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SECTION I

*Introduction to Mindfulness: History
and Theoretical Understanding*

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CHAPTER I

*Mindfulness Scholarship and Interventions:
A Review*

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In the past three decades, an exponential increase has occurred in the research and theorising on mindfulness, coupled with a growing demand for and application of mindfulness interventions by practitioners, in clinical and nonclinical settings (e.g., Kabat-Zinn, 2009; Langer & Ngnoumen, 2014). Mindfulness is often associated with positive psychology and considered a primary facet of psychological well-being (Brown, Ryan, & Creswell, 2007). At the same time, the research provides consistent evidence attesting to the effectiveness of mindfulness interventions in lessening several physical and psychological conditions (Baer, 2003; Grossman et al., 2004).

The literature on mindfulness has been dominated by the two leading schools of thought: one advanced by Kabat-Zinn and his associates (e.g., Kabat-Zinn, 2003), which draws on Buddhist meditative practices and is often labeled as an Eastern approach to mindfulness, and the other developed by Langer and her colleagues (e.g., Langer 1989), which is and considered a Western approach to mindfulness. We aim, in this chapter, to offer an overview of mindfulness scholarship and interventions by examining both approaches to mindfulness. The chapter discusses the definitions, mechanisms and components of mindfulness, as these are conceptualised by the two approaches. We also briefly review their measurement tools and examine their respective interventions and outcomes.

The chapter opens with a review of Kabat-Zinn's Eastern meditation-based approach, then discusses Langer's Western approach. Both of these sections begin by reviewing scholars' conceptions of mindfulness and then presents a description of the features of mindfulness and their underlying mechanisms, the interventions that each school of thought uses to increase mindfulness, a brief review of their measurement tools, and the evidence regarding their benefits. The closing section discusses the main findings of this review.

The Eastern Meditation–Based Approach to Mindfulness

Definitions and Features

The Buddhist meditative approach to mindfulness was introduced and initially trialled in the West by Kabat-Zinn and his associates in the 1970s. It is considered *therapeutic* in its orientation, since it uses mindfulness meditation practice as a means to alleviate physical and mental conditions. Drawing on Buddhist philosophy, Kabat-Zinn (1994) defines mindfulness as ‘paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally’ (p. 8). Baer (2003) explains that this entails observing *external* events as well as *internal* experiences as they occur. Kabat-Zinn (2005) describes mindfulness as a ‘being’ mode and contrasts it with mindlessness, which he describes as an automatic-pilot ‘doing’ mode. Wallace (2005) argues that the upshot of this habitual mindless mode is an unregulated mind, where the mind becomes an unreliable mechanism for exploring internal or external experiences. The goal of mindfulness practice is therefore to develop the self-regulatory abilities of a disciplined mind (Kabat-Zinn, 2005).

Kabat-Zinn (1994) draws on the Buddhist concept of mindfulness – *sati* in Pali, which entails awareness, attention and remembering. *Sati* is the key component in insight meditation, which is perceived as a method for noticing how the mind creates suffering. Its aim is to relieve suffering, by improving one’s metacognitive awareness and regulatory processes (Wallace, 2005). Shapiro, Carlson and Astin (2006) maintain that mindfulness practice entails three essential components: practitioners’ *intention* in mindfulness practice, directing their *attention* to internal or external experiences as they transpire, and the *attitude* that meditators bring to mindfulness practice. Brown and colleagues (2007) maintain that there are six elements that make up the *attention* component: being *present-focused*, having *clarity* as to what one observes, being *nondiscriminatory*, being *flexible*, taking a *value-free stance* towards one’s experiences and gaining *stability of attention*. Shapiro, Schwartz and Santerre (2005) unpack the *attitude* component, suggesting that it may contain some or all of the following qualities: *not judging* what is observed; *accepting* one’s experiences as they are; being *grateful*; *letting go* of thoughts, feelings or experiences; being *gentle*; *not striving* (not forcing things); being *open-minded*; having *patience* and *trust*; and being *generous*, *empathetic* and *caring* towards others.

The description offered here of what mindfulness entails may give an impression that this is a cognitive mode that one may experience when

Mindfulness Scholarship and Interventions: A Review 5

meditating. This perception is also promoted by the unclear use of term 'mindfulness' in Kabat-Zinn and his colleagues' work, which is used both to signify a wakeful mindful mode, as well as the means to cultivate it: mindfulness meditation (see, for example, Didonna, 2009; Kabat-Zinn, 2009). This conceptual ambiguity has been noted and critiqued by several authors (Bishop et al., 2004; Brown et al., 2007). However, Kabat-Zinn (2003) clarifies that mindfulness meditation is a training process that is geared to develop meditators' metacognitive and self-regulatory skills and aims to enable practitioners to extend periods of mindfulness in their everyday life. Kabat-Zinn's definition thus suggests that mindfulness entails (1) self-regulation of one's attention, (2) directing one's awareness to internal or external experiences, (3) metacognitive consciousness and (4) adopting an accepting attitude.

Mindfulness Meditation-Based Interventions

Drawing on the complex construct of mindfulness previously described, Kabat-Zinn and his colleagues developed and launched the Mindfulness-Based Stress Reduction (MBSR) program at the University of Massachusetts Medical School in 1979 and have been offering the program ever since (Kabat-Zinn, 1982, 2009). MBSR is a protocolled group-based mindfulness intervention program. It includes eight to ten weekly meetings in which participants are offered mindfulness meditation instruction and practice, yoga exercises, group discussions and individual support. In addition, participants are expected to practice mindfulness meditation at home (forty to sixty minutes per day). Most programs include an intensive mindfulness meditation retreat (for a day or two) (Center for Mindfulness in Medicine, Health Care, and Society, 2014; Kabat-Zinn, 2009).

The program was originally offered as a complementary treatment for patients with chronic pain (Kabat-Zinn, 1982, 1996). Over the years, it has been successfully tested on a range of other conditions and is currently offered as a preventative treatment for people at risk of cancer, heart disease and several chronic illnesses or as a means to relieve the secondary symptoms (such as pain and fatigue) associated with these conditions. It is also offered to patients with a variety of psychological symptoms, such as stress, depression, anxiety, panic, post-traumatic stress disorder (PTSD) and sleep disturbances. Its goal is to reduce physical and psychological ailments through the enhancement of patients' self-regulatory capacities, which are developed through the daily practice of mindfulness meditation (Kabat-Zinn, 1982, 2003).

MBSR was inspired by Buddhist retreats, where participants meditate for hours motionlessly, which often resulted in pain in muscles and joints. Meditators are encouraged not to relieve the ache and instead to direct their attention to the pain and the thoughts, emotions or impulses that arise, while assuming a nonjudgmental attitude towards them. The ability to acknowledge pain with acceptance is believed to relieve the distress that it provokes, since it develops the understanding that the pain sensations, thoughts or emotions are 'just thoughts', and not reality, and thus do not necessitate avoiding them (Baer, 2003; Kabat-Zinn, 1996). Kabat-Zinn (1982) claims that the exposure to pain without catastrophising it can reduce the emotional reactivity prompted by it, thus leading to desensitisation, which in turn eases the pain.

Kabat-Zinn and colleagues (1992) describe a similar procedure that can be applied for the moderation of psychological disorders. They claim that repeated accepting attentiveness to troubling thoughts or emotions, without escaping them, could diminish the emotional reactivity and thereby relieve the symptoms. The assertion of the MBSR approach is that with habitual exercise, patients can become skilful at being less reactive towards their physical or psychological symptoms and more able to experience less adverse patterns of thinking and behaviour (Shapiro et al., 2006).

Since its inception, MBSR has been followed by hundreds of studies that attest to its effectiveness in improving a variety of physical and psychological conditions and in promoting well-being (see the review later in this section). Following these encouraging reports, several versions of MBSR have been developed and trialled to address particular conditions, such as Mindfulness-Based Cancer Recovery (MBCR) (Carlson & Speca, 2010); Mindfulness-Based Therapy for Insomnia (MBT-I) (Ong & Sholtes, 2010); Mindfulness-Based Intervention for People with Diabetes (DiaMind) (van Son et al., 2014); Mindfulness-Based Mind Fitness Training (MMFT) for military personnel (Stanley et al., 2011) and Mindfulness-Based Childbirth and Parenting Education (Duncan & Bardacke, 2010).

Several of these protocolled interventions combine mindfulness with principles of Cognitive Behavioural Therapy. Among these, one of the leading interventions is the Mindfulness-Based Cognitive Therapy (MBCT) for depression (Segal, Williams, & Teasdale, 2002). It was originally designed to prevent relapse in patients with history of depression but has later been trialled successfully with others mental disorders (such as anxiety, PTSD, psychosis and bipolar disorder) (Chiesa & Serretti, 2011).

Mindfulness Scholarship and Interventions: A Review 7

Its main purpose is to enable participants to develop a metacognitive perspective: to observe their own thoughts, understand the mechanisms by which negative automatic thoughts (NATs) trigger depressive symptoms and be able to sever the connection between NATs and habitual depressive emotional or behavioural responses (Barnhofer et al., 2009). However, unlike the conventional cognitive therapy methodology, which is designed to challenge the contents and the legitimacy of NATs, MBCT trains participants to observe their thoughts and emotions nonjudgmentally and accept them.

Based on the MBCT principles described here, several other interventions have been developed and tested, including Dialectical Behaviour Therapy (DBT) for treating borderline personality disorder (Linehan, 1993); mindfulness-based eating awareness for eating disorders (MB-EAT) (Kristeller & Wolever, 2010); CALM pregnancy for perinatal anxiety (Goodman et al., 2014); Mindfulness-Based Relapse Prevention (MBRP) for substance abuse (Witkiewitz et al., 2014); Mindfulness-Based Tinnitus Stress Reduction (MBTSR) (Gans, O'Sullivan, & Bircheff, 2013); and Acceptance and Commitment Therapy (ACT) (Hayes, Strosahl, & Wilson, 1999), which uses mindfulness interventions to increase psychological flexibility in patients exhibiting various symptoms of psychological distress.¹

Mechanisms of Mindfulness

The core mechanism of the previously mentioned interventions is mindfulness meditation. Meditation is defined as 'a family of techniques which have in common a conscious attempt to focus attention in a non-analytical way' (Shapiro, 1980, p. 14). The goal of meditation practice is 'the development of deep insight into the nature of mental processes, consciousness, identity, and reality, and the development of optimal states of psychological well-being and consciousness' (Walsh, 1983, p. 19). Olendzki (2009) emphasises that this is a deeper level of perception that is exercised during meditation, a *mode of being*, that meditators aim to bring into their daily lives.

The common meditative techniques can be divided into three main types (Shapiro et al., 2005):

¹ ACT does not integrate mindfulness meditation practice, but it is considered a mindfulness intervention since it adheres to mindfulness principles of present-moment consciousness and acceptance.

- *Concentrative meditations*: In concentrative practices, practitioners attempt to control their attention by *focusing* on a single object or idea while ignoring other internal or external stimuli. Awareness is thus focused on the object of meditation, which could be one's breathing, a mantra, a word, a phrase or a sound. The attitude that meditators adopt is nonevaluative. Transcendental meditation and loving-kindness are both considered concentrative practices (Siegel, Germer, & Oldenzki, 2009).
- *Mindfulness meditations*: In mindfulness practices, practitioners attempt to notice whatever predominates their awareness in the moment – internally or externally. They aim to bring an attitude of openness, acceptance and kindness to observed experiences, and avoid evaluating, criticising, altering or attempting to stop these experiences, even when they are taxing (Baer, 2003). Mindfulness meditations are considered mental practices for *opening up* attention, thus, the objective is *not to select* a particular object to focus on, but to notice the shifting experiences (Siegel et al., 2009). Zen meditation is an example of a mindfulness practice. Several authors note, however, that mindfulness meditations include a combination of mindfulness and concentrative techniques, and that concentrative techniques facilitate mindfulness practice (Shapiro, Walsh, & Britton, 2003; Siegel et al., 2009).
- *Contemplative meditations*: These types of meditation involve appealing to a larger spirit (God or a benevolent other) and *asking*, while accepting a state of not knowing. From this responsive position, practitioners may ask questions and bring up unresolved issues. Contemplative meditation practices require some skill in concentration and mindfulness meditations, since it is necessary to have the capacity both to focus and to remain open (Shapiro et al., 2005).

Most meditations involve a dynamic process of monitoring and regulating awareness, where meditators engage their minds (according to the type of meditation they are practicing), and then they are likely to notice that their mind has wandered off. When noting this, meditators aim to come off their train of thoughts gently and return their attention to their key activity, with acceptance and tolerance. This process is repeated when required due to the mind wandering in all types of meditation (Oldenzki, 2009). Thus, the essence of the process is not the *content* of consciousness, but the *process* of managing it (Didonna, 2009).

The main mechanisms in mindfulness meditation practice are *decentring*, becoming aware that we are continuously flooded by our river

Mindfulness Scholarship and Interventions: A Review 9

of thoughts; and then *disidentification*, being able to disengage from those thoughts (Kabat-Zinn, 1994; Shapiro et al., 2006). Several authors claim that mindfulness meditation has the capacity to alter our relationship with our thoughts by offering a method through which we can step back from and be less attached to our thoughts, thereby stripping them from the meaning, weight and emotional tone that we ascribe to them, and allowing us to acknowledge and accept them (Chiesa, Anselmi, & Serretti, 2014). Shapiro and colleagues (2006) claim that this change in our perception towards our thoughts is the core mechanism in all mindfulness interventions. They term it *reperceiving* and argue that it is the key to the management of distress, since it quiets the mind and lessens the types of thinking that trigger distress symptoms. Through habitual practice, meditators can strengthen their metacognitive skills, thereby increasing their capacity to direct their awareness at will in their daily lives (Vago, 2014).

The Measurement of Mindfulness

Over the years, several mindfulness questionnaires have been developed in order to assess the degree to which mindfulness meditation practice improves trait or state mindfulness. All of these are self-report measures that have been shown to have robust psychometric characteristics (Baer et al., 2008). The following eight questionnaires measure mindfulness as a disposition, the general inclination to be mindful (or mindless) in everyday life. Though the scales reflect a disposition of mindfulness, mindfulness scores have improved based on mindfulness meditation interventions.

The Freiburg Mindfulness Inventory (FMI)

The FMI is a thirty-item questionnaire designed to measure nonjudgmental, present-focused attentiveness and openness to *negative* experiences (Buchheld, Grossman, & Walach, 2001). It specifically targets experienced meditators. A shorter questionnaire with fourteen items was later developed (Walach et al., 2006) that is considered more suitable for nonmeditators. High scores in both questionnaires were correlated with self-awareness and self-knowledge, lower levels of dissociation and psychological distress among meditators.

The Kentucky Inventory of Mindfulness Skills (KIMS)

The KIMS is drawn from DBT and includes thirty-nine items quantifying four aspects of mindfulness: *observing, describing, acting with awareness and*

nonjudgmental acceptance (Baer, Smith, & Allen, 2004). The authors found significant positive correlations with happiness, gratitude, optimism, satisfaction with life, openness to experience, emotional intelligence, emotional regulation and persistence. Negative correlations were observed with distress scores, stress, anxiety, dissociation, experiential avoidance, alexithymia and depression.

The Cognitive and Affective Mindfulness Scale-Revised (CAMS-R)

The CAMS-R is a twelve-item questionnaire that measures mindfulness as a single factor but can offer subscores for *attention regulation*, *maintaining focus*, *awareness* and *accepting* thoughts and feelings (Feldman et al., 2007). Positive correlations were reported between the CAMS-R and measures of well-being (happiness, satisfaction, hope) as well as with emotional regulation, problem analysis and cognitive flexibility. Negative correlations were found with depression, anxiety, rumination, worry, experiential avoidance and thought suppression.

The Philadelphia Mindfulness Scale (PHLMS)

The PHLMS is a twenty-item questionnaire that measures two components of mindfulness: *awareness* and *acceptance* (Cardaciotto et al., 2008). Negative correlations were found between the PHLMS and anxiety, depression and stress.

The Southampton Mindfulness Questionnaire (SMQ)

The SMQ is a sixteen-item clinical inventory that assesses the extent to which respondents mindfully react to *upsetting thoughts and emotions* (Chadwick et al., 2008). It is designed to capture four aspects: *mindful observation*, *nonaversion*, *nonjudgmental attitude* and *letting go*. Meditating participants scored higher on the SMQ compared to nonmeditating, and in a clinical trial of MBSR, significant differences were found between pre- and posttests. It was also positively correlated with positive affect.

The Toronto Mindfulness Scale – Trait Version (TMST)

The TMST includes thirteen items and can be scored across two factors: *curiosity* and *decentring* (Davis, Lau, & Cairns, 2009). Participants scored higher after participation in MBSR (Lau et al., 2006).

The Five-Facet Mindfulness Questionnaire (FFMQ)

The FFMQ was developed using items from several existing measures of mindfulness to explore the multifaceted nature of mindfulness (Baer et al.,