda. However, I also recognise the importance of such measurements for both the study of mindfulness and in supporting personal journeys for learners who value such measurements.

Even with the challenge of measuring mindfulness accurately (or consistently) highlighted by Park et al. (2013), there is no shortage of instruments available. Bergomi et al. (2013) provide a useful review of the 8 most empirically utilised instruments in the field (see table 2.2) and conclude that “together they provide an interesting palette” (p20) from which to select from. However, they also note that each instrument is unique and offers its own set of advantages and disadvantages.

Table 2.2

The mindfulness measurement instruments reviewed by Bergomi et al. (2013).

Instrument	Created by
Frieberg Mindfulness Inventory (FMI)	Buchheld et al. (2001)
Toronto Mindfulness Scale (TMS)	Lau et al. (2006)
Philadelphia Mindfulness Scale (PHLMS)	Cardaciotto at al. (2008)
Cognitive and Affective Mindfulness Scale-Revised (CAMS-R)	Hayes and Feldman (2004)
Southampton Mindfulness Questionnaire (SMQ)	Chadwick et al. (2008)
Kentucky Inventory of Mindfulness Scale (KIMS)	Baer, Smith and Allen (2004)
Mindful Attention and Awareness Scale (MAAS)	Brown and Ryan (2003)
Five Facet Mindfulness Questionnaire (FFMQ)	Baer et al. (2006)

For the course being studied I invite the learners of the course being studied to complete the FFMQ. This instrument was developed by Ruth Baer and colleagues and is a 39-item scale that attempts to bring together the validated aspects of mindfulness measured by

5 other instruments discussed here (the KIMS, the FMI, the MAAS, the CAMS and the SMQ). Sophisticated factor analysis of these existing instruments led to the conclusion that there are 5 main facets of mindfulness measured (Baer et al. 2006). These facets are 'observe', 'describe', 'act with awareness', 'non-judge' and 'non-react'. These will be described further in chapter 6.

As Bergomi et al. (2013) state, the inclusion of the 5 facets results in the FFMQ being the most comprehensive of the instruments. Medvedev et al. (2017) also claim that it is "the most widely used multidimensional measure of mindfulness" (p2) and there are numerous published studies that have utilised it (Hanley, Mehling and Garland, 2017; Ramler et al., 2016; de Bruin, Bögels and Meppelink, 2015; Hindman et al., 2015).

Standardisation and validation studies have found good internal consistency between the facets of the FFMQ (Park et al., 2013 report Cronbach's alphas of between 0.67 and 0.93) and strong correlation have been found with a range of other wellbeing and clinical scales (Baer et al., 2006). However, critics have highlighted the empirical rather than theoretical basis of its development and validation (Bergomi et al., 2013). Whilst this may be the case, it remains the instrument of choice for the course being studied.

2.2.2 Qualitative methods

Despite the dominance of the Scientific discourse and the associated focus upon developing quantitative measurement instruments, qualitative methods have been employed in the study of mindfulness (e.g. Allen et al., 2009; Finucane and Mercer, 2006; Mason and Hargreaves, 2001; Smith, Graham and Senthinathan, 2007). These studies have employed a range of data collection methods, such as interviews, observations and video or audio recordings. The data from these methods has also been subject to a range of analysis techniques, including Thematic Analysis, Discourse Analysis, Conversation Analysis, Grounded Theory and Interpretive Phenomenological Analysis (e.g. Perridge et al., 2017).

Despite qualitative studies providing valuable insights into the underpinning journey and experiences of mindfulness (and in contributing to the development of alternative methods in the study of mindfulness), many in the field recognise that there remains a significant lack of qualitative studies in the field, even by those working within the Scientific discourse (e.g. Grossman, 2011; Brown et al., 2011). This absence remains both a surprise and concern for me as an advocate and teacher of mindfulness. The experiential and emergent nature of the teaching, learning and journey of mindfulness seems ideally suited to qualitative methods of study that are designed to measure such aspects. The findings from such studies are vital to the development of integrity in the pedagogic discourse in mindfulness but, of course, it is also vital to the understanding and improvement of mindfulness in relation to its outcome-effectiveness. Thus, I hold the perspective that more qualitative studies and the development of qualitative methods are a necessity for the field going forward. Further, the importance of the holistic study of mindfulness across the discourses is a central argument of this thesis. Therefore, I consider that a combination of quantitative and qualitative methods is best suited to this task. Other attempts to employ such mixed-methods approaches in the literature will now be discussed.

2.2.3 Mixed Methods research

Unfortunately, relatively few studies mixed-methods studies have been published concerning mindfulness. Where they have, such as those to be discussed here, they have employed a 'sequential phase design', whereby the first phase consisted of quantitative data collection, analysis and findings and the second of qualitative data collection, analysis and findings.

Using the sequential phase design approach, Sibinga et al. (2011) investigated a 9-week MBSR programme for HIV infected or at-risk urban youth. Significant reduction in hostility, general discomfort and emotional discomfort were found and were supported by qualitative findings that included reported increases in interpersonal relationships, health, stress and school achievement (where appropriate).

In a study of the impact of mindfulness on practicing psychotherapists, Keane (2014) reported that the improvements found in the survey aspect of the study were further illuminated by qualitative reports. The overall findings were that the personal mindfulness of the psychotherapist led to increased attention, self-awareness, self-care and empathy. Keane concluded by claiming that these increases would have a positive influence on therapeutic relating in psychotherapists.

Finucane and Mercer (2005) found significant reductions in depression and anxiety between pre-course and post-course measures for a primary care group. From semi-structured interviews conducted three months after the standard 8-week MBCT intervention, more than half of the participants were continuing with some form of mindfulness practice. In addition, they also found that the participants commented on the importance of the group dynamic to the effectiveness of the course and that most believed that the course was too short and that some form of follow-up course would be beneficial.

2.3 Standardisation and fidelity

With the influence of the Western and Scientific discourses leading the direction of travel for mindfulness there have been many developments that have attempted to create a more standardised version of mindfulness in the drive to increase fidelity. In doing so, these developments inherently concern issues of pedagogy in the wide definition of the term used in this thesis.