Workplace mindfulness-based programmes for stress and wellbeing: a realist review and evaluation

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Abbreviations

CMOC	Context-mechanism-outcome configuration
COR	Conservation of resources theory
MBCT	Mindfulness-based cognitive therapy
MBP	Mindfulness-based programme
MBSR	Mindfulness-based stress reduction
PS	Edmondson's team psychological safety scale
PSS	Perceived stress scale
RCT	Randomised controlled trial
SCS	Neff's self-compassion scale
TTC	Time-to-change questionnaire (Stigmatisation of mental health issues at work)
WHO-5	World Health Organization-Five Well-Being Index

Abstract

Mindfulness-based programs (MBPs) are increasingly offered in the workplace to reduce stress and enhance wellbeing. A growing body of evidence suggests that these programmes can be beneficial; however, dropout rates are often high, and there is great heterogeneity in both programme content and strength of effects between studies. This thesis contributes to a better understanding of what makes these programmes successful, under what circumstances, for whom, and why. A realist approach was employed that is theory-driven and well-suited to make sense of complex interventions, such as MBPs.

First, I conducted a realist review where I analysed and synthesised data from 75 existing studies of workplace MBPs to identify the mechanisms through which these programmes work or do not work and discover how particular contexts impact these mechanisms and, consequently, outcomes. The findings were consolidated into a programme theory augmented by theories from organisational literature, such as conservation of resources (COR) theory and psychological safety. I then tested and refined parts of that programme theory with realist evaluation methodology. The evaluation consisted of five workplace MBPs and included quantitative and qualitative data collection methods.

The research results show that for managers and employees to invest in an MBP and benefit from it, it is crucial that they feel safe to engage with selfcare at work and show vulnerability to each other. The more participants feel that they are not at work, the safer they feel. To be beneficial, it is also important that managers and employees link the programme and its activities to existing goals and practices. If these conditions are not met, the costs of investing in an MBP may be too high and lead to the strategic use of brief mindfulness exercises, non-adherence, or dropout. These findings should be of value to decision makers and practitioners wishing to offer and implement effective and sustainable workplace MBPs.

Preface

My personal experience of delivering workplace MBPs has prompted this research. I have been a trainer and coach in the business world for over fifteen years. In 2014, I received a Master of Studies in mindfulness-based cognitive therapy from the University of Oxford. My studies and my own personal mindfulness practice convinced me more than ever that others would benefit from it, too, especially those suffering from work-related stress. I hoped mindfulness could change the world of work, make the workplace more compassionate and human, benefitting the individual employee, teams, and the whole organisation. I started delivering workplace mindfulness training. Yet, something struck me as awkward when I ran these courses. They never seemed to deliver their full potential.

To some extent, my disillusionment might have been because I was new to the field. Yet, I have been a business facilitator for many years and have much experience running workshops with large groups. I changed the format (shorter sessions) and the language (more science and corporate language managers and employees could relate to). I improved expectation management with stakeholders (although I never knew what to say because I lacked the evidence) and cooperated with more experienced mindfulness instructors. The unease remained: Some courses went well, others did not, some participants got into it, and others dropped out; overall, it was often a struggle. Colleagues had similar experiences. We tried to find explanations, thinking, 'Some people love mindfulness, others don't and we have to accept that'; or 'The profit-driven business world just looks for quick fixes and participants of workplace mindfulness training will always only engage superficially with the programme'; or 'We can't teach ethics in the workplace, and mindfulness without ethics doesn't work.' While there may be a grain of truth to these explanations, they did not capture my experience entirely. Employees were eager to learn ways to deal better with stress, and management was curious and interested in the potential benefits for their employees.

I wanted to find out what was happening in these courses. I wanted to know under what conditions they worked, for whom, why, and in what respects. I needed to know so instructors and decision makers in organisations would know better when to offer these programmes, whom to offer them to, and what to expect as outcomes. Existing evidence, mostly randomised-controlled trials and meta-analyses could not give me the answers. A realist approach seemed to be the right approach to answer my questions.

CHAPTER 1 INTRODUCTION

Workplace mindfulness training has become fashionable for reducing workplace stress. A global survey of 166 employers revealed that more than half of them had, in 2020, offered mindfulness training to boost their employees' mental health and wellbeing (Business Group on Health, 2021). The survey predicted that the numbers would rise over the next two years and that 82% of these employers would offer mindfulness training in 2022. At the same time though, experts have cautioned that embellished hype is outpacing the science behind mindfulness (Bartlett et al, 2019; Rupprecht et al, 2019). While a growing body of evidence suggests that managers and employees benefit from workplace mindfulness training, the strength of these effects varies from study to study (Bartlett et al, 2019). To date we do not know what makes these programmes successful, under what circumstances, for whom, and why, rendering it tricky to implement programmes that effectively enhance health and wellbeing. My research project seeks to addresses this knowledge gap by identifying the contexts and mechanisms that lead to intended (and unintended) outcomes in workplace mindfulness training.

Chapter one will set the stage for my research. In the first section, I will summarise what we know about workplace mindfulness training, identify gaps in existing knowledge, and state my research questions and aims. In the second section, I will present key theories of change that underlie mindfulness-based programmes (MBPs) as mental-health intervention. Finally, I will argue how a realist approach to the research of workplace MBPs can add to our understanding of why and for whom these programmes work or do not work. The chapter concludes with a definition of realist terms and an overview of my research design.

1.1 What we know and do not know about workplace MBPs

Workplace stress is a major health concern in all industrialised countries. It affects individuals, organisations, as well as entire economies and societies as a whole through increased absenteeism, reduced productivity, and increased costs (World Health Organization, 2005; World Health Organization, 2020). In a Gallup annual survey from 2019, almost 43% of employees said they experienced stress, and 41% said they experienced worry 'during a lot of the previous day' (Gallup, 2021). In the same year, more than two thirds of employees experienced burnout on the job, at least sometimes; and studies found that employees who feel burned out are 63% more likely to take a sick day (Gallup, 2020). A global and systematic review (Hassard et al, 2018) estimated that the total costs of work-related stress in 2014 in various European countries, the EU-15, Canada, United States and Australia ranged between $221.13 million and $187 billion (at a national and pan-European level). Given these numbers, it is unsurprising that mental health has become a main focus of workplace wellbeing programmes (Business Group on Health, 2021).

The causes of mental health problems such as stress, anxiety, and depression are diverse and involve a complex interaction of biological, psychological, social, and environmental factors (World Health Organization, 2005). Among the factors that affect an individual's mental health at work are occupational uncertainty, imbalanced job design, and lack of value and respect (Harvey et al, 2017). While certain pressures at work (eg tight deadlines at a fast pace, workload and organisational change) are unavoidable in a highly technological and globalised world, stress arises when these demands become excessive and unmanageable (World Health Organization, 2020). The World Health Organization has defined workplace stress as 'the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their abilities to cope' (World Health Organization, 2020). Consequently, many

workplace stress-management programmes aim at strengthening employees' coping skills and resilience. Organisational research has shown that these programmes can be effective at the individual level and prevent stress from escalating into more severe mental health disorders (Bagnall et al, 2016; Leka and Jain, 2019). Mindfulness-based programmes teach individuals how to deal with stress and distress in a skilful way.

Mindfulness itself is often referred to as an 'attentional skill' and 'meta-cognitive capacity' (Teasdale and Chaskalson, 2011b)—that is, the ability to regulate one's attention and an awareness of one's emotional and cognitive inner processes. While all humans have some level of mindfulness, mindfulness can be further developed through mindfulness meditation, a core element of MBPs (Crane et al, 2017). As attentional skill and meta-cognitive capacity, mindfulness is particularly attractive for organisational leaders and managers. It offers the prospect of being able to handle the challenges of the contemporary world of work without burning out. It also offers ways to enhance focus, empathy, compassion, and creativity. The management literature feeds hope and hype with promising book titles like *Finding the Space to Lead: A Practical Guide to Mindful Leadership*, which includes a chapter 'Leading in the midst of chaos' (Marturano, 2014), *Focus. The Hidden Driver of Excellence* (Goleman, 2013), *Real Happiness at Work: Meditations for Accomplishment, Achievement, and Peace* (Salzberg, 2014), or Google's *Search inside Yourself: The Unexpected Path to Achieving, Success, Happiness (and World Peace)* (Tan, 2012). Within the last decade, mindfulness has become a panacea for almost all workplace and leadership problems. However, what does the evidence say? What do we know about the effectiveness of workplace mindfulness training, and what do we not know?

Knowledge gap

A growing body of studies has investigated the effectiveness of workplace MBPs. A series of meta-analyses that included various professions and industries reported that workplace MBPs reduce stress and distress in managers and employees while promoting various aspects of wellbeing (Lomas et al, 2017b; Janssen et al, 2018; Bartlett et al, 2019; Lomas et al, 2019a; Slemp et al, 2019; Vonderlin et al, 2020). Other reviews (Irving et al, 2009; Smith, 2014; Morgan et al, 2015; Guillaumie et al, 2017; Lomas et al, 2018) and meta-analyses (Regehr et al, 2014; Burton et al, 2017; Lomas et al, 2019b; Spinelli et al, 2019; Suleiman-Martos et al, 2020; Ruiz-Fernandez et al, 2020; Kang and Myung, 2021) found that mindfulness training improved mental health and psychological functioning in healthcare professionals. Reviews in the field of education concluded that mindfulness training enhances mental health in teachers (Emerson et al, 2017; Lomas et al, 2017a). Meta-analytic evidence further found increased levels of (self-)compassion in employees after workplace mindfulness training (Lomas et al, 2019b; Vonderlin et al, 2020; Wasson et al, 2020). Self-compassion in turn has been found to be predictive of higher wellbeing (Biehler and Naragon-Gainey, 2022) and negatively correlated to burnout (Jang et al, 2022). In addition, research suggests that self-compassion may mediate the relationship between mindfulness and subjective wellbeing (Yang et al, 2022). However promising, these findings leave us with unresolved issues that limit our ability to apply the evidence.

At present, the existing evidence does not indicate what exactly makes these programmes successful. MBPs are multifaceted, generally consisting of numerous potential active ingredients (eg experiential practices, psychoeducation, social support) (Good et al, 2016) and they vary considerably with regard to their duration, and mode of delivery (Bartlett et al, 2019). They can range from a three-week course delivered via a smartphone app (Carissoli et al, 2015) to a 52 hour course delivered face-to-face in person over a period of

one year (Beckman et al, 2012). In addition, high attrition rates (Burton et al, 2017; Suleiman-Martos et al, 2020) together with evidence of publication bias (Burton et al, 2017; Bartlett et al, 2019; Lomas et al, 2019b; Slemp et al, 2019; Vonderlin et al, 2020) and great heterogeneity in outcomes between studies (Klingbeil and Renshaw, 2018; Lomas et al, 2019a; Vonderlin et al, 2020; Ruiz-Fernandez et al, 2020) indicate that workplace MBPs might work less well than is believed or, more likely, only in certain settings, for certain individuals, and under certain circumstances. For instance, one large randomised controlled trial (RCT) conducted in a US health insurance company reported significant improvements on perceived stress and other health outcomes after an online mindfulness course (Wolever et al, 2012). In contrast, another large RCT conducted in two Dutch research institutes showed no intervention effects on any outcome measure (van Berkel et al, 2014). To date, we do not know the reasons for these outcome differences.

A number of researchers have argued that to advance workplace mindfulness research, we must take contextual factors into account (Good et al, 2016; Burton et al, 2017; Jamieson and Tuckey, 2017; Eby et al, 2019; Bartlett et al, 2019). In their systematic review of 27 workplace MBPs, Allen et al. (2015) examined the features of MBPs that produced null or mixed effects and compared them to the features of programmes that tended to achieve more positive outcomes. They could not detect any patterns with regard to what programme features worked better than others and concluded that future research should look at situational and organisational aspects. Several authors have cautioned that mindfulness training may even have negative effects in certain contexts (Dane, 2011; Burton and Vu, 2020; Walsh and Arnold, 2020). In response, Shahbaz and Parker have urged that 'rather than adopting mindfulness techniques and practices universally', we should explore 'the contextual conditions under which mindfulness can be beneficial for employees and employers (2021: 175).' Finally, Rupprecht et al (2019) have emphasised the need for

theories that explain how mindfulness interacts with workplace factors and how that may affect outcomes.

Research questions

Given the limitations of existing evidence on workplace MBPs, it seems rational that in order to be able to develop and implement effective and sustainable programmes that can be applied across groups and settings, we should not only look at their net effects but investigate for whom, how, and why they work (or do not work). My thesis was thus structured around the following research questions:

- What are the intended and unintended outcomes in workplace MBPs for stress and wellbeing?
- What are the mechanisms causing these outcomes?
- What are the contexts within which these mechanisms cause these outcomes, and for whom?

Aim and objectives

The primary aim of my thesis was to understand under what conditions, for whom, why, and in what respects workplace MBPs achieve their intended or unintended outcomes.

The objectives were to:

- Conduct a realist review followed by a realist evaluation to identify the mechanisms through which workplace MBPs work or do not work and discover how particular contexts impact these mechanisms and, consequently the intended and unintended outcomes.

- Develop a practical programme theory from evidence that can be applied to developing and implementing effective and sustainable workplace MBPs.

At the outset of my research, the focus was on intended stress and wellbeing outcomes of workplace MBPs. However, as my research proceeded, it became clear that including unintended outcomes would help explain what is going on in workplace MBPs on a more general level and may provide a better understanding of intended outcomes as well. Unintended outcomes refer to barriers to implementation as well as to undesired or unexpected effects.

1.2 Theories of change in MBPs

Mindfulness-based programmes are based on various theories from early Buddhism and other contemplative traditions, cognitive science, neuroscience, medicine, psychology, and education (Crane et al, 2017). On the most general level, mental health and wellbeing in MBPs are seen to emerge from a deep (ie embodied) understanding of how the human mind works, how we as humans create and maintain distress, and what we can do to relieve it in order to experience a greater sense of wellbeing (Kabat-Zinn, 2011; Teasdale and Chaskalson, 2011b; Crane et al, 2017). In the following section, I will outline some key theories of how mindfulness training is expected to reduce stress and improve wellbeing. After a brief account of MBPs, I will first outline the main principles of the transformation of suffering in Buddhist psychology. I will then describe how these principles were translated into secular MBPs. Finally, I will give an overview of the proposed mechanisms of change, first for MBPs in general and then for workplace MBPs.

Mindfulness-based programmes first emerged in the late 1970s when John Kabat-Zinn developed mindfulness-based stress reduction (MBSR) to help patients with chronic health conditions manage their experiences of pain and distress (Kabat-Zinn, 1990). Two

decades later, Segal, Williams, and Teasdale (Segal et al, 2013) introduced mindfulness-based cognitive therapy (MBCT) that integrates MBSR with elements from cognitive therapy to prevent relapse/recurrence of depression. MBSR and MBCT are called 'first-generation' mindfulness-based programmes (Crane et al, 2017). They are the best researched mindfulness programmes and their benefits for clinical problems and populations are well established (Khoury et al, 2013; Kuyken et al, 2016; Goldberg et al, 2018). Recently, many adaptations have come out of MBSR and MBCT, targeted toward different populations and settings, including schools, universities, the military, and the workplace. Research indicates that these programmes can also be effective in nonclinical settings, albeit less so than in clinical settings (Galante et al, 2021). How are these programmes supposed to benefit mental health and wellbeing?

The transformation of *dukkha* ('suffering') in Buddhist psychology

The founders of first-generation secular MBPs have built their programmes on core principles of Buddhist psychology (Kabat-Zinn, 2003; Teasdale and Chaskalson, 2011a) and practices from various Buddhist traditions, among others, *vipassana* and *zen*. The extent to which these borrowings agree with or rather misrepresent (or even misuse) Buddhist teachings and practices is the subject of ongoing debates among mindfulness practitioners and Buddhist scholars (Bodhi, 2011; Dreyfus, 2011; Purser, 2015; Sharf, 2015; Kirmayer, 2015). Notwithstanding the details of the controversy, I will here give a summary of the main foundations of Buddhist teachings that underly theories of change in first-generation MBPs.

Much of the conceptualisation of stress and distress in MBPs is based on the 'Four Noble Truths', one of the key Buddhist teachings that provide a framework for the origins and cessation of human suffering (Sīlānanda, 2002; Anālayo, 2003; Bodhi, 2011). The first truth, as recorded in the early Buddhist scriptures of the *Pali Canon* (Sīlānanda, 2002;

Anālayo, 2003), states that life is *dukkha*, which is commonly translated as 'suffering' (Sīlānanda, 2002) but can be understood in more general terms as 'friction', 'disharmony', or 'unsatisfactoriness' (Anālayo, 2003: 244). *Dukkha* refers to the suffering caused by simple pain but also to the unease one experiences in the face of change (eg the transience of pleasant experiences, aging, and dying) and conditionality (eg the lack of control over one's internal and external experiences). To comprehend this first truth does not mean that all one feels is suffering. Rather, it means to recognise that throughout life 'we keep meeting what we do not like, losing what we cherish, and failing to get what we desire (Batchelor, 2015: 70).'

The second truth states that the immediate cause of *dukkha* is *tanha*, which is often translated as 'craving' (Sīlānanda, 2002; Anālayo, 2003) and refers to the craving of wanting things to be different than they are. *Dukkha* is seen to arise when one tries to match one's actual experience to a desired state (Teasdale and Chaskalson, 2011b). *Dukkha* arises, for example, when we try to 'fix' pain or negative emotions by ruminating about them. In other words, *tanha* refers to our countless reactions to our experience and has also been translated as 'reactivity' (Batchelor, 2015). Both *dukkha* and *tanha* are seen to be part of the *conditio humana*; they are deeply rooted in human nature that is primarily occupied with biological survival.

The third truth states that *dukkha* ends when *tanha* ceases—that is, when one stops being trapped in wanting to change, control, or fix what cannot be controlled, changed, and fixed because it is in the nature of things. Put differently, while *dukkha* itself (eg pain) cannot be avoided, we can learn to avoid being trapped in our reactivity to *dukkha.* Finally, the fourth truth provides a way to free oneself, the 'Eightfold Path', that includes skilful behaviours such as 'right understanding', 'right thought', 'right speech', 'right action', 'right livelihood', 'right effort', 'right mindfulness', and 'right concentration' (Sīlānanda, 2002: 156-163). In

secular terms, this has been interpreted as living an integrated life where a person's words and actions are no longer determined by habitual inclinations (Batchelor, 2015: 45).

Inner freedom, joy, and happiness are seen to result from understanding and cultivating these four noble truths (Anālayo, 2003). They emerge from a radical shift in perspective on self and the world (Batchelor, 2015: 62). One way to develop this understanding and embody it (rather than understanding it just cognitively) is through the cultivation of mindfulness meditation, a mind-body practice described in another text from the *Pali Canon*, the *Satipatthāna Sutta* ('The Discourse on the Establishing of Mindfulness') (Nyanaponika Thera, 1996; Anālayo, 2003). The *Satipatthāna Sutta* provides a systematic 'training manual' from which MBSR and MBCT draw their instructions and practices. In the next section, I will outline how first-generation MBPs (MBSR and MBCT) have reframed these Buddhist teachings to make the programme attractive for a secular audience, compatible with Western psychology, and accessible to scientific study (Kabat-Zinn, 2011; Crane et al, 2017).

MBPs as mental health intervention

MBSR and MBCT are standardised programmes taught by trained and certified instructors. The main element in these programmes is mindfulness meditation. Other elements are psychoeducation, self reflection (in the form of inquiry and journaling), yoga, and informal mindfulness exercises (such as paying attention to daily activities). MBPs are generally delivered in a group setting with up to 20 participants. They run over eight weeks, with weekly meetings of 2-2.5 hours and an additional six-hour mindfulness day. In between sessions, participants are expected to do daily exercises, including most importantly 30-40 minutes of mindfulness meditation. MBSR and MBCT are high-intensity programmes that require commitment from participants. Before signing up, participants are interviewed by the

instructor to see whether they meet the requirements (time and mental stability) to embark on the eight-week training.

A central objective of mindfulness training is that participants learn to deal with stress and distress skilfully. The promise is not that participants will no longer experience physical or emotional pain but that they will develop the techniques and skills to live with that pain and also experience joy and happiness. They learn to disengage from reactive patterns of the mind (such as resistance, worry, rumination, tuning out, self-criticism, and blame) that exacerbate difficult sensations and emotions.

The first strategy participants learn is to become aware of present moment sensations and experiences in both mind and body. Being fully present and aware can be an enriching experience in itself (Bishop et al, 2004) and may already interrupt the vicious cycle of reactivity (Teasdale and Chaskalson, 2011b). However, turning towards one's experiences can also be difficult because pain and emotions such as anger, frustration, shame, or sadness generally do not feel pleasant. Their being unpleasant is the very reason why humans get caught in reactivity in the first place. We tend to do everything to avoid these feelings by employing all kinds of cognitive strategies and 'unskilful' behaviours or, in other words, by activating our reactive patterns. Part of the first strategy is to become aware of these unhelpful reactive patterns of the mind and the interplay between these mind activities and bodily sensations.

As second strategy participants learn to bring an attitude of openness, kindness, and compassion to their present moment experience—a stance of acceptance that 'this is how I feel right now' (Teasdale and Chaskalson, 2011b). Rather than resisting, avoiding, or 'problem-solving' difficult sensations or emotions, which is the *modus operandi* of the cognitive mode of the mind, participants learn to adopt a mode of approaching and allowing. Experiences change when we loosen the grip of 'wanting to fix', and unease might stop as

we are no longer overwhelmed by it (Teasdale and Chaskalson, 2011b). Moreover, we may notice the presence of other, more pleasant feelings and emotions. We may begin to see how emotions, sensations, and thoughts come and go. In brief, we experience painful sensations and emotions as less monolithic and more ephemeral and no longer identify with them. This is called 'reperceiving' (Shapiro et al, 2006), 'meta-cognitive awareness', or 'decentering' (Segal et al, 2013; van der Velden et al, 2015).

While the first strategy (attention regulation) can already have beneficial effects by providing individuals with a simple coping tool (Teasdale and Chaskalson, 2011b; Allen et al, 2009), it is the second strategy (acceptance) that is—at least in theory—primarily associated with change and transformation in mindfulness. MBSR and MBCT belong to so-called 'third wave' psychotherapies (with behavioural therapy belonging to the 'first wave' and cognitive behavioural therapy to the 'second wave', Crane et al, 2017). In third wave psychotherapies, the focus is not on learning how to control internal (unpleasant) experience but on turning towards that experience with acceptance and compassion, thereby transforming unhelpful patterns (Segal et al, 2013; Crane et al, 2017).

The term 'mindfulness' has been conceptualised in many ways in contemporary mindfulness research (Davidson, 2010; Grossman, 2010; van Dam et al, 2017). Within the context of its application as mental health intervention, mindfulness is most commonly defined as 'the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment (Kabat-Zinn, 2003: 145).' This definition captures the two components, or strategies, of mindfulness described above; first, *what* I pay attention to and, second, *how* I relate to my experience (Bishop et al, 2004). Both strategies are practiced in formal mindfulness (meditation) and informal mindfulness (daily activities), where participants bring their focus of attention to their experience of thoughts, emotions, or body sensations and simply observe them with

kindness and compassion as they arise and pass away. The term ‘mindfulness’ can also refer to a trait (the mindfulness an individual possesses) or a state (being mindful in a particular moment).

In light of the above, the main mechanisms of change seen to be involved in mindfulness are attention regulation (Hölzel et al, 2011; Vago and Silbersweig, 2012); self-awareness (Vago and Silbersweig, 2012); experiential awareness (leading to disengagement with maladaptive activities of the mind such as rumination, worry, or self-criticism, Teasdale et al, 1995; Teasdale and Chaskalson, 2011b); positive reappraisal (Hölzel et al, 2011); exposure and extinction (leading to more adaptive emotional and behavioural fear responses) (Hölzel et al, 2011; Vago and Silbersweig, 2012); de-centering (Hölzel et al, 2011; Teasdale and Chaskalson, 2011b; Vago and Silbersweig, 2012); and the cultivation of qualities such as joy, compassion, kindness, and equanimity (Crane et al, 2017; Feldman and Kuyken, 2019). (For an overview of all theories of mindfulness mechanisms, including explanations, see Table 1.1) Many of these mechanisms are interwoven and overlapping. The list is not exhaustive, but it captures the main mechanisms linked to MBPs. I used the list and explanations for coding in my realist review (see ‘Extracting data and organising findings’, chapter 2.2).

Table 1.1 Overview of theories of mindfulness mechanisms

Theories of mindfulness mechanisms	**Explanation**
Attention regulation (Vago and Silbersweig, 2012; Hölzel et al, 2011; Bishop et al, 2004; Shapiro et al, 2006; Grabovac et al, 2011)	Focus, concentration, changing the focus of attention, stepping out of autopilot
Experiential awareness (Teasdale and Chaskalson, 2011b; Teasdale et al, 1995)	Changing the content of the mind (eg being aware of breath, body, sounds rather than analysing, judging, planning); disengagement with maladaptive activities of the mind, such as rumination, worry, or self-criticism

Self-awareness (Vago and Silbersweig, 2012)	Awareness of cognitions, sensations, emotions, interpersonal patterns and dynamics; awareness of stress and unhealthy behaviours
Interoceptive awareness (Hölzel et al, 2011)	Awareness of body sensations; embodied awareness of emotions, stress, and distress
Positive reappraisal (Hölzel et al, 2011)	Stressful events are reconstrued as beneficial, meaningful, benign (one can learn something); positive self-talk
Approach behaviour and acceptance (Bishop et al, 2004; Baer, 2003)	An orientation of the mind that that is characterized by (non-judgemental) approach and acceptance rather than by withdrawal, avoidance, or the intent to change something
Exposure and extinction (Vago and Silbersweig, 2012; Hölzel et al, 2011; Baer, 2003; Brown et al, 2007; Shapiro et al, 2006)	Exposing oneself to whatever is present in the field of awareness; embodied awareness of reaction to negative events; more adaptive emotional and behavioural fear responses
Decentering/reperceiving /meta-cognitive awareness (Hölzel et al, 2011; Vago and Silbersweig, 2012; Teasdale and Chaskalson, 2011b; Baer, 2003; Bishop et al, 2004; Shapiro et al, 2006; Brown et al, 2007)	The ability to observe things without thinking that they actually mean something about yourself
Compassion (Crane et al, 2017; Feldman and Kuyken, 2019; Grabovac et al, 2011)	An orientation of the mind that recognises (physical and emotional) pain and the universality of pain in human experience; the capacity to respond to that pain with kindness, empathy, equanimity, and patience
Kindness (Feldman and Kuyken, 2019)	Being curious, friendly, and kind toward oneself and one's experiences
Joy (Feldman and Kuyken, 2019; Crane et al, 2017)	Trembling of the heart in the face of happiness beauty; contentment, wonder, radiant pride, gratitude, delight
Equanimity (Feldman and Kuyken, 2019; Crane et al, 2017)	Inner balance imbued with awareness, care, and compassion
Relaxation (Baer, 2003)	A meditation-induced relaxed state
Self-regulation (Vago and Silbersweig, 2012; Baer, 2003)	Responding to events rather than reacting, taking skilful action
Coping (Baer, 2003)	Self-management skills, reduction of impulsive, maladaptive behaviour
Resilience (Good et al,	Adapt to stress and grow in the face of adversity, cope with workplace stress; learn to perceive adverse workplace events (eg

2016; Glomb et al, 2011)	layoffs, company politics, abusive supervisor behaviour) as less threatening and recover faster from negative emotions caused by these events
Group effects (Crane et al, 2017; Segal et al, 2013)	Group cohesiveness (feeling of warmth, belonging, acceptance) and support; modelling through instructor and other participants; universality; didactic instructions (eg explanations of stress and distress)

As plausible as the above theories sound, how MBPs *actually* yield their beneficial health outcomes is the subject of ongoing investigation (Gu et al, 2015; van der Velden et al, 2015; Alsubaie et al, 2017). Many of the above theories assume that participants in MBPs really practice mindfulness (ie meditate) and that the practice makes a difference. Existing evidence though indicates that the association between mindfulness practice and health outcomes in MBPs is not that straightforward. A large RCT comparing the efficacy of standardised MBCT for people with recurrent depression to an intervention that included all elements from MBCT but no mindfulness meditation found no outcome differences in less vulnerable participants (Williams et al, 2014). It is hence conceivable that other, non-specific factors such as group experience (Imel et al, 2008) and modelling through group and instructor (Segal et al, 2013; Crane et al, 2017) or psychoeducation (Stangier et al, 2013) contribute to the programme's salutary effects. On the other hand, a systematic review by Parsons et al (2017) did find a significant, albeit small, association between meditation and outcomes in MBPs for clinical and non-clinical populations.

Mindfulness at work

Many workplace MBPs share their theoretical underpinnings with MBSR/MBCT (Glomb et al, 2011; Hyland et al, 2015; Miksch et al, 2015; Good et al, 2016); yet they differ in certain aspects and may involve additional and slightly distinct mechanisms of change. First, sessions and meditations tend to be shorter in workplace programmes than in classical MBPs,

and the curricula often include additional job-specific psychoeducation and exercises. Second, instructors of workplace MBPs often bring a different background to the programme than trained MBSR/MBCT instructors (eg an affiliation with a particular Buddhist tradition or experience in leadership and consulting), which might lead to a somewhat different understanding of mindfulness and a different approach to teaching it. Third, managers and employees may have different motivations for participating in the programme than participants of clinical or open MBSR/MBCT courses, which may affect their involvement with mindfulness differently. I will, in the following, point out some of the more prominent theories of workplace MBPs.

Theories of workplace MBPs have linked mindfulness practice to the development of resilience (Good et al, 2016; Glomb et al, 2011) (ie the ability to adapt well in the face of stress and adversity) (American Psychological Association, 2020). It has been theorised that participants of workplace MBPs learn to perceive adverse workplace events (eg layoffs, company politics, abusive supervisor behaviour) as less threatening and recover faster from negative emotions caused by these events (Good et al, 2016). It has further been hypothesised that learning to use approach behaviour (acceptance) as opposed to withdrawal (avoidance) may equip managers and employees to respond to challenges at work more skilfully and less reactively, thereby strengthening both their resilience and their work functioning (Glomb et al, 2011).

In addition, theories of workplace MBPs not only address health outcomes but also job performance outcomes such as leadership, creativity, decision-making, and organisational citizenship behaviours and often link both of them (Glomb et al, 2011; Hyland et al, 2015; Miksch et al, 2015; Good et al, 2016). One common assumption, for instance, is that the mindful ‘being’ mode (acceptance), in contrast to the usual ‘doing’, ‘fixing’, ‘problem-solving’ mode, allows managers and employees to handle change, complexity, and

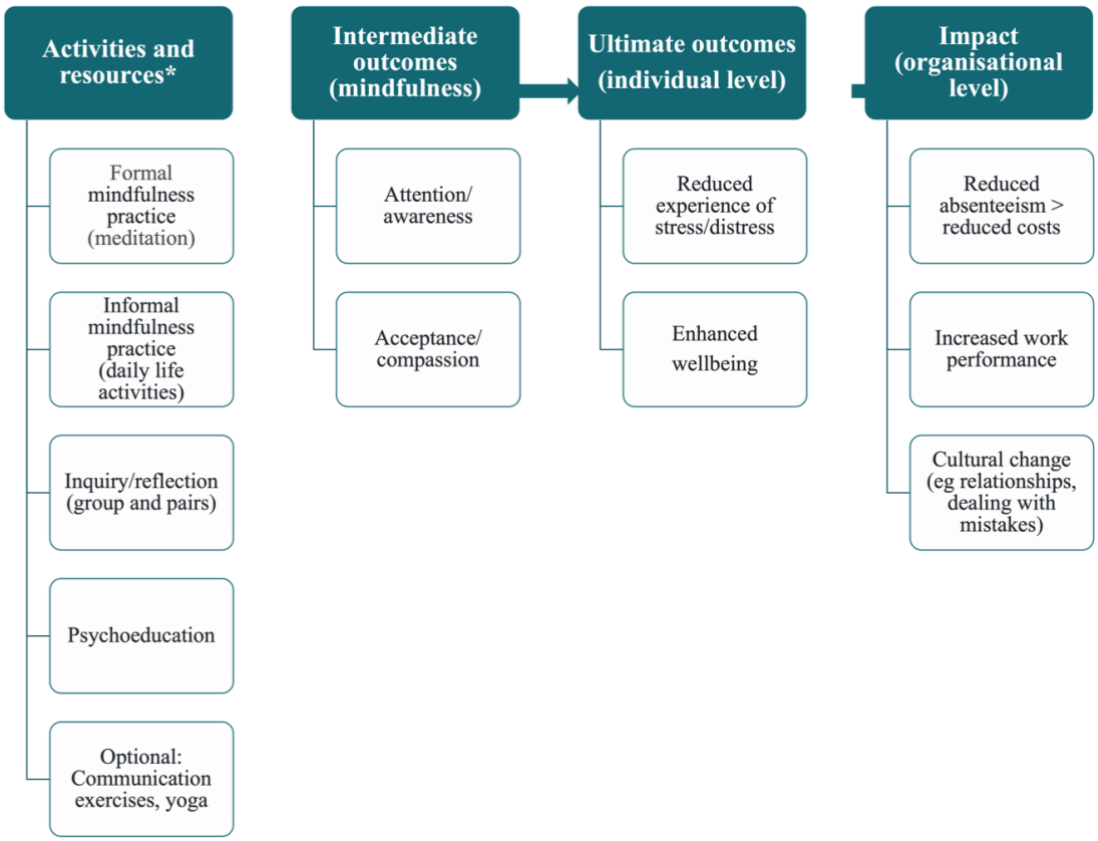
uncertainty more effectively (Brendel et al, 2016; Good and Lyddy, 2017; den Heijer et al, 2017). Although these theories are plausible and appealing, there is limited evidence to support them, particularly in non-laboratory, real-life situations. Theories of workplace mindfulness have further suggested that mindfulness training improves relational functioning and leads to more empathy and compassion (Glomb et al, 2011; Hyland et al, 2015; Miksch et al, 2015; Good et al, 2016). The latter outcome makes MBPs particularly attractive for healthcare professionals who are often at risk of compassion fatigue (Wasson et al, 2020; Conversano et al, 2020).

Lastly, there also exist theories on how the workplace setting might negatively impact the outcomes of MBPs. For instance, group effects may be more complex in the workplace than in community settings where individuals are less likely to have pre-existing relationships (Bartlett et al, 2019). Workplace mindfulness training may also lead to unintended negative effects, if managers and employees become more perceptive to negative stimuli (Good et al, 2016), if training demands on top of overburdened work schedules counteract potential training benefits (Bartlett et al, 2019) or, if the acceptance of adverse events results in acceptance of workplace grievances (Good et al, 2016; Hyland et al, 2015).

To conclude, MBPs are underpinned by various theories around regulating attention, emotions, and behaviour. Most importantly, they rest on the assumption that mindfulness and meditation are the key drivers of change. The theory of change in workplace MBPs as stress-management intervention can thus be summarised as follows: Through formal and informal mindfulness practice, participants develop attention/awareness and learn to relate to present-moment experiences with acceptance, kindness, and compassion (ie they develop mindfulness). With enhanced mindfulness, they can better regulate their attention, emotions, and behaviour, which leads to reduced stress and greater wellbeing on the individual level and less absenteeism (and hence reduced costs), better work performance, and cultural

change (eg improved work relationships) on the organisational level. (Figure 1.1) How this theory of change manifests in a workplace MBP requires more rigorous study, which a realist review and evaluation can help provide. In the next section, I will explain how realist research assists us in (a) understanding how proposed theories of change play out in real life and (b) providing alternative accounts to explain the benefits of a programme. Before, I will briefly reflect on how workplace MBPs fit into the overall landscape of occupational stress and wellbeing interventions.

Figure 1.1 Theory of change (linear logic model)
Workplace MBP as stress-management intervention



*incl daily home practice

MBPs in the landscape of occupational stress and wellbeing interventions

Workplace stress and wellbeing interventions typically include three categories: primary, secondary, and tertiary preventions (Cooper et al, 2001; LaMontagne et al, 2007). Primary interventions aim to reduce the number and intensity of stressors in the workplace. Typical examples of primary interventions are job redesign, social support, or organisational change. Secondary interventions aim to equip individuals with knowledge, skills, and resources that help them cope with stressors. Examples include stress-management training (such as progressive muscle relaxation) and wellness programmes. Tertiary interventions aim to reduce the damaging effects of stressors. They treat problems that have already occurred and include counselling, return-to-work and other rehabilitation programmes. In general, the more upstream an intervention the more effective it is. That is, primary interventions are seen to be more effective than secondary interventions and secondary interventions are seen to be more effective than tertiary interventions (LaMontagne et al, 2007). MBPs belong to the category of secondary preventive interventions; their main target is to teach individuals to cope with stressful events. They may feed back to primary prevention, for instance, when managers change feedback processes or meeting culture as a result of insights gained in an MBP.

Occupational health further distinguishes organisational- and individual-focused approaches. Individual-focused approaches have been shown to be effective at the individual level, yet often do not have an impact at the organisational level. Their effects tend to wash out over time, and participants often do not learn the skills taught in these programmes. (LaMontagne et al, 2007). They have also been criticised for shifting responsibility from management to individual workers (Cooper et al, 2001). In contrast, organisationally-focused approaches have been shown to be beneficial at both organisational and individual levels. MBPs primarily address the individual level. However, in contrast with for example

progressive muscle relaxation, they come with certain values (such as acceptance, friendliness, and compassion) and often include communication exercises. It is commonly believed that MBPs increase pro-social behaviour thus radiating from individual to interpersonal and organisational levels.[1]

The term wellbeing has been conceptualised in many different ways and a discussion of all its facets is beyond the scope of this thesis. Here, I will just outline some basic concepts from the organisational literature and point out how MBPs relate to these concepts. The workplace literature distinguishes a) between wellbeing as affective state and multidimensional concept and b) between context-free and workplace-related wellbeing. (Taris and Schaufeli, 2014; Warr and Nielsen, 2018). As affective state, wellbeing is conceptualised as the frequency of positive or pleasant states compared to negative or unpleasant states (for instance, measured in job satisfaction scales). This conceptualisation of wellbeing is also referred to as hedonic wellbeing (Ryan and Deci, 2001). Multidimensional conceptualisations of wellbeing include a wider range of aspects than merely an affective state. Wellbeing is understood more in conceptual terms as 'living a meaningful life' or a life that is in accordance with deeply held values. This is also referred to as eudaimonic wellbeing. Mindfulness is conceptually associated with both hedonic and eudaimonic wellbeing (Garland et al, 2016). Context-free wellbeing is not bound to any specific domain whereas work-related wellbeing is job specific and does not necessarily spread to other domains. As I have described before mindfulness is taught as a life skill that does not distinguish between domains and is thus context free.

[1] Proponents of this argument often refer to a study where individuals who completed a mindfulness course demonstrated compassionate helping behaviour in the public compared to the control group that did not show this behaviour (Lim et al, 2015). However, a systematic review found that most studies claiming prosocial effects of meditation were biased and of poor quality (Kreplin et al, 2018).

Finally, the relationship between wellbeing and performance is complex. While empirical research overall suggests that a small positive association between workers' wellbeing and performance (task performance, specific job behaviour, organisational citizenship behaviour, counterproductive behaviour and absenteeism) exists it is not clear whether these associations can be causally explained and what the mechanisms are (Warr and Nielsen, 2018). In the previous section, I have discussed potential mindfulness mechanisms that may lead to better workplace performance. I would like to add some theories from the organisational literature (Taris and Schaufeli, 2014) that may help explain the relationship between wellbeing and performance in workplace MBPs: (1) the happy-productive worker hypothesis (Lucas and Diener, 2002) that is based on the belief that happy workers are more productive; (2) effort recovery theory (Meijman and Mulder, 1998) which emphasizes the importance of recovery for health and performance, (3) self-determination theory (Ryan and Deci, 2000) which focuses on three basic human needs (relatedness, competence, and autonomy) as motivators for performance; (4) the job demands-resources model (Bakker and Demerouti, 2014; Bakker and de Vries, 2021) that states that high levels of demand lead to stress and ill health and high levels of resources trigger work motivation; and (5) and broaden-and-build theory (Fredrickson, 2004) that states that positive emotions lead to novel thoughts and actions which will then lead to even more positive emotions.

Mindfulness has been linked both conceptually and empirically to the above theories. Studies have found, for instance, that mindfulness can support recovery through psychological detachment from work (Hülsheger et al, 2014; Haun et al, 2018). Mindfulness has further been shown to support autonomy within the self-determination model (Donald et al, 2020; Ryan et al, 2021). It has been conceptualised as a personal resource within the job demands-resources model and has been shown to buffer the effects of emotional demands on psychological stress (Grover et al, 2017). Lastly, the broaden-and-build model has been used

to explain the positive effects of mindfulness training (Garland et al, 2011) and loving-kindness meditation (Fredrickson et al, 2008). It has to be noted though that most of the above research has been conducted on state or trait mindfulness and not on mindfulness as outcome of a workplace MBP. Detachment effects, for example, were only found as a result of state mindfulness, not after a low-dose mindfulness programme (Hülsheger et al, 2015). Programmes are complex and they interact with the environment in which they take place. Individuals engage with programmes often in their ways and depending on what the context allows. I will now turn to why I think a realist approach is the right approach to unpack this complexity and find answers to what works, for whom, why, under what circumstances, and in what respect.

1.3 A case for realist research on MBPs

Realist research is theory-driven; its purpose is explanatory (Pawson, 2006; Greenhalgh et al, 2017d). It seeks to explain how and why programmes generate different outcomes in different contexts. This section will first expand on my rationale for choosing a realist approach. I will then summarise key realist principles with regard to realist ontology, epistemology, and methodology, define how I will use the terms 'mechanism', 'context', and 'outcome', and conclude with an overview of my research design.

Handling complexity in programmes

Workplace MBPs are complex. According to Ray Pawson, co-founder of realist evaluation (Pawson and Tilley, 1997), programmes are complex because they depend on a stakeholder's choices, reasoning and reactions (volition); they often involve long implementation chains (implementation); there are various layers of contexts, from individual and interpersonal to institutional, and infrastructure (context); they take place at a certain point in time and history

(time); they have numerous and multi-layered outcomes (outcome); they often compete with other programmes (rivalry); and they create feedback loops and ripple effects (emergence) (summarised under the acronym VICTORE, Pawson, 2013: 33-46; Wong, 2018b). Programmes are complex because they do not exist in isolation, separated from the world in which they take place; they 'embody the world' (Pawson, 2013: 53), and both programme and world keep changing in a constant flux of interdependence and emergence. Hence when evaluating programmes, Pawson argues, we should treat the above features (as captured in VICTORE) as intrinsic parts of a programme rather than regarding them as 'disturbance' or 'noise' that needs to be controlled for (Pawson, 2013).

Similarly, the UK Medical Research Council (MRC) has included in its 'New framework for developing and evaluating complex interventions' the importance of looking at the interaction between the intervention and the context in which it takes place (Skivington et al, 2021). The MRC urges that to be able to deliver implementable, cost-effective, and transferable interventions, complex intervention research must give attention to the conditions necessary for the intervention to realise its mechanisms of change in a real-life setting. They recommend that a theory-based perspective might complement an effectiveness and efficacy perspective on complex interventions. They further see an improved programme as a valuable evaluation outcome that is transferable to different settings and provides useful evidence and knowledge to decision makers.

What does that mean for evaluating workplace MBPs? As I have stated in the previous section, much of the existing research on how and why MBPs achieve their beneficial outcomes is based on mindfulness theories. More concretely, much research has focussed on the cognitive and neurobiological processes involved in mindfulness meditation (van der Velden et al, 2015; Creswell, 2017). However, as I have outlined, the association between mindfulness meditation and outcomes in MBPs is anything but straightforward, and

there are likely other mechanisms at play. What is more, the focus on the brain in mindfulness research ignores how social context may shape mindfulness meditation and mindfulness experience—a limitation of existing evidence that has been pointed out before (Kirmayer, 2015; Thompson, 2017; Lifshitz and Thompson, 2019).

Workplace MBPs can be conceptualised as being what Pawson called 'complex interventions, introduced into complex social systems' (Pawson, 2013: 33); they are embedded in organisational structures and cultures, and they involve human agency. Managers and employees have to sign up for an MBP and find ways to integrate mindfulness practices into their packed daily routines; they have to overcome potential difficulties with relation to meditation; they have to decide to switch from a mode of doing and fixing to being and accepting; they are invited to expose their vulnerabilities (ie things that do not go well) in a professional setting and cultivate compassion in an often highly competitive work environment. In other words, a workplace MBP offers a range of resources, yet how these resources are taken up depends on participants' choices, reasoning, and reactions. So, while outcomes of a workplace MBP may represent changes in cognitive functions, social aspects such as structures, norms, values, and beliefs may impact how these changes come about and what they mean.

In addition, workplace MBPs likely compete with other workplace programmes (health initiatives, leadership programmes, etc) or events (organisational change processes and layoffs) that either share and enhance or oppose and undermine their ambitions. They involve long outcome chains (from immediate engagement with the programme and its activities to health outcomes that may take time to manifest); their implementation can vary across settings (depending eg on which organisational unit commissions the programme, which hierarchy levels participate, or where and when sessions take place); and, lastly, the rising popularity of MBPs over the last two decades might, in one way or other, have an

impact on outcomes. In summary, workplace MBPs involve all VICTORE features of complexity and any evaluation that ignores that complexity risks being reductionist.

A realist approach provides the tools and rationale for handling complexity in programmes. It moves beyond looking at the mechanisms of change proposed by an 'official' programme theory to see how these mechanisms play out in real life and what other mechanisms might get activated that help explain both intended and unintended outcomes. It seeks to understand the interaction between context, mechanisms, and outcomes in programmes. I therefore considered it a suitable approach to investigate my research questions (ie understand what mechanisms cause what outcomes in what contexts in workplace MBPs).

I am aware that realist methodology is not the only way of understanding causation and handling complexity in programmes. (Post)positivist methods such as RCTs and pre/post designs use moderators and mediators to investigate complex correlational or causal relationships. The problem with such an approach is that we have to know in advance which variables we would like to test. I wanted to identify, in my research, the contexts and mechanisms involved in certain outcome patterns and, more importantly, I wanted to investigate the complex context-mechanisms interactions that a moderator and mediator analysis would not have allowed. (Post)positivist methodology is based on a 'flat' ontology where only what can be observed and measured is a valid source of knowledge. The realist paradigm, in contrast, rests on the idea of ontological depth. (Jagosh, 2020) This means it uses abduction and theories to unearth generative mechanisms that explain outcome patterns yet may not be visible.

Constructivist research such as qualitative studies and ethnography may provide rich descriptions of complex real-life experiences and processes. Yet they are not necessarily focussed on causation and hence may lack explanatory power. Findings may not be

transferable if they do not provide theories and even if they did, the warrants for the transferability of these theories may not be explicit. For these reasons, I decided to use a realist approach because it is focused on causal mechanisms in context, is theory-driven, and has explicit warrants for the transferability of findings to other settings.

As realist research is iterative and cumulative (I will get back to what that means later in this section), I used two realist approaches: (1) realist review (also known as 'realist synthesis'; Pawson, 2006) and (2) realist evaluation (Pawson and Tilley, 1997; Pawson, 2013). Both approaches are underpinned by the same principles of realist philosophy and a philosophy of science and causation that seeks to find plausible explanations of the world. In the next part, I will discuss the realist ontology, epistemology, and methodology that have shaped my research design and methods.

Realist ontology, epistemology, and methodology

The landscape of realism is vast and diverse (Maxwell, 2012; Pawson, 2013), and I do not propose discussing the philosophy and its different schools here. Instead, I will focus on explaining the assumptions that underlie realist evaluation and realist review. Pawson and Tilley have drawn on the understanding of realism as put forward by Bhaskar (Bhaskar, 2008).

Realism positions itself between (post-)positivism and constructivism. It rests on the idea that there is a real external world that is mind-independent (ie it exists without our knowledge or perception of it), yet affects us and is affected by us (Greenhalgh et al, 2017a). Realism further posits that the natural and the social world are ‘stratified’, constituted by three ontological domains: the ‘actual’, the ‘empirical’, and the ‘real’ (Bhaskar, 2008). The domain of the actual refers to the events and outcomes that happen in the world, whether we experience them or not. We can only know of these events and outcomes through observing,

describing, and measuring them; this is the domain of the empirical or the domain of perception and scientific process. Underneath the actual is the domain of the real. Here we find the factors that cause the events and outcomes in the realm of the actual. In the social world, the real comprises the causal powers or liabilities (Pawson and Tilley, 1997) that lead to decisions and behaviours and thus to observable and measurable change. The real is beyond easy empirical measurement; it refers to an 'ontological depth' that is in opposition to a 'flat ontology' where only what can be seen and measured at the empirical level is considered real (Jagosh, 2020).

Realism further acknowledges that reality is an open complex system, with many factors coming together to generate outcomes. More specifically, it posits that causal powers (ie mechanisms) are context sensitive, which means they get activated in some circumstances and not in others (Bhaskar, 2008). To give an example from the natural world, when we drop a tennis ball, it will behave differently in different contexts because different mechanisms become active. On a tennis court, the mechanism of gravity will make the ball fall if we let it go; but with the same action in outer space, the ball will stay where it is because gravity is very weak; and in water, buoyancy will make the ball float (Westhorp, 2017). Realism proposes that the same applies to the social world, where different contexts activate different mechanisms that lead to different observable behaviours (or outcomes). For that reason, realism argues, we should not apply research for closed systems (ie experiments) to the social world (Bhaskar, 2008). In other words, when investigating social programmes and interventions, we should not attempt to control for multiple contexts (as we do in experiments) but rather explore the interplay between contexts, mechanisms, and outcomes.

Epistemologically, in realism, each layer of the stratified reality requires its own scientific method of inquiry (Haig and Evers, 2015). While we can describe and measure events and outcomes at the empirical level, we can often grasp the unobservable forces that

generate these events and outcomes only through analytical work (ie through our theories). Theorising in realism uses the abductive logic of inference. This creative process involves 'gut feeling, hunch or informed imagination (Jagosh, 2020: 2).' As outlined above, this does not mean that the mechanisms identified through theorising are ontologically imagined and not real. They are considered to be 'real' because they have real effects (Greenhalgh et al, 2017a). They simply operate at a different level of reality than the effects they generate. There is a possibility that we may be able to observe and measure them at a later time, for instance, with new or different experimental techniques (Bhaskar, 2008: 16). Yet, there is also the possibility that we only have indirect evidence of them, through our theories. Theories in realism thus have a 'certain epistemic status: they yield knowledge of aspects of the world, including unobservable aspects (Chakravartty, 2017).'

Realist evaluation was developed by Pawson and Tilley as a pragmatic approach to the scientific realist investigation of programmes and interventions. (The following principles also apply to realist review, with the difference between the two approaches being that realist review uses secondary data (ie already existing data) while realist evaluation is based on primary data (ie collects its own data). The purpose of realist evaluation is to build and test theories that explain how and why programmes generate different outcomes in different contexts. In line with realist ontology, it rests on a generative understanding of causation (Pawson and Tilley, 1997). This means causation is not established through identifying a sequence of events at the empirical level (successionist causation) but through identifying (ie theorising) the underlying causal powers that lead to the observed outcomes (Pawson and Tilley, 1997). Realist evaluation chooses its methods for collecting primary data according to the nature of reality under investigation. Outcomes and contexts are generally observed and measured empirically by means of quantitative methods; mechanisms are preferably identified in qualitative data, often through retroduction and abductive reasoning

(Jagosh, 2020). The output is a realist programme theory, typically consisting of context-mechanism-outcome configurations (CMOC) or '*If ... then'* propositions to explain what mechanisms become active under what conditions to result in what outcome.

Realist programme theories are not generalisable but potentially transferable across programmes and settings (Pawson and Tilley, 1997; Wong, 2018c). They are not generalisable because they are not based on data from a 'typical case' or representative sample of the studied population; they are potentially transferable because they are based on understanding the behaviour of widely occurring mechanisms under different contexts—in other words, transferability is based on the realist ontological assumption about the nature of mechanisms. Mechanisms are inherent liabilities of things, people, or systems. They are ubiquitous just like the above mechanism of gravity.

While our theories may be transferable, they never provide a 'final truth' (Greenhalgh et al, 2017a). They always remain 'partial, incomplete, and fallible' (Emmel, 2013: 72; Maxwell, 2012; Haig and Evers, 2015) and require further investigation, testing, and refinement. In addition, theories will always compete with other theories. This does not imply that all theories are of equal 'quality'. We can judge a theory, for example, based on the trustworthiness of the data or, if the trustworthiness is limited (as is often the case in realist research), on a theory's coherence or explanatory power (Wong, 2018a). In judging the coherence of a programme theory, we may employ criteria such as consilience (the theory explains as much as possible of the data), simplicity (the theory is not based on too many special or ad hoc assumptions), and analogy (the theory fits with existing knowledge or substantive theory). Still, there will always be more theories to explain the outcomes of programmes. Pawson and Tilley propose that realist programme theories should be middle-range—that is, they should be abstract enough to be applied to a large and diverse set of data

yet concrete enough to be 'tested' empirically in further research (Greenhalgh et al, 2017c; Wong, 2018c).

To conclude, realist research rests on the following key assumptions: there exists a mind-independent reality; the social world is a complex open system; the social world is stratified; mechanisms are to be found at a deeper level of reality (ontological depth); mechanisms are context sensitive; causation is generative; theories yield knowledge about this causation; however, our theories always remain incomplete and fallible; they are continuously tested and refined in further research (Pawson and Tilley, 1997).

Defining mechanism, context, outcome, and realist programme theory

In realist terminology, the words 'context' (C), 'mechanism' (M), and 'outcome' (O) have special meanings. Most importantly, they do not exist as independent 'variables' but derive their meaning from their function within CMOCs (context-mechanism-outcome configurations). A mechanism, for example, refers to anything that generates a specific outcome; it is an 'agent of action' in a programme. Mechanisms are neither programme activities (in realism, mechanisms operate at a deeper level of reality) nor are they necessarily identical with the mechanisms hypothesised in a programme's theory of change. Realist evaluation posits that it is not the programme itself and its activities that generate an outcome but an individual's reaction to the programme and its activities. A programme offers resources, or other opportunities, and how these are taken up depends on 'the stakeholders' choices (reasoning) and their capacity (resources) to put these into practice' (Pawson and Tilley, 1997: 66). Based on this realist tenet, I have defined mechanism as 'the reasoning or emotional reaction to the resources provided by a workplace MBP'. I am aware that there exist other, slightly different conceptualisations of mechanisms in realist research (see Dalkin et al, 2015; Westhorp, 2018).

The term ‘context’ refers to the conditions and circumstances that trigger or modify the behaviour of a mechanism. It can pertain to an individual’s characteristics and capacities; the properties of a programme (eg its format, length, or mode of delivery); interpersonal relations; institutional rules and norms, and the wider social, economic, and cultural setting (Pawson, 2013). Context, in realist research, has to be distinguished from the setting (eg the company or organisation) in which a programme takes place. While there may be certain aspects about an organisation that function as context (such as its culture, structures, or leadership), whether something is considered as context or not depends on whether it triggers a specific mechanism or not within a CMOC of interest. Finally, the term ‘outcome’ refers to the impact or behaviours that result from the interaction between mechanisms and contexts. It can be used to refer to any outcome along the implementation chain, to short-term and long-term changes, to changes on the individual, interpersonal, or organisational level, and to both intended and unintended outcomes.

Since contexts, mechanisms, and outcomes are not defined by any intrinsic properties, they can take on different functions in different CMOCs. In other words, what has been conceptualised as ‘outcome’ in one CMOC may function as ‘mechanism’ in another CMOC and as ‘context’ in yet another CMOC. It is conceivable, for example, that compassion is the outcome of a workplace MBP, yet it might also be a mechanism leading to outcomes such as wellbeing, or it could be a precondition for individuals to feel safe to open up in an MBP and hence an aspect of context. This flexibility allows the realist researcher to describe feedback loops and ripple effects, where the outcome of one implementation step becomes the context for other outcomes in subsequent steps of the implementation chain (Jagosh et al, 2015).

The term ‘realist programme theory’ refers to the output of realist research. As outlined in the previous section, a realist programme theory typically consists of context-mechanism-outcome configurations (CMOC) or ‘*If … then’* propositions to explain what

mechanisms become active under what conditions to result in what outcome. In what follows, I will distinguish realist programme theory from the 'official theory of change' in MBPs with the latter describing the assumed mechanisms of change in a programme without taking context into account. I will use the term 'programme theory' synonymously with 'realist programme theory' and the terms 'theory of change' or 'official programme theory' synonymously with 'official theory of change'.

Chapter Conclusions

Thus far, I have set the stage for my research in this chapter. Workplace MBPs have come to play a vital role in addressing manager and employee stress and wellbeing. However, despite there being good evidence that these programmes can be beneficial, there is great variability in outcomes, and we do not know why, how, and for whom these programmes work. More specifically, we lack an understanding of how existing theories of mindfulness and MBPs play out in workplace settings. My research intends to address this knowledge gap and find answers to the question for whom, why, under what circumstances, and in what respects workplace MBPs for stress and wellbeing work or do not work. As I have been arguing, workplace MBPs are complex social interventions taking place in complex social systems, and complex intervention research should take account of the interactions between an intervention and the context or setting in which it is implemented. I have further suggested that realist research attempts to do just that. It is theory-driven and explanatory and investigates what contexts activate what mechanisms to produce what outcomes. The output is a middle-range realist programme theory that can be 'tested' (confirmed, refuted, or refined) in further research. In the next chapter, I will describe my research design and detail the methods that I used to answer my research questions.

CHAPTER 2 METHODS

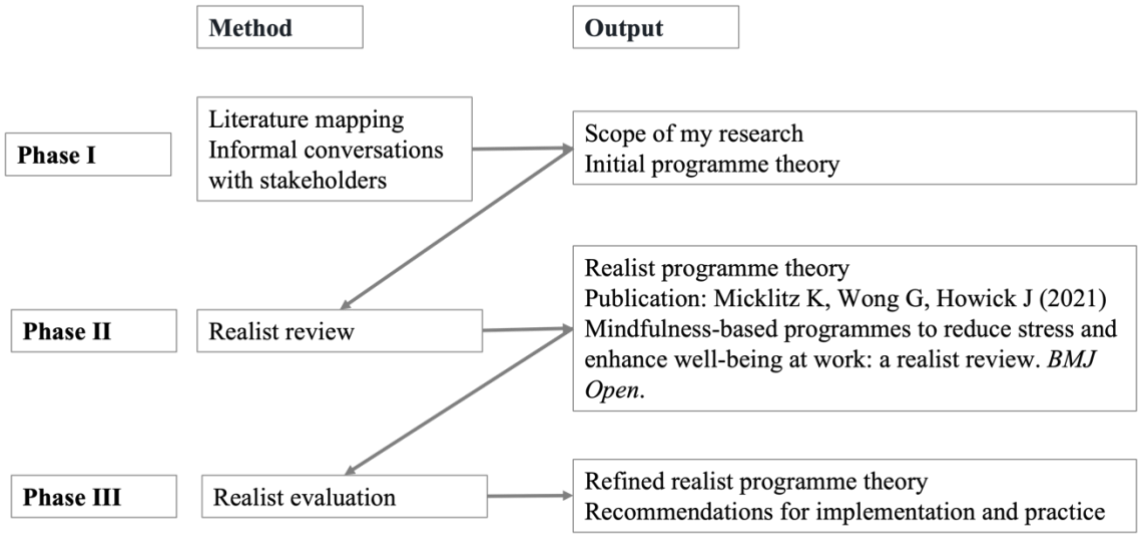
This chapter presents the methods I employed to develop, test, and refine a realist programme theory of workplace MBPs. I will first present my research design. Next I will summarise how I defined the scope of my research and drafted an initial programme theory through conversations with stakeholders and literature mapping (phase I). I will then detail how, in my realist review, I developed a realist programme theory from existing studies (phase II). Finally, I will depict the methods that I used in my realist evaluation to test and refine parts of my realist programme theory (phase III).

2.1 Research design

As described in the previous chapter, realist theory building is iterative and cumulative, moving back and forth, in a 'zigzag' fashion (Emmel, 2013), between theories and evidence (Figure 1.2). For that reason I decided to use two realist approaches, a realist review to develop a realist programme theory from existing studies, followed by a realist evaluation to test and refine parts of that realist programme theory (or parts of it) with primary data. Collecting my own data allowed me to explore certain aspects of my programme theory in more depth and strengthen the claims that I had made in my review.

My research was designed as follows: As a first step, I mapped the literature and had informal conversations with experts and stakeholders to define the scope of my research and develop a rough initial programme theory (phase I). I then tested that initial programme theory in my realist review (RR) against evidence from existing studies and developed a realist programme theory (phase II). Next, I tested and refined parts of my realist programme theory in a realist evaluation (RE) (phase III). The result is a *refined* realist programme theory. Each step (RR and RE) involved further iterations that I will describe in more detail in the next sections of this chapter.

Figure 1.2 Research design: moving back and forth between theory and evidence



2.2 Phase I—Defining the scope of my research and developing an initial programme theory

The aims of phase I were to (1) define the scope of my research and (2) draft an initial programme theory of workplace MBPs that would then be modified and refined into a *realist* programme theory in light of emerging evidence in my realist review and evaluation.

Conversations with experts/stakeholders

As a first step, I had informal conversations with experts and stakeholders—that is, with individuals who design and deliver workplace MBPs. In realist research, programme designers and practitioners are often drawn upon for initial theory gleaning because they know the programmes well and have tacit knowledge about why and how programmes work or do not work (Manzano, 2016). Since I am a workplace mindfulness instructor myself, I already had first-hand experience and ideas about the successes and failures of these programmes; and I used these ideas to build my initial programme theory. However, I was aware that as MBCT instructor I was trained in a particular tradition of MBPs and may have a limited view. As detailed in the previous chapter, instructors of workplace MBPs bring a

broad range of backgrounds to their teachings. They are not necessarily trained MBSR/MBCT instructors but often long-term meditators with extensive experience in leadership, coaching, or consulting. Some have been certified to deliver particular workplace MBPs, such as the programme developed by Google and the Search Inside Yourself (SYI) Leadership Institute. To gain a broad perspective, I chose experts who represented the diversity of backgrounds typically found among instructors of workplace MBPs. I also talked to one potential participant of workplace mindfulness training. I am aware that my selection of stakeholders was quite narrow. I could have also talked to occupational health experts and to managers and employees from organisations. However, my objective was to develop an initial programme theory of workplace MBPs that I would then test against data from real-life settings. For that reason, I decided to talk to experts from the mindfulness community. I will discuss the implications of this decision in the discussion chapter ('Personal reflections').

I spoke with four experts/stakeholders. All conversations took place in the autumn of 2017, either in person or online via Skype. They lasted between 45 and 90 minutes; I did not audio-record them but took notes during our conversations and immediately afterwards. Depending on my conversation partner's background, I chose from the following questions: (1) 'Would it make sense in my research to focus on a particular professional group/industry?' (Defining the scope of my research); (2) 'How do you personally teach mindfulness in the workplace?' (Getting a sense of what they do); (3) 'What do you see to be the outcomes of your programmes?' (Exploring outcomes); (4) 'What do you think leads to these outcomes?' (Exploring mechanisms); (5) 'Based on your experience, what is necessary for these outcomes to happen?' (Exploring contexts); (6) 'What role do you think meditation plays for these outcomes?' (Exploring more mechanisms.)

Mapping the literature

In addition to talking to experts from the field, I mapped the literature to gain an overview of existing theories of mindfulness as mental health intervention and mindfulness in the workplace. As I had only recently completed a Master of Studies in MBCT at the University of Oxford, I was already familiar with key theories on which MBPs draw, both from Western psychology and science and Buddhist psychology and philosophy. I also knew key publications on workplace mindfulness, mostly narrative reviews and opinion pieces (eg Good et al, 2016; Hyland et al, 2015; Farb, 2014; Glomb et al, 2011), which I used to perform snowballing (ie tracking down references and citations in the texts). I discussed my initial programme theory in spring 2018 with a Buddhist scholar who also delivers workplace mindfulness training.

2.3 Phase II—Realist review: developing a realist programme theory

The aim of phase II was to develop a *realist* programme theory that explains how and why workplace MBPs achieve their beneficial outcomes or fail to do so. For that purpose, I conducted a realist review from January 2018 to February 2019. Following the Realist And MEta-narrative Evidence Syntheses: Evolving Standards (RAMESES) quality and publication standards (Wong et al, 2013a), the review progressed iteratively through the following six stages: (1) defining the scope of the review; (2) identifying existing theories (with steps one and two being part of research phase I); (3) searching for evidence; (4) appraising studies; (5) extracting data and organising findings; and (6) analysing and synthesising data to develop a realist programme theory. The protocol was prospectively registered with PROSPERO (CRD42018086280).

Search for evidence

Searching was designed, piloted, and conducted with the support of an information specialist from health research. In selecting the search terms, we drew from the search strategy of a previous, closely related systematic review (Lomas et al, 2017b). Additionally, we used a small set of articles that I had identified as relevant to pilot and refine our search strategy. The final search strategy used the term 'mindfulness' in combination with various search terms for the concept of 'work'. I searched the following databases: Embase, MEDLINE, PsycINFO, PubMed, Web of Science, Scopus, CINAHL, Business Source Complete, and ABI/INFORM Global. Search strategies were translated for each database and search interface. (For an overview of all search strategies, see Appendix 2.1.) The first search included records published between 1974 (the first MBSR course was taught in 1979) and January 28, 2018.

All results were exported to EndNote X8 (Clarivate Analytics, Philadelphia, PA, USA) and deduplicated using the automatic deduplication feature and manual checking. All citations were then reviewed against title and abstract for inclusion or exclusion. I included all quantitative, qualitative, and mixed-methods studies (incl dissertations) as well as reports based on the following criteria:

- The research was undertaken in an occupational setting or targeted toward professionals.
- Mindfulness meditation was a key element in the programme provided.
- The outcomes were related to health and wellbeing. (Some studies included both health- and work-related outcomes. I decided to include them as long as health and wellbeing were the overarching topic.)

I further included all programme delivery formats (in person, online, telephone, self-help manual); programmes of various lengths (from half day to several months); and publications in English, German, French, Spanish, or Portuguese.

I excluded studies on the following programme types:

- Programmes in which mindfulness meditation was not a core element. Based on this criterium, 'mindfulness-informed' programmes (Crane et al, 2017) such as Attention and Commitment Therapy (Hayes et al, 2011), Dialectical Behavioural Therapy (Linehan, 1993), and Mindful Self-Compassion (Neff and Germer, 2013) were not considered.
- Studies on programmes that included mantra or flow meditations and in which meditation instructions were accompanied by auditory or visual cues, such as music, sounds and lights, as these activities might activate additional mechanisms.
- Studies that involved programmes focused on relaxation (eg progressive muscle relaxation or manipulation of breath) and movement-based interventions (yoga or walking), as they have different theoretical underpinnings.
- Studies on so-called 'second-generation' MBPs (Singh et al, 2014; van Gordon et al, 2015; Crane et al, 2017) that distinguish themselves from 'first-generation' MBPs in that they explicitly place mindfulness in the context of spiritual development rather than health and wellbeing (Shonin and Gordon, 2015).

My decision to exclude the above programme types was guided by Crane et al's (2017) framework of what belongs to the family of MBPs and what does not. I used that framework for the following reasons: (1) I needed to draw a boundary around the body of programmes that I was going to research. (2) With the growing popularity of mindfulness, there are also a growing number of mindfulness programmes that vary widely in content, activities, and

with regard to their theoretical underpinnings. (3) Crane et al developed their framework to guide systematic research and development of MBPs. Most existing evidence on MBPs is based on programmes that belong to the family of MBPs, as defined by Crane et al. I wanted my research to contribute to that body of knowledge.

I further decided to exclude studies conducted in sports, arts, or military settings; and research with professionals in training (students, trainees, and/or residents) as their situation differs considerably from that of qualified professionals and individuals working within the structures and hierarchies of an organisation. A meta-analysis by Spinelli et al (2019), for example, found that healthcare professionals in training benefitted less from an MBP than more senior healthcare professionals and concluded that both groups might require different forms of support. Studies that involved individuals in professional training were considered if the study also included professionals and results were reported for both groups separately. The decision to exclude studies on professionals in training was taken during screening in agreement with my supervisors Geoff Wong (GW) and Jeremy Howick (JH). A complete list of all inclusion/exclusion criteria can be found in Appendix B. To ensure consistency in the application of inclusion/exclusion criteria, my supervisors independently reviewed a randomly selected subsample of 10% of the documents. All disagreements were resolved via discussion.

In addition to database search, I used existing reviews of workplace MBPs to cross-check whether I had identified all relevant studies. I also performed forward and backward citation tracking in Web of Science and found a few more articles, mostly case studies with less rigorous design. If information with regard to important programme characteristics (eg content and activities) was missing, I contacted the authors to obtain this information. For some studies, I could not retrieve the full text. I saved these records separately to decide at a later point whether it was necessary to find other ways to obtain them. In realist reviews, a

search can be stopped once theoretical saturation is reached—that is, there is sufficient evidence for a theory to be plausible and coherent (Wong et al, 2013b). As my analysis had reached theoretical saturation, I did not undertake additional efforts to include these missing records. I ran update searches in September 2018, September 2019, and at the end of May 2020. I could not identify additional theories in documents I retrieved after 2018 and decided not to include them in my analysis. My review includes documents published until September 9, 2018.

Appraising papers

In accordance with RAMESES realist synthesis quality standards (Wong et al, 2013a), quality assessment focused on two main criteria: (1) whether the document contributed to theory building and/or testing (*relevance*) and (2) whether the methods used to generate the relevant data were credible and trustworthy (*rigour*). I read the full texts of all included documents and decided whether they contained data relevant to the realist review—that is, could inform any aspect of the programme theory. Some studies that had met the inclusion criteria during screening were excluded at this stage, or later during synthesis, because they lacked relevance. In line with realist methodology, assessment of rigour was not performed on the basis of any predefined quality standards or with regard to the entire study but instead was made only for specific sections of relevant data contained within included studies (Wong et al, 2013b). In one study, for instance, the strong relationship between the researcher (who was also the mindfulness coach in that study) and participants may have increased the risk of social desirability bias for some of the reported outcomes (Linger, 2016). However, the relationship between coach and participants (a relationship where participants felt safe to be vulnerable) could be seen as 'context' for the outcome of acceptance/compassion (of which participants gave rich accounts in the interviews). I therefore decided to use elements from that study for developing my programme theory. In addition and further in line with realist

methodology, rigour was judged at the level of explanatory power of the programme theory developed (Wong, 2018a). In other words, I judged my theories against criteria of consilience, simplicity, and analogy (see 'Realist ontology, epistemology, and methodology', chapter one). The assessment of rigour was interwoven into the synthesis process.

Extracting data and organising findings

Once I had identified the main set of full documents, I started coding. As a first step, I read a broad selection of studies for familiarisation with the data and drafted initial CMOCs. I then uploaded all documents into NVivo 12 (QSR international) for a more detailed and systematic analysis. The subsequent coding process was both deductive and inductive. I used my list of mindfulness mechanisms (Table 1.1), my initial programme theory (Figure 3.1), and my first set of CMOCs to create codes (called 'nodes' in NVivo) deductively in advance. I created new nodes inductively as new categories with regard to outcomes and potential contexts or mechanisms came up. Coding proceeded from what I perceived to be the richest documents to less informative documents. In general, I considered qualitative and mixed-methods studies that provided a lot of data with regard to implementation and participants' experiences to contain the most relevant data and therefore coded them first. I then extracted data from quantitative studies, starting with randomised and controlled studies. Finally, I checked all observational studies and studies with pretest/posttest design to see whether I could identify any additional relevant data. I included three pretest/posttest studies, whicht contained interview data supporting theory building and refinement. The remaining studies did not provide any data that I considered relevant for theory building. I stopped coding and extracted the characteristics of all included studies into an Excel spreadsheet. (Table 4.1) GW checked a random sample of 10% of the coding for consistency.

Analysing and synthesising data

Analysis and synthesis were iterative processes. First, I went through each coded piece of data (called 'reference' in NVivo) to highlight any information on a participant's or other stakeholder's reasoning or reaction to the resources provided by an MBP. I also highlighted information with regard to the context in which the reasoning or reaction took place. I further marked any explanations of outcomes provided by the authors of a study. In summary, I highlighted all passages that I thought had explanatory power and summarised them in annotations in NVivo (eg 'employees are overwhelmed with work > MBP adds stress'). I also highlighted and annotated quotes that captured participants' values, beliefs, etc (eg 'time is a scarce commodity informally valued among employees', Byron et al, 2015: 870). In the next step, I exported all annotations from NVivo into an Excel spreadsheet and broke each annotation down into what might be functioning as context, mechanism, or outcome. I then built CMOCs by putting the pieces (context, mechanism, outcome) together across annotations and studies. During that process, I moved iteratively back and forth between annotations, references, and whole documents to ensure that my interpretations stayed true to the original context of the data. Once all annotations had been accounted for, I stopped the process.

Theory development

Theory development followed realist methodology (Pawson, 2006; Wong et al, 2013b). It involved situating (establishing which mechanisms were activated in which context), juxtaposing (where evidence about what happened in one document enabled insights into outcome patterns of another document), consolidation (building multi-faceted explanations of outcomes), and reconciling (identifying differences, which explain apparently contradictory sets of findings). To give an example: One study concluded that being able to practice during work hours (mechanism) led to programme engagement (outcome 1) and

facilitated relaxation (outcome 2) (Allexandre et al, 2016). In contrast, other studies reported that training sessions that took place during work hours (context) created task conflicts in individuals (mechanism) and resulted in enhanced levels of stress/distress (outcome 1) and/or in drop-out from the programme (outcome 2) (Moody et al, 2013; Luberto et al, 2017). The missing piece was found in yet another study where employees reported that, in order for them to engage with the programme (outcome), they needed to 'feel permitted' to do so (mechanism) and that they only felt permitted when they were given time off to attend training sessions (context) (McGarrigle and Walsh, 2011). This was supported by quantitative findings from an RCT where flexible handling of work time significantly facilitated programme engagement (van Berkel et al, 2013). Through weaving threads across various studies, I built CMOCs that explained under what conditions and why individuals engage with workplace MBPs and how that might facilitate subsequent benefits.

Once I had a set of theories, I returned to NVivo to test and refine my theories and ensure that I had not overlooked any data. I created a node for every CMOC and moved each reference from the initial nodes to the CMOC nodes. Some references could not be moved—that is, I could neither assign them to existing CMOCs, nor did they contain enough information for me to be able to build a new CMOC. For instance, one reference in the node 'role of age, maturity' suggested that more mature participants might be more ready to handle change initiatives in organisations (Carter et al, 2016). However, that hypothesis was supported by only one additional reference (Turner, 2013), and it was contradicted by another (Hunter et al, 2018). Based on the given data, I was unable to develop a theory on the role of age and maturity in workplace MBPs. The same was true for references related to 'motivation to participate in MBP'. I could not assign these references to existing CMOCs and was unable to detect any new pattern in them. Likewise, many outcome references could not be linked to any CMOC, particularly if the outcomes manifested further down the outcome chain (eg

improved sleep, reduced medical symptoms, anxiety, depression, or burnout). When I reached a point where the remaining data did not allow me to build new CMOCs or refine existing ones, I stopped my analysis and synthesis and exported all final CMOCs and associated references from NVivo into Microsoft Word (Appendix H).

Retroduction and integration of substantive theory

I used retroduction and substantive theory to develop my programme theory. Retroduction is a key element in realist theory building. It refers to the process of 'unearthing causal mechanisms' (Jagosh, 2020) and involves inductive, deductive, and abductive logic of inference. As I outlined in the previous chapter, causal mechanisms, in realist ontology, can often not be observed directly or are not explicit in the existing evidence. In order to identify these unobservable mechanisms, we may think through or imagine what context-dependent causal forces might be at work in producing the observed outcome patterns. This creative (or 'hunch-driven') theorising of causal mechanisms is also known as 'abduction' (Jagosh, 2020). It imagines the existence of certain mechanisms or interprets something in a new conceptual framework thereby leading to new ideas for generating theories and testing possible mechanisms. Retroduction and abduction are often supported by substantive theory that is, by existing theories within certain disciplines that help identify mechanisms or features of context and explain how overall sets of findings fit together (Greenhalgh et al, 2017c).

To give an example, 'concern' was a mechanism that was not often verbalised in the given documents of my review but helped explain many of the observed reactions and behaviours and could be conceptualised within the framework of two substantive theories, conservation of resources (COR) theory and psychological safety. One pattern that emerged during coding was a large number of participant quotes related to 'feeling permitted' and 'feeling safe' or the lack thereof in practicing mindfulness at work. To better understand that

pattern, I looked for organisational research on psychological safety. I found a systematic review by Newman et al (2017), that linked psychological safety to conservation of resources (COR) theory, and both theories seemed to me to explain much of what I found to be going on in workplace MBPs. More concretely, managers and employees appeared to balance the prospect of resource gain when they felt safe against the potential risk (or 'concern') of resource loss when they did not feel safe. I used COR theory (Hobföll, 1989; Hobföll et al, 2018; Halbesleben et al, 2014) and psychological safety (Schein and Bennis, 1965; Edmondson, 1999) to unearth the mechanism 'concern' and as explanatory lens to interpret the patterns that had become visible in the data.

I also used substantive theory to conceptualise the mechanism 'experience of acceptance', which like 'concern' was often not explicit in the evidence of existing studies. Two studies had referred to Yalom's therapeutic factors to explain participant experience (Black and Carroll, 2016) and outcomes (Davis, 2011) in workplace MBPs. Yalom helped me identify (ie theorise) 'experience of acceptance' as a mechanism to explain the outcome of compassion. I will expand on my selection and use of substantive theory in 'Integration with substantive theory', chapter four.

2.4 Phase III—Realist evaluation and interviews: refining the literature-based realist programme theory

Rationale for evaluation

One major limitation of my review was that it was based on data that originally had not been collected for realist synthesis. Hence, much interpretative work was needed to develop the CMOCs. In addition, in developing my programme theory, I had to link data from a large variety of studies and from existing theories. To strengthen the plausibility of my inferences, more primary data were needed that specifically focussed on aspects of my realist programme

theory. In other words, more primary data were needed to 'test' (confirm, refine, and refute) the programme theory that I developed in my review and make more robust claims about what is going on in a workplace MBP.

Evaluation questions, objectives, and focus

Testing all 26 theories (CMOCs) from my review would have been beyond the scope of my thesis. I therefore had to focus on some aspects of my realist programme theory and explore them in greater depth (which is a common procedure in realist research, Pawson and Tilley, 1997). I decided to focus on theories around psychological safety because my review suggested that feeling safe functioned as 'door opener', at each stage of the MBP, for the subsequent, extended or deepened engagement with the programme. Moreover, feeling safe seemed necessary for acceptance and compassion, both of which are important outcomes of MBPs. As I have depicted in the first chapter, becoming aware of and turning towards stressful/distressing experiences with kindness and compassion is the core of mindfulness practice and seen to be a key mechanism through which mindfulness leads to more happiness and wellbeing. Acceptance and compassion are also seen to be the very mechanism that helps managers and employees deal more skilfully with change and uncertainty and establish a work environment where people feel safe to address difficult issues (such as mistakes or mental health issues). Lastly, and as I have outlined in chapter one, self-compassion, is an important outcome in healthcare professions where so many suffer from compassion fatigue. Hence, I decided to focus on CMOCs from my programme theory that were related to psychological safety.

My evaluation questions were, (1) What are the outcomes related to feeling safe (or not feeling safe) in a workplace MBP? (2) How important is psychological safety for developing acceptance and compassion, and (3) Under what conditions do participants of a workplace MBP feel safe, and under what conditions do they not feel safe? In addition to

these three questions, I wanted to understand on a more general level what allows participants of a workplace MBP to invest in (ie engage with) the programme and what leads to protective behaviour (and hence less involvement with mindfulness).

Ethical approval

Ethics approval had to be optained as this evaluation was a form of primary research and involved human participants. I submitted all required documents to the University of Oxford Social Sciences and Humanities Interdivisional Research Ethics Committee (IDREC) in December 2019. Ethical approval was granted in January 2020 (Reference number EQ C1A 20 001). In August 2020, I contacted IDREC again to inquire whether changing the software to conduct online interviews (from Skype to MS teams or Zoom) required additional ethical approval. I was informed that no additional ethics approval was needed. (The documents approved by IDREC can be found in Appendices C-F).

Evaluation design

I used realist evaluation methodology (Pawson and Tilley, 1997) with an explanatory mixed-methods design (Creswell and Plano Clark, 2011). Methods were implemented sequentially, starting with quantitative data collection and analysis, followed by qualitative data collection and analysis. Qualitative realist interviews were used to explain the quantitative results. Originally I had also planned to use quantitative results to identify and purposefully select suitable interviewees for theory testing. Due to a very low number of participants interested in being interviewed though I switched to convenience sampling (more under 'Recruitment process and sampling strategy'). Using mixed methods fits with realist epistemology as it helps to better understand the various layers of reality—that is, the empirical, the actual and the real.

I chose to include several different workplace MBPs in my study because I expected to see outcome differences in MBPs taught in different settings and therefore wanted to test and refine my programme theory through comparisons across programmes. At the outset of my project, I intended to collect data onsite from two consecutive MBPs in two organisations (a railway company and a global pharmaceutical company). Focussing on only two companies would have allowed me to track changes in more depth and over time. However, with the beginning of the Corona Virus Disease 2019 (COVID-19) pandemic, all mindfulness programmes in these organisations were cancelled for the years 2020/21. Onsite data collection became impossible and I was only able to evaluate single programmes in different organisations and collect data over distance (more under 'Recruiting cases during the pandemic').

Data collection methods

My choice of data collection methods was theory-driven (Manzano, 2016). This means, I chose data collection methods that would help me consolidate, refute, and refine theories from my realist review. I used quantitative methods (an online survey) to obtain data on mental health and wellbeing outcomes (perceived stress, wellbeing, self-compassion) and assess specific aspects of context (psychological safety and the stigmatisation of mental health issues at work). I used qualitative methods (realist interviews) to unearth mechanisms that help explain outcomes. I further collected general information about each MBP and how it was embedded in the respective organisation in which it took place. I collected data separately for each programme. Quantitative data collection occurred at two time points, (1) at the beginning of an MBP (between one week before and one week after its start) and (2) upon completion of that MBP (up to three weeks after its end). Qualitative data collection occurred upon completion of an MBP (up to three weeks after its end). Data collection took place between June 2020 and June 2021. (Figure 5.1)

Online survey

The main purpose of the online survey was to compare outcomes and aspects of context across programmes and select interview participants based on a wide range of survey results to explore outcomes in more depth in the interviews. The survey combined five questionnaires. In choosing the outcome questionnaires, I considered the following criteria: (1) The results would allow me to explore my realist programme theory in more depth in realist interviews; (2) the questionnaire was commonly used in mindfulness research (I wanted my findings to build on and contribute to existing research); (3) it was brief (and hence would potentially enhance the response rate); (4) there existed validated English and German versions (as I was going to recruit MBPs in Germany and Switzerland); and (5) it was free to use for the purpose of research.

(1) I used the *Perceived Stress Scale-10 (PSS-10)* (Cohen et al, 1983; Taylor, 2015) to measure participants' perceived stress. The 10-item questionnaire assesses the degree to which individuals perceived their situations as overwhelming and uncontrollable during the preceding month (eg 'In the last month, how often have you felt nervous and "stressed"'? or 'In the last month, how often have you been angered because of things that were outside of your control?'). It uses a five-point Likert scale ranging from 0 = 'never' to 5 = 'very often', with higher scores indicating higher perceived stress. The PSS is well-validated and widely used as stress-assessment instrument. I chose it because it was the most frequently used outcome questionnaire in the studies from my review.

(2) The *World Health Organisation-Five Well-Being Index (WHO-5)* (World Health Organization, 1998; Topp C.W. et al, 2015) was used to assess the participants' subjective psychological wellbeing over a two-week period. The five-item questionnaire is psychometrically sound and one of the most widely used wellbeing questionnaires. Individuals are asked for each of the five statements (eg 'I have felt cheerful in good spirits'

or ‘I have felt active and rigorous’) how they felt over the past two weeks, using a six-point Likert scale that ranges from 0 = ‘at no time’ to 6 = ‘all of the time’. Higher scores mean higher levels of current wellbeing. I chose the WHO-5 for its brevity. The WHO-5 is based on a hedonic conceptualisation of wellbeing (Kusier and Folker, 2020). As mindfulness addresses both hedonic and eudaimonic wellbeing (see chapter one, ‘MBPs in the landscape …’), I first also included items from a wellbeing questionnaire based on a eudaimonic concept of wellbeing (Ryff’s Scales of Psychological Wellbeing). Yet, after the pilot, I discontinued using that scale because it added length to the questionnaire without being of much value for the interviews (see ‘Pilot study’).

(3) I chose Neff’s *Self-Compassion Scale, short form (SCS)* (Neff, 2016) to measure changes in self-compassion. The 12-item scale assesses the respondents’ level of kindness and understanding towards themselves in difficult moments that is, in moments of failure, inadequacy, or personal suffering. It borrows its operationalisation of self-compassion from the Buddhist understanding of compassion as a response to someone else’s suffering. In the Buddhist traditions, having compassion for someone means ‘to open to their pain with mindfulness, respond with loving-kindness, and recognize interconnectedness in the experience of suffering (Neff and Tóth-Király, 2022: 2).’ The SCS turns this conceptualisation of compassion for others inwards (ie towards oneself), which is reflected in the following six-subscales: self-kindness (‘When I’m going through a very hard time, I give myself the caring and tenderness I need‘), self-judgment (‘I’m disapproving and judgmental about my own flaws and inadequacies’, reverse-coded), common humanity (‘I try to see my failings as part of the human condition‘), isolation (‘When I’m feeling down, I tend to feel like most other people are probably happier than I am’, reverse-coded), mindfulness (‘When something upsets me I try to keep my emotions in balance‘), and over-identification (‘When I’m feeling down I tend to obsess and fixate on everything that’s

wrong', reverse-coded). It uses a five-point Likert scale ranging from 1= 'almost never' to 5 = 'almost always', with higher scores indicating higher levels of self-compassion. The SCS is well-validated and the most commonly used self-compassion measure in mindfulness research. It shares the same ethos and understanding of self-compassion taught in MBSR and MBCT. Self-compassion as measured in the SCS has been shown to be positively correlated with various aspects of mental health and wellbeing (Neff et al, 2007; MacBeth and Gumley, 2012).

In addition to the above outcome scales, I included two questionnaires to assess aspects of context:

(4) *Edmondson's Team Psychological Safety (PS)* (Edmondson, 1999) was used to assess psychological safety at work. The questionnaire was designed to measure the extent to which work team members view their teams' social climate as conducive to interpersonal risk. More specifically, it determines the level of confidence that the team will not embarrass, reject, or punish someone for speaking up, being different, or making mistakes. Individuals have to indicate on a five-point Likert scale (ranging from 1 = disagree to 5 = agree) to what extent they agree or disagree with statements such as 'In this team, it is easy to discuss difficult issues and problems' or 'In this team, people are sometimes rejected for being different' (reverse-coded). Higher scores indicate higher levels of psychological safety. I made two changes to the questionnaire to adapt it for my purpose. First, I only used three out of the six items. I used items related to showing vulnerability and not fitting with the team, as these were two topics from my realist programme theory that I wanted to explore in more depth. Second, I replaced the words 'in this team' with 'at work' because most of the programmes in my study included managers and employees from across an organisation rather than only from one team. I am aware that changes to an existing scale threaten its validity; however, given that I was going to use the results primarily for my interviews and not for statistical

analysis, I thought this would be acceptable. Edmondson and Woolley (2004) have used 'job' and 'department' in place of 'team' in one of their psychological safety measures.

(5) I used the *Stigmatisation of Mental Health Issues at Work (TTC questionnaire)* designed by Time to Change (a mental health campaign in England) to capture the degree to which mental health issues are stigmatised in the workplace. The TTC questionnaire assesses (1) whether individuals think they can talk openly about a mental health problem with colleagues (TTC 1), (2) how they would *act* if they noticed a colleague was struggling with their mental health (TTC 2), and (3) how they would *feel* in such a case (TTC 3). I chose to include this questionnaire for two reasons: (1) It allowed me to explore an additional aspect of psychological safety, the stigmatisation of mental health issues, at work. (2) I used it as a proxy for compassion as it assesses how participants respond to a colleague's suffering. The Time to Change questionnaire uses multiple-select question types. For example, when asked how they would feel if they noticed a colleague struggling with their mental health, respondents can choose from the following answers: 'I would feel comfortable supporting them and would know how', 'I would be worried about the level of work I might need to take on to cover for them if they go off sick', 'I would think it's not my place to pry and ask questions', 'I would worry that they might be unpredictable or volatile.' (These are just some of the given options.) The TTC questionnaire is not a validated instrument, but it has been used across organisations in the UK (Time to Change, 2017). Since it is not openly accessible, I contacted Time to Change via email to obtain the items and permission to use the questionnaire for my research.

I combined all five questionnaires into one online survey using Jisc Online surveys. I also collected demographic data (gender, age, profession, previous experience with mindfulness and/or meditation) in the pre-course survey, and data on course attendance (how often participants attended and their reasons for missing sessions) and home practice (how often

they meditated) in the post-course survey. The survey was anonymous (unless participants volunteered for an interview and provided their email addresses for me to contact them directly). To match pre- and post-survey results, I needed to generate unique identifier codes that would ensure anonymity. I asked respondents to provide the first three letters of their month of birth and the three last digits of their mobile phone numbers. Both, month of birth and phone number are easy to remember, not prone to short-term changes and, given the small number of respondents, it was also unlikely that two participants would end up with the same code. Finally, to know how participants' stress levels were affected by the pandemic, I added a question in pre and post survey where respondents could indicate whether their feelings of stress and distress had increased during the pandemic, decreased, or remained unchanged. I translated the English survey into German and used existing translations of the PSS-10 (Büssing, 2008; Reis et al, 2019), the WHO-5 (World Health Organization, 1998), and the SCS-SF (Hupfeld and Ruffieux, 2011). For the complete English survey, see Appendix E.

Realist interviews

In realist interviews, the interviewer primarily seeks to identify causal processes that lead to certain outcomes. It is not the respondent's story that is pursued but the programme's story (Manzano, 2016). In other words, the subject matter of the interview is the programme theory (Pawson, 1996), and the programme theory is used explicitly and systematically throughout the interview process (Greenhalgh et al, 2017b). Typically, this means that the interviewer presents his or her theories (CMOCs) to the respondent, who refutes, refines, or confirms the theories and adds his or her own ideas. Each interview partner alternately takes the role of the teacher (presenting their theories and ideas) and the learner (learning about the other's theories and ideas), known as 'teacher-learner-cycle' in realist interviewing (Pawson, 1996;

Manzano, 2016). It is a mutual exploration of how, why, and under what conditions a given programme leads to specific outcomes.

I used a semi-structured interview guide that included three parts. (1) After some general introductory questions, I presented to the respondents their individual survey results and invited them to reflect on what led to these results. (Example: 'We measured how far you feel you are able to deal with stressful events in your life. Your scores were in the medium range before the programme started and in the lower range after its completion. What was it about the programme that helped you deal better with stress?') If respondents remained vague in their statements or if I had the impression that they might give socially desirable answers, I probed for specific examples in support of their statements. (2) I introduced parts of my programme theory (ie CMOCs from my realist review) as general ideas and invited participants to comment on them. (Example: 'There is the idea that in a workplace MBP participants might not talk openly about their struggles and experiences because they are concerned that they might be seen as weak and vulnerable. Can you relate to that?') (3) I asked general exploratory questions to allow participants to present their own, additional, or alternative theories that my programme theory had not covered.

To minimise social desirability bias, I asked general questions before I presented parts of my programme theory. (Example: 'How was it for you to do this programme together with you colleagues?') I asked retroductive questions (Greenhalgh et al, 2017e) ('What is it about X that leads to Y?') to elicit context- or mechanism-related data. (Example: 'What was it about the setting that made you feel safe?') I used the technique of paraphrasing and circular questioning to re-organise what my respondent said in an implicit CMO (or CM or MO) configuration. (Example: 'So you are saying that doing the course online (context) worked better for you than doing it in the workplace because you felt less 'at work' (mechanism). Is that correct?') The complete interview schedule can be found in Appendix F. Since most

participants were native German speakers (like me), I conducted most interviews in German using a German translation of the interview guide.

I used the interview guide flexibly to allow respondents to address the topics in any order while ensuring that all key issues were covered. After each interview, I made notes with regard to potential new theories. I then tested these new theories, if possible, in subsequent interviews. For example, in one of the first interviews, a participant talked about how he felt safer attending sessions from home because it felt less like 'being at work', and how this helped him open up and share his experiences with his colleagues. I created a new CMOC from these data, which I then presented to subsequent participants to get their views on it. This way, the interview guide was updated iteratively over the entire interviewing process.

As with all qualitative research, there was a risk of social desirability bias in the interviews. That is to say, I had to expect that participants presented themselves and their social environment in a manner they thought more appropriate or acceptable than a genuine answer. To minimise the risk of social desirability bias, I used several techniques shown to be effective in a setting where respondents are invited to talk about sensitive and controversial issues (Bergen and Labonté, 2020). First, I spent some time at the beginning of an interview to warm up and build rapport with a participant (eg by asking a general question about the course experience). Second, I provided assurances at the beginning and throughout the interview by telling participants that I was interested in hearing their experiences, whatever their experiences were. I also reassured them repeatedly that nothing of what they reported was going to be shared with their instructors or management. Third, I prefaced questions—that is, before asking sensitive questions, I acknowledged that it might be difficult to talk about this topic and that they did not have to answer if they did not want to. In addition, I often introduced theories on more sensitive issues with the words 'Other participants have

reported that they find it difficult to … because …. How was your experience?' to normalise the experience for participants. Fourth, I probed for more information and asked follow-up questions whenever an interviewee just nodded in agreement. (For a more in-depth reflection of potential biases see 'Personal reflections', chapter six.)

Additional data

In addition to the online surveys and realist interviews, I obtained background information about each MBP and how it was embedded in the respective organisation in which it took place. I collected data about the particular content of each MBP, its activities and practices, overall attendance/attrition, and where available general course feedback from participants. I also obtained background information with regard to why mindfulness training was offered and what decision makers explicitly or implicitly expected from it. Most of these data were provided by the instructors. I also talked to managers who had commissioned the MBPs. These were informal conversations or when the manager participated in the MBP and had consented to, formal interviews.

Recruitment process and sampling strategy

Recruitment involved (1) selecting programmes and (2) recruiting participants from these programmes to take part in the online survey and interview. In line with realist sampling, my strategy was to recruit programmes based on their potential to consolidate, refute, or refine theories from my realist review. Realist sampling does not seek to generalise to a population but looks for common patterns and variations. It chooses 'the bundle best suited to test a theory of how that which is being investigated can be explained (Emmel, 2013: 69).' To explore common patterns and variations in relation to when people feel safe in a workplace MBP, I selected a maximum diversity sample. That is, I selected different MBPs, taught in different industries and countries, by different instructors, and in different formats (in person,

online, and hybrid). The only condition for a programme to be considered for the study was that it met Crane et al's (2017) criteria of what constitutes an MBP and that its main objective was to support health and wellbeing. I also included one offsite MBP where participants came from multiple organisations. Including that MBP allowed me to explore how the workplace setting and doing an MBP with colleagues may impact outcome patterns.

Within each programme, all individuals were eligible to participate in the study. Before I could recruit participants, instructors had to obtain permission from management and, in one company, also from the work council.[2] Once permission had been granted, instructors sent out invitations to course participants with a link to the online survey. Instructors also sent out repeated reminders to get more responses. In the online survey, participants could check a box to express their interest in an interview and leave their email addresses. I then contacted them and set up an interview. Initially, I had planned to select interview respondents purposefully. I had planned to include a broad range of outcomes on as many measures as possible because I wanted to test a wide variety of outcome patterns. However, because it was difficult to find volunteers, I could not select interviewees and interviewed all interested participants (see also 'Pilot study' below).

To test outcome patterns that involved attrition and low attendance, I explicitly encouraged participants who had dropped out or only attended a few sessions to remain in the study. If respondents had provided an email address in the pretest survey, I contacted them directly and explained to them that their contribution was valuable no matter their experience of the programme. I sent several emails to the instructors and asked them to forward these to the participants and encourage them to participate in the interview. At a certain point during my interviews, a new theory regarding psychological safety emerged.

[2] In Germany, companies of a certain size often have a work council, a body of employees elected to represent their fellow employees' interests to the employer. The work council must approve any surveys and questionnaires sent to employees to ensure that data protection rules are followed.

That new theory involved employees from lower hierarchy levels or with administrative jobs. To test this new theory, I made an effort to recruit more participants with that job profile from the pool of those who had completed the online survey for an interview (by sending another email reminder). Once I was unable to recruit any more of these participants and interviewing more managers did not yield any new data with regard to my programme theory, I stopped recruiting and interviewing.

Recruiting programmes during the pandemic

My evaluation took place during the COVID-19 pandemic. All five MBPs that I had originally recruited for my evaluation were cancelled in March 2020, just when I sent out the first online surveys to participants from the pilot. With no pilot and evaluations left to evaluate, I had to recruit new programmes at a time when managers and employees worked from their homes and no onsite programmes took place. Luckily, a few months into the pandemic, a client asked me if I could teach a mindfulness course to their managers and employees to help them handle stress/distress during the pandemic and allow them to stay in touch with each other. I used that programme as pilot. I also approached my professional network and asked colleagues whether they planned to teach a workplace MBP and would be interested in participating in my study. I was fortunate to be able to recruit four more programmes. While I had initially planned to evaluate recurrent programmes in only two organisations (which might have allowed for more in-depth work), my final larger sample had other benefits. It included various programmes (including online formats) that allowed me to test and refine my theories on psychological safety across contexts. So, while the pandemic affected my sampling and recruitment, my overall strategy remained unaffected, and I was able to test parts of my realist programme theory as planned.

Pilot study

I conducted a pilot to ensure that my recruitment and sampling strategy, data collection methods, and interview guide would work in practice. The pilot was an eight-week MBP that I delivered to managers and employees of a small software company in Berlin. In the following, I will summarise the four key learnings from the pilot and the subsequent small changes I made to my evaluation. As a first learning, I realised that it might be difficult to select interviewees purposefully based on their survey results. This was because the group of programme participants was small, to begin with (n = 10), and only half of them agreed to participate in the study, leaving me with a very small pool of respondents from which to select my interviewees. I therefore decided to interview every survey respondent interested in being interviewed. Second, I made a few changes to my interview guide. In my first interviews, I quickly moved, after a brief introduction, to presenting my theories and asking respondents for their views on them. I noticed, though, that respondents were taciturn and their answers brief. I thus changed my interview strategy and first asked open questions before I presented my theories. As a result, participants opened up and became more talkative, and I was able to elicit more in-depth answers. Third, I removed Ryff's Scales of Psychological Wellbeing (Ryff, 1989; Ryff and Keyes, 1995) from my survey. I had originally included nine items from Ryff's 42-item questionnaire because it measures eudaimonic aspects of wellbeing, among others, personal growth (which I had identified as a mechanism in my realist review). I removed Ryff's items because I found it difficult to use the outcomes in the interview. For one, there was no or very little change from pretest to posttest results, and hence not much to explore in the interviews.[3] In addition, the interviews

[3] A scale such as WHO-5 is more appropriate for measuring short-term changes after a health intervention. Scales based on multidimensional ideas of wellbeing generally do not have the same capacity to measure changes that take place over a short period of time (Kusier and Folker, 2020).

were already quite dense and lengthy. Presenting another outcome to respondents would have taken too much time from the in-depth exploration of my evaluation questions. Fourth, I made a minor change to the order of items in the online survey. Instead of asking respondents at the beginning whether they would be interested in being interviewed, I now asked them at the very end. I changed the order because I wanted to give respondents a chance to familiarise themselves with the study before making a decision about being interviewed. Otherwise, I did not make any changes to my recruitment and sampling strategy, data collection methods, and interview guide. Since outcome patterns in my pilot did not differ substantially from outcome patterns in the other programmes, I decided to include data from the pilot in my analysis and synthesis.

Data analysis

Data analysis included the following five steps: (1) I performed whole-group statistical analyses on all outcome measures (unfortunately the samples within each programme were too small to do statistical analyses for each programme separately); (2) I determined for each respondent their individual changes on all scales; (3) I used the individual scores to explore individual outcomes in more depth in the interviews; (4) I analysed the qualitative data for each programme separately; and (5) I conducted analyses and syntheses across programmes.

Statistical analysis of quantitative data

I performed paired-samples t-tests to determine whether there were statistically significant mean differences with regard to perceived stress (PSS), wellbeing (WHO-5), and self-compassion (SCS) before and after the programme. Each scale had an outlier that was more than 1.5 box lengths from the edge of the box in a boxplot. Sensitivity analyses showed that

the overall results and conclusions were not affected by these outliers, and I kept them in the analysis. A Shapiro-Wilk's test was run to check for normality. The mean differences between pre and post scores were normally distributed on the PSS ($p = 0.438$) and the WHO-5 scale ($p = 0.837$). The assumption of normality was violated on the SCS ($p = 0.031$), yet a Wilcoxon signed-rank test did not lead to overall different results and conclusions than a parametric test, and I decided to proceed with the paired-samples t-test.

I performed independent-samples t-tests to determine whether there were differences in outcomes between the MBPs that took place in a workplace setting (here referred to as 'onsite MBPs') and the offsite MBP (here referred to as 'offsite MBP'). There were no outliers for PSS and WHO-5 as assessed by a boxplot, and scores were normally distributed for each group, as assessed by Shapiro-Wilk's test ($p = > 0.05$). There was one outlier for SCS. Excluding this outlier did not produce different overall results and conclusions, and it was thus kept in the analysis. Assumption of normality was violated for self-compassion in the offsite sample ($p = 0.007$). Since sample sizes were not the same in both groups (onsite $n = 31$ and offsite $n = 10$), a Welsh's t-test was performed instead of Student's test.

I conducted a one-way ANOVA to determine whether above outcomes were different depending on how often participants meditated. Participants were classified into four groups: (1) participants who meditated "only during the sessions", (2) participants who meditated "sometimes", (3) participants who meditated "often", and (4) participants who meditated "daily or almost daily". There was one outlier for WHO-5, as assessed by boxplot. Data were normally distributed for each group as assessed by Shapiro-Wilk test ($p > 0.05$). Since group sizes were unequal, a Welch's test was performed.

Finally, I looked at changes in context. I wanted to see whether there was a pre-post change in psychological safety at work (Edmondson's scale of psychological safety) and whether there was a change in how participants thought they would handle mental health

issues in the workplace (TTC questionnaire). Since both questionnaires assess workplace-related changes, I only included the four onsite programmes in the analysis. The offsite MBP was an open programme with participants from several organisations, and there would have been no reason why that MBP could elicit any changes in their work environment. For the onsite programmes, I performed a paired-samples t-test on the psychological safety scale results. There were no outliers in the data, as assessed by inspection of a boxplot for values greater than 1.5 box-lengths from the edge of the box. The assumption of normality was not violated, as assessed by Shapiro Wilk's test ($p = 0.05$). I performed an exact McNemar's test to determine whether there were changes on the TTC 1 questionnaire and paired-samples t-tests to see whether there were changes on the TTC 2 and TTC 3 questionnaires.

Since I used the quantitative outcomes mainly to identify trends and patterns and to explore outcomes in realist interviews and not to make statistical claims, I did not perform an a priori power analysis. I will discuss the implications of small sample sizes in the results chapter (5.2 Survey results).

Realist analysis of qualitative data and theory refinement

As a first step, I transcribed all interviews full verbatim using the transcription software f4transkript. F4transkript is not an automatic transcription software but allows you to regulate recording speed, pause, and automatically rewind for easier and faster transcriptions. I then edited the transcripts for readability applying the rules of clean verbatim transcription (see Appendix G) and replaced all names with pseudonyms. I uploaded the transcribed texts into NVivo 12 (QSR international) for coding. As in my realist review, the coding process was both deductive and inductive. I had already created a set of nodes (ie codes) from my realist programme theory (with each CMOC being one node), and I assigned interview data to these existing nodes. (Even though I did not test all CMOCs in my interviews, I still used all of them for coding.)

Whenever an existing theory was refined or refuted, I created a child node. For instance, one theory from my review was that managers and employees see being offered an MBP through their employer as a sign of care and appreciation, which enhances their engagement with the programme and might lead to more selfcare in general. In the interviews participants said that being offered an MBP through the employer can also create a 'sense of obligation' to do something for one's health and engage with the programme. The same context thus triggered different mechanisms leading to the same outcome. I added that new CMOC as a child node to the existing node. I also created child nodes for alternative explanations of certain outcomes. For example, I created a new node for every alternative explanation of what might have increased a participant's self-compassion score. I then coded all further data in support of these alternative explanations to the respective child node.

I also built entirely new theories and created new nodes for them. In building new theories, I applied the same analytical strategies as in my review. That is, I read the verbatim texts of the transcripts and first identified outcomes, then tried to identify mechanisms that might have led to the respective outcome and contexts that triggered the respective mechanism. I looked for conjunctions in sentences (eg 'because of that', 'if', or 'so') to identify context-mechanism-outcome configurations (or parts of them). I used retroduction and abduction to identify mechanisms although less than in my review because I had used retroductive questions in my interviews to unearth underlying mechanism. Whenever I identified new CMOCs (or parts of them), I created annotations in NVivo that I then exported into an Excel sheet for final theory building. I also used memos in NVivo to document the analytical steps and thought processes involved in theory building and theory refinement.

I first analysed and synthesised data for each programme separately and then across programmes. I stopped analysing and synthesising once I could no longer assign the

remaining data to existing theories or build new theories. As a final step, I translated all German interview passages that I used to support my final programme theory into English.

Chapter Conclusions

To summarise, this chapter has provided an overview of my thesis' three research phases and the methods that I used in each phase to develop, test, and refine a programme theory of workplace MBPs. The chapter began by describing how I consulted experts/stakeholders and the literature to define the scope of my research and develop a rough theory of how mindfulness training is supposed to benefit workplace health and wellbeing and how it works in practice. After that, I presented the methods I employed in my realist review, where I developed a realist programme theory from existing studies. Finally, I described each step of my realist evaluation, in which I tested and refined parts of my realist programme theory. In the next three chapters, I will present the principal findings of each research phase.

CHAPTER 3 SCOPE OF MY RESEARCH AND INITIAL PROGRAMME THEORY

The main goal of this first phase was to define the scope of my research and develop an initial programme theory of how and why workplace mindfulness training might yield beneficial outcomes. With that in mind, I had informal conversations with experts/stakeholders and mapped the literature. In chapter one, I have already outlined key theories underlying MBPs as mental health intervention. That summary was based on the literature mapping that I undertook in phase I, and I will not detail the findings (ie theories) again in this chapter. Instead, I will explain my decisions with regard to the scope of my research and summarise the theories presented by the experts/stakeholders. I will also describe how I drew the findings from this phase together into an initial programme theory. That theory was not yet constructed in realist terms, but it gave me a frame to develop my realist theory in my realist review.

3.1 Results from conversations with experts and stakeholders

I had informal conversations with four experts/stakeholders: One expert/stakeholder was a UK-based professor of organisational psychology and thought leader who had published extensively on mindfulness, meditation, and leadership. Second, I talked to a Germany-based management consultant who had founded a company that designed and delivered workplace MBPs. She was a certified SIY (Google's mindfulness programme) and a long-time Buddhist practitioner. My third informal advisor was based in Switzerland. She was an experienced organisational consultant, trained MBCT instructor, and long-term Buddhist practitioner who developed and delivered workplace MBPs and mindful leadership programmes. Lastly, I talked to a Germany-based coach/facilitator who was not a mindfulness instructor but a long-term Buddhist practitioner and potential participant of a workplace MBP. The conversations

lasted between 45 and 90 minutes. All four stakeholders/experts thought my research project was interesting and important. In what follows, I will first summarise how the experts/stakeholders helped me define the scope of my research and then outline the key points that I took away from our conversations to sketch my initial programme theory.

Scope of my research

Based on the experts'/stakeholders' feedback, I decided not to focus on any particular professional group or industry nor restrict my research to any geographic location as this might have unnecessarily limited the available data. I was further supported in my decision to exclude research done in the fields of sports, arts, and military. As I mentioned in chapter one, many workplace MBPs target not only health-related but also work-related topics, such as decision-making, creativity, or organisational citizenship behaviour. Work-related topics are generally appealing to stakeholders and were so to the stakeholders I talked to (all three instructors often linked mindfulness to work aspects in their MBPs). However, evidence on the effects of mindfulness training on work performance is sparse and controversial (Lomas et al, 2017b; and more recently Bartlett et al, 2019). Since I needed to narrow the scope of my research, I decided to focus on health outcomes, or even more specifically, on stress and wellbeing. It should be noted here that at this stage, I decided to focus on mental health outcomes in general and only later, after my realist review, narrowed my focus even more to look only at stress and wellbeing.

Theories of what happens in workplace MBPs

Overall, the instructors' theories were consistent with the official theory of change in MBPs as detailed in chapter one. All three instructors believed that mindfulness (awareness *and* kindness/compassion) and meditation (experiential learning) were critical drivers of change

in a workplace MBP. One instructor found, for instance, that the practice of mindfulness enhanced self-awareness, which created a better feedback culture. Another instructor argued that the practice of mindfulness enabled participants to see cause and reaction, which would lead to better health choices. Both instructors believed that compassion (ie 'meeting the heart' with kindness) played an important role for change, particularly for more transformative change (such as 'a culture of appreciation and care' at work or 'being able to relax into one's fears'). They further believed that sharing experiences in the group was an essential element of an MBP. One of them argued that sharing fostered relationships and created trust among colleagues, the other thought it allowed managers and employees to meet as humans and no longer hide behind their professional roles. In addition, all instructors thought psychoeducation was also an important element in workplace MBPs.

Interestingly, the expert/stakeholder who was not a mindfulness instructor but a potential participant with long-term meditation practice did not talk much about meditation as a driver of change. For her, workplace mindfulness training was primarily about community building. This might have been, though, because she did not know exactly what an MBP was.

While the instructors mainly agreed with regard to their ideas about the mechanisms of change in workplace mindfulness training, they had quite different ideas about the contexts allowing for that change to happen. Their theories ranged from aspects about the instructor (eg the instructor's standing or their ability to create a safe space through rules and guidance) to aspects about the setting (eg a safe space for participants to be able to experience stillness during meditation), the participants (eg having a sense of urgency to do something for one's health), and the programme itself (eg an MBP being 'new, cool, and different' or being short). (A complete overview of the experts'/stakeholders' theories can be found in Figure 3.1.)

3.2 Results from literature mapping

Since I have summarised the results from literature mapping previously (in chapter 1.3, 'Theories of change in MBPs'), I will not detail them here again. Instead, I will describe how I used the results from literature mapping to draft my initial programme theory.

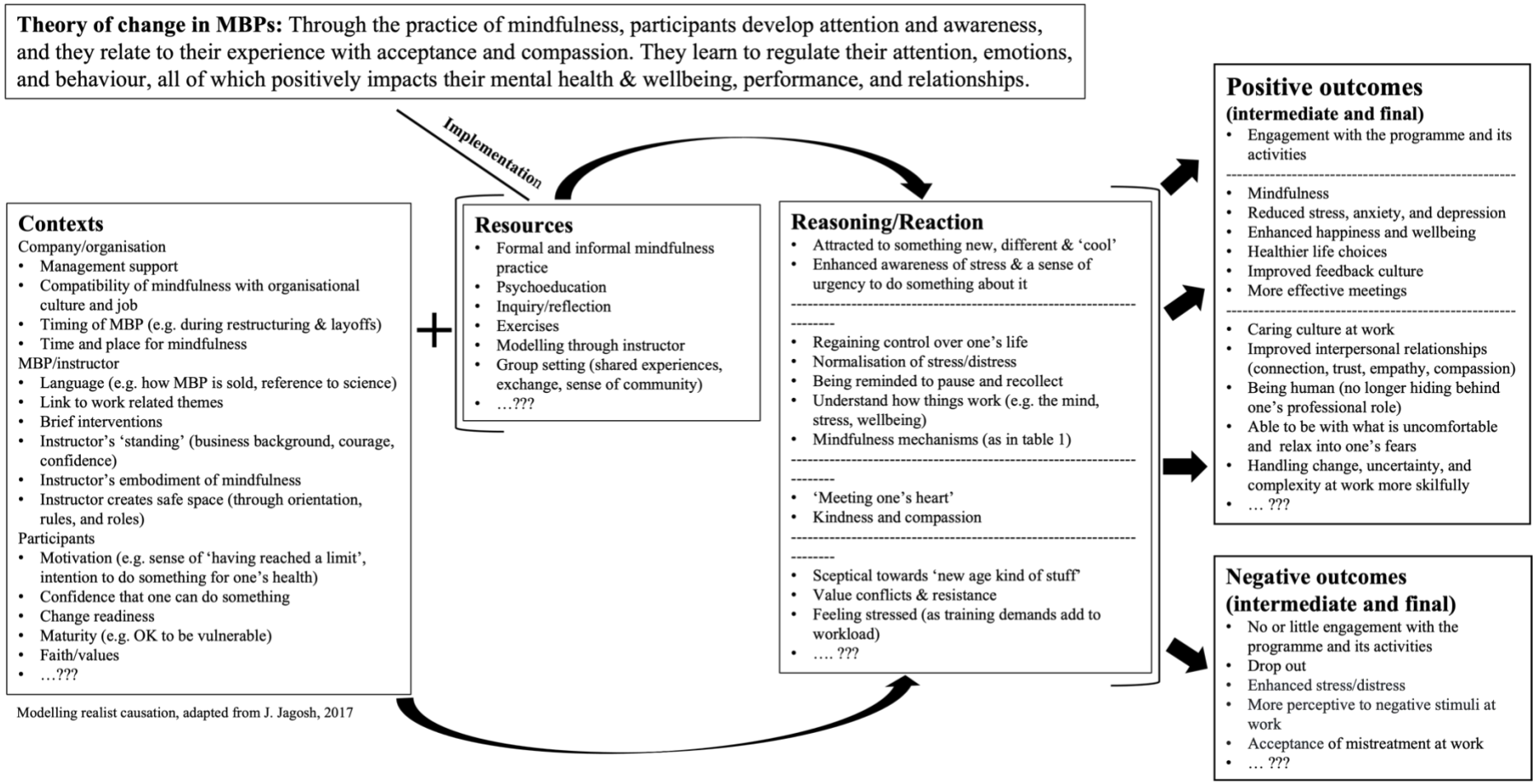
3.3 Towards a realist programme theory

In drawing together the results from this phase, I used a model from Jagosh (2017) that helped me start thinking in realist terms about workplace MBPs (Figure 3.1). The model rests on the realist assumption that it is not the programme itself that leads to change but what participants make of it, in other words, the participants' reasoning and reactions to the resources and activities provided by the programme. I started with the official programme theory of MBPs (as summarised in the box on the top) that manifests in resources, such as programme activities. I then added a list of potential reactions to these resources, potential outcomes, and contexts that might impact a participant's reasoning and reactions. I drew from the literature and my conversations with experts/stakeholders. I also added a few contexts that I thought might play a role for outcome patterns. These were 'management support', 'compatibility of mindfulness with organisational culture', and participants' 'change readiness' or 'maturity'. All four aspects are often believed, among instructors, to be conducive to change in workplace training programmes.

My model was but a first step towards a realist programme theory. Contexts, mechanisms, and outcomes were not yet expressed as elements of configurations but rather presented in the form of 'laundry lists'. As I have explained before, contexts, mechanisms, and outcomes, in realism, can only be defined within a configuration, and any classification within a list of disconnected aspects remains arbitrary. What is a 'mechanism' in one configuration might become a 'context' or an 'outcome' in another configuration. Having

said that, my conversations with experts/stakeholders did yield some configurations, albeit incomplete and tentative. For instance, one expert explained that mindfulness was ‘new, cool, and different’ (context), which made it attractive (mechanism) for managers and employees to engage with it (outcome). And two experts thought that many transformative outcomes were linked to ‘participants meeting their hearts’ (mechanism 1) and compassion (mechanism 2). (I have indicated some of these tentative links with arrows.) The model was neither complete nor exhaustive. Nevertheless, it provided me with a rough road map to guide my analysis and synthesis during my realist review. I used the model to create codes in advance that I then completed and refined with data from existing studies and gradually developed into a realist programme theory.

Figure 3.1 Towards a realist programme theory of workplace MBPs



Modelling realist causation, adapted from J. Jagosh, 2017

3.4 Initial programme theory

My initial programme theory of workplace MBPs was as follows: Through the practice of mindfulness and meditation, participants develop attention and awareness, and they learn to relate to their experience with acceptance, kindness, and compassion. They learn to regulate their attention, emotions, and behaviour, which positively impacts their mental health, wellbeing, performance, and relationships. While mindfulness and meditation are important drivers of change, there are likely additional or alternative theories to explain the benefits of workplace MBPs (eg sharing experiences with colleagues). Following realist methodology, outcomes are context dependent, that is, whether the above (and potential additional) mechanisms get activated depends on certain conditions, such as whether managers and employees sign up and engage with the programme and its activities. This, in turn, is predicated upon the setting in which the programme takes place, the programme itself, the instructor, and the participants. Outcome patterns might, for example, depend on: (1) organisational aspects (eg management support, the compatibility of mindfulness with the organisational culture or a participant's job, whether there is time and a place to do mindfulness at work, or the timing of the MBP—whether it takes place during a stable time or during major organisational restructuring); (2) the MBP (eg its length or the language used) and the instructor (eg their 'standing' and background, their embodiment of mindfulness and their ability to create a safe space); and finally (3) the participants (eg their motivation for doing mindfulness, their confidence in themselves and the MBP, their change readiness, level of maturity, or faith/values).

Chapter Conclusions

The main aim of phase I was to define the scope of my research and sketch an initial programme theory of how and why workplace MBPs may benefit individuals in the workplace. As a result of talking informally to four experts/stakeholders, I decided to include in my research all industries and professions (except for sports, arts, and military) and have no geographic restrictions. I further decided to focus my research on mental health and wellbeing outcomes, for one, because existing evidence on work performance outcomes in MBPs was scarce, and second, because I needed to narrow the scope of my research. The theories that the experts/stakeholders provided to explain how and why workplace MBPs yield their beneficial effects largely agreed on the mechanisms (which were also in line with the official theory of change) and diverged regarding the conditions necessary for these mechanisms to become active in a workplace MBP. The experts/stakeholders' theories were almost exclusively related to mindfulness/meditation and group experiences. I have summarised all theories from phase I in an initial programme theory. In the chapter that follows, I will present how, based on evidence from existing studies, I refined this initial programme theory and transformed it into a realist programme theory.

CHAPTER 4 RESULTS FROM REALIST REVIEW

Consistent with realist review methodology, I systematically screened and analysed existing data to develop a realist programme theory of workplace MBPs. My realist review confirms many theories from phase I, mainly those that explain why and how managers and employees may benefit from mindfulness training at work. In addition, it unearthed a range of mechanisms that explain various levels of engagement with the programme. Perhaps most importantly, it brought to light mechanisms that can lead to unintended outcomes such as reduced engagement with the programme, withdrawal, or enhanced stress/distress.

This chapter is structured in four parts. In the first part, I will provide an overview of the reviewed studies and reported outcomes. I will then present the findings from my realist analysis and synthesis (ie the theories that help explain outcome patterns). After that, I will frame these theories in relation to substantive theory to enhance their explanatory power and conclude with a realist programme theory. My review was published in March 2021 in BMJ Open (Micklitz et al).[4]

4.1 Overview of included studies and reported outcomes

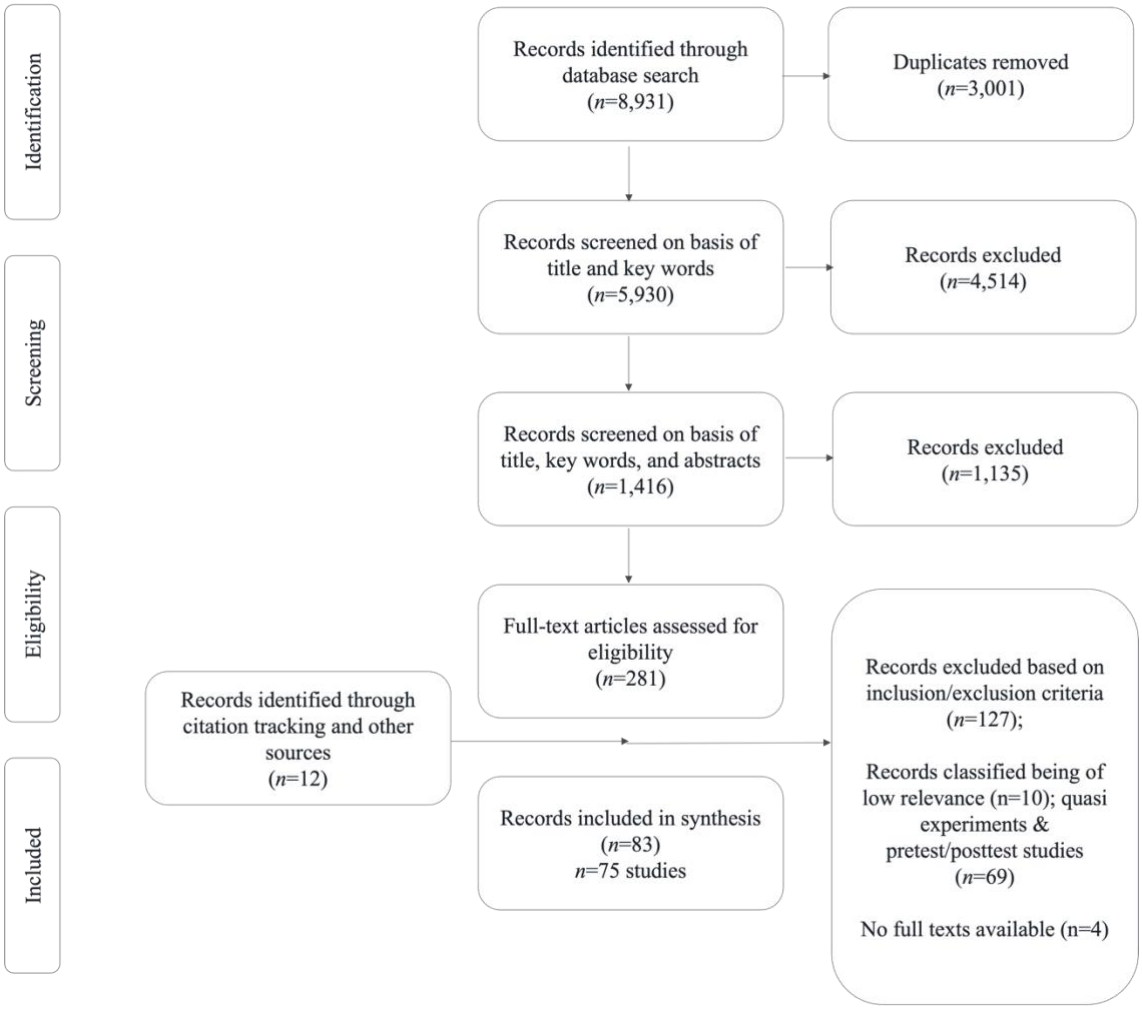
Study characteristics

I included and coded 75 studies (83 documents, as some studies used multiple research methods and/or resulted in multiple publications). Of these 83 documents, 38 were RCTs, 22 used qualitative methods, and 14 were mixed-method papers. The remaining nine

[4] The published review is a condensed and slightly different version of what I present here in my thesis. The publication gives a very brief narrative overview of selected CMOCs along with some illustrative quotes in the text. For my thesis, I have reorganised some CMOCs, changed the headings for each of the four stages, expanded on COR theory and psychological safety and added Yalom's therapeutic factors as substantive theory. The methods section in my thesis is largely identical with the methods section in the publication, and I have also used parts of the discussion section in my thesis.

documents were pretest-posttest studies (*n* = 3), evaluations (*n* = 3), reports (*n* = 1), one cost-effectiveness analysis, and one article supplementing a study. 71 documents were identified through literature search, and 12 came from citation-tracking and other sources. (Figure 4.1)

Figure 4.1 PRISMA flow diagram for realist review



More than half of the studies took place in England (*n* = 12) and North America (*n* = 36). Other countries included Australia (*n* = 5), Germany (*n* = 5), Spain (*n* = 3), Brazil (*n* = 2), Italy (*n* = 2), Netherlands (*n* = 2), Poland (*n* = 2), Chile (*n* = 1), Colombia (*n* = 1), Denmark (*n* = 1), France (*n* = 1), Israel (*n* = 1), Luxembourg (*n* = 1), Norway (*n* = 1), Portugal (*n* = 1), and Taiwan (*n* = 1). Some studies took place in several countries. Participants included healthcare professionals (44% of the studies), teachers (11% of the studies), and

professionals from various industries. Roughly 43% of the programmes were classical or modified MBSR/MBCT courses, with modifications primarily pertaining to the length of the programme, sessions, and meditations. Modified MBSR/MBCT courses also often did not include yoga exercises or full-day silent retreats. Another 43% of the programmes were based on MBSR/MBCT but customised to the organisation or the needs of the respective target group (eg they contained additional exercises for particular professional groups). The remaining programmes were independent programmes or very brief programmes, consisting mainly of short guided meditations with some additional explanations. Most programmes were taught in in-person settings; 15% of the programmes were taught online or via self-help material; one programme took place on a one-to-one basis via telephone; and the remaining programmes were hybrid learning formats that included in-person teaching, online elements, and/or telephone coaching. Over 50% of the MBPs were at least eight weeks long and over 50% of the other programmes ran for at least four weeks. More than half of the programmes took place at work, with participants being colleagues; and a few programmes also included parents and patients. Programme participation was voluntary in all but in one study. In more than 90% of the studies, mindfulness was conceptualised as a form of attention and non-judgemental, accepting awareness. The oldest study was from 2005; almost one third of the documents were published in 2017 and later. Table 4.1 provides an overview of the study characteristics.

Table 4.1 Study characteristics

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Aikens et al (2014)	Randomised controlled trial (RCT), Intention-to-treat analysis (ITT)	USA	Dow chemical employees	34 (44)	Modified MBSR	Waitlist	Online (in-person introductory session)	7	7 hrs	Attention, acceptance	Decrease in perceived stress; increase in mfu*, vigour, resiliency	89.5% completed >50% of the programme
Allexandre et al (2016)	RCT (ITT)	USA	Call centre employees	161	Customised programme	1) Online only 2) Online + group 3) Online + group + clinical expert 4) Waitlist	Online	8	8 hrs	Attention, non-judgemental awareness	Decrease in perceived stress; increase in psychological and emotional wellbeing compared to WLC	41% (1) completed 4 weekly activity logs, 57% (2); 61% (3) attended >5 sessions
Amutio et al (2015)	RCT (ITT)	Spain	Physicians	21	MBSR + maintenance	Waitlist	In-person	8 (+10 monthly sessions)	Approx 40 hrs	Attention, acceptance	Increase in mfu and relaxation (incl positive emotional states); decrease in heart rate	X*
Arredondo et al (2017)	RCT Per-protocol analysis (PP)	Spain	Research organisation employees	17 (21)	Customised programme	Waitlist	In-person	8	15 hrs	Attention, non-judgemental awareness	Decreased stress and burnout; increased mfu, decentering, self-compassion compared to WLC	90.5% completed the programme

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Aranda Auserón et al (2018)	RCT (PP)	Spain	Healthcare professionals	25 (27)	Modified MBSR (incl. MSC)	Waitlist	In-person	8	20 hrs	Attention, acceptance	Decrease in perceived stress, burnout (emotional fatigue); increased mfu, self-compassion (self-kindness) compared to WLC	92% completed the programme (ie attended ≥75% of sessions)
Baccarani et al (2013)	RCT (X)	Italy	University employees	10	Zen meditation course	Waitlist	In-person	4	3 hrs	Attention, non-judgemental awareness	Decreased stress; increased wellbeing, attention, concentration	X
Banerjee et al (2017)	Qualitative (structured interviews)	UK	Healthcare Staff	16 (31)	Modified MBCT	N/A	Online or book, audio files	8	8-12 hrs	Attention, non-judgemental awareness	N/A	N/A
Bartlett et al (2017)	Mixed-methods (RCT, interviews with informants) (ITT)	Australia	Public sector employees	20	Customised programme	Information	In-person	5	7.5 hrs	Attention, non-judgemental awareness	Reduced perceived stress, psych. distress; increased QoL, social functioning (not supported by informants), mfu	No one missed >1 session

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Beckman et al (2012)	Qualitative (semi-structured in-depth interviews)	USA	Primary care Physicians	20 (46)	Mindful communicatio n	N/A	In-person	8 (+ 10 monthly sessions)	Approx 36 hrs	X	N/A	20% attended <50% of the sessions
Benn et al (2012)	RCT (ITT)	USA	Teachers	19 (14)	SMART-in-Education	Waitlist	In-person	5	36 hrs	Attention, acceptance	Decrease in stress, anxiety; increased mfu, self-compassion, personal growth, emphatic concern, forgiveness, mfu mediated changes	X
Black and Carroll (2016)	Evaluation (focus group)	UK	Healthcare Staff	7 (13)	MBCT	N/A	In-person	8	16-22 hrs	Attention, non-judgemental awareness	N/A	87% completed the programme
Bradbury (2014)	Qualitative (action research)	USA	Palliative care volunteers	8	Customised programme	N/A	Hybrid (in-person and online)	12	X	Separate self/ego, transformatio n	N/A	Apart from the first session, there was never again a majority of participants in in-person meetings

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Brito (2011)	Pretest/posttest (+ 1 interview)	Chile	Hospital employees and patients	1 (24)	MBSR/MBCT	N/A	In-person	8	20 hrs	Attention, non-judgemental, present moment awareness	N/A	N/A
Byron et al (2015)	Qualitative (focus groups + interviews)	USA	Mental healthcare professionals	8 (21)	Modified MBSR	N/A	In-person	8	16 hrs	X	N/A	N/A
Carissoli et al (2015)	RCT (ITT)	Italy	Workers and employees	20	Mindfulness meditations	Relaxing music (active control), waitlist	App	3	2x15 mins/day	Attention, non-judgemental awareness	Improved coping with stress and decreased perception of stress; no differences between active groups	100% completed the study; 45% carried out at least one meditation
Carter et al (2016)	Report	UK, Australia	Employees and managers	N/A	Various customised programmes	N/A	Various hybrid formats	Various	Various	X	Various	N/A
Cohen-Katz et al (2004) (2005a) (2005b)	RCT (PP) + qualitative	USA	Nurses	12 (14)	MBSR	Waitlist	In-person	8	Approx 26 hrs	Attention, non-judgemental awareness	Reduced burnout; WLC improved too	86% completed the programme

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Crain et al (2017) Roeser et al (2013)	RCT (x)	USA, Canada	Teachers	54	SMART-in-Education	Waitlist	In-person	8	36 hrs	Attention, non-judgemental awareness	Decreased rumination, bad mood, insomnia symptoms; increased mfu, satisfaction with work, sleep quality, sleep duration; results partially mediated by mfu + rumination	X
Crowder and Sears (2017)	Mixed-methods (non-randomised controlled study, semi-structured interviews)	Canada	Social Workers	7	MBSR	Waitlist	In-person	8	Approx 26 hrs	Attention, non-judgemental awareness	N/A	N/A
Darby and Beavan (2017)	Qualitative (workbooks, semi-structured interviews)	Australia	Healthcare professionals	6	MiCBT	N/A	Hybrid	2 days + 8 weeks	x	Attention, non-judgemental awareness, impermanence	N/A	N/A

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Davis (2011)	Pretest/posttest (+ interviews)	USA	Clergy	7	Modified MBSR	N/A	In-person	8	20	Attention, non-judgemental awareness; acceptance	Deceased self-reported hostility and paranoid ideation (Brief Symptom Inventory)	High attrition at the beginning of the programme
den Heijer et al (2017)	Mixed-methods (controlled trial + open questions)	Nether-Lands	Agile project teams	18	Breathing space	Placebo, natural history control	In-person	N/A	5 min	Attention, present moment awareness	Improved effectiveness, decision-making, listening during stand-up meetings	X
Dobie et al (2016)	Pretest/posttest, qualitative feedback	Australia	Mental health professionals	9	Abbreviated MBSR	N/A	In-person	8	15 min daily, 3x30 min education session	X	Decrease in psych. distress, stress and anxiety; no decrease in depression, no increase in mfu	100% completed programme
dos Santos et al (2016)	Mixed-methods (pre-post evaluation, group interviews)	Brazil	Nursing professionals	13	Customised programme	N/A	In-person	6	24 hrs	Attention, acceptance	N/A	N/A
Duggan and Julliard (2018)	Qualitative	USA	Healthcare professionals	20	Mindfulness moments (based on Joy of Living mindfulness programme)	N/A	In-person	N/A	1-3 min (before or after meetings)	Attention, relaxed awareness	N/A	N/A

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Flook et al (2013)	RCT (x)	USA	Teachers	10	Customised programme	Waitlist	In-person	8	Approx 26 hrs	Attention, non-judgemental awareness	Decreased psych. symptoms and burnout, increased self-compassion; results partially associated with increase in mfu	X
Foureur et al (2013)	Pretest/posttest (+ interviews and focus group)	Australia	Nurses and Midwives	10 (40)	Modified MBSR	N/A	Hybrid	8	6-8 hrs	Attention, relaxed awareness	N/A	X
Gregoire and Lachance (2015)	RCT (PP)	Canada	Call centre employees	43 (49)	Guided meditations	Control (switching-replication design)	Online	5	6 hrs	Attention, non-judgemental awareness	Decreased psych. distress, increased mfu, satisfaction	N/A
Hraha (2013)	Qualitative (semi-structured interviews)	USA	Teachers	11	CARE for teachers	N/A	In-person	2 days + 2 hrs follow-up	14 hrs	Attention, acceptance	N/A	N/A
Huang et al (2015)	RCT (ITT)	Taiwan	Factory employees	58 (72)	Modified MBSR	Waitlist	In-person	8	16 hrs	Attention, acceptance	Decreased psych. distress, fatigue, perceived stress; no effects for job control and job demands	82% completed the programme (participants dropped out mainly because of task conflicts)

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Hülsheger et al (2013)	RCT (PP)	Germany	Various industries	50 (102)	Customised programme	Waitlist	Online	2	N/A	Attention, acceptance	Increased mindfulness; no increase in resilient behaviour	62% completed the programme
Hülsheger et al (2015)	RCT (PP)	Germany	Mixed employees	67 (ca.110)	Customised programme	Waitlist	Online	10 days	N/A	Attention, acceptance	Improved sleep quality, sleep duration; no effects for psych. detachment after work	89% completed the programme
Hugh-Jones et al (2018)	Qualitative (semi-structured in-depth interviews)	UK	University employees	21 (59)	Customised programme	N/A	In-person	8	16 hrs	Attention, acceptance	N/A	N/A
Hunter et al (2018)	Qualitative (semi-structured interviews)	UK	Midwives	9	Modified MBCT	N/A	In-person	8	8-12 hrs	Attention, acceptance	N/A	N/A
Irving (2013) Irving et al (2014)	Mixed-methods (pretest/posttest, focus group)	Canada	Healthcare professionals	27 (51)	Customised programme	N/A	In-person	8	X	Attention, non-judgemental awareness	N/A	N/A
Islam et al (2017)	Qualitative (interviews)	France, Denmark, Norway UK	Mixed employees	32	MBSR, modified MBSR, customised programmes	N/A	In-person	8 weeks to 1 year	4.5 to 48 hrs	Various definitions	N/A	N/A

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Jennings et al (2013) Sharp (2013) Schussler et al (2016)	RCT (PP) + two qualitative studies	USA	Secondary school teachers	25 (27)	CARE for teachers	Waitlist	In-person 1-to-1 phone coaching	4 to 6	30 hrs	Attention, non-judgemental awareness	Decreased burnout, time-related stress; increased well-being, efficacy, mfu	82% completed the programme
Jennings et al (2017)	RCT (x)	USA	Elementary school teachers	118	CARE for teachers	Waitlist	In-person 1-to-1 phone coaching	Several weeks	30 hrs	Attention, acceptance	Decreased psych. distress, time urgency; improved emotion regulation, increased mfu	>90% attended at least 80% of the programme (teachers were compensated for participating on weekends; schools were compensated for substitute teacher pay)
Kemeny et al (2012)	RCT (ITT)	USA	School teachers	41	Customised programme	Waitlist	In-person	8	42 hrs	Attention, acceptance	Reduced trait negative affect, rumination, depression, anxiety; increased trait positive affect, mfu	93% completed the programme; 83% of the sessions were attended

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Klatt et al (2009)	RCT (PP)	Canada	Call centre employees	48 (45)	MBSR-id	Waitlist	In-person	6	36 hrs	Attention, non-judgemental awareness	Reduced stress, increased mfu (improved sleep for IG and WLC)	92% completed ≥80% of the programme
Koncz et al (2016)	RCT (replication design) (ITT)	Australia	University employees	50	Customised programme	Waitlist	In-person	6	9 hrs	Attention, acceptance	Reduced distress; increased workplace wellbeing, vigour (only first group)	50% of group 2 completed the programme
Lacerda et al (2018)	RCT (PP)	Brazil	Mixed employees	22 (39)	Customised programme	Waitlist	In-person	8	9 hrs	Attention, non-judgemental awareness	Decreased non-severe psychiatric symptoms, anxiety, depression, stress: increased processing speed/attention, mfu	67% completed the programme
Linger (2016)	Qualitative (multiple cases)	USA	High level executives	6	MBSR and HeartMath	N/A	1-to-1 phone coaching	8	9 hrs	Attention, acceptance	N/A	N/A
Luberto et al (2017)	Mixed-methods (pretest/posttest, survey)	USA	Healthcare staff	41 (65)	MBCT	N/A	In-person	4	4 hrs	Attention, acceptance	N/A	On average 76% attended session 2, 60% session 3, and 54% session 4

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Lyddy et al (2016)	Qualitative (semi-structured interviews)	USA	Healthcare professionals	25	Joy of living mindfulness programme	N/A	In-person	N/A	1 or 16 hrs	Attention, present moment awareness	N/A	N/A
Mackenzie et al (2006)	RCT (x)	Canada	Nurses	16	Modified MBSR	Waitlist	In-person	4	2 hrs	Attention, acceptance	Reduced burnout symptoms; increased relaxation, life satisfaction	X
Manotas (2013)	RCT (PP)	Colombia	Healthcare professionals	39 (66)	Modified MBSR	Waitlist	In-person	4	8 hrs	Attention, acceptance	Reduced anxiety, depression, somatisation, perceived stress; increased mfu (observing, non-judging)	98% completed the programme
Marx et al (2014)	Mixed-methods (pretest/posttest, semi-structured interviews)	UK	Mental healthcare staff	37 (47) n=18 QUAL	Modified MBCT	N/A	In-person	8	24 hrs	Attention, open awareness, self-compassion	N/A	N/A
McGarrigle and Walsh (2011)	Mixed-methods (pretest/posttest journals, focus group)	Canada	Social workers	12	Modified CARE for teachers	N/A	In-person	8	16 hrs	Attention, awareness, insight	N/A	N/A

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Michel et al (2014)	RCT (PP)	Germany	Mixed employees	113 (208)	Customised programme	Waitlist	Online	3	X	Attention, non-judgemental awareness	Reduced strain-based work-family conflicts; increased mfu, psychological detachment, satisfaction with work-life balance	X
Möltner et al (2017)	RCT (x)	Germany	Mixed employees	146	7mind	Waitlist	App	2	X	Attention, non-judgemental awareness	Decreased emotional exhaustion; increased mfu, work engagement, job satisfaction, emotional intelligence, innovation, creativity, self-efficacy	X
Molek-Winiarska and Zolnierczyk-Zreda (2018)	RCT (PP)	Poland	Miners	32	Modified MBSR	Non-active control group	In-person	8 (+ individual follow-up-sessions)	8 hrs	Attention, non-judgemental, present moment awareness	Increased decision latitude, supervisor + co-worker support; decreased anxiety + depression	100% completed the programme (attendance was compulsory)

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Moody et al (2013)	RCT (+ qualitative) (PP)	USA, Israel	Paediatric oncology staff	21 (23) n=20 QAL	Customised programme	Waitlist	In-person	8	15 hrs	Attention, acceptance	No significant improvements in burnout, perceived stress, depression	X
Moorhead (2012)	Mixed-methods	UK	Mental healthcare staff and patients	5	Modified MBCT	N/A	In-person	8	8 hrs	Awareness, acceptance	N/A	N/A
Napoli (2004)	Qualitative (semi-structured interviews)	USA	Elementary school teachers	3	Modified MBSR	N/A	In-person	8	28 hrs	Attention, present moment awareness	N/A	N/A
Pauls et al (2016)	RCT (PP)	Germany	Mixed employees	37 (57)	Customised programme	Stress reduction programme based on stories (no mfu)	Online	5 days	50 mins	Attention, non-judgemental awareness	Increased mfu; no increase in resilient behaviour	N/A
Pipe et al (2009)	RCT (ITT)	USA	Nurses	15	Modified MBSR	Leadership course	In-person	4	10 hrs	Attention, present moment awareness	Decreased psych. distress, self-reported stress symptoms, symptom severity	97% completed the programme

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Querstret et al (2017)	RCT (ITT, PP)	UK	Mixed employees	45 (60)	Modified MBCT	Waitlist	Online	4 to 12	N/A	Attention, present moment awareness	Decreased work-related rumination, fatigue; increased sleep quality; results explained by increased levels of 1 facet of mfu (acting with awareness)	N/A
Ramos and Gonçalves (2017)	Qualitative (semi-structured interviews, questionnaires)	Portugal	Employees	33	Customised programme	N/A	In-person	6	12 hrs	Attention, present moment awareness	N/A	N/A
Razzaque and Wood (2016)	Mixed-methods (pretest/posttest, questionnaires)	UK	Psychiatrists	26	Customised programme	N/A	In-person	2 days	48 hrs	Attention, non-judgemental awareness	N/A	N/A
Schroeder et al (2018)	RCT (PP)	USA	Primary care physicians	15 (16)	Customised programme	Waitlist	In-person	4	17 hrs	Attention, non-judgemental awareness	N/A	100% completed the programme
Scott (2010)	Evaluation report (pretest/posttest, focus group)	UK	Healthcare professionals	17 (29)	MBCT	N/A	In-person	8	24 hrs	Present-moment awareness, compassion, insight	N/A	N/A

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Shapiro et al (2005)	RCT (PP)	USA	Healthcare professionals	28 (38)	MBSR	Waitlist	In-person	8	16 hrs	Awareness, acceptance	Decreased perceived stress; increased self-compassion	56% completed the programme
Slatyer et al (2018)	Qualitative (unstructured interviews)	Australia	Nurses	20	Modified MBCT	N/A	In-person	1 day + 4 weeks	12 hrs	Attention, non-judgemental awareness	N/A	N/A
Strub and Tarquinio (2013)	RCT (ITT)	Luxem-Bourg	Mixed employees	10	MBCT	Waitlist	In-person	8	16 (4x4)	Attention, non-judgemental awareness	Reduction in stress and EE of burnout	100% completed the programme
Supiano and Overfelt (2018)	Mixed-methods (pre-post evaluation, written narratives)	USA	Mental health professionals	15	MBSR	N/A	In-person	8	16-20 hrs	Attention, acceptance	N/A	N/A
Turner (2013)	Qualitative (interviews)	UK	Healthcare staff	8 (20)	MBSR	N/A	In-person	8	Approx 26 hrs	Attention, acceptance	N/A	N/A
Valley and Stallones (2018)	Qualitative (open-ended questions)	USA	Healthcare staff	17 (19)	MBSR	N/A	In-person	8	Approx 26 hrs	Non-judgmental awareness	N/A	100% completed programme 1, 89% completed programme 2
van Berkel et al (2013) (van Berkel et al, 2014) van Dongen et al (2016)	RCT (ITT), process evaluation, cost effectiveness	Nether-Lands	Mixed employees	129 n=13 QUAL	Customised programme	Information	Hybrid	8	12 hrs + e-coaching	Awareness, acceptance	No effects	X

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
	+ ROI analysis											
Verweij et al (2016)	Mixed-methods (controlled pre-/post evaluation, group reflection)	Nether-Lands	GP trainers	23 (30)	Customised programme	N/A	In-person	8 weeks or 2 days + 4 weeks	Approx 26 hrs	Attention, non-judgemental awareness	Increase in mfu and dedication (QUAN); increased wellbeing, compassion (QUAL)	X
Wasylkiw et al (2015)	Mixed-methods (non-randomised controlled study, semi-structured interviews)	Canada	Healthcare managers	11	Customised programme	Non-active control Group	Hybrid	Weekend + individual practice	18 hrs	Attention, present moment awareness	Increase in mfu, decrease in stress	Only 1 person continued to practice after the retreat (that person already had a personal practice before)
Willgens et al (2016)	Qualitative (interviews)	USA	Physical therapists	8	Customised programme	N/A	In-person (1-to-1)	10	100-150 mins	Non-judgmental awareness	N/A	N/A
Williams (2006)	Qualitative (single-case, part of an RCT)	USA	Employee (university)	1	MBSR	N/A	In-person	8	Approx 26 hrs	X	N/A	N/A

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Wolever et al (2012)	RCT (PP)	USA	Insurance employees	82 (96)	Customised programme	2 mfu arms, yoga control, non-active control group	In-person or online	12	14	Attention, non-judgemental awareness	Decreased perceived stress; improved sleep quality, heart rate variability (heart rhythm coherence); no difference between mfu and yoga intervention; mfu + yoga group increased in mfu; one point increase on PSS score associated with annual increase of 96.36 USD in costs	73% of the in-person mfu group completed the programme; 96% of the online mfu group completed the programme
Wongtongkam et al (2017)	Mixed-methods (quasi-experiment, in-depth interviews)	Australia	University employees	5 (15)	Modified MBSR	N/A	In-person	7	5 to 7.5 hrs	Attention, acceptance	N/A	N/A

Authors (year)	Study type	Country	Participants, setting	Expt. group/ ana-lysed	Programme	Comparison	Delivery mode	Course duration in weeks	Total contact/ training time	Conceptuali-sation of mindfulness	Outcomes*	Programme adherence/ completion
Zolnierczyk-Zreda et al (2016)	RCT (PP)	Poland	Mixed managers	72 (78)	MBSR	Waitlist	In-person	8	Approx 30 hrs	Attention, non-judgemental awareness	Decrease in perceived work-related stress, negative affect, intensity of somatic complaints, sickness absence; increase in self-esteem, positive affect	92% completed the programme

*Only significant results are listed; X = no information available; mfu = mindfulness

Overview of reported outcomes

Most studies reported significant improvements on one or more measures post intervention and overall positive course feedback from participants. However, these results have to be seen in the context of small sample sizes in most quantitative studies, leaving them with low statistical power. In addition, there was a risk of attrition bias with only one third of the RCTs reporting results of intention-to-treat analyses, and almost another third not reporting sample sizes and attrition at all time points. Likewise, qualitative data were mostly collected from people who volunteered to participate in the research, which might have skewed results towards overly favourable views of the programmes. Among the RCTs that provided information on programme completion, half reported that more than 90% of the participants completed the MBP, and 22% reported dropout rates of more than 40%.

Health- and work-related outcomes

Significant health-related benefits of workplace MBPs in RCTs (*n* = 38) ranged from reductions in perceived stress (*n* = 19), burnout, or facets of burnout (*n* = 8), anxiety (*n* = 6), psychological distress (*n* = 6), depression (*n* = 4), psychological symptoms (*n* = 3), fatigue (*n* = 1), somatisation (*n* = 1) and sickness absence (*n* = 1) to enhanced self-compassion (*n* = 5), positive emotions/improved mood (*n* = 5), sleep quality/duration (*n* =5), wellbeing (*n* = 4), physical symptoms (*n* = 2), relaxation (*n* = 2), resiliency (*n* = 2), vigour (*n* = 2), life satisfaction (*n* = 1), quality of life (*n* = 1), and satisfaction with work-life balance (*n* = 1).

Participants further reported work-related improvements such as enhanced attention/concentration (*n* = 2), decision-making (*n* = 2), efficacy (*n* = 2), engagement/ satisfaction with work (*n* = 2), creativity (*n* = 1), effectiveness (*n* = 1), emotional intelligence (*n* = 1), empathy (*n* = 1), innovation (*n* = 1), social functioning (*n* = 1), and supervisor/co-

worker support (n = 1). The reported benefits appeared to be independent of programme format, length, and delivery mode.

Cost-effectiveness

Three studies undertook a cost-benefit analysis, with two studies reporting potential savings due to decreased medical costs (Wolever et al, 2012) and increased productivity as a result of decreases in burnout after the MBP (Aikens et al, 2014). The third study found no positive financial return to the employer (van Dongen et al, 2016); however, the MBP also had no beneficial health effects (van Berkel et al, 2014).

Relationship between outcomes and mindfulness/meditation

Over 50% of the RCTs reported increased mindfulness levels (or increases in some mindfulness facets). Mediation analyses undertaken in the included studies revealed that changes in health-related outcomes were, in some studies, significantly attributable to changes in mindfulness (Benn et al, 2012; Roeser et al, 2012; Manotas, 2013); in other studies, findings were inconsistent (Aikens et al, 2014; Bartlett et al, 2017; Crain et al, 2017; Querstret et al, 2017). Findings regarding correlations between meditation duration and health-related outcomes were also inconclusive. Of the few studies that assessed and reported meditation time, some found correlations between meditation time and mental health improvements (Allexandre et al, 2016; Schroeder et al, 2018), others reported inconsistent associations between the two (Kemeny et al, 2012; Arredondo et al, 2017; Luberto et al, 2017).

In the qualitative data, many participants reported how increased awareness helped them regulate their attention, emotions, and behaviour in stressful situations. A typical quote was:

> Learning ahh about the mountain meditation for one … where you could, even in the midst of a disruptive meeting, you could step back, without losing the focus of the meeting, you could step back and take yourself to a place where these people didn't matter and you're just coming back to it fresh …. Very useful to learn techniques like that. (Black and Carroll, 2016)

Qualitative data from the included documents further indicated that individuals found the technique of letting go of and reframing negative thoughts (meta-cognition/decentering) helpful and calming, as one midwife illustrates:

> If you do find colleagues being abrupt or, a bit stress then, you know, you can try not to take it too personally, because you have to, on the whole, um, assume that it is their stuff, and that they're stressed, and um that's why it's coming out in the way it is. (Hunter et al, 2018)

Quotes in the included data also indicated that some participants learned to encounter stressful or distressing events with a stance of openness, acceptance, and compassion rather than avoidance. One healthcare professional, for example, reported after the course:

> When I first started if someone was upset I just immediately wanted to take their pain away … now I just sit with their distress, and just kind of look at how they can regulate that and be present with it. (Turner, 2013)

There was further evidence in participants' reports of all other theorised mindfulness mechanisms (as listed in Table 1.1).

No effects or unintended outcomes

Two RCTs reported no significant changes after the programme (Moody et al, 2013; van Berkel et al, 2014). There were also a few examples where the programme did not work as intended. Unintended outcomes included barriers to implementation such as participants (a) hesitating to engage with a health/wellbeing programme at work; (b) prioritising work or other activities over attending sessions or practicing mindfulness; (c) being reluctant to explore and talk about difficult experiences in sessions, (d) withdrawing; and (e)

discontinuing to use mindfulness in the workplace. Though considerably less prevalent, unintended outcomes also included unintended harms, such as enhanced stress or distress in some individuals.

4.2 Realist explanation of various levels of engagement with MBP

As part of my analysis and synthesis, I attempted to build explanations of how and why people in the workplace engaged differently with an MBP under different circumstances, resulting in different outcomes. These explanations are expressed as CMOCs. Overall managers and employees were appreciative of the programmes and reported that they benefitted from it. However, as outlined above, sometimes the programme did not work as intended; that is, participants did not engage fully with it, dropped out, or experienced enhanced stress/distress.

A closer look at the data revealed that workplace mindfulness training can present various challenges for employers and employees at different stages of the programme. In the first stage, the employer has to decide to offer a programme that focuses on stress management and wellbeing (rather than productivity and work performance), and managers and employees have to sign up for such a programme. In the second stage, managers and employees have to find the time and place during their busy workday to engage with the programme and its activities. In the third stage, participants potentially have to open up and show vulnerability in front of their colleagues and supervisors, and in stage four, they have to integrate new behaviours at work and in daily life. My theories are structured around these different stages. For each stage, I will first look at situations where an MBP presented challenges or resulted in unintended outcomes. I will then look at situations that led to intended outcomes (ie managers' and employees' involvement with the MBP and potential health benefits). I will provide a narrative summary of the context-mechanism-outcome

interactions that I identified in the available data and present each CMOC along with selected illustrative quotes in an accompanying text box. It has to be noted that there were overlaps between certain CMOCs and some quotes might have been assigned to more than only one CMOC. A complete list of all CMOCs along with all data excerpts from the included documents can be found in Appendix H. I have also included an overview of all CMOCs indicating the number of documents in which I found data to support each CMOC and the number of data excerpts that I used to build that specific CMOC in Appendix I.

Stage 1: Offering and signing up for stress-management/mental-health programme (CMOCs 1-4)

Concerns about productivity loss in a context where any investment has to produce financial returns

Despite of a growing body of evidence of the benefits of mindfulness, a health and wellbeing programme like an MBP is an experiment without any assurances of benefits for the time (and money) spent. Instructors reported that they were given a 'carte blanche' by management at first (where they were free to deliver mindfulness training as they thought best), well knowing that, to legitimise the investment of money and paid working hours, the programme ultimately had to pay off financially. For instructors the ethos of efficiency and optimisation often ran counter to the ethos and the values of mindfulness. (Text Box 4.1)

Text Box 4.1 Realist analysis—concerns about productivity loss

CMOC 1: In a context where any investment has to produce financial returns (C), a wellbeing course like an MBP might trigger concerns of productivity loss (M) with management hesitant to invest in it (O1) or stopping to invest in it (O2) if it does not pay off.

I'm still figuring out what mindfulness is all about and how it can fit into our business model …. I'll have to find some way to prove that the program works if we are to continue with it onwards. It's just the reality.

Controller, Accounting Firm (Islam et al, 2017)

Although uncertainty was allowed and sometimes embraced, respondents concurred that ultimately, results would have to be evidenced, and the doubt or 'flexibility' was a provisional concession to such programs.

Various Industries, Europe (Islam et al, 2017)

Our clients expect us to deliver results that we can measure and prove. That won't go away, as far as I can see, as it's the core of our business to have visible impact and it justifies the hours we invoice them for ...

Co-Partner, Consulting Firm, France (Islam et al, 2017)

... trainers and participants struggled with the idea of practicing mindfulness as an efficiency tool, but felt that efficiency claims were instrumental to justify the time dedicated to the course.

Various Industries, Europe (Islam et al, 2017)

Concerns about being seen as weak and vulnerable when stress and distress are stigmatised

A common theme in the dataset were managers' and employees' concerns about being seen as weak and vulnerable. This was related to the stigmatisation of stress and distress at work and seemed to impact how far individuals engaged with a stress- management/mental-health programme in the workplace (see also stage 3, *'Concerns about being seen as weak and vulnerable'*). At this initial stage, participants and instructors mentioned the importance of using the 'right' language when advertising the MBP. For instance, they recommended that the programme use the language of job performance rather than stress or health. In addition, an internal champion or sponsor was often seen as helpful for reducing the image of mindfulness as a clinical or therapeutic intervention. At the same time, though, some individuals pointed out that being offered a stress-management/mental-health programme by their employer had the potential to reduce the stigma associated with seeking help in a workplace setting. (Text Box 4.2)

Text Box 4.2 Realist analysis—concerns about being seen as weak and vulnerable I

CMOC 2: In a context where stress and distress are stigmatised (C), participants might be reluctant to sign up for a stress-management/mental-health programme (O) because they are concerned that they will be seen as weak and vulnerable (M).

... I think it is important to use the language of 'focus and productivity' rather than 'stress and health' when talking about the benefits of mindfulness in the workplace.

Government Department UK (Carter et al, 2016)

Some participants suggested that the stigma associated with the act of asking for help within a workplace context could be reduced by increasing the availability and accessibility of such a programme.

Healthcare, UK (Black and Carroll, 2016)

Sense of growth and flourishing when MBP is compatible with organisational, professional, or personal goals, values, and practices

When an MBP was linked to an organisation's overall business strategy, values, and practices, it was no longer seen as a mere cost by management but became an attractive investment that promised to facilitate growth and flourishing. Prospect of growth could be related to productivity and economic growth but also to work performance, such as improved customer or patient care. Similarly, workplace mindfulness training was attractive for managers and employees when it was compatible with their professional or personal goals, values, or practices and hence promised growth and flourishing. For managers and employees, the prospect of growth could be related to professional development (eg when the programme was offered as professional training programme), enhanced performance, or personal (eg spiritual) growth. An MBP was also attractive when individuals thought it might help them attain work-related goals. Excerpts from the literature further suggested that linking mindfulness to one's overall goals, values, and practices facilitated participants' ongoing engagement with the programme, its content and practices. (Text Box 4.3)

Text Box 4.3 Realist analysis—sense of growth and flourishing

CMOC 3: If an MBP appeals to an organisation's overall business strategy, values, and practices (C), it becomes an attractive investment for management (O) as it is believed to enhance not only health and wellbeing but also overall productivity and/or work performance (M).

Mindfulness was pitched as achieving a mental state of complete awareness purely in a 'business sense', highlighting the benefits that increased focus, calmness and concentration could bring in a high-pressure working environment. The … overall aim was described as enabling staff to achieve their peak performance.

Asset Management Firm, UK (Carter et al, 2016)

So, I felt a program like this one would be an important piece of caring for nurses, which I believe will ultimately pay off in the way they care for patients.

Vice President, Hospital (Cohen-Katz et al, 2004)

CMOC 4: If an MBP is offered as a professional development programme (C1) or otherwise appeals to an individual's professional aspirations, values, or practices (C2), it becomes a worthwhile investment (O) as it is seen to enhance not only mental health and wellbeing but also professional functioning and development (M1) and/or to help achieve workplace goals (M2).

The Head of Treatment Services … believes people are motivated because what the programme is teaching them is relevant and makes sense in their daily lives, both professionally and personally.

Public Transport, UK, (Carter et al, 2016)

Interviewees did not simply use mindfulness practices for themselves; a few described teaching the mindfulness techniques they learned to colleagues and patients …. this further demonstrated that some individuals saw mindfulness practices as an effective tool for achieving workplace objectives.

Healthcare, USA (Lyddy et al, 2016)

Stage 2: Finding the time and place to engage with selfcare at work (CMOCs 5-15)

Concerns about not getting the job done when MBP competes with work tasks

Participant quotes indicated that being offered a health and wellbeing programme at work can create pressure for employees who, on the one hand, feel encouraged to do something about their health and, on the other hand, still have to complete their tasks and deal with overburdened work schedules. Unsure about what behaviour would be rewarded, employees reported that they prioritised work over course attendance or mindfulness practice even if they believed in the programme. Quotes from the literature further indicated that in situations where individuals were already highly stressed, task conflicts increased the perception of stress or distress. However, there were inconsistencies with regard to this finding. In some studies, participants reported health-related improvements, although their levels of stress, distress, or burnout before the course were above average (Wolever et al, 2012; Huang et al, 2015; Allexandre et al, 2016; Koncz et al, 2016; Linger, 2016; Arredondo et al, 2017). I could not explain these inconsistent findings from the available data.

There was tentative evidence to suggest that participants may have skipped sessions if they did not have explicit support from their supervisors to attend them. They may have been concerned that taking care of themselves instead of working could harm them professionally or lead to other disadvantages. At the same time, supervisor support alone seemed not sufficiently important for employees to prioritise course attendance over work (see also *'Feeling appreciated and permitted to take care of self'*). (Text Box 4.4)

Text Box 4.4 Realist analysis—concerns about not getting job done

CMOC 5: If an MBP competes with work tasks (C) managers and employees might be concerned that by attending training sessions and practicing mindfulness they will not be able to

attain work related goals (M1) or get their job done (M2) and therefore prioritise work over engagement with the programme and its activities (O).

One dropout told me that he had performed a mental cost-benefit analysis and, while he realized that the course would be beneficial to him in the long run, he reasoned that the pressing needs of his parish had to come first.

Diocese, USA (Davis, 2011)

Missed one session due to being at a conference and the last due to catching up from the week at the conference ... I regret missing the last one, I truly was impressed with the class.

Participant, Hospital Employee, USA (Luberto et al, 2017)

CMOC 6: When managers and employees are under a lot of pressure (C), adding tasks (such as course attendance and home practice) can exacerbate feelings of stress/distress (M) and result in inability to practice mindfulness (O1), dropping out from the programme (O2) and/or experiencing lack of beneficial effects (O3).

One volunteer chose to drop out … finding it too difficult to sit in the chair in such a concentrated fashion when she felt unusually frenetic and anxious about work tasks.

Palliative Care, USA (Bradbury, 2014)

I found myself doing a lot of you know shifts and it was stressful to get to the stress management class! So there was times when it was like, 'Oh my god how can I be so stressed out trying to get to the stress management class!'

Participant, Mental Healthcare, USA (Byron et al, 2015)

CMOC 7: If supervisors do not explicitly support the practice of mindfulness at work (C), employees refrain from doing the exercises (O) because they are concerned that disadvantages might result from taking time off for selfcare instead of working (M).

… there are high rates of noncompletion of the intervention and therefore questionnaires …. Reasons for attrition have not been explored, but may relate to … managers not supporting attendance ...

University Employees, Australia (Koncz et al, 2016)

One participant described her practice of arriving for a meeting with clients early and preparing for the visit by meditating and getting focused for the visit. She said she was unsure if that this practice 'would be counted as work time or not ... some supervisors may not count it, others might.'

Social Work, Canada (McGarrigle and Walsh, 2011)

Concerns about not fitting with the team in an environment that lacks private or dedicated space for mindfulness practice

Limited availability of quiet spaces for mindfulness practice was repeatedly reported as a barrier to the successful implementation of workplace mindfulness. In addition to noise and interruptions, there was the issue of feeling exposed in front of (non-participating) colleagues. In one controlled trial (den Heijer et al, 2017), for example, the programme, consisting of a very brief meditation before stand-up meetings, had a significant positive impact on meeting effectiveness. However, the teams decided to discontinue these meditation exercises, because they felt uncomfortable conducting them in a public setting. In other studies, participants recalled how awkward they felt being interrupted in the middle of an exercise by a non-participating colleague and how being watched by others would impact their ability to gather their minds. Concerns about being seen as 'weird' or not fitting with the team or organisation also got triggered in contexts where participants regarded mindfulness as incompatible with the overall work or organisational culture. Participants appeared to have an 'internal observer' monitoring the extent to which their behaviour complied with or deviated from the implicit or explicit cultural norm and signalling when it might be best to refrain from further engagement with mindfulness. (Text Box 4.5)

Text Box 4.5 Realist analysis—concerns about not fitting with the team

CMOC 8: In an environment that lacks private or dedicated space for mindfulness practice (C), participants fear interruptions (M1) and might feel exposed in front of non-participating colleagues (M2), which negatively affects their ability to do the practices (O1) and reduces their engagement with mindfulness at work (O2).

(The) socialized mind never really quite settles down when you realize that there are other people observing you.

Participant, Healthcare (Lyddy et al, 2016)

Barriers in the social context had principally to do with the subjective norm: participants did not feel at ease doing the exercises at work as the following quote by an interviewee demonstrates:'… So I'm standing, doing the swan exercise behind my desk and then suddenly a colleague walked in. And he said: What on earth are you doing? You know, that kind of reaction ….' They reported feeling a lack of privacy and understanding by not participating colleagues.

Research Institute, Netherlands (van Berkel et al, 2013)

Feeling guilty about taking time off for selfcare when used to taking care of others

Taking time off for oneself in a workplace setting could trigger feelings of guilt in participants, particularly in healthcare professionals such as nurses, midwives, and physicians. In other words, feelings of guilt were often found in professionals who were used to caring for others rather than themselves. Their omnipresence in the data might explain to some extent why the permission to take care of self through the employer appeared to play such an important role for engagement with an MBP and selfcare in general (see also 'Feeling appreciated and permitted to take care of self'). Even though feelings of guilt were mostly reported among healthcare professionals, they were also found in other professionals who were used to putting the needs of others before their own needs. There were some indications that any selfcare activity in a context where achievement and productivity are being rewarded may trigger feelings of guilt in managers and employees. This might be particularly true for practicing mindfulness, where participants are invited to let go of striving and 'doing' and instead cultivate a mode of simply 'being'. (Text Box 4.6)

Text Box 4.6 Realist analysis—feeling guilty about taking time off for selfcare

CMOC 9: When individuals are used to taking care of others (C), they might feel guilty about taking time off for themselves (M) and skip training sessions and/or home practice (O1) or drop out of the programme (O2).

I'm having trouble focusing on myself and not others' problems. It's the nurse in me.

Participant, Nurse, Hospital, USA (Cohen-Katz et al, 2005a)

Creative strategies need to be developed for further/future workshop participation for nurses and midwives whose self-care needs are often postponed or neglected, as the needs of others become their priority.

Healthcare, Australia (Foureur et al, 2013)

Concerns about not being able to recharge when MBP competes with private time

When sessions took place outside of working hours or participants were required to do home practice, the programme competed with private time. Participants reported that to comply with the programme, they had to give up other nourishing activities, such as physical workout or time with family. They had to make a deliberate decision where to invest their limited time. Their decisions may have been impacted by their change readiness, as suggested by one example from the literature (Williams, 2006). Other quotes can be interpreted to suggest that individuals found it easier to incorporate mindfulness into their life if it could be combined with already existing selfcare activities. (Text Box 4.7)

Text Box 4.7 Realist analysis—concerns about not being able to recharge

CMOC 10: If the MBP competes with private time (C) participants might feel that by attending the training sessions, they have to give up other nourishing activities (M) and they have to make a deliberate decision of what to prioritise (O).

Time is such an issue for us …. If I'm not on the floor, I should be reading something for tomorrow when I'm on the floor …. If I had an extra hour …, I'd … spend more time at home or get to the gym.

Participant, Healthcare, USA (Lyddy et al, 2016)

To create the time to practice he had to eliminate other things. Because mindfulness practice was a priority … he was able to incorporate it. To find the time, he stopped going along on routine family expeditions and curtailed his attendance at professional meetings.

Participant University Employee, USA (Williams, 2006)

Feeling permitted to take care of self when employer offers MBP and facilitates course attendance

Participants reported that they saw being offered an MBP by their employer as a sign of care and appreciation and as 'permission' to take care of themselves. They felt that their health and wellbeing were important. Qualitative data suggested that these signs from the employer might have already been sufficient for some individuals to engage with health-promoting behaviours, including relaxation, engagement with the programme, and developing awareness. However, there were also data to suggest that simply being offered an MBP was not enough (nor was supervisor support). Rather, for the 'permission to take care of self' to have an impact, it had to be translated into actions such as flexible handling of working hours or covering for participants during course attendance. In other words, participants needed official release from work to attend training sessions. For instance, one large RCT (van Berkel et al, 2013; 2014) reported that only perceived facilitation by the supervisor or employer was associated with high compliance, whereas perceived support of participation by itself was not. (Text Box 4.8)

Text Box 4.8 Realist analysis—feeling permitted to take care of self

CMOC 11: When managers and employees are offered an MBP through their employer (C), they see that as a sign of care and appreciation (M1) and/or as a sign that their health and wellbeing are important (M2) which may enhance their engagement with the programme and its exercises (O1) and, more generally, facilitate investment in selfcare (O2).

… the fact that the University ran the course seemed to be saying it's okay to take care of yourself; it gave you the right to do It…

Participant, University Employee (Hugh-Jones et al, 2018)

The workplace context played a significant role in participants' ability to strive toward self-care and wellness. As one participant explained, 'I think it would be an important message to employees that this agency values their well-being.'

Social Work, Canada (McGarrigle and Walsh, 2011)

CMOC 12: If participants receive official release from their work to attend training sessions (C1), they feel 'permitted' to take care of self (M), which facilitates investment in the programme (O1), engagement with the exercises (O2) and/or the ability to practice mindfulness (O3). Feeling permitted to take care of self can just by itself be relaxing (O4) and stress reducing (O5), and it might facilitate investment in selfcare more generally (O6).

... the opportunity to practice during work hours was important not only to program engagement but also for practice and relaxation, even if only once a week.

Call Centre, USA (Allexandre et al, 2016)

Granting time and permission for participants to engage in the group sessions at work, led participants to feel less stressed, as one practitioner explained, 'over the past eight weeks I have been busier but less stressed, I have felt calmer inside and peaceful knowing that thing(s) will get done.'

Social Work, Canada (McGarrigle and Walsh, 2011)

Sense of coping when practices fit easily into existing routines and busy work schedules

Many workplace MBPs had shortened meditations from 30-45 minutes (as in standard MBSR/MBCT courses) to 1-10-minutes per day. Quotes revealed that the shorter the practices were, the more readily they were taken up. Participants saw these brief exercises as a simple and unobtrusive coping tool when pressure and workloads were high or when they felt stressed/distressed. Coping mechanisms would mostly be consistent with mindfulness theories, for instance, when participants reported that enhanced awareness or changing the focus of attention enabled them to step out of ruminative thought patterns or regulate emotions and behaviour. Other coping mechanisms involved cognitive reappraisal, deep breathing, zooming out, or relaxation. Sometimes, simply knowing that the exercises were available in difficult moments appeared to be sufficient for individuals to regain a sense of control.

In addition, participants took up the exercises when they could integrate them easily into existing routines and busy schedules. In these cases, participants felt they could do something for their health without investing extra time and effort, or make good use of

'empty' time (eg when they meditated on the train to work or took a 'mindful moment' while waiting for the computer to turn on). (Text Box 4.9)

Text Box 4.9 Realist analysis—sense of coping

CMOC 13: In a context where pressure and workloads are high (C1) and/or in moments of immediate stress/distress (C2), mindfulness exercises, particularly the brief ones, provide individuals with a sense of coping (M) and thereby reduce perceived stress (O). Coping mechanisms range from enhanced awareness (M1) and attention regulation (M2) to taking a few breaths/deep breathing (M3), cognitive reappraisal (M4), relaxing (M5), zooming out (M6), and/or reminding oneself that these strategies are available (M7). *… the techniques of looking at shades of green when driving in the car certainly helps me stressing out in traffic.* Participant, Healthcare (Foureur et al, 2013) *And the techs … and … some of the nurses, too, have said that they really appreciate when they get to participate in the mindfulness moments, but even … when they don't …, kind of knowing that it's available to, like a chance to take a three-minute break and calm down ...* Facilitator, Healthcare (Duggan and Julliard, 2018)
CMOC 14: When mindfulness practices can be integrated easily into existing routines and busy work schedules (C), take up is high (O) because individuals feel they can do something for their health without having to invest extra time and effort (M1) and/or because it helps them make good use of 'empty' time (eg wait time, commute time) (M2). *A particular thing is switching on the computer … it does make me think 'right, this has got to happen, I've got to wait for it to come on, so I could just sit quietly and just focus for a minute, and just breath.'* Participant, Midwife, UK (Hunter et al, 2018) *I found these moments where I was standing in line and … I was like 'great … I don't have anything else to do in line, let me practice (meditation).* Participant, Healthcare, USA (Lyddy et al, 2016)

Sense of control when explanations help to make sense of experience

While MBPs generally place high value on experiential learning, participants also appreciated psychoeducational elements that helped them make sense of their experience

(eg explanations of how the human mind works). Such knowledge gave participants a sense of control, which positively affected their engagement with the MBP and its practices. Some data suggest that psychoeducation was particularly important in a pragmatic, fast-paced, fact-oriented work environment and for participants who, in their job, were used to being 'in control' of things. It is also conceivable that, for some participants, psychoeducation was the entrance door for deeper involvement with mindfulness. In psychotherapy, giving information and instructions is often a first step or 'initial binding force' before other therapeutic factors can become operative (Yalom, 1995: 10). Altogether, there was not enough evidence to explain the role of psychoeducation in workplace MBPs fully. The CMOC below is based on the available data, acknowledging that there may have been other mechanisms and contexts involved in psychoeducation. (Text Box 4.10)

Text Box 4.10 Realist analysis—sense of control

CMOC 15: When psychoeducational elements help participants make sense of their experience (C), they provide a sense of control (M) which positively affects engagement with the MBP and its practices (O).

… it is very important for me to understand what I am doing and why, I guess if I didn't understand the logic clearly I would have given up.

Participant, Staff, Mental Healthcare, UK (Banerjee et al, 2017)

… the educational component of this intervention was so important to me…. it helped me make sense of what was happening to me each time I practice …. As an executive, what I realized is that I have a need to know.

Participant, Executive, USA (Linger, 2016)

Participants … commented on the qualitative nature of the study, sharing a preference to know, have facts, and be told what to do, rather than turn inwards and become curious about the contents of their mind.

Healthcare, USA (Willgens et al, 2016)

Stage 3: Opening up and showing vulnerability (CMOCs 16-20)

Concerns about being seen as weak and vulnerable when participating in professional role

In several studies, participants reported that they experienced unpleasant sensations (eg pain, tension, restlessness) or difficult emotions (eg sadness, irritability, boredom) during mindfulness meditation (Banerjee et al, 2017; Cohen-Katz et al, 2005a; Darby and Beavan, 2017; Hugh-Jones et al, 2018; Irving et al, 2014; Irving, 2013; Islam et al, 2017; Lyddy et al, 2016; Scott, 2010). As discussed before (chapter 1.2 'Theories of change in MBPs'), these experiences are common in MBPs, where turning inwards in stillness can surface sensations and emotions that often go unrecognised in the busyness of everyday life. The official theory of change in MBPs suggests that becoming aware of unpleasant or difficult sensations and exploring them in an open, kind-hearted way is a central learning element in practicing mindfulness and an essential step in developing acceptance and compassion. For this learning to happen, participants must let go of mastery and perfectionism and open up to their struggles. Data from the studies included in this review reveal that this can be challenging in a workplace setting. Participants reported that they felt reluctant to disclose emotional difficulties, especially when groups were large or included mixed hierarchies and when participants were immediate colleagues (in other words, when managers and employees participated in their professional roles rather than as 'human beings'). At the same time, participants had a desire to talk openly about their struggles and experiences. When they felt inhibited to do so, this could create inner tensions. (Text Box 4.11)

Text Box 4.11 Realist analysis—concerns about being seen as weak and vulnerable II

CMOC 16: If managers and employees attend sessions in their professional roles (C), they might not talk openly about their struggles and experiences (O) because they are concerned that being seen as weak and vulnerable could hurt their professional self (M).

While the data suggest that there may be some positive benefits derived from using mindfulness as part of a clergy wellness program, it is also clear that there are a number of questions that remain to be answered before it can be wholeheartedly endorsed. One of these questions concerns the advantages and disadvantages of offering the program within a particular diocese to a community of people, that is, with professionals who have contact with one another on a regular basis.

Diocese, USA (Davis, 2011)

One of the challenges in engaging a group of clergy is that they may be less willing to share their personal experiences in the weekly discussion groups. Rather than being regarded as a time of letting down professional barriers, some could see this as a threat to their professional selves and become even more guarded.

Diocese, USA (Davis, 2011)

I know Susan was there and you could speak with her if you needed to, but I don't know if I'd have felt comfortable doing it in that environment - going away to speak with her was showing that you were having difficulties.

Participant, Healthcare, UK (Scott, 2010)

There was consensus that including nurses of varying seniority in the same group negatively influenced the group dynamics, constraining discussion. From the perspective of senior nurses, there was some reluctance to divulge work problems and emotional difficulties in the presence of junior staff. In turn, others became uncomfortable if they felt discussion was stifled.

Healthcare, Australia (Slatyer et al, 2018)

Feeling accepted and normalised when it is safe to explore and share experiences/seeing one's own humanness and vulnerability in others when able to leave professional role behind

As the initial model of mindfulness suggests, learning to turn towards one's experiences, as challenging as they may be, is an important step in the development of acceptance and compassion and sets the ground for the transformation of distressing emotions. Participant quotes from the studies included in this review confirmed this theory. The data suggested that the mechanisms involved in developing acceptance and compassion were 'normalisation of stress/distress' and the 'experience of acceptance through the group or instructor'. The data further suggested that these mechanisms got activated when participants felt safe enough to explore difficult emotions and share them with others. This

could be either in a group setting, often in situations where participants were not in a work relationship, or in safe one-to-one situations with the instructor. Another mechanism that seemed to plant the seed for greater acceptance and compassion was that managers and employees saw their own humanness and vulnerability in others during sharing sessions. The data indicated that in order for that mechanism to become active, participants had to be able to leave their professional roles and status behind and meet as human beings.

Sharing experiences did not always have to include difficult emotions. Sometimes participants simply shared work related issues and received advice and emotional support from their peers providing them with a sense of coping. It has to be noted though that the boundaries between feeling 'emotionally supported' and feeling 'accepted and normalised' were not always clear cut. In other words, it is possible that the mechanisms of 'feeling accepted or normalised' were also involved when participants received practical or emotional support. It was also not always possible to detect from the given data whether 'feeling safe', 'being able to meet as human beings', 'feeling accepted and normalised' and 'seeing one's own humanness and vulnerability in others' were contexts or mechanisms. This means causality could not be clearly determined. The reason for this could be that there were reciprocal relationships or conceptual overlaps between these elements. There might also have been insufficient data to enable me to draw firm conclusions about directionality. However, since the opposite of 'feeling safe' and 'being able to meet as humans' inhibited involvement with the MBP, we might conclude that 'feeling safe' and 'being able to meet as humans' were the contexts that triggered 'feeling accepted and normalised' and 'seeing one's own humanness and vulnerability in others' and then created feedback loops.

One study (Darby and Beavan, 2017) did not fit the above theory. This was a qualitative study on a professional training programme taught largely via webcam and instant messaging. Participants reported how effective they found the interoceptive

exposure in helping them deal with difficult emotions and yet, to the surprise of the authors of that study, they made no reference to the group as having any facilitating effect on their development. The study also mentions nothing about the relationship between participants and the instructor. However, participants in this study were trained psychologists and might have felt safe to explore strong emotions to some extent without the support of a group and instructor. This interpretation remains speculative though. (Text Box 4.12)

Text Box 4.12 Realist analysis—feeling accepted and normalised/seeing one's own humanness and vulnerability in others

CMOC 17: When participants feel safe to explore emotional difficulties and share them with others (C), normalisation of stress/distress (M1) and the experience of acceptance through group and/or instructor (M2) plant the seeds for greater acceptance (O1) and compassion (O2). The experience of acceptance through group and/or instructor can also set the ground for transforming difficult emotions (O2).

In the first week's group support meeting, one volunteer complained of experiencing high anxiety levels when meditating. The PI was happy it had emerged forthrightly and quickly as it provided a good opportunity to address how common it is for all of us to feel anxious, even when not among dying people.

Palliative Care, USA (Bradbury, 2014)

Sharing this understanding of anxiety was very useful to the group as it normalized not having a calm mind, which is the default mode for human cognition.

Palliative Care, USA (Bradbury, 2014)

One day a couple weeks ago while in a crowded public area, I felt an attack coming on … I recalled what you'd said in the support group about anxiety being a default for most of us and the point being just to be with it to recognize it, not try to turn it off, but turn to it … and so I did. And it worked. It was awesome, I simply watched the anxiety as separate from me. I have dealt with anxiety since I was little. I stopped taking meds for it. That was the biggest thing that I took from the program so far.

Participant, Palliative Care, USA (Bradbury, 2014)

I was hoping … that the mediation would make my discomfort lessen. But what I have in fact noticed is that my awareness of discomfort has shifted. Now I simply notice that I am not feeling comfortable! …. So it's a worldview shift to just accepting things.

Participant, Palliative Care, USA (Bradbury, 2014)

CMOC 18: When participants leave their professional roles and status behind (C), they see their own humanness and vulnerability in others (M), which might plant the seed for greater acceptance (O1) and compassion (O2).

It was interesting, because as much as it can be logical to yes have only doctors together to observe things, to go further, to dig deeper … it's also good for the doctors to realize that what it boils down to is a human being in front of another human being.

Participant, Healthcare (Irving, 2013)

It helped me bring out more compassion towards the doctors … I find it interesting to see how they get caught in that grind and in those difficulties. It touched me a great deal to see how difficult it is and I think that was important for me.

Participant, Healthcare (Irving, 2013)

CMOC 19: When participants share work related or personal issues (C), receiving practical support from peers (M) reduces feelings of isolation (O1), enhances normalisation (O2), and might just by itself promote coping (O3) and wellbeing (O4).

Yes, their own experiences maybe that they've … found a way of dealing with something that was bothering them that you were actually going through at that time. Like something in work or something and they had given you their advice. That, that was a good thing ...

Participant, Healthcare, UK (Black and Carroll, 2016)

CMOC 20: When the facilitator is trusted and embodies mindful acceptance (C), participants feel safe to explore and try out new ways of being (M) which enables change (O).

Several participants alluded to being given implicit 'permission' to test out new ways of being. In order to try out these new ways of being it appears that it is important to trust the facilitators, the participants' 'old ways' of being have been successful for them and so to relinquish elements of their personalities (such as the goal-driven and striving elements to their personalities) requires a facilitator that they experience as authentic and can trust.

Healthcare, UK (Turner, 2013)

Stage 4: Integrating new behaviours at work and in daily life (CMOCs 21-26)

Concerns about work performance loss or no longer fitting with the team/disillusionment if mindfulness is incompatible with work

Whether individuals constinued to use what they learned in an MBP seemed to depend, among others, on the compatibility of mindfulness with existing work practices and the work environment. There was evidence to suggest that participants of workplace mindfulness training monitored how far their newly acquired skills either supported their work performance or affected it negatively. The latter could quickly lead to dis-encouragement, and individuals stopped using mindfulness or only used it sporadically if needed. This happened, for instance, in one study where several social workers found mindfulness to be incompatible with how they were used to handle clients (Darby and Beavan, 2017). Other participants reported that they could not benefit as much from the programme because mindfulness conflicted with the existing work culture, and they felt they no longer fit with the team. One study reported that participants became disillusioned with their employer after the MBP (because they could not put into practice what they learned in the programme), which had a negative impact on overall work engagement. (Text Box 4.13)

Text Box 4.13 Realist analysis—concerns about work performance loss or no longer fitting with the team/disillusionment

CMOC 21: If mindfulness is seen to be incompatible with work practices (C), managers and employees might stop investing in it (O1) or only use it sporadically (O2) because they are concerned that it negatively affects their work performance (M).

… several participants also described how heightened attention sometimes felt like a barrier to their continued mindfulness practice as well as to their daily functioning. These participants said that they did not always want to have deliberate and focused attention.

Hospital, USA (Valley and Stallones, 2018)

CMOC 22: If managers and employees find their new (mindful) ways of dealing with workplace stress to be incompatible with workplace culture (C), disillusionment (M1) or concerns about no longer fitting with the team (M2) might negatively impact not only their engagement with mindfulness practices (O1) but also work engagement (O2).

… if, through increased self-awareness or situational awareness, individuals identify a better way of working or innovations in the company's products or services, but are not 'allowed' or not supported in implementing novel ideas, then disillusionment can quickly result.

Various Industries, UK (Carter et al, 2016)

For participants who wanted to practice at work, permission included workplaces which demonstrate an acceptance of mindful practice, as one participant articulated, 'If my reflection/mindfulness is not well received or contrary to team member's programs/ processes I may not get the most out of it.'

Social Work, Canada (McGarrigle and Walsh, 2011)

Confidence in bringing mindfulness to difficult situations at work if experienced acceptance and compassion through group or instructor

To integrate new behaviours at work, managers and employees needed to feel comfortable doing so. Participants who experienced acceptance and compassion in sessions, in interactions with the group or in their relationship with the instructor, reported that they gained confidence in bringing this experience to difficult moments at work. They described, for example, how their experience in the course changed the way they handled distressing encounters with patients or associates. Healthcare professionals found that they were much better able to be present with a patient and listen instead of being driven by an urge to fix something that could not be fixed. Similarly, executives reported that they found it easier to listen to their staff without judging or thinking about how they would handle the situation. Individuals experienced this new mode of 'mindful being' as stress-reducing and rewarding. (Text Box 4.14)

Text Box 4.14 Realist analysis—confidence in bringing mindfulness to difficult situations at work

CMOC 23: If participants experience acceptance/compassion in the group and/or in their relationship with the instructor (C), they gain confidence in bringing this experience to difficult moments at work (M). They experience this as stress reducing (O1) and rewarding (O2).

I feel OK just to listen and be present with them … and I think that in some ways that helps them more … and that is a wonderful thing that you can do for patient s…. I just needed to learn that myself, I guess.

Participant, Primary Care, USA (Beckman et al, 2012)

I had always, had a hard time seeing what my role was, even though I was told we weren't fixing anything. I always felt that … my patients were coming to me to have something fixed, and that my expectation of myself was that I was supposed to do something … if they are not getting better then I'm not doing something. And I think I came to realize … part of my job, was to be there with patients, and that even though that sounds simple … I think that's what this kind of confirmed for me just being there in the present moment and with their experience is, is very powerful.

Participant, Mental Healthcare, Canada (Irving, 2013)

Taking the time to notice, not judge, accept and be kind to self is a new way of being and I can see that the investment of practicing mindfulness is really paying off with my sense of esteem in that I feel okay at the times I am most vulnerable.

Participant, Executive, USA (Linger, 2016)

Feedback loops and ripple effects

Individuals reported a wide range of benefits from participating in an MBP. Many of these outcomes can be explained through the theory of mindfulness as meta-cognitive capacity and self-regulatory skill. In addition, participant quotes indicated that positive experiences created feedback loops and upward spirals of further positive experiences. For example, individuals felt motivated to engage with mindfulness, if they felt it 'worked', which led to more positive experiences. Positive experiences could range from increased wellbeing and better sleep to better performance at work or praise from colleagues.

There also appeared to have been ripple effects, with improvements in one area leading to improvements in other areas as well. Participants explained these ripple effects

by having more energy, more self-confidence, or generally more positive emotions. Participants' narratives suggest that ripple effects could be triggered by any positive experience and spill over to other areas of life. This may explain the vast lists of—at times seemingly unrelated—beneficial effects in participants' reports from one and the same study. It has to be noted though that these spill-over effects could also be the result of selected reporting (eg due to word limits in publications). In other words, what appeared unrelated may actually not have been so.

Finally, the authors of two studies (Byron et al, 2015; Carter et al, 2016) concluded that an MBP might also create ripple effects on the organisational level. They argued that managers and employees who see their colleagues benefiting from an MBP might want mindfulness too. This contagion effect, they maintained, might widen the spread of mindfulness within an organisation and facilitate organisational change. (Text Box 4.15)

Text Box 4.15 Realist analysis—feedback loops and ripple effects

CMOC 24: If participants experience improvements that they attribute to their mindfulness practice (C), they continue practicing (O1) because they feel that they will be OK as long as they do the exercises (M1) and/or might improve even more (M2). This can create feedback loops (O2) or even set off gain spirals (O3).

My job is very stressful and I am usually quite anxious at work. My colleague pointed out the other day that I have slowed down, I am calmer now. I definitely think it is because of this course so I am not going to give it up.

Participant, Staff, Mental Healthcare, UK (Banerjee et al, 2017)

Most participants expressed the desire to continue with the mindfulness practices postintervention because they recognised and valued the tangible health benefits and the increased sense of wellbeing, energy, and balance.

Social Work, Australia (Crowder and Sears, 2017)

CMOC 25: Positive effects in one area (C) can have a ripple effect leading to improvements in other areas as well (O) because individuals feel they have more energy at their disposal (M1), have gained confidence in themselves and in the mindfulness approach (M2) and are better able

to regulate their emotions and behaviour (M3), which encourages them to take better care of their health (M4).

When asked, 'Please state what you feel you got from MBSR,' responses included more self-awareness, relaxing in myself, a way to center myself, improved focus on my thoughts and needs, ability to handle stressful situations, inner peace, joy and healing, and ability to think clearly and remain calm …. Other benefits included better sleeping, driving skills, and work prioritization … Another shared that she now had the confidence to walk into a car dealership alone and buy the car she wanted, including negotiating the price—for the first time!

Hospital, USA (Cohen-Katz et al, 2005a)

John found the mindfulness practices of yoga and meditation to be very exciting and very rewarding. He reported 'gradually coming to see them as tools that I could use to do a lot of what I was trying to do, just reduce stress, focus on things, eliminate a lot of old, outmoded, and outdated things from my life to make room for new things. This seems to be the route that has been most successful for me.' John indicated that this had affected every area of his life.

Participant, University Employee, USA (Williams, 2006)

As he gained success in one area, it appeared that it gave him confidence and trust that it would be useful in other areas.

Participant, University Employee, USA (Williams, 2006)

CMOC 26: If managers and employees see colleagues benefiting from mindfulness (C), they might think that they 'want this too' (M). This can lead to contagion effects with more and more individuals getting involved with mindfulness in an organisation (O).

By offering the training on more than one occasion, staff had the opportunity to notice peers benefiting from mindfulness, creating an environment that encouraged participation and changing the organizational culture.

Mental Healthcare, USA (Byron et al, 2015)

Summary

A key finding of my realist analysis was that managers and employees seemed to be very sensitive to the social cues in their environment, particularly in their perceptions of how safe and rewarding it was to engage with mindfulness and selfcare at work. In addition, my realist analysis of existing studies unearthed how various concerns might prevent managers and employees from fully engaging with the programme and mindfulness. Among these

concerns were the concern of not getting work done, of being seen as weak and vulnerable, or of no longer fitting with the team. These concerns would often suffice for individuals to give up on engaging with selfcare activities such as mindfulness, even if they were convinced that these activities would ultimately be rewarding.

In contrast, contexts where above concerns were absent or minimised seemed to trigger different, and at times opposite, mechanisms that facilitated managers' or employee's engagement with (or employer's interest in) the MBP and may have had just by themselves a beneficial impact on stress and wellbeing. The mechanisms that I identified in the included documents were (1) 'prospect or sense of growth and flourishing' when mindfulness was compatible with an individual's (or organisation's) overall aspirations, values, and practices; (2) 'feeling appreciated and permitted to take care of self' when management facilitated course attendance; (3) 'feeling supported, accepted and normalised' when participants felt safe to explore and share their experiences; (4) 'seeing one's own humanness and vulnerability in others' when participants could leave their roles and status behind; (5) feeling confident to bring mindfulness to difficult situations at work when participants had experienced acceptance/compassion in the group or through the instructor; and (6) 'feedback loops and ripple effects' when participants had positive experiences with mindfulness. When the above conditions were not present, participants could still benefit from very brief practices that gave them a 'sense of coping' in moments of stress and distress or from psychoeducational elements that helped them make sense of their experiences and hence gave them a sense of control.

A closer look at one of the included studies (conducted with nurses in a US hospital; Cohen-Katz et al, 2004; 2005a; 2005b) that has repeatedly been cited in the literature as an exemplar of workplace mindfulness training (Moody et al, 2013; Morgan et al, 2015; Guillaumie et al, 2017; Janssen et al, 2018) revealed that it provided the contexts where

many of the above mechanisms could have become active: First, the hospital's senior vice president fully endorsed the MBP, believing that it would benefit not only the nurses' health and well-being but also patient care. The programme was thus seen to contribute to the further growth and flourishing of a hospital that had already been recognised for excellence in nursing care. In addition, mindfulness and nursing were seen to be a 'natural fit' requiring a similar stance towards the world, characterised by openness and non-judegmental acceptance. Second, the vice president encouraged managers to adapt their work schedules so that nurses would be able to attend classes. Third, participants felt safe in the sessions to talk openly about their emotional struggles and experiences, and they could let go of role expectations and meet each other as human beings who share a universal need for self-care and self-compassion. And finally, participants reported a wide range of benefits affecting many areas of their life, which could be a sign of feedback loops and ripple effects.

In the following section, I will outline how I used substantive theory to develop my realist programme theory and enhance its explanatory power.

4.3 Integration with substantive theory

I used four substantive theories as a theoretical lens to interpret the patterns that became visible in the data during analysis: (1) conservation of resources (COR) theory (Hobföll, 1989; Hobföll et al, 2018), (2) the theory of psychological safety (Schein and Bennis, 1965; Edmondson, 1999), (3) broaden-and-build theory from positive psychology (see chapter one, 'MBPs in the landscape of …'), and (4) Yalom's therapeutic factors (Yalom, 1995).

During theory development I considered other substantive theories. In one study, for instance, a participant reported that she had been grateful to hear that other people were struggling even more than she was (Cohen-Katz et al, 2005a). This quote might have been used in support of Festinger's (1954) social comparison theory. According to that theory,

individuals try to establish wellbeing, among others, by contrasting themselves with people who are worse-off (Buunk and Dijkstra, 2017). However, I found no further references to support social comparison theory and therefore did not pursue it as substantive theory. Further substantive theories that I considered (because they were mentioned in individual studies), were Argyris and Schoen's theory of single and double loop learning (1978), the framework for organisational readiness (Sharma S.V. et al, 2014), the job demands-resources model (see chapter one, 'MBPs in the landscape of …'), Lazarus and Folkman's stress-appraisal theory (1984), attachment theory (Bowlby, 1982), Bandura's self-efficacy theory (1977; 1982), the theory of planned behaviour (Ajzen, 1991), and mindfulness-to-meaning theory (Garland et al, 2017).

While each of these theories explained certain outcome patterns in individual studies, none of them helped me make sense of some of the more prominent and important parts of what I found to be going on in workplace MBPS. COR theory, on the other hand, provided a framework that allowed me to analyse and synthesise data from a larger number of studies covering various settings and programme modalities. In other words, it helped me to better explain and understand more of my data. Additionally, I used psychological safety and broaden-and-build theory to explain some patterns within the framework of COR theory (both theories have been linked to COR theory in the literature). Finally, I used Yalom's therapeutic factors to describe outcome patterns involving the mechanisms 'normalisation', 'feeling accepted', and 'sense of control'.

In what follows, I will briefly summarise all four substantive theories with reference to my findings. I will start with COR theory which provides the umbrella for psychological safety and broaden-and-build theory, and I will conclude with Yalom's therapeutic factors.

Conservation of resources theory

COR theory is one of the most widely used models to conceptualise stress, burnout, and motivation in organisations. It attempts to 'understand how individuals allocate and conserve resources in the context of resource gains and losses' (Halbesleben et al, 2014; Hobföll et al, 2018). The theory's basic tenet is that, due to evolutionary survival mechanisms, humans 'strive to retain, protect, and build resources and that what is threatening to them is the potential or actual loss of these valued resources' (Hobföll, 1989). Based on this tenet, COR theory has defined two principles (Halbesleben et al, 2014; Hobföll et al, 2018). The first principle, the *primacy of resource loss* principle, states that resource loss or threat to existing resources is psychologically more harmful for individuals than resource gain is beneficial. In other word, individuals tend to engage in behaviours to protect existing resources rather than invest in acquiring new resources. The second principle, the *resource investment principle*, states that to protect against resource loss, recover from losses, or gain resources, people must invest resources.

One corollary following from these principles is that 'individuals with more resources are better positioned for resource gains' and that, conversely, 'individuals with fewer resources are more likely to experience resource loss' (Halbesleben et al, 2014: 1337). Further corollaries are that resource gains create further gains (resource gain spiral) and that resource losses create further resource losses (resource loss spiral).

The term 'resource' within COR theory can refer to conditions (eg employment, seniority), personal characteristics (eg traits and skills that aid stress resistance), objects (eg a home or status objects), energies (time, money, knowledge) or, more generally, anything a person values (Hobföll, 1989). Among the resources found to be important to individuals in the workplace are, for instance, status and seniority, time for work, feeling that one is successful and accomplishing one's goals, understanding from one's boss, support from co-

workers, advancement in job training, free time, time with loved ones, and positive emotions (Hobföll, 2011b). It has to be noted though that what counts as a resource depends on the individual's perception, that is, on the value an individual attributes to a given condition, personal characteristic, object, or energy. In other words, what might be seen as a resource by one person in one situation might not be seen as a resource by another person in another situation (Halbesleben et al, 2014). In their attempt to identify the mechanisms by which an individual determines the value of a resource, Halbesleben et al suggest that an individual considers (1) the extent to which a resource helps them attain their goals; (2) whether that resource complements existing resources; and (3) whether they have sufficient internal or external resources (eg health or social support) to be able to acquire and use that new resource.

In the mindfulness literature, workplace mindfulness is commonly regarded (with reference to the COR model) as a 'toolkit' (Hugh-Jones et al, 2018) that helps individuals build resources to buffer against organisational stress (Eatough, 2015) and enhance job engagement and job satisfaction (Zivnuska et al, 2016). However, findings from my review suggest that while mindfulness training may indeed provide managers and employees with resources to protect from actual or future resource loss, it also requires resource investment and may be a threat to existing resources. More concretely, managers and employees have to attend sessions and practice mindfulness daily for several weeks. They have to invest work time (ie time to complete work related tasks and goals) and/or private time (ie time for other nourishing activities) to do this. Moreover, transformation through mindfulness implies opening up to one's vulnerability, which may threaten one's professional identity in the workplace. Lastly, introducing mindfulness into work settings can create a conflict of values, norms, and behaviours where individuals must weigh the benefits of these new practices against the benefits of following well-established routines and majority culture.

In summary, individuals who have been invited to participate in workplace mindfulness training carefully have to balance resource acquisition and resource protection.[5]

Consistent with the first principle of COR theory (primacy of resource loss principle), data from the studies in my review suggest that the threat of resource loss can have a stronger impact on an individual's decisions than the prospect of resource gain. This became particularly clear in the study where participants discontinued their brief mindfulness meditations before team meetings because they were concerned about exposure (den Heijer et al, 2017). They stopped meditating despite of the positive impact these brief exercises had on team performance. They preferred resource protection over resource acquisition. The same might have been the case in other studies where participants reported that they missed sessions or dropped out of the MBP because of pressing work duties, even when they were impressed with the programme and convinced that they could benefit from mindfulness. Another example of resource protection in workplace MBPs may be the popularity of brief exercises that can easily be integrated into existing routines and busy schedules. Previous research has shown that individuals who face potential resource loss often invest in strategic behaviour in an attempt to make the best use of existing resources (Halbesleben et al, 2014). The use of brief mindfulness exercises as a coping tool or 'quick fix' could be interpreted as a strategic investment of resources. However, more specific data would be required to draw firm conclusions with regard to that argument.

Psychological safety

Data from my realist review further suggest that the more resources managers and employees have, the more ready they are to invest in developing new resources in an MBP

[5] While it is important to note that *any* MBP requires resource investment, resource investment and resource protection might play out differently in a clinical setting or in a community MBP where individuals may experience a greater sense of urgency to do something for their health and where threats to professional self or work accomplishment are absent.

(which is in accordance with the first corollary of COR theory). A key resource for participants from existing studies appears to have been 'psychological safety'. The construct of psychological safety is based on Schein and Bennis' (1965) work on organisational change and has been defined as 'feeling able to show and employ one's self without fear of negative consequences to self-image, status, or career' (Kahn, 1990). It has been argued that in a psychologically safe work-environment, individuals are not rejected for being themselves or saying what they think, but rather, they are interested in each other as human beings, and feel safe to experiment and take risks (Newman et al, 2017). The provision of a psychologically safe work environment has been found to be vital for individual and organisational learning (Edmondson, 1999; Newman et al, 2017), particularly when individuals are required to take risks and try out new and unproven ideas (Sanner and Bunderson, 2015). Psychological safety has been shown to be directly influenced by interpersonal relationships, group and intergroup dynamics, management style and process, and organisational norms (Kahn, 1990).

In their systematic review on psychological safety in organisations, Newman et al (2017) link psychological safety to COR theory. They hypothesise that one mechanism by which psychological safety positively impacts work outcomes may be that psychological safety frees resources for further resource investment. Data from the present review can be interpreted to support this theory. In order for managers and employees to invest in new and potentially transformative selfcare behaviours they have to feel safe. They need to be supported by clear management communication and provision of work coverage during course attendance, private and dedicated space for practice, and safe relationships that allow them to engage with each other as human beings in a non-competitive setting.

Resource caravans, resource caravan passageways and broaden-and-build theory

To explain the interaction between existing resources and resource acquisition, COR theory has developed the idea of resource caravans and resource caravan passageways (Hobföll, 2011a; Hobföll et al, 2018). The theory suggests that resources do not travel as single entities but in packages (caravans) nurtured and fostered by certain ecological conditions (resource caravan passageways). With regard to workplace MBPs, psychological safety and compatibility with existing goals, values, and practices may have provided such resource caravan passageways that facilitated and accelerated the development of mindfulness. The same applies to the provision of protected time for mindfulness practice and a space where individuals could leave their professional roles behind and meet as human beings—all of which created conditions that allowed individuals to invest in new behaviours.

The mechanisms triggered in these contexts may be seen as resources by themselves and, at times, it was difficult to identify the sequence of resources or the specific resources responsible for an individual's increased perception of wellbeing. For example, it was unclear whether an employer's 'permission' to invest in selfcare (as a sign of care) might already have had an impact on a participant's wellbeing, or whether it was increased selfcare, mindfulness, or all of them together enhancing each other. While the available data might not have allowed me to identify the impact of single resources more concretely, the model of resource caravans from COR theory might also explain this lack of clarity. Since resource caravan passageways create ecologies that sustain resources and in which resources can unfold, it is not uncommon to find bundles of resources in certain contexts. In the present review, one such example could be Cohen-Katz et al's study (2004; 2005a; 2005b) quoted above, where the contexts in which the MBP took place might have created passageways from which a wide range of resources, including increased self-esteem, better sleep, wiser life decisions, and mindfulness could emanate.

An alternative but closely related explanation for possible resource bundles, feedback loops, and gain spirals might be the broaden-and-build model from positive psychology. The model postulates that positive emotions (including joy, interest, contentment, and love) broaden an individual's awareness and promote the discovery of novel thoughts and actions, which, over time, build personal resources. Participants' quotes from Cohen-Katz et al's study and quotes related to feedback loops and gain spirals from other studies may also be interpreted as results of such broaden-and-build processes.

Yalom's therapeutic factors

I used Yalom's therapeutic factors to build theories around 'normalisation of stress/distress', 'experience of acceptance', and 'sense of control'. Yalom's therapeutic factors refer to mechanisms of change in group therapy. They are based on the idea that group experience itself can have a therapeutic effect. Among the 11 factors are (1) instillation of hope, (2) universality (or normalisation), (3) imparting information, (4) altruism, (5) the corrective recapitulation of the primary family group, (6) development of socialising techniques, (7) imitative behaviour, (8) interpersonal learning, (9) group cohesiveness, (10) catharsis, and (11) existential factors (Yalom, 1995). Once I realised that group experience was important for participants of a workplace MBP, I used these factors for coding and theory development (CMOCs 15, 17, and 18). In my review studies, I found evidence of all therapeutic factors except for factors 1, 5, 6, and 11. The three codes with the most data were 'universality', 'cohesion', and 'imparting information'. They described best what was happening in the group in workplace MBPs, and I only used them for my programme theory. (All other factors had only one or two references.)

Universality refers to realising that the feelings and experiences of other group members are similar to one's own, in other words, that they are part of the *conditio humana*. Cohesion refers to the feelings of belonging, warmth, and comfort within a group. According to

Yalom, universality and cohesion become effective when group members share their inner world and realise that they are not alone. Yalom further argues that the therapeutic effect underlying universality and cohesion is 'feeling accepted'; in other words, through opening up and sharing, group members experience being accepted by other group members and the instructor (Yalom, 1995: 7 and 49).

Imparting information refers to psychoeducational elements that help participants make sense of their experiences and thereby provide a sense of control. According to Yalom, psychoeducation can be an initial binding force in the group before participants start opening up to each other (1995: 10).

Based on Yalom's theory, all three mechanisms, 'normalisation', 'feeling accepted', and 'sense of control' may contribute to participants' mental health and wellbeing or lay the ground for other health-related mechanisms to become effective.

4.4 Realist programme theory

The realist programme theory that I developed from the data of existing studies and integrated with substantive theory was as follows: Workplace mindfulness training helps managers and employees build resources to be better able to deal with stress/distress and enhance wellbeing. Participants learn, through increased awareness, to regulate their attention, emotions, and behaviour. They learn to 'let go' and reframe negative experiences, and relate to their experience with acceptance, kindness, and compassion, which positively impacts their mental health, wellbeing, performance, and relationships. However, to build these resources, managers and employees have to invest resources (such as time, money, and image of perfection). Moreover, by attending mindfulness training at work, managers and employees might put existing resources, such as productivity, image of strength and

perfection, or fitting with the team, at risk. Consequently, they have to weigh the benefits of developing new resources against the threat of potential resource loss.

Managers and employees seem to be more likely to invest in a workplace MBP if: (1) the programme is seen to help them attain goals; (2) mindfulness complements existing resources, and (3) their environment supports their engagement with the programme. In order for an environment to be perceived as supportive, it is vital that participants feel safe. At each stage of an MBP, psychological safety functions as 'door opener' for the subsequent, extended or deepened engagement with the programme. 'Feeling safe' in the group or in relation to the MBP instructor seems to be particularly important for developing acceptance and compassion (as participants feel safe to open up and share vulnerability) and, subsequently, for bringing mindfulness to challenging work situations.

Applying COR theory to workplace MBPs suggests that, if the environment is not safe or supportive, managers and employees might prefer to protect existing resources (ie time for work, professional self, free time) instead of investing in developing new ones (ie mindfulness). They might use mindfulness strategically (eg combine brief exercises with other routines or use breathing techniques for coping in stressful situations), which may benefit them but perhaps not as much when compared with more profound engagement. If, on the other hand, an MBP fits with an individual's or organisation's goals, if it complements existing resources, and if the setting is safe, a workplace MBP might set off gain spirals with a positive impact on a wide range of wellbeing outcomes.

Chapter Conclusions

The purpose of phase II was to conduct a realist review and develop a realist programme theory to identify the mechanisms through which workplace MBPs work or do not work and to discover how particular contexts impact these mechanisms and, consequently,

outcomes. The programme theory I developed consists of 26 CMOCs; it is informed by substantive theory, mainly COR theory and psychological safety. The COR model provides a framework that helps understand managers' and employees' decisions around resource acquisition and resource protection when being offered mindfulness training at work. However, while the COR model is compelling and allowed me to make sense of a larger amount of data from existing studies, a note of caution is due here.

The above programme theory is based on data not originally collected for realist analysis and synthesis. For example, the studies I analysed often reported barriers to successful implementation of workplace MBPs; yet they did not explore whether and how individuals overcome these barriers. As a result, my programme theory may give too much weight to threats of resource loss where these might have been much less of an issue. Put differently, course participants might have decided to attend sessions although they felt their workload was backing up in the meantime, or they might still have engaged with mindfulness practices despite feeling awkward in front of colleagues. Workplace MBPs are complex; participants have (new) experiences, and they change with these experiences. As I argued in chapter one, a programme shapes the contexts in which it takes place as much as it is shaped by these contexts. It was only in the subsequent realist evaluation when I collected my own data to test my programme theory that the dynamic nature of certain aspects of context became visible.

CHAPTER 5 RESULTS FROM REALIST EVALUATION

To be able to make more robust claims about what was going on in workplace MBPs, I needed more primary data that specifically focused on aspects of my realist programme theory. As testing my entire programme theory would have been beyond the scope of my thesis, I chose to focus on one aspect that seemed to be of paramount importance for individuals to reap the fruits of workplace mindfulness training: psychological safety. More specifically, I wanted to understand: (1) What are the outcomes related to feeling safe? (2) How important is psychological safety for developing acceptance and compassion—both of which are at the heart of mindfulness practice and deeply associated with wellbeing? and (3) When do managers and employees feel safe? Under what conditions are they ready to take up mindfulness and selfcare at work and show vulnerability to peers?

To explore these questions and test my existing programme theory, I conducted a realist evaluation (with five MBPs) that included both quantitative data collection (surveys) and qualitative data collection (realist interviews). The findings will be presented in three sections: I will begin with an overview of the programmes and study participants. Next, I will present the results of the statistical analyses that I performed on the various survey measures. I will then, under 'Refinement of realist programme theory', seek explanations for programme outcomes using relevant data from my realist interviews and the CMOCs from my realist review. I will first answer the above evaluation questions, then present further findings, and conclude with integrating the refined programme theory with substantive theory.

5.1 Study details

Programmes

Programme A (pilot) was an eight-week MBP that I conducted in a small software company (*n* = 70-80 employees) in Germany. It took place from June 16 to August 4, 2020, during a time when restrictions from the first COVID-19 wave were slowly relaxed in Germany. The programme was taught in a hybrid format, with some participants attending sessions in person, at work, and others remotely, from home, via Zoom. I had taught the same programme in the same company two years earlier, yet to a different group of individuals (only one participant had taken the course before). The programme was offered because human resources wanted to provide employees with tools to help them handle stress/distress during the pandemic and allow them to stay in touch with each other. Participation was voluntary, and participants had to use their private time to attend the sessions. The company's chief operating and financial officer (COO/CFO) also took part. All in all, ten people started the course. The curriculum was an abbreviated version of MBCT and based on the book 'Mindfulness: a practical guide to finding peace in a frantic world' by Mark Williams and Danny Penman (2011).

Programme B was an open eight-week MBSR course taught in rural Switzerland from September 21 to November 11, 2020. In open MBSR courses, any individual from the local community can attend. Often instructors cooperate with companies that send their employees to these open courses. In this case, the MBP took place in cooperation with the local hospital and nine out of 16 participants were employed at that hospital. The instructor (I1) was an experienced and trained MBSR teacher who had a long-time business relationship with the hospital as external consultant. As the programme was part of the hospital's healthcare scheme, employees were granted time to attend sessions and did not

have to pay the course fee. Participation was voluntary, but all new managers and employees were encouraged to take the course. The course had 16 participants, and all sessions took place in person. Due to rising numbers of COVID-19 cases in October 2020, the group had to be split after four sessions. Participants who were not employed at the hospital worked for other organisations, such as a mountain rescue service and a wildlife training company. There existed no cooperation between these other organisations and the instructor, and participants paid the course fee out of their own pockets. I excluded one participant from the study who had already retired. I decided to include this open course in my study because I wanted to see whether doing sessions offsite and with participants from different organisations had an impact on how participants felt and interacted with the programme. I will refer to this programme as 'offsite MBP'.

Programme C was an eight-week MBP for the teachers from a small primary school (< 20 employees) in Switzerland. It took place from December 3 2020 to February 25, 2021, and was part of the school's wellbeing initiative. The instructor was an experienced and trained MBCT instructor (I2), who had also been one of the experts/stakeholders from phase I. One participant had taken a private course with the same instructor and initiated to bring the programme to her school. The curriculum was the same as in programme A, and participation was voluntary. Teachers had to use their private time to attend sessions and pay part of the course fee. The course started with eight participants, including one of the school's principals. The group first met in person but had to move online (to Zoom), after session two, because of rising COVID-19 cases. Some teachers attended the online sessions from home, others from their classrooms at school.

Programme D was an eight-week MBP that took place from February 8 to April 20, 2021. in the IT department of a public utility company in Germany. The company had around 600 employees of which 50 worked in the IT department. The programme was taught by a

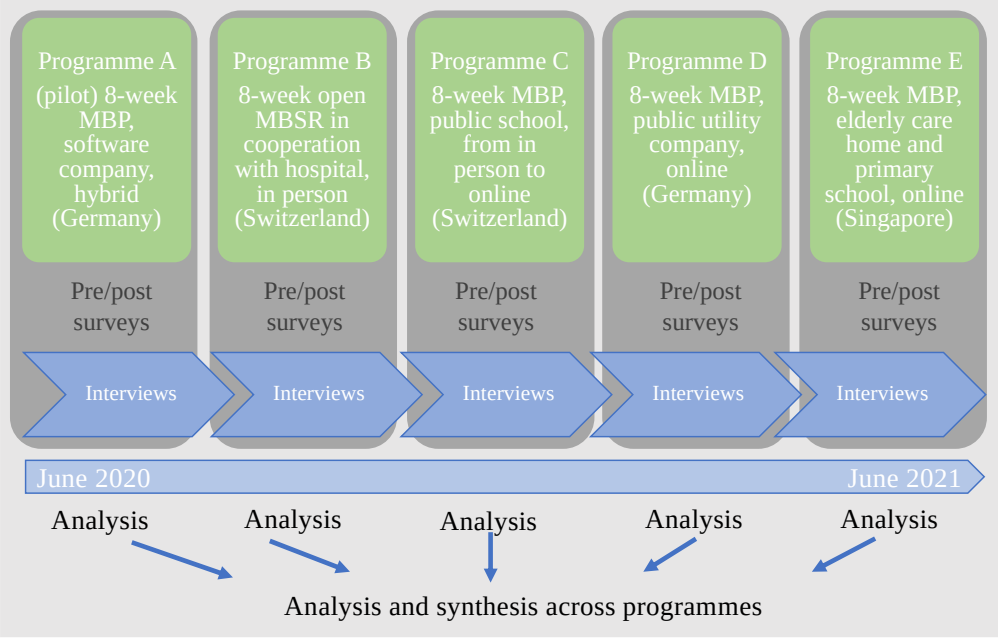
trained and experienced MBSR instructor (I3) who had a long-time business relationship with that company as leadership coach and consultant. Both directors of the IT department participated as well; one of them had already taken a mindful leadership course with the same instructor. The programme intended to foster team culture during the pandemic and help managers and employees develop self-management skills and resilience. In addition, it was the 'kick-off' for a subsequent one-year mindful leadership programme (in which the managers were going to continue practising mindfulness). Participation was voluntary. The curriculum was based on MBSR and adapted for the workplace (with shorter meditations, less yoga, and additional psychoeducational elements). Due to the great interest in the programme, participants (n = 41) were divided into three cohorts, each meeting on a different weekday. I will refer to these three cohorts as one programme because all participants were from the same team, and the programme was taught by the same instructor over the same period of time. In addition, participants were in contact across cohorts and shared experiences in their overall team meetings. Sessions were delivered online via MS teams and individuals participated either from their homes or their offices. The programme took place during the third wave of the COVID-19 pandemic, with small local lockdowns in Germany taking place at that time.

Finally, *programme E* was an eight-week MBP with managers and employees from an elderly care home and schoolteachers in Singapore. Both organisations wanted to co-develop an intergenerational mindfulness programme that included both the elderly from the care home and the school children. To be able to do so, managers, employees, and teachers were invited to experience mindfulness for themselves and together as a group. In addition, the management of both organisations wanted to reduce workplace stress. Both organisations had each less than 20 employees. The course was offered to all managers, employees, and teachers; all in all, it had 15 participants. Participation was voluntary. Both,

the chief executive officer (CEO) from the elderly care home and the school principal, participated as well. The curriculum was the same as in programmes A and C, taught by an experienced MBCT instructor (I4) via Zoom. Participants attended sessions either from home or at work. During the course of the programme COVID-19 restrictions were relaxed in Singapore, yet they started again in the very last week of the programme due to virus variants of concern. Figure 5.1 gives an overview of the programmes and the data collection and analysis process. A detailed overview of each of the programmes' curricula can be found in Appendix J.

In summary, it has to be kept in mind that all programmes and data collection took place during the turmoils of the pandemic. Some programmes started in person and had to be split after some sessions or moved online after a few sessions. Some programmes ran in times when pandemic-related restrictions were first relaxed and then tightened again. Some participants worked from home, others were in the office and all were experiencing some form of social distancing. I will discuss the possible implications of these extraordinary circumstances in the last chapter.

Figure 5.1 Programmes, data collection and analysis



Participants

Survey respondents

All five programmes started with a total of 91 participants. Of these 91 participants, 54 participants took part in the pre-course survey, and 53 completed the post-course survey. Unfortunately, several pre- and post-course surveys could not be matched. This pertained to surveys from all MBPs apart from the pilot, and the reasons remain unclear. The survey was anonymous unless respondents chose to be interviewed and provided their email addresses so that I could contact them directly. For me to be able to match the anonymous pre and post surveys, respondents generated unique identification codes both in the pre and post survey, by entering the first three letters of their month of birth and the three last digits of their mobile phone number. To my surprise, 13 unique identifier codes from the pre and post survey could not be paired. Either the months could not be matched or the phone numbers and often neither months nor phone numbers had pairs. The latter makes it unlikely that respondents simply made mistakes when entering the information. It is conceivable that respondents provided incorrect information because they were worried about being identified. Maybe they were unaware of the importance of providing correct information, even though I stressed that in the survey. Or some participants only took part in the pre survey and others only in the post survey. As I do not know whether the unmatchable pre sample contained the same set of individuals as the post sample, I excluded unmatchable cases from analysis. The final survey sample included 41 (45%) out of 91 programme participants.

Most survey respondents (n = 19) were from programme D, distributed over three cohorts (cohort 1 n = 5, cohort 2 n = 6, cohort 3 n = 8). Programme B had ten, A five, E four, and C three respondents. Two thirds of all respondents (n = 27) were female. Most respondents were between 25 and 44 years old (n = 31) and about half of them (n = 19) were

younger than 34 years. Respondents worked in the public sector (*n* = 19), healthcare (*n* = 12), business (*n* = 6), and education (*n* = 4) and included all hierarchy levels. Among them were four executives, 15 managers, and 22 employees. Some of the respondents (*n* = 16) had previous experiences with mindfulness or meditation; they had either read about it (*n* = 5), attended a taster session (*n* = 4), or used a meditation app (*n* = 2). Two respondents had already attended an eight-week MBSR/MBCT course, yet none of the participants had a regular meditation practice. (Table 5.1)

Table 5.1 Survey respondents

Number of survey respondents		41 (%)
Gender	Male	13 (32%)
	Female	27 (66%)
	Prefer not to say	1 (2%)
Age	18-24	2 (5%)
	25-34	19 (46%)
	35-44	12 (29%)
	45-54	7 (17%)
	55-64	1 (2%)
Industry	Business	6 (15%)
	Public sector	19 (46%)
	Healthcare	12 (29%)
	Education	4 (10%)
Role	Executive	4 (10%)
	Manager	15 (37%)
	Employee	22 (54%)

Previous experience with mindfulness/ meditation	Yes	16 (39%)
	Read about it	5 (12%%)
	Attended a taster	4 (10%)
	App	2 (5%)
	MBSR/ MBCT course	2 (5%)
	Has established practice	0
	None of the above	3 (7%)

Interviewees

I conducted interviews with 25 participants: six from programme A, four from B, two from C, 12 from D, and one from E. Half of the interviewees (n=13) were female. I interviewed two executives and nine managers, and I had an informal conversation with the COO/CFO from programme A, who attended the MBP but did not want to participate in the study. Among the interviewees were three participants who had dropped out of the programme. I also interviewed all four instructors. Table 5.2 gives an overiew of all interviewees. Names have been pseudonymised. The term 'manager' refers to individuals with project or employee responsibility and to executives. The term 'employee' includes (project) staff, assistants, and people with administrative jobs in accounting or human resources. To ensure anonymity, I did not provide more specific information such as job titles or age range.

Table 5.2 Interviewees

Programme A		
Luna (P1)	female	Employee
Marie (P2)	female	Employee
Max (P3)	male	Employee
Pia (P4)	female	Employee
Christina (P5)	female	Employee
Fabian (P6)	male	Manager
Programme B		
Verena (P7)	female	Manager
Hannah (P8)	female	Employee
Nicole (P9)	female	Employee
Melanie (P10)	female	Employee
Toni (I1)	female	Instructor
Programme C		
Nadine (P11)	female	Teacher
Lisa (P12)	female	Teacher
Silvia (P13)	female	Teacher
Martina (I2)	female	Instructor

Programme D		
Susanne (P14)	female	Employee
Andreas (P15)	male	Manager
Sebastian (P16)	male	Manager
Marc (P17)	male	Employee
Claudia (P18)	female	Employee
Jan (P19)	male	Manager
Daniel (P20)	male	Manager
Thomas (P21)	male	Manager
Jessica (P22)	female	Manager
Philipp (P23)	male	Manager
Sven (P24)	male	Manager
Georg (I3)	male	Instructor
Programme E		
Jian (P25)	male	Manager
Zoé (I4)	female	Instructor

5.2 Survey results

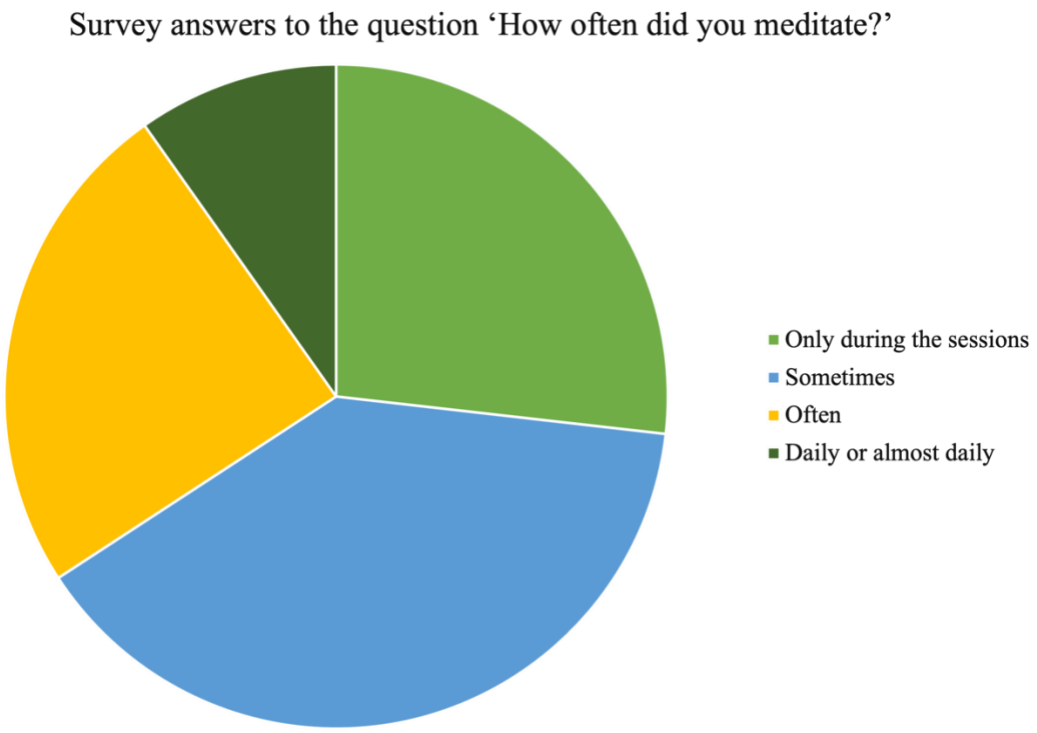
Course attendance and compliance with home practice

Across programmes, course attendance was high, and compliance with home practice was low. In total, there were only six dropouts (6.5%) out of 91 participants, with dropouts referring to participants who decided to quit the programme or did not show up anymore after the first three sessions. In programme A, three out of ten participants dropped out; in programme C, two out of eight participants dropped out; and in programme D, one participant out of 41 quit. All participants from programmes B and E completed the programme. Most survey respondents (n = 32) attended all or almost all sessions; seven respondents attended more than half of the sessions, and two respondents dropped out of the course. Of those who missed sessions, eight respondents were on vacation, five were sick, and another five did not find the time. One respondent (who dropped out) said she did not feel comfortable doing the course together with her colleagues, and three respondents had other reasons for missing sessions. Compliance with home practice was low across programmes. Most respondents meditated only during the sessions (n = 11) or sometimes (n = 16). Some respondents said they meditated often (n = 10), and only four said they meditated daily or almost daily. For an overview of course attendance and compliance with home practice, see Table 5.3 and Figure 5.2.

Table 5.3 Course attendance

		Programme A	Programme B	Programme C	Programme D	Programme E	Total
Number of participants		10	16	8	42	15	91
	Dropouts	3	0	2	1	0	6
Number of survey respondents		5	10	3	19	4	41
Attendance	7-8 sessions	3	8	2	15	4	32
	5-6 sessions	0	2	0	4	0	7
	3-4 sessions	0	0	0	0	0	0
	Dropouts	2	0	1	0	0	3

Figure 5.2 Compliance with home practice (meditation)
Total of all programmes



Changes in perceived stress, wellbeing, and self-compassion

I originally intended to compare outcomes across programmes because I expected to see outcome differences in MBPs taught in different settings. However, sample sizes among programmes were unbalanced, and some groups were too small for statistical analysis. I therefore performed statistical analyses with the total sample (n=41) and not with single programmes. Paired-samples t-tests indicated that participants' perceived stress, as assessed by the PSS-10, was lower after the MBP (M = 15.27, SD = 4.92) than before (M = 17.29, SD = 5.65), a small, statistically significant decrease of 2.02 on the PSS-10, 95% CI [0.56 to 3.49], $t(40) = 2.8$, $p = .008$, $d = 0.44$. Paired-samples t-tests further indicated that participants' wellbeing, as measured by the WHO-5, was higher after the MBP (M = 19.90, SD = 4.65) than before (M = 18.46, SD = 4.58), a small, statistically significant increase of 1.44 on the WHO-5, 95% CI [-2.6 to -0.28], $t(40) = -2.51$, $p = .016$, $d = 0.39$. Paired-samples

t-tests suggested that self-compassion, as measured by the SCS, was higher after the MBP (M = 42.29, SD = 5.94) than before the MBP (M = 38.02, SD = 8.1), a moderate, statistically significant increase of 4.27 on the SCS, 95% CI [-6.21 to -2.32], $t(40) = -4.43$, $p < .001$, $d = 0.69$. In summary, there was a small decrease in perceived stress, a small increase in wellbeing, and a medium increase in self-compassion in study participants between the two time points. All changes were statistically significant. (Table 5.4)

Table 5.4 Changes in perceived stress, wellbeing, and self-compassion

	Before the programme		After the programme		*t*(40)	p	Cohen's *d*
	M	SD	M	SD			
Perceived Stress (PSS)	17.29	5.65	15.27	4.92	2.80	.008	0.44
Wellbeing (WHO-5)	18.46	4.58	19.90	4.65	-2.51	.016	0.39
Self-Compassion (SCS)	38.02	8.10	42.29	5.94	-4.43	.000	0.69

Differences in perceived stress, wellbeing, and self-compassion between onsite and offsite MBPs

I performed independent-samples t-tests to determine whether there were differences in outcomes between onsite MBPs and the offsite MBP. Due to the small sample size of the offsite group (n = 10) and differences in sample sizes between groups, homogeneity of equal variances was not assumed. The mean reduction of perceived stress before and after the MBP was lower in the onsite MBPs (M = 1.9, SD = 3.51) than in the offsite MBP (M= 2.4, SD = 7.35). The difference M = 0.5, 95% CI [-4.85 to 5.84], $t(10.35) = 0.21$ was statistically not significant (p = .841). The mean increase in wellbeing before and after the MBP was higher in the onsite MBPs (M = 1.9, SD = 3.21) than in the offsite MBP (M = 0, SD = 4.74). The difference M = 1.9, 95% CI [-1.6 to 5.41], $t(11.78) = 1.19$ was statistically not

significant (p = .259). The mean increase in self-compassion before and after the MBP was lower in the onsite MBPs (M = 3.48, SD = 5.51) than in the offsite MBP (M = 6.7, SD = 7.69). The difference M = -3.22, 95% CI [-8.93 to 2.5], t(12.123) = 1.23 was statistically not significant (p = .244). To conclude, reductions in perceived stress and increases in self-compassion were larger in the offsite MBP than in the onsite MBPs. Increases in wellbeing were larger in the onsite MBPs than the offsite MBP. None of these differences were statistically significant (Table 5.5). With a sample size of n = 31 though it was unlikely that I would be able to detect small or moderate effects.[6] I might have been able to detect larger effects.

Table 5.5 Comparison onsite MBPs vs offsite MBP

	Onsite programme (n = 21)		Offsite programme (n = 10)		t	df	p
	M	SD	M	SD			
Reduction in Perceived Stress (PSS)	-1.90	3.51	-2.40	7.35	0.21	10.35	.841
Increase in Wellbeing (WHO-5)	1.90	3.21	0.00	4.74	1.19	11.78	.259
Increase in Self-Compassion (SCS)	3.48	5.51	6.70	7.69	-1.23	12.13	.244

Relationship between meditation and changes in perceived stress, wellbeing, and self-compassion

I conducted a one-way ANOVA to determine whether outcomes differed depending on how often participants meditated. Perceived stress scores decreased from participants who

[6] I conducted a power analysis using G*Power 3.1 (Faul et al, 2007) to test the difference between two independent group means using a two-tailed test and an alpha of .05. Results showed that for a small effect size (d = 0.4) a total sample of n = 200 with two equal-sized groups of n = 100 would have been required to achieve a power of 80. For a moderate effect size (d = 0.7) a total sample of n = 68 with two equal-sized groups of n = 34 would have been required to achieve a power of 80. Effect size estimates were based on data from my study.

meditated sometimes (M = 0.31, SD = 4.33), to participants who mediated only during the sessions (M = 1.82, SD = 3.12), to participants who meditated often (M = 2.9, SD = 4.01), and finally to participants who meditated daily or almost daily (M = 7.25, SD = 7.5), in that order. The differences between these groups were statistically not significant, Welsh's F(3, 11.22) = 1.41, p = .29. Wellbeing scores increased from participants who meditated sometimes (M = 0.31 , SD = 2.77), to participants who meditated often (M = 2.1, SD = 3.25), to participants who meditated only during the sessions (M = 2.18, SD = 4.81), to participants who meditated daily or almost daily (M = 2.25, SD = 4.57), in that order. The differences between these groups were statistically not significant, Welsh's F(3, 11.12) = 0.91, p = .469. Self-compassion scores increased from participants who only meditated only during the sessions (M = 1.09, SD = 3.88), to participants who meditated often (M = 2.4, SD = 5.5), to participants who meditated daily or almost daily (M = 4.75, SD = 4.99) to participants who meditated sometimes (M = 7.5, SD = 6.87), in that order (Table 5.6). The differences between these groups were statistically not significant, Welsh's F(3, 12.3) = 3.04, p = .7. All in all, there were no statistically significant differences between groups and changes in perceived stress, wellbeing, and self-compassion. Put differently, no linear relationship could be detected between outcomes and how often participants meditated. It has to be noted though that the study did not have enough power to detect a real difference between groups.[7]

[7] A power analysis using G*Power 3.1 using a medium effect size (f = 0.25) and an alpha of .05 showed that for the statistical test ANOVA, fixed effects, omnibus, one-way a total sample size of n = 200 would have been required to achieve a power of 80. For a large effect size (f = 0.4) a total sample size of n = 80 would have been needed.

Table 5.6 Relationship between outcomes and how often participants meditated

	How often participants meditated	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Differences in Perceived Stress (PSS)	Daily or almost daily	4	-7.25	7.50	3.75	-19.18	4.68	-15	1
	Often	10	-2.90	4.01	1.27	-5.77	-.03	-10	5
	Sometimes	16	-.31	4.33	1.08	-2.62	2.00	-7	8
	Only during the sessions	11	-1.82	3.12	.94	-3.92	.28	-5	4
	Total	41	-2.02	4.62	.72	-3.49	-.56	-15	8
Differences in Wellbeing (WHO5)	Daily or almost daily	4	2.25	4.57	2.29	-5.03	9.53	-3	7
	Often	10	2.10	3.25	1.03	-.22	4.42	-2	10
	Sometimes	16	.31	2.77	.69	-1.17	1.79	-6	5
	Only during the sessions	11	2.18	4.81	1.45	-1.05	5.42	-8	8
	Total	41	1.44	3.67	.57	.28	2.60	-8	10
Differences in Self-Compassion (SCS)	Daily or almost daily	4	4.75	4.99	2.50	-3.19	12.69	1	12
	Often	10	2.40	5.50	1.74	-1.54	6.34	-9	10
	Sometimes	16	7.50	6.87	1.72	3.84	11.16	-1	26
	Only during the sessions	11	1.09	3.88	1.17	-1.52	3.70	-6	6
	Total	41	4.27	6.16	.96	2.32	6.21	-9	26

Changes in aspects of context

Psychological safety and being able to talk about mental health issues at work

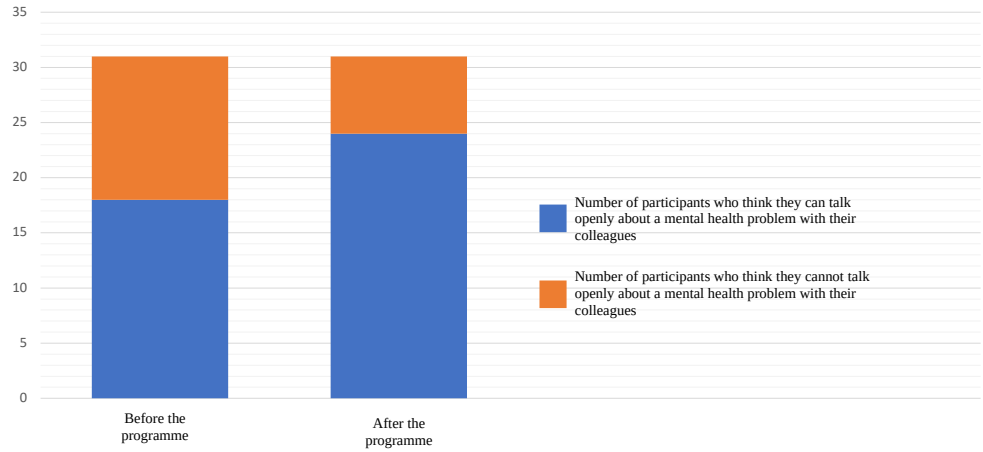
I wanted to see whether there were changes in psychological safety in the workplace and whether participants thought after the MBP that they could talk more openly about mental health issues at work (TTC 1 questionnaire). I only analysed the onsite MBPs. A paired samples t-test revealed that psychological safety scores were higher after the MBP (M = 12, SD = 2.07) than before (M = 11.35, SD = 1.91), a moderate and statistically significant increase of 0.65, 95% CI [-1.13 to -0.16], $t(30) = -2.7$, $p = .011$, $d = 0.49$. (Table 5.7) With regards to TTC 1, 18 (58%) out of 31 respondents said before the MBP that they could talk openly about a mental health problem with their colleagues, and 13 (42%) respondents said they could not talk openly with their colleagues about a mental health problem. After the MBP 24 (77%) out of 31 respondents said that they could talk openly about a mental health problem with their colleagues, indicating an increase of 19%. This increase resulted from eight respondents now saying that they could talk openly about a mental health problem with their colleagues. However, two respondents changed their views in the opposite direction, now indicating that they could not talk openly with colleagues about a mental

health problem (Figure 5.3). An exact McNemar's test determined that the difference in the proportion before and after the MBP was statistically not significant. In summary, there was a small but significant increase in psychological safety in onsite MBPs. There were also more respondents after the programme who thought they could talk openly with their colleagues about a mental health problem; however, that increase was statistically not significant.

Table 5.7 Changes in psychological safety

	Before the programme		After the programme		*t*(30)	*P*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Psychological Safety (PS)	11.35	1.91	12.00	2.07	-2.70	.011	-0.49

Figure 5.3 Number of participants who think they can talk openly about a mental health problem with their colleagues (TTC 1)



Supporting a colleague who struggles with their mental health

Participants were asked before and after the MBP how they would *act* (TTC 2 questionnaire) or *feel* (TTC 3 questionnaire) if they saw a colleague struggling with a mental health issue. There were no changes with regard to how participants would *act* if they saw a colleague

struggling with their mental health. There was a change, though, with regard to how participants would *feel* if they saw a colleague struggling with their mental health. A paired.-samples t-test indicated that participants felt less irritated after the MBP (M = 1.39, SD = 1.02) by a colleague suffering with a mental health issue than before (M = 1.71, SD = 1.04). For instance, more respondents said they would feel comfortable supporting a colleague struggling with their mental health and would know how. The difference of 0.32 on the TTC questionnaire 3, 95% CI [0.03 to 0.61], $t(30) = 2.27$, $p = .031$, $d = 0.41$ was small, yet statistically significant (Table 5.8).

Table 5.8 Changes in how people would act (TTC 2) and feel (TTC) if they saw a colleague struggling with a mental health issue

	Before the programme		After the programme		t(30)	p	Cohen's d
	M	SD	M	SD			
Individuals *taking action* if they saw a colleague struggling with a mental health issue (TTC 2)	3.97	1.08	3.94	0.73	0.15	0.882	0.03
Individuals *feeling* comfortable supporting a colleague struggling with a mental health issue (TT 3)	1.71	1.04	1.39	1.02	2.27	.031	0.41

Overall, survey results indicate that many participants benefitted from mindfulness training. Perceived stress levels decreased significantly, while wellbeing and self-compassion increased significantly in the total sample. Survey outcomes also suggest that the MBPs positively affected psychological safety and the de-stigmatisation of stress/distress at work. However, while the programme worked on average the surveys also revealed that there were differences in outcomes. Some participants seemed to have benefitted more from the MBP

than others. Statistical analysis suggested that these differences in outcomes could not be explained by how often participants meditated. While the study might not have had enough power to detect the real effect of meditation, the survey also revealed that many participants did not meditate between sessions at all. Therefore there must have been other mechanisms to explain the survey outcomes. In my interviews, I wanted to explore for whom, why, and under what circumstances the programme achieved what outcomes. I presented interviewees their survey results and sought their explanations. I used retroductive questions to unearth the mechanisms that led to each of the outcomes and the contexts in which these mechanisms became active. I presented theories from my review to interviewees to test them against their views and experiences. What follows is an account of my findings and a refinement of my realist programme theory.

5.3 Refinement of realist programme theory

In the next sections, I will first answer my three evaluation questions (see the introductory paragraph of this chapter) and then present further findings. To exemplify the process of theory refinement, I will weave illustrative participant quotes into the narrative and reference the CMOCs in the text rather than present them in a separate text box, as I did in my review. The refined programme theory contains 21 new CMOCs. Due to limited space I will not present all old CMOCs from my realist review in the text, especially if I did not find any additional data to support, refine, or refute them (this pertains to CMOCs 13; 39, 41). A complete list of all CMOCs and data excerpts in support of each CMOC can be found in Appendix K. I have also included, in Appendix L, a list with the number of participants whose statements supported each CMOC and the programmes in which each CMOC was found. (Since I added new CMOCs, the numbers that I attributed to each CMOC in my review have changed. I have added the old numbers in grey after the new numbers.)

Outcomes related to ‘feeling safe’ (or not)

When participants felt safe to open up and share their experiences, a whole range of beneficial outcomes ensued: First, and in line with my existing programme theory, it planted the seed for greater self-compassion (CMOC 31, 17). I will expand on this in the next section. Second, participants saw their own humanness in others, which led to greater acceptance, empathy, and compassion for colleagues and supervisors (CMOC 29, 18). One participant gave a vivid example of this when I asked her how she felt about doing the course together with the COO/CFO:

> It was okay . . . . I think it’s nice, at least he knows all of us as humans, and it’s really nice to see him also as a human, because all this time, I saw him as CFO, ‘Oh yes, he has things figured out.’ Seeing him in this course, I was like, ‘Oh, he also has problems, it’s also not easy for him.’ I felt I can understand his decisions in some parts, it’s also tough—it’s tough for everyone, even for the CFO.
> (Luna, employee, P1, A)

Third, when participants opened up towards colleagues or even across hierarchies, others perceived that as a sign of trust and opened up as well. This set off a trust spiral and enhanced bonding (CMOC 32 NEW):

> [Once we showed ourselves as humans] our conversations were more intense, there was a different kind of bonding. When you open up, you give your colleagues trust, but you also get back trust, so our cooperation has been strengthened. We now see each other as a good team. [translated from German]
> (Philipp, manager, P23, D)

With enhanced trust and bonding, individuals may feel safer in the future to address problems and mistakes at work (CMOC 33 NEW):

> Thomas: . . . talking about safety, you feel more comfortable because you have already met these people in a different setting.
> Interviewer: Safer to perhaps address mistakes at work?

> Thomas: Exactly. [translated from German]
> (Thomas, manager, P21, D)

As data from only one interviewee supported this theory, it must be treated with some caution. Another interviewee provided a slightly different explanation of why it might be easier, after an MBP, to address problems. He felt that opening up and talking about difficult issues in the sessions gave him the confidence to do so in the workplace, too (CMOC 34 NEW):

> During that period I had all my appraisal interviews, where I had to face all of this [talking about problems and difficulties], because I had to say when things were not to my satisfaction. Overall, these conversations went really well, I was able to address things. Maybe I took away from the course, how I can address things, how I can say things. [translated from German]
> (Sebastian, manager, P16, D)

Again, this explanation was supported by data from only one participant, but it can be explained by Yalom's therapeutic factors (see 'Substantive theory revisited' below). It also has to be noted that trust and bonding between colleagues were not only strengthened through opening up and showing vulnerability but through having been together in the programme and hence having something 'in common' (CMOC, 35, NEW).

Fourth, opening up enhanced the de-stigmatisation of stress/distress in the workplace. This finding was linked to outcomes from the TTC 1 and TTC 3 questionnaires. In these questionnaires, participants were asked whether they thought they could talk openly about a mental health problem with their colleagues (TTC 1) and how they would feel if they saw a colleague struggling with their mental health (TTC 3). When I explored the TTC outcomes with interviewees, they saw a strong association between changes in their scores and the mindfulness training. They argued that talking openly about stress/distress in the course made them feel more comfortable talking about these issues at work and supporting a colleague in distress. The mechanisms involved were greater awareness and normalisation

of stress/distress (CMOC 37 NEW) and empathy (CMOC 29, 18). To illustrate these changes, two participants (P 23, D; P 24, D) described in great detail what they would do differently now compared to before. They thought they would listen more and be more open to the needs of other persons rather than imposing their own ideas and solutions onto others. One of the two had already put this into practice in helping a colleague overwhelmed with stress. He summarised what he took away from the course:

> . . . . this programme helped you realise that all colleagues have different ways of dealing with stress. So to know that there are different ways, different solutions and to listen to what really helps that specific person has been very valuable. [translated from German]
> (Philipp, manager, P 23, D)

Finally, interviewees reported how simply sharing work-related or personal issues and receiving practical support from peers helped them feel less isolated and enhanced coping and wellbeing. Again, this confirmed a theory from my realist review (CMOC 36, 19).

In contrast, when participants did not feel safe to open up and show vulnerability, this may have increased their stress and distress. Especially participants who struggled emotionally might have felt even more isolated and lonely and have withdrawn from the programme (CMOC 27 NEW). For example, one participant from programme A (who dropped out) was very quiet during the sessions. In the interview, she told me she had personal and family issues at that time and felt uncomfortable doing the course with her colleagues:

> When things are just falling apart like this . . . . it doesn't help how much my colleagues seem not to struggle . . . It makes it much tougher for me.
> (Pia, employee, P4, A.)

In another programme (C), one participant had problems with her meditation practice because of post-traumatic stress. Unlike the participant above, who dropped out of the programme, she stayed and shared her struggle with the group. The instructor remembered

feeling relieved when this happened because it allowed her to talk, with the group, about what might otherwise have left that participant with a sense of 'separateness, sadness, and failure' (I2, C).

In summary, the programme created feedback loops and gain spirals for participants who felt safe to open up and show vulnerability. For participants who did not feel safe, experiences could spiral down; yet they may have still taken away simple coping strategies (see the last paragraph in 'Not wanting to get too personal at work'). All CMOCs related to my evaluation questions are visualised in Figures 5.4 and 5.5. Visualisations of all other CMOCs can be found in Appendix M.

Psychological safety and acceptance/compassion

The next area I wanted to understand was how important psychological safety is for developing acceptance and compassion. One theory from my realist review suggested that when participants feel safe to share emotional difficulties with others, normalisation and acceptance through the group or instructor plant the seeds for greater acceptance and compassion (CMOC 31, 17). Data from my evaluation strongly supported this theory. For example, there was one participant, a senior manager, whose self-compassion score had increased in the post survey. When I showed him this result and asked what he thought about it, he responded:

> I think I can explain this, because there was a serious case of illness in my family, and I was extremely distressed . . . . I sat down with my closest colleagues, who also happened to take part in the course, three managers and one staff. I told them everything, I said, 'I'm feeling really crappy . . .', and I received immense support. I reduced my working hours; they re-organised everything for me and did whatever they could do. This has been a very, very difficult time for me but . . . I felt so much warmth and support . . . . I'm glad that I spoke openly about this . . . . That's what I associate with self-compassion. [translated from German]
> (Andreas, manager, P15, D)

Talking openly about his distress and receiving compassion and acceptance from his team was crucial for this manager to experience self-compassion. And many other participants across programmes shared similar examples.

When I compared data excerpts (in NVivo) from participants with increased self-compassion scores to participants whose scores had not increased or not increased as much, I noticed a difference. Almost all data excerpts where interviewees talked about opening up/sharing vulnerability *and* experiencing normalisation/acceptance through others were from interviewees with above-average increases on the SCS.

There were only a few exceptions. Two participants talked about how being vulnerable among colleagues made them more self-accepting and self-compassionate (P1, P24), yet their post survey SCS score did not reflect that change. Both interviewees had above-average self-compassion scores on the pre survey, and their results might be explained by ceiling effects. Two participants were surprised by their above-average increases on the SCS and disagreed with the results. One of them had dropped out of the course because of a family incident that made it difficult for her to meditate (she felt too distressed), and the other participant did not have the resources to fully engage with the course because of high levels of stress. One interviewee (P25) with above-average increase on the SCS did not provide much data in support of the mechanisms of normalisation/acceptance. He nevertheless described in great detail how he began to open up to his colleagues once they opened up to him in the sessions, which he saw as a sign of trust and increased his empathy and compassion towards others. It is possible that he experienced normalisation/acceptance without being explicit about it in the interview.

One additional theory emerged from the data to explain the outcome of 'acceptance'. Several participants (mainly from programme D) reported that they found the concept of 'acceptance' (eg the 'Circle of Influence' that was only taught in programme D) among the

most helpful elements of the programme. They said they could easily recall the concept in stressful situations, which helped them cope in daily life (CMOC 24 NEW). It is worth pointing out though that the interviewees' examples were mostly related to accepting external circumstances rather than self. And more importantly, all interviewees had no or minimal increases on the SCS and felt uncomfortable talking about their feelings in the presence of colleagues or supervisors. It is conceivable that lacking the resource (feeling safe) needed to benefit fully from the programme they referred to strategic coping behaviour.

When do participants feel safe (or not)?

Attending sessions from home

The place where participants attended sessions greatly impacted how safe they felt. According to one theory from my review, participants fear interruptions or feel exposed if there is no private or dedicated space for meditation and, as a result, do not meditate (CMOC 12, 8). Interview data from all onsite programmes confirmed that theory. Since most MBPs took place online (or in a hybrid format) with some participants attending from home and others from the office, I was able to compare, within programmes, how both groups experienced the sessions. It became clear that participants who attended online sessions from home felt safer than those who attended sessions from the office.

Participants who attended the sessions from the office often felt observed and distracted during meditation or yoga. They were concerned that non-participating colleagues might see them doing 'weird' things; they had difficulties letting go of interruptions from colleagues because they felt 'at work'; they were reminded of unfinished tasks or had associated memories (eg of having been in a business meeting in the same room just one hour earlier). One instructor summarised it as follows:

> They [participants] were more challenged to find that quiet, protected space when they stayed in their classroom . . . . I wonder because they do have keys and one participant said, 'Now I just lock the door and I know no-one can come in.' Why didn't they do that from the beginning? It felt like they tried to be who they are in that building as a teacher.
> (Martina, instructor, I2, C)

It seemed that simply being in the workplace changed the frame and made it difficult for participants to feel safe enough to engage with mindfulness and selfcare. In the workplace, participants felt at work (CMOC 28 NEW). In contrast, when individuals participated from their home they felt no longer at work and were therefore better able to get involved with the mindfulness practices. Even interruptions (eg by family members) seemed to feel 'less intrusive' (I2) at home than in the office.

Being human

Interview data also helped shed light on what made participants feel safe to open up among their peers. First, and most importantly, managers and employees felt safe to the extent that they could leave their professional roles and status behind (CMOC 29, 18). One participant (from programme A), for instance, had taken the same MBP in the same company with me before. When I asked her how the recent MBP had been different from the previous MBP, she responded:

> This time colleagues who are closer to me—I consider them as friends—were participating as well. It was more impactful.
> (Christina, employee, P5, A)

She found the course more impactful because she saw the other participants as friends. When I wanted to know what exactly the effects were of doing the course with colleagues who were friends, she explained:

> We would talk about hard core problems of our private life as well . . . So, there was deeper sharing, deeper examples that were more vivid. When you [instructor] gave us a task and you split us in rooms, we would not

> talk about the stress of the task that comes from the manager, which, bottom line, is not even important for life, it's just work. We would talk about these real concerns, about how tough life was, how it can affect us—of course, work can give you stress but private life can also be a reason why you're suffering—and how to deal with this suffering. (Christina, employee, P5, A)

She and the other participants felt safe disclosing because they did not see each other as colleagues. It further turned out that she and the other participants were from different teams and not in a professional relationship, which might have made it easier for all of them to meet as humans (CMOC 30 NEW). In contradiction to that theory, in programme D participants were all from the same two teams (ie they were in professional working relationships) and many had no problems opening up. However, most were managers who might have felt attracted to a new, more human leadership style (I will return to this later). In addition, they seemed to be very close as colleagues and often met privately. And even among them, some admitted that they were glad their supervisors were not in the same group.

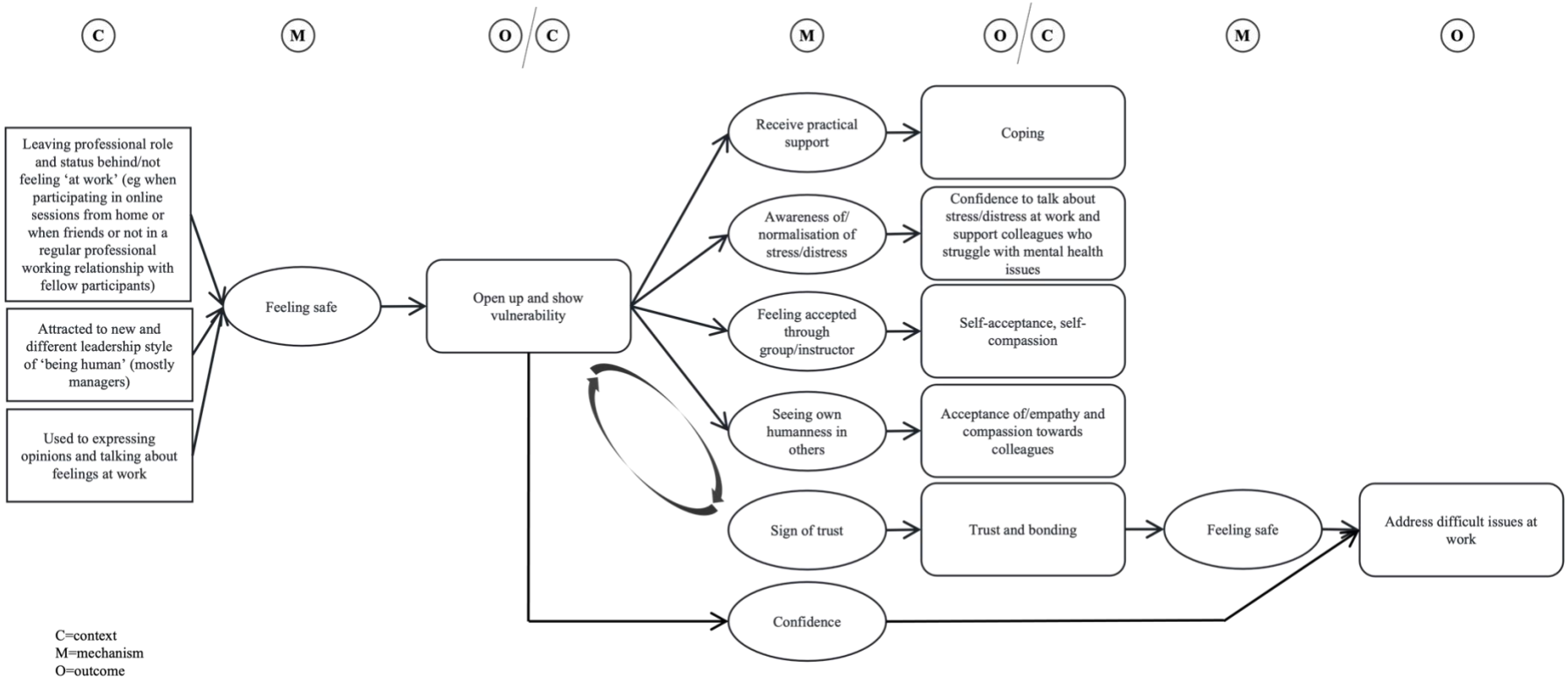
Participants also thought that it was easier to open up when they attended online sessions from home (see CMOC 28 NEW), again because they could more easily let go of being at work:

> There's something about being physically in the office that's constraining and puts you back in this context of work. When you're in these breakout rooms and you talk privately to that person, remote . . . that's very different, I think it helped you—it's easier to open up. [nods] (Fabian, manager, P6, A).

What emerges from these findings is that the more participants were able to let go of their professional roles and status and meet as humans, or in other words, the less they felt at work, the safer they felt opening up and showing vulnerability to others.

Figure 5.4 Visualisation of CMOCs 28, 29, 30, 31, 32, 33, 34, 36, 37, 38a

What happens when participants feel safe to open up and show vulnerability; conditions under which participants feel safe



Not wanting to get too personal at work

While participants generally benefitted from showing their humanness to colleagues, this was not true for everyone. Many participants remained quiet during group conversations, particularly in the large group. Instructors from all onsite MBPs found inquiry (ie exploration of experiences) difficult. One theory from my review suggested that participants who attend an MBP in their professional roles do not want to talk openly because they are concerned that being seen as weak and vulnerable might hurt them professionally (CMOC 25, 16). Interview data from all onsite programmes supported that theory and refined it—showing that it was more difficult for some participants than for others. (Figure 5.5)

Overall, staff seemed quieter during sharing sessions than supervisors or managers. When I asked participants and instructors why they thought this might have been the case, they provided various explanations. One rather obvious reason was that participants were reluctant to talk openly when their supervisors were in the same group. Participants explained that they decided to stay in their professional roles because they knew that, at the end of the day, what counted for their supervisors was professional performance. Another explanation was that participants at lower hierarchy levels were hesitant to talk about personal issues because their professional role helps them set boundaries. In other words, they saw their professional roles as a shield and did not *want* to get too personal at work (CMOC 26 NEW). One participant made that very clear when she said:

> I wouldn't want to have this personal level with my boss, that he fully confides in me, because I sense that he wouldn't respect the boundaries. You know this, when you almost prefer to be called by your last name at work because the other person then won't cross boundaries? My supervisor is crossing boundaries, he's interacting with me as a person and not as an employee, according to my contract. He thinks he can use

> all my qualifications and resources and has tried to raise my hours after maternity leave, and I said, ‘I can't do that, I'll go crazy at some point, because it's all too much for me.’ I have to negotiate. [translated from German]
> (Hannah, employee, P8, B)

As one small caveat, the data in support of that theory were from individuals who participated in the offsite MBP. None of these participants thought they could attend an MBP together with their colleagues and supervisors. Yet, we do not know how they would have *actually* felt, so this theory must be treated with some caution. Another explanation was that some participants were simply more used to expressing their opinions or talking about their experience at work and hence felt more confident doing so during group sharing (CMOC 38a NEW). As one participant reasoned:

> If your managers encourage you to express your opinion or ask you for your point of view . . . you have the self-confidence and the confidence to say, ‘I can say what I think or what I feel . . . because that’s important to my colleagues.’ Often, in these rather classical departments . . . you just don't sit together to discuss bigger problems or projects. That's why I could imagine that these people just don’t know this from their daily work and therefore maybe don't have such an atmosphere where they are expected or feel allowed to express themselves freely, where that is accepted.
> (Jan, manager, P19, D)

Some participants might have lacked this experience and hence confidence due to their hierarchy level, area of work (eg technical work, accounting), or maturity and therefore remained quiet during group sharing (CMOC 38b NEW). Lastly, there may have been one more reason why it may have been easier for managers to leave their professional roles behind and open up. Perhaps, after all, they did not leave their professional roles behind; perhaps ‘being human’ simply represented a new and different leadership style for them. When I asked one manager whether he had been concerned that he could be seen as weak and vulnerable, he said:

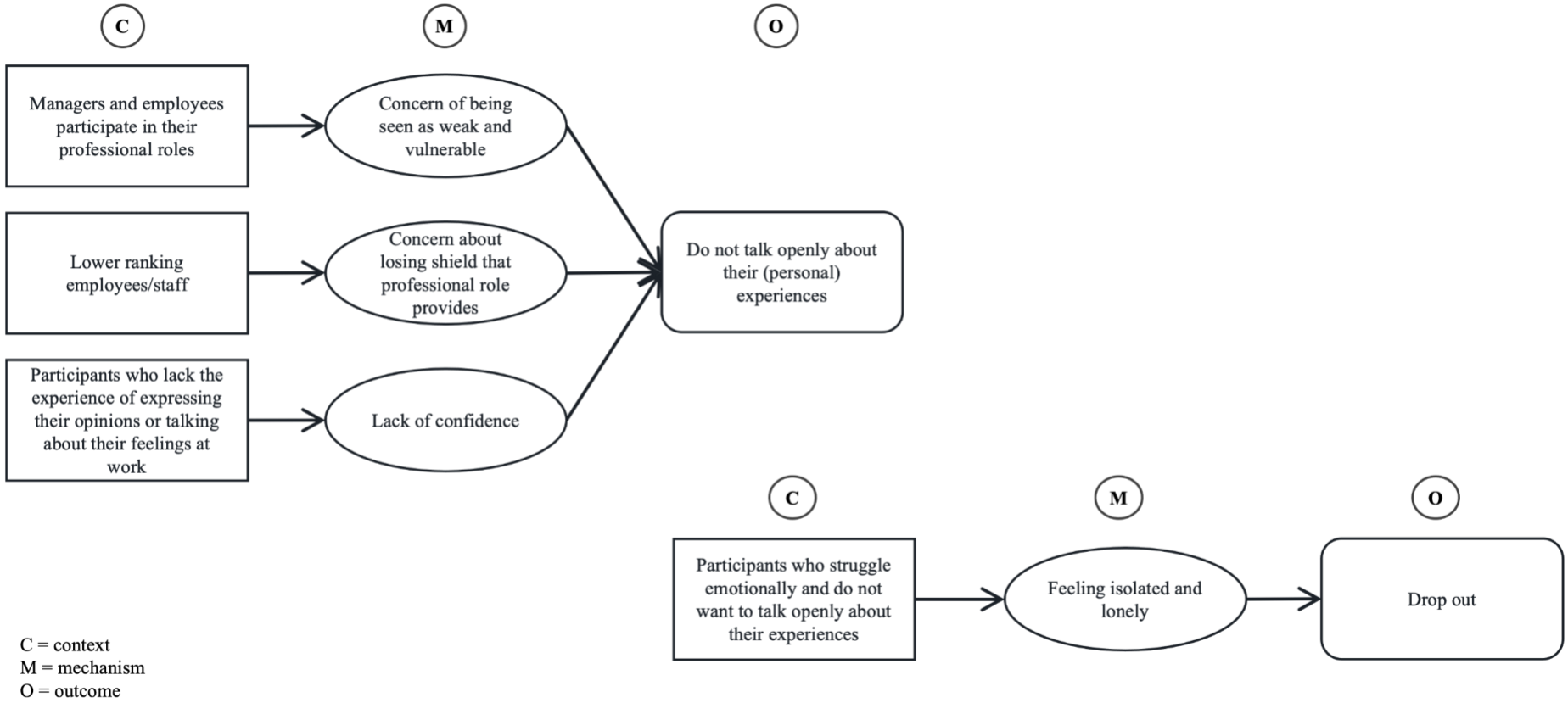
> No I wasn’t . . . . I don't have a problem with that. I don't think that, as a leader, you have to appear strong. I think it’s more authentic when you are there as a person, that's why I don't have a problem with that. [translated from German]
> (Philipp, manager, P23, D).

His words reflected the ethos of the new and different leadership style in his department, a leadership style that was embodied by two senior managers as role models (one of them was the manager quoted before, P15, who talked about disclosing his distress to his team). Similarly, in programme A, the participating senior manager favoured a very open, human leadership style. While his associates generally appreciated this leadership style, those who were his immediate subordinates struggled with it during the sharing sessions for the reasons that I described above.

Interestingly, while we might assume that supervisors set the tone in the group and serve as role models for associates to follow, this was not true for all participants in the MBPs. Notably, employees at lower levels of the hierarchy often decided to keep their thoughts and experiences to themselves and remain quiet during sharing sessions. Yet even then, they benefitted, to some extent, from the programme. They reported, for example, that they benefitted from listening to others and that their awareness of stress and distress had increased. Some experienced the meditation exercises as relaxing, and many found helpful coping tools in the brief mindfulness exercises and explanatory models or images. Lastly, some participants who felt uncomfortable doing the mindfulness exercises in the workplace said they might do them privately in the future.

Figure 5.5 Visualisation of CMOCs 25, 26, 27, 38b

What happens when participants remain in their professional roles



The dynamic nature of 'being human' and 'feeling safe to open up and be vulnerable'

'Leaving professional role and status behind' was not a one-time decision; nor was 'feeling safe to open up and be vulnerable' a static state. Both changed throughout the programme and sometimes even within a single session, moving back and forth comparable to the 'light of a dimmer switch' (Dalkin et al, 2015). Being human among colleagues was obviously challenging:

> I would say that I participated as a human and not as a project manager [pauses] or as—yes, as a human [pauses] but, on the other hand, also as a colleague. [laughs] [translated from German]
> (Jessica, manager, P22, D)

While participants longed to be human, they knew they were still at work. They knew that they would benefit from talking about their experiences, yet they were aware that disclosing too much might hurt them professionally:

> . . . you couldn't free yourself from the fact that they are colleagues and, 'What will they think about me?' It came up every now and then, but it didn't inhibit me all the time, I wanted to free myself from it. Whenever I noticed the thought came up, I [said to myself], 'Come on, it's important that we all participate, otherwise the course will be useless.' But somehow it still came up now and then. [laughs] [translated from German]
> (Claudia, employee, P18, D).

Participants tested how far they could go; they stuck one toe in the water, paused and observed, stepped back, and moved forward again. They carefully weighed the benefits of building new resources (that came along with opening up and sharing) against the threat of potential resource loss. And while participants opened up and shared, many never felt entirely safe. One participant, for instance, appreciated that his colleagues had the courage to open up in the sessions:

> I got to know my colleagues a little bit better, from a different perspective, because some parts of this mindfulness course can be quite sensitive. So, I think for them to share their inner thoughts, their personal thoughts, that was interesting. In a way that can be quite difficult for some, but they did.
> (Jian, manager, P25, E)

At the same time, he was aware that people were restrained because the CEO was in the same group, and he regretted that the programme could therefore not unfold its full potential:

> It hindered things that the majority of us would want to say. That's why I thought about certain topics—we kept these topics neutral, we couldn't go into sensitive topics, very, very sensitive topics, which I thought we could have done in a mindfulness course. That would have been even more interesting . . . . and more effective.
> (Jian, manager, P25, E)

Opening up and sharing could range from simply admitting that one was not in the best mood that day to disclosing that one felt stressed or distressed. The content of what participants shared did not matter. Instead, what counted was that they made themselves vulnerable, if only for a brief moment, to experience acceptance and normalisation through the group or the instructor.

What further added to the dynamic nature of 'being human' and 'feeling safe' was that the MBP itself had an impact on the environment (ie team, department, part of the organisation) in which it took place. For one participant, simply being offered mindfulness training at work was a sign that it was acceptable to be open about stress and distress:

> I thought 'Wow, your employer is really offering this? How great is that. It means you're allowed to say that you're stressed, otherwise they wouldn't offer it.' I thought it was an invitation to address these issues openly. It was a good sign that came from the employer. [translated from German]
> (Claudia, employee, P18, D)

As another example, participants who were colleagues also met and had conversations outside of the MBP. Some of them described how they began to open up to each other in these situations, be it an immediate result of the programme or for other reasons. The bonding that took place outside of the MBP likely impacted, in turn, how safe participants felt in the MBP. In other words, psychological safety was an emergent property influenced by many factors. This became apparent when I discussed with participants their changes on Edmondson's Scale of Psychological Safety. Participants found it difficult to make general judgements about the level of psychological safety at work. They said their survey answers depended on the colleague(s) or supervisor they had in mind. They explained that colleagues and supervisors had changed over the programme's eight weeks, leading to different assessments when completing the survey a second time. Overall, they could not link changes in psychological safety to the mindfulness training.

What emerges from these findings is that 'being human' and 'feeling safe to open up and be vulnerable' were dynamic states; they were in flux, depending on various conditons. I was able to identify some of these conditions, yet there are likely more. The key point though is that what was happening in the onsite MBPs was largely driven by managers and employees experimenting with 'being human' and vulnerable to their peers.

Further findings

While my evaluation (and interviews) focused on theories related to psychological safety, the data I collected allowed me to test and refine other sub-sections of the programme theory from my realist review as well. For instance, when a participant brought up a topic related to one of my theories, I would use that to test that theory using realist interview techniques as described in the methods chapter. The following section summarises all further findings.

Offering and signing up for stress-management/mental-health programme

Data from my evaluation supported the theory that an MBP becomes an attractive investment for management when it appeals to an organisation's overall business strategy, values, and practices (CMOC 3, 3). However, it partially refuted the theory that management might be hesitant to invest in an MBP or stop investing in it if it does not pay off in terms of productivity or other business-related key performance indicators (CMOC 1, 1). In formal and informal conversations with the instructors, the managers, and one human resource presentative, it became clear that there were other motivations for companies to offer mindfulness training. Among these additional motivations were employee retention, being an attractive employer for future generations, conforming with the 'duty to care for employees' (for which German companies receive tax benefits), and lastly also idealism (being part of a larger change that may or may not pay off one day).

There was also no data to either support or refute the theory that managers and employees are reluctant to sign up for a stress-management/mental-health programme because they could be seen as weak and vulnerable (CMOC 2, 2). Since I only interviewed individuals who signed up for the MBP, this is not surprising. However, when I asked participants why they thought colleagues did not sign up for the programme, none of them thought that stigmatisation of stress and distress at work might have been the reason. This could be because stress and distress were indeed not stigmatised in their work environment (high baseline levels of psychological safety, as measured by the PS scale, in all onsite programmes except for programme E indicated that participants generally felt safe in their work environment).

In accordance with my existing programme theory, participants were more ready to engage with mindfulness training when it appealed to their professional aspirations, values, or practices and hence offered an opportunity for professional development

(CMOC 5, 4). As one refinement of that theory, two instructors (programmes C and E) were rather critical of such motivation. They had observed that these participants were not really interested in experiencing mindfulness for themselves, did not do the home practice, and tended to be even more stressed in sessions (CMOC 6 NEW). Since I did not test this new theory, I found no further data to support or refute it.

One new finding was that a free and convenient workplace MBP offers a low threshold opportunity for managers and employees to do something that might otherwise be too expensive, too difficult to organise and fit into one's schedule, or to try out something that is simply new and different (CMOC 7 NEW). Again, one instructor was slightly critical of such motivation that, in her view, often triggered a 'shopper' attitude in participants and led to a more superficial engagement with the programme (CMOC 8 NEW). I found no further data to support or refute this theory.

Finding the time to engage with the programme and its activities

Workplace MBPs often compete with work tasks, and one theory from my review suggested that individuals might prioritise work over course attendance and engagement with mindfulness, worried that otherwise they will not meet their work-related goals or get their job done (CMOC 9, 5). If, however, managers and employees receive official release to attend sessions, another theory stated, they feel 'permitted' to take care of themselves at work end engage with the programme (CMOC 19, 12). Interview data from my evaluation supported and refined both theories.

Generally, course attendance was high across all programmes, and only six participants dropped out of the programme. However, dropouts were unequally distributed across programmes. Most of the dropouts happened in programmes A (n = 3) and C (n = 2); in both programmes, participants had to use their private time to attend training sessions. One participant from programme C (P12) said that she dropped out

because she took work home on the course days, which added strain. Similarly, a dropout from programme A (P2) felt that the MBP added to her workday because she had to work longer in the evening. This supported my theory that when participants have to use their private time, they might feel they have to give up other nourishing activities and have to prioritise (CMOC 14, 9). However, some participants from programme A did not experience any time or task conflicts. In line with findings from my review, these were employees with flexible working hours. As a new aspect to that theory, they were used to working longer than their contracted hours and considered time spent in MBP sessions as compensation for all the extra hours spent in the office (CMOC 20 NEW).

In contrast to programmess A and C, sessions in programme D were counted as work time. Managers and employees received official release from their employer to attend the training sessions. Participants from that MBP also experienced time and task conflicts because they needed to get their work done. Nonetheless, they remained in the programme. They felt that doing the MBP together as a whole division, including management, gave them 'a certain legitimation' (P17, D) to engage with selfcare during working hours. They enjoyed the sessions and saw them as an 'oasis', where 'they drew strength for the week on Monday' and 'brought the week to a close on Friday' [translated from German] (I4, D). This was in line with findings from my review (CMOC 19, 12). As one refinement of that theory, it seemed to be important that supervisors attended the sessions as well. Participants from programme D admitted that they might have skipped classes if not for their supervisors (CMOC 11, 7). However, they also reported that once they attended sessions, they felt that, bottom line, they gained more than they invested.

Interestingly, while attendance was high in programme D, compliance with the mindfulness practice was low. Over 40% of the participants meditated only during the sessions. One reason for that might have been that the material (handouts, audio files with

meditation instructions) was distributed through a work channel (MS teams) and hence associated with 'work' (CMOC 15 NEW). It became apparent in the interviews that the onsite MBPs blurred the boundaries between work and private sphere, creating conflicts for participants. On the one hand, participants felt that something offered by the employer and taking place at work was part of work. On the other hand, the mindfulness practices felt quite personal, and participants were hesitant to do them in the office during working hours. None of these conflicts were an issue for interviewees from the offsite MBP.

Another theory from my review stated that managers and employees see a workplace MBP as a sign of appreciation and that their health and wellbeing are important, which may enhance engagement with the programme and facilitate investment in selfcare (CMOC 17, 11). Interview data from my evaluation supported that theory only in parts. While most interviewees saw the MBP as a sign of appreciation, they did not think this had an impact on their engagement with the MBP and selfcare in general. In addition, several participants argued that being offered an MBP at work also triggered a sense of 'obligation' in them to do something for their health or make good use of the resources provided by the employer (CMOC 18 NEW).

Finally, some evidence suggests that irrespective of management support and company culture, some individuals simply found it easier to engage with selfcare activities at work than others. These differences may be due to personality differences, yet there were data to suggest that low hierarchy level and lack of job security may have played a role as well (CMOC 16 NEW).

In line with my existing programme theory, having to participate in an MBP added stress for participants who were under a lot of pressure (CMOC 10, 6). However, even these participants seemed to benefit from the strategic use of very brief exercises (CMOC 21, 13) and exercises that could easily be integrated into existing routines and busy work

schedules (CMOC 22, 14). Coping mechanisms in these brief exercises ranged from enhanced awareness and attention regulation, to taking a few breaths or deep breathings, pausing, cognitive reappraisal and/or simply reminding oneself that all these strategies were available. Also in line with my existing programme theory, psychoeducation played an important role in all MBPs (CMOC 23, 15). Interviewees found images, models, or phrases helpful because they could easily remember them in stressful situations, which helped to cope. Psychoeducational elements may also have supported behavioural change (CMOC 24 NEW, see also 'Psychological safety and acceptance/compassion').

Integrating new behaviours at work and in daily life

One theory from my review suggested that participants stop investing in mindfulness if they find it incompatible with their work practices because they may be concerned that their work performance or professional self will be negatively affected. (CMOC 40, 21). There were only two interviewees who provided data in support of that theory. And in one of these cases, the sense of incompatibility between mindfulness and work practices was overcome with the help of the instructor (according to the instructor). In general, interviewees thought their work culture and practices were supportive of mindfulness and vice versa. There was also no further evidence to support my theory that a workplace MBP can have contagion effects, with more and more people of an organisation getting involved with mindfulness (CMOC 46, 26). Given that I only interviewed managers and employees who participated in the MBP and did not look at long-term outcomes, this is not surprising.

One theory from my review was that participants are motivated by positive effects to continue practicing mindfulness because they feel that they will be fine or improve even more as long as they practice mindfulness (CMOC 44, 24). There were no additional data to support that theory. Also, only two interviewees reported ripple effects affecting

other areas of their lives (CMOC 45, 25), and both were from the offsite programme (B). Reported ripple effects in onsite programmes were exclusively related to the workplace (as described under 'Outcomes related to feeling safe'). One instructor (I4) hypothesised that participants need to *experience* mindfulness (rather than only deal with it cognitively) in order to apply it to other areas of their life (CMOC 43 NEW). Since I did not test that theory, I was not able to confirm or refute it with data from participants.

As one new theory, participants reported that having the programme run over several weeks made it easier for them to integrate mindfulness into their daily life. It seemed that repetition helped them familiarise with the content and solidify it (CMOC 47 NEW). Lastly, data from my evaluation confirmed that participants who experienced acceptance and compassion in the group or in their relationship with the instructor gained the confidence to bring experience to difficult moments in their life, which they found stress-reducing and rewarding (CMOC 42, 23).

To conclude, the above findings confirmed, refined, and refuted theories from my review. As I did not systematically test these theories, findings must be treated with caution, especially when there were no additional data to support a CMOC. As one more general finding from the data I had collected, outcome patterns varied less across programmes than within programmes. In other words, outcome patterns seemed to be determined less by the overall culture of the organisation in which the MBP took place and more by aspects of the individual (eg the participants' job or position, whether they participated from home or work, or their relationship with fellow participants).

Explaining stress and wellbeing outcomes

When I asked participants how they would explain their reduced stress and enhanced wellbeing scores, they gave a range of explanations. Most of these explanations accorded with the proposed mindfulness mechanisms (Table 1.1). For example, many interviewees found the very brief exercises (eg pausing in between, taking a breath, doing one task at a time, taking a moment of gratitude) particularly helpful. Some interviewees described how they began to invest more time in selfcare (eg go for a walk, meditate, spend time with family). Others reported that mindfulness meditation helped them (1) increase their awareness, (2) be in contact with their body, (3) let go of unhelpful thoughts, (4) fall asleep at night, and (5) relax. Many interviewees related their reduced stress scores to enhanced awareness. They found that enhanced awareness allowed them regulate their attention, emotions, and behaviour.

Interestingly, even participants who only meditated in the sessions reported increased awareness. This means, enhanced awareness was not related to how often people meditated. There was also no linear relationship between stress and wellbeing outcomes and how often participants meditated. Generally, I was unable to detect a link between changes in stress and wellbeing scores and participants' engagement with the MBP and its resources. Some participants only attended two or three sessions and had reduced stress and increased wellbeing scores after the course, while others were engaged with mindfulness but had increased stress and reduced wellbeing scores. Some thought their survey results were due to external circumstances (eg pandemic-related restrictions being relaxed, spring weather). Altogether, and to my surprise, I could not link the post-survey stress and wellbeing results to my realist programme theories.

Substantive theory revisited

Data from my evaluation allowed me to expand on COR theory, psychological safety, and Yalom's therapeutic factors that I had used as theoretical lenses in my review to explain outcome patterns. In accordance with COR theory, managers and employees with more resources were more ready to invest in mindfulness training than those with less resources. And psychological safety was a key resource for managers and employees to engage with the programme and its activities. One new finding was that managers and supervisors generally felt safer and had more resources than lower-ranking employees. Managers were more flexible in their use of time, had more to gain and less to lose from leaving role and status behind and showing vulnerability, and were more used to talking about their feelings and experiences at work. They had conditions that fostered resource acquisition. In contrast, lower-ranking staff had more to lose. They had fixed working hours and knew they would take work home if they did not use their working hours productively; they saw their professional roles as a shield that helped them set boundaries and were aware of potential negative consequences if they did not perform professionally. As a result, they were more guarded in the sessions. However, findings from my study also showed that psychological safety was not a static state. Participants overcame their concerns of potential resource loss time and again in the hope and belief that it was to their benefit. With more and more participants joining in by opening up and engaging in conversations about stress/distress, the programme changed the context in which it took place. Positive experiences created feedback loops and ripple effects both on the individual and on the interpersonal level (mostly related to the workplace).

Interview data further confirmed the importance of group process and group experience as conceptualised in Yalom's therapeutic factors. In line with theories from my review, the mechanisms involved in sharing feelings in the group

(universality/normalisation and cohesion>feeling accepted) positively affected compassion outcomes. Also in line with my previous theory, psychoeducation supported participants' coping. In addition, two other therapeutic factors seemed to play a role in the MBPs of my study: the development of socialising techniques and interpersonal learning. Developing socialising techniques refers to learning new ways of talking about one's feelings and expressing oneself in a less judgemental and more empathetic way (Yalom, 1995: 15-16). Interviewees' accounts of being able to address difficult issues at work after the MBP would be examples of that. Interpersonal learning means that participants develop self-awareness through interacting with others in the group (Yalom, 1995: 17ff). Developing self-awareness is a key objective of mindfulness practice (meditation), so we would expect participants in a mindfulness course to develop self-awareness. However, as specified above ('Explaining stress and wellbeing outcomes'), study participants reported enhanced self-awareness even if they only meditated in sessions. Yalom's theory might help explain this finding: Participants likely developed self-awareness through interpersonal learning in the group.

My evaluation did not yield any data to support broaden-and-build theory as an explanatory theory for wellbeing outcomes. One reason might be that I did not test that theory explicitly and did not ask questions granular enough to detect broaden-and-build processes.

Chapter Conclusions

The purpose of this realist evaluation was to test and refine parts of the programme theory from my realist review. I conducted a realist evaluation with five MBPs, including a survey (41 respondents) and 29 realist interviews with participants and instructors. Survey results revealed significantly reduced stress levels in participants and significantly

increased levels of wellbeing and self-compassion, suggesting that managers and employees generally benefitted from mindfulness training. Survey results further indicated that the MBPs had positive effects on psychological safety and the de-stigmatisation of stress/distress at work. Overall, course attendance was high, and there were only a few dropouts; however, compliance with home practice (meditation) was low. Statistical analysis found no correlations between how often participants meditated and outcomes (stress, wellbeing, self-compassion).

To explore differences in outcomes based on my programme theories, I conducted realist interviews. In these interviews, I focused on theories related to psychological safety. I explored three issues: (1) what the outcomes related to feeling safe (or not feeling safe) were; (2) how important psychological safety was for developing acceptance and compassion; and (3) under what conditions participants felt safe (or not) in the programme.

With respect to the first question, I found that overall managers and employees were more ready to engage with the programme when they felt safe to engage with mindfulness and selfcare at work. Feeling safe was particularly important for opening up and being vulnerable during group sharing, which led to a range of beneficial outcomes, both on the individual and interpersonal level. Among the beneficial outcomes that participants reported were (1) greater self-compassion, (2) acceptance, empathy, and compassion for others, (3) trust and bonding, and (4) awareness of and de-stigmatisation of stress/distress at work. With regard to question two, data from my evaluation confirmed that opening up and showing vulnerability is vital for compassion. Participants who felt safe to open up and show vulnerability had higher increases in self-compassion (as measured by the SCS) than participants who did not. On question three, this study found that the more participants could leave their professional roles and status behind, the more

they felt ‘not at work’, and the safer they felt. Participants felt safer, for instance, when they did the course with colleagues who were also friends or with whom they had no close work relationship and when they participated in online sessions from their homes.

Interview data further revealed that ‘being human’ at work was generally difficult for participants, and it was more difficult for some participants than others. Interestingly, albeit perhaps not surprising, it seemed to be more difficult for staff than for supervisors. Employees at lower levels reported that they preferred to hold on to their professional roles because it helps them set boundaries at work. They were also more hesitant to leave their professional roles behind because they knew that, their supervisors would evaluate and promote them based on their professional performance. In addition, employees who worked in more administrative or assistant jobs may not have been used to talking openly about their feelings and experiences at work. In contrast, managers and supervisors generally felt attracted to a new, more human leadership style, as represented by mindfulness. ‘Being human’ was something they aspired to. In other words, there was more to gain and less at stake for managers and supervisors than for staff.

However, data from my evaluation also suggest that ‘being human’ and ’feeling safe to open up and share’ were not static properties; they were dynamic and changed for participants over the course of the programme and sometimes even within a single session. Participants experimented with ‘being human’; they tested, crossed boundaries, and pedalled back again. They carefully weighed the benefits of building new resources (as a result of opening up) against the threat of potential resource loss (associated with appearing weak and vulnerable). And they overcame concerns of potential resource loss because they saw the benefits of doing so.

Finally, while my realist evaluation showed that workplace mindfulness training decreases stress and enhances wellbeing, I was unable to explain stress and wellbeing

outcomes as measured by the PSS 10 and WHO-5 with my programme theory. Participants attributed these outcomes to enhanced awareness and self-regulation skills, which is in line with mindfulness theory. However, these changes happened independently of how much participants engaged with the MBP.

My evaluation is not without limitations. Most importantly, data were collected during the global COVID-19 pandemic. Social isolation, worries, and grief may have made managers and employees more vulnerable to stress and anxiety. Social isolation may have also led to an increased need to be in touch and talk to peers. At the same time, some managers and employees had less commuting strain, fewer meetings, and more time for themselves. All of this most probably impacted how individuals reacted to the resources provided by the MBP. I will discuss the possible implications of this and other limitations in the next chapter. I will also draw all findings together in a summary of my programme theory. And I will discuss what these findings imply for practice or what instructors and managers should consider when they want to offer mindfulness training in the workplace.

CHAPTER 6 DISCUSSION AND CONCLUSIONS

To my knowledge, this was the first use of realist approaches to investigating MBPs as stress and wellbeing intervention in the workplace. By applying realist research methodology, I explored the interactions between an MBP and the setting in which it takes place and how these interactions affect outcomes. This is an original contribution to the field. My findings will help to support mindfulness instructors and decision makers in organisations in understanding what to expect from an MBP as organisational stress and wellbeing intervention. They further provide guidance for making better decisions about when to offer what kind of MBP to managers and employees for maximum impact. My findings have been consolidated into a programme theory underpinned by substantive theories such as COR theory, psychological safety, and Yalom's therapeutic factors. Investigating workplace MBPs through the framework of COR theory provides a novel understanding of the mechanisms at work in these programmes. The programme theory that I have developed is of the middle range. It is general enough to be applied across industries and professions and specific enough to be tested and refined in future empirical studies (Wong et al, 2013b).

In this chapter, I will first outline my refined programme theory (which will also answer my overall research questions, see chapter one) and compare my findings with the existing literature. I will then present recommendations for practice, outputs, and dissemination strategies. Next follows a discussion of the strengths and limitations of my research and implications for future research. I will conclude the chapter with personal reflections on my various roles in the research project and how they may have impacted the results.

6.1 Summary of findings

One of the key findings has been that simply providing managers and employees with a resource (mindfulness) to decrease stress and enhance wellbeing is not enough; the environment must be supportive for people to use this resource. Individuals are highly sensitive to the social cues in their work environment and may protect existing resources before they invest in acquiring new resources. However, the more resources managers and employees have at their disposal, the more ready they are to engage on a deeper level with mindfulness. One important resource seems to be that managers and employees feel safe to let go of their professional roles and status and relate to each other as human beings. Existing resources not only facilitate engagement with an MBP but might function as accelerators, forming resource gain spirals that possibly have a beneficial impact on a wide range of mental health and wellbeing outcomes.

Refined realist programme theory

Workplace mindfulness training potentially offers a low threshold opportunity for managers and employees to gain resources (experiences, skills, and knowledge) that help them deal with stress and enhance wellbeing. If specific conditions are present, participants learn to pause and make time for selfcare; they get tools that help them regulate their attention, emotions, and behaviour, and they develop awareness, acceptance, and compassion. Workplace mindfulness training can further lead to beneficial effects on the interpersonal level, such as trust and bonding among colleagues, empathy, compassion, courage, and confidence to address difficult issues at work (giving feedback, talking about stress and mental health). The mechanisms involved are mostly group-related. Participants feel supported, accepted, and normalised (ie they see that others have similar thoughts, feelings, experiences, and problems); they see their own

humanness in others and build trust. In addition, they receive knowledge and strategies for handling difficult situations in their daily lives. Positive effects can create gain spirals and ripple effects, both on the intrapersonal and interpersonal level. Finally, workplace MBPs can contribute to the de-stigmatisation of stress and distress in the workplace.

In order to build the above resources, managers and employees have to invest resources (mostly time and self-disclosure). And the more resources they have at their disposal, the more ready they are to invest in enlarging their resource pool. More concretely, managers and employees engage with the MBP when mindfulness helps them obtain professional or personal goals, such as becoming a better leader or creating strong work relationships. They attend sessions when they have protected space and time to engage with selfcare in the office and during working hours. They open up and show vulnerability when they feel safe to be human at work and have the skills and self-confidence to express their feelings and experiences to colleagues and across hierarchies. The latter is particularly important if participants want to develop acceptance and compassion.

In contrast, the fewer resources managers and employees have at their disposal, the less willing they are to invest resources, and the more they protect existing resources. Participants may prefer to protect existing resources when they are under a lot of stress and pressure, have no protected time to attend training sessions, lack a private or dedicated place for mindfulness practice in the office, work in precarious jobs, and are not used to talking about their feelings and experiences in front of their colleagues or supervisors. For certain groups of participants (eg employees at lower hierarchy levels or in more administrative jobs), being human at work might not promise further resource gain. It may even be associated with resource loss (eg the ability to set boundaries in the future), and they remain guarded during the sessions. They may still benefit from listening to others

or from the strategic use of brief mindfulness exercises and psychoeducation. And some may overcome their concerns and open up because they know they will benefit from it or because more and more of their colleagues open up as well. In some cases, though, their experiences may spiral down, for instance, when they want to talk about their feelings, but their professional roles hinder them. As a result,they may withdraw internally or drop out of the programme.

6.2 Comparison with existing literature

In applying a realist approach to investigating workplace MBPs, my research confirms findings from previous research and moves beyond existing knowledge. My programme theory accords with Good et al's framework (2016) of workplace MBPs in supporting their notion that participants learn in these programmes how they can regulate their attention, emotions, and behaviour. It has to be noted though that a meta-analysis by Lomas et al (2019b) found only small and non-significant effects on emotion regulation in participants from workplace mindfulness training. A possible explanation for that might be that participants may have received the tools to regulate emotions but may not yet be able to use them consistently in their daily lives. Interview data from my evaluation supported that explanation.

The present programme theory also agrees with existing theories that have distinguished mindfulness as attention regulation skill and coping technique from mindfulness as a capacity that enables individuals to deal with stressful events in an all-embracing, accepting, and compassionate way (Teasdale and Chaskalson, 2011a; Teasdale and Chaskalson, 2011b). Hafenbrack (2017) uses this distinction in his framework of mindfulness as on-the-spot workplace intervention and argues that brief attention regulation exercises in moments of heightened subjective self-threat might be

more appropriate for individuals in the workplace to deal with stress than the practice of non-judegmental acceptance. The present programme theory supports Hafenbrack's framework by showing how short and simple mindfulness exercises provide managers and employees with a sense of coping in the face of acute stress. It extends Hafenbrack's framework by demonstrating in which contexts acceptance and compassion can lead to a whole range of beneficial outcomes on the individual and interpersonal level.

While experiential learning is seen to be a fundamental element for change in MBPs (Crane et al, 2017), my programme theory suggests that, in the workplace, psychoeducation may play an important role too. This is consistent with findings from previous reviews on workplace MBPs (Burton et al, 2017; Eby et al, 2019). It is further in line with previous clinical research that has found psychoeducation to be particularly effective in less vulnerable patients (Williams et al, 2014; Stangier et al, 2013). The role of psychoeducation as a therapeutic agent of its own has long been recognised in psychotherapy, where it provides people with explanations and thereby reduces uncertainty while enhancing control (Yalom, 1995: 49-50).

A qualitative review on MBPs (Morgan et al, 2015) concluded that overcoming challenges related to mindfulness practice might have been among the factors that helped healthcare workers develop acceptance and compassion for themselves and others. My programme theory is consistent with findings from that review in so far as turning towards difficult experiences seems crucial for increasing acceptance and compassion. In contrast to Morgan et al, my programme theory claims that acceptance and compassion result not only from facing meditation-related difficulties but from opening up to *any* emotional difficulties. It further adds a deeper understanding of the mechanisms involved in developing acceptance and compassion and the conditions necessary for participants to open up. This finding has important implications, as self-compassion has been linked to

better health and wellbeing (see 'Knowledge gap' in chapter one), protection against compassion fatigue in healthcare professionals (Boellinghaus et al, 2014), and improved patient relations (Lomas et al, 2019b). However, a slight note of caution is due here since I cannot exclude the possibility of additional explanations for the outcomes of acceptance and compassion. For example, meta-analytic evidence found enhanced levels of compassion mostly in 8-week MBSR programmes (Lomas et al, 2019b), indicating that programme length may play a role, too. Although acceptance and compassion are intrinsic to mindfulness and implicitly part of any MBP from the first session, they are usually taught more explicitly only in the second half of an eight-week course once participants have learned to regulate their attention.

The present programme theory adds to findings from a large study that compared the effectiveness of meditation (loving-kindness meditation that is part of MBSR/MBCT) with structured dyads (Kok and Singer, 2017). In these dyads, participants alternately reported to each other their feelings and bodily sensations during a difficult situation and a gratitude-eliciting situation they experienced during the previous day. The study found that dyads led to increased perceived social connectedness and, in addition, were more liked and experienced emotionally as more positive than meditations. My programme theory corroborates the notion that sharing experiences in a workplace MBP creates trust and bonding among co-workers and may be more important in doing so than meditation. The benefits of self-disclosure for personal relationships and wellbeing have long been established (Jourard, 1964; Collins and Miller, 1994). Interestingly, Kok and Singer also reported that the dyads led to growing self-disclosure, which matches the idea of feedback loops from my programme theory with respect to trust and opening up. Previous neuroscientific studies have revealed that self-disclosure is associated with wellbeing and activity in reward areas of the brain (Tamir and Mitchell, 2012; Wagner et al, 2015). In

other words, humans seem to find self-disclosure and sharing emotions intrinsically valuable. This may explain why many interviewees from my evaluation stressed how crucial the very act of 'opening up towards others' was for them. These findings are important as a large body of research links social connectedness, or the experience of social belonging, to greater general health and mental health (Baumeister and Leary, 1995; Michalski et al, 2020).

The value of sharing within the group in MBPs was also highlighted by a recent study that compared live to recorded online mindfulness training at work and found that live teaching was more likely to reduce stress levels significantly (Wolever et al, 2022). The authors concluded that live teaching was more effective because it allowed for discussion among participants and with the instructor. Discussions, they argued, enhanced self-reflection. My programme theory agrees with Wolever et al that group discussions are important, yet it offers an alternative explanation for why this may be the case (because of normalisation and acceptance of experiences). It further shows what other outcomes may result from sharing experiences with others.

Previous research has linked self-disclosure not only to wellbeing and motivation but also to group cohesiveness and social connectedness (Dumas et al, 2008). With the shift from manual work to knowledge work, social relationships between co-workers have become an important factor for organisational performance. Many studies have demonstrated that the quality of interpersonal relationships has a beneficial impact on a whole range of outcomes critical to organisations, such as performance, worker satisfaction, identification with the organisation, creativity, absenteeism and turnover rates (for references, see Dumas et al, 2008). With the growing importance of social cohesiveness, a plea for authenticity and self-expressivity at work has emerged (de Keere, 2014). The call to 'bring your whole self to work' started in the early 20th century with

the work of Elton Mayo (Davies, 2015: chapter 4) and has, over the last years, gained new popularity in the management literature (Robbins, 2018). The idea is that managers and employees do not hide behind their roles and functions but show their humanness and authentic selves. Mindfulness, as my research has shown, supports that notion. The programme theory I developed from evidence suggests that being human is the very condition for team cohesiveness and trustful interpersonal relationships.

At the same time, the history of workers' resistance to being 'themselves', and 'speaking openly' and 'honestly' to their managers is as long as the 'bring-your-whole-self-to-work' movement (Davies, 2015: 128). Many studies have raised the issue that authenticity and self-disclosure may not be equally beneficial for all employee groups (Dumas et al, 2008). For example, a recent study found that some social groups, primarily women from working-class backgrounds, did not feel they were permitted to bring their 'real' selves to work (Friedman, 2022). These women decided to conceal their social background because they had a long history and deeply embodied fear of being stigmatised. While in an MBP disclosure is not about social class, the reluctance that some participants in my study—primarily women from lower ranks of the hierarchy—had about opening up mirrored a similar ingrained concern that showing oneself might backfire. And there may be another reason why these women might have chosen to remain guarded. The mindfulness movement has been described as a movement of the elite, granting its members access to institutions, information, and projects and providing them with a sense of status and belonging (Kucinskas, 2019). In Bourdieu's terms, we might say mindfulness serves as a means to enlarge one's social capital by building usable social connections and networks (Bourdieu, 1986). Self-disclosure (ie being human), in that sense, becomes an admission ticket to the 'movement', to the club. It may well be that for certain groups of workers, this membership is neither useful nor aspirational, hence they

stay quiet. At this point, this conclusion is only hypothetical and requires further research. However, there were data in my research to suggest that many managers who participated in the MBP felt they were part of a bigger movement (I will return to this in 'Personal reflections'.)

Applying the COR framework to workplace MBPs allowed me to explore the 'ecological conditions that either foster and nurture or limit and block' the acquisition of new resources (Hobföll et al, 2018: 107). Prior mindfulness studies have used the COR framework to explain outcomes of state or trait mindfulness at work. For example, a study by Hülsheger et al (2018) on state mindfulness demonstrated how previous day recovery experiences benefitted mindfulness and subsequent recovery experience (gain spiral), whereas workload hampered the experience of mindfulness and subsequent recovery experience (loss spiral). Similarly, a study conducted during the COVID-19 pandemic found that the benefits employees gained from trait mindfulness depended on their workload during the crisis. Mindfulness only helped those cope with emotional exhaustion who did not experience excessive job demands (Phungsoonthorn and Charoensukmongkol, 2022). Another study undertaken during the pandemic found that mindfulness moderated the relationship between financial insecurity and pandemic-related stress by creating negative feedback loops (Li et al, 2022). All these findings support the notion that resources are context-dependent; that is to say, they can be a means by which to gain new resources, and they can be a risk to existing resources, especially when these are low.

My programme theory contributes to this discussion by suggesting that resource gains in a workplace MBP have to be seen in the context of resource availability. It accords with the work of previous organisational research in showing that individuals may prefer resource protection over resource acquisition when new resources are implemented

in the workplace. Meta-analytic evidence on voice behaviour at work, for instance, found that employees who already face major workplace stress tend to shy away from expressing change-oriented ideas and suggestions because they find it too depleting (Ng and Feldman, 2012). My programme theory adds to existing knowledge by showing how, through feedback loops and ripple effects, an intervention can change the context in which it takes place and hence enlarge managers' and employee's resource pool.

Finally, my findings support the idea that to improve programme effectiveness, we should not only look at the programme itself but also at the setting into which the programme is introduced and with which it interacts (Hawe et al, 2009). Interestingly, a review of brief MBPs for healthcare professionals (Gilmartin et al, 2017) found that programmes that adapted course hours to work schedules, provided protected space for practice and/or were compatible with the respective work culture had the largest effects on participants' wellbeing. My programme theory confirms that these conditions are important for engagement with the MBP. Surprisingly though, I was unable to link these conditions to improved wellbeing. My programme theory further adds to an existing body of organisational research showing how important psychological safety is for implementing new and innovative approaches at work (Agarwal and Farndale, 2017; Newman et al, 2017).

6.3 Recommendations for practice

Based on above programme theory, I have developed recommendations to be considered when offering and implementing workplace MBPs as stress and wellbeing interventions. These recommendations are are relevant for decision makers in organisations and mindfulness instructors. They are generic enough to be applied, with minor local

adaptions, across industries and professional groups and may apply to a wide range of workplace MBPs.

Implementation

A key question when offering onsite mindfulness training as a stress and wellbeing intervention is what the objectives are. Different objectives require different conditions for implementation. (Figure 6.1)

(1) If the objective is to provide managers and employees with a low threshold opportunity to learn basic coping skills, it is enough simply to offer an MBP and accept attrition and non-compliance with home practice. Most likely, there will be a small group of participants who do engage fully with the programme. The programme can be either eight weeks long or shorter, but participants learn and solidify their learnings through weekly repetition.

(2) If the objective is that managers and employees learn self-management skills (ie how to regulate attention, emotions, and behaviour), it is important to provide protected time and a safe space. Given the demands of highly pressurised work environments, it is not enough that management or supervisors support participation in an MBP. Participants must know that they are excused from work while attending training sessions and/or that no disadvantages will result from taking time off to engage with selfcare. They are also more likely to attend training sessions when they do not have to use their private time. Participants may also not want to access work channels (MS teams, Slack) in their private time. Consequently, if the course material (audio files, handouts) is distributed via these channels, they may not do the home practice. Making the material available through a non-workplace-related avenue may increase engagement with it. Furthermore, it would be helpful to provide a safe space for training sessions and continuous practice so that

participants can practice undisturbed and not feel exposed in front of non-participating colleagues or supervisors. The less participants are reminded of being at work, the easier it is for them to get involved with the programme. Participants tend to feel particularly safe when they attend online sessions from home.

(3) If acceptance and compassion are important outcomes and if the programme is to have an impact on team or work culture as well (trust/bonding, empathy, compassion, addressing difficult issues at work, de-stigmatisation of stress/distress), it is important to provide an environment where participants feel safe to open up and show vulnerability. Mixing groups of various hierarchies and functions (eg supervisors and staff, doctors, and patients) can make participants feel unsafe and reluctant to talk about their experiences and struggles. Chances to dive deeply into mindfulness and develop acceptance and compassion, two cornerstones of wellbeing, may be lost. Managers and employees feel safer the more they can leave their professional roles and status behind. This is the case when they are not in a close work relationship with other participants and when they attend online sessions from home. However, it is important to respect that some individuals may not want to leave their professional roles behind in a workplace setting.

As a general rule, it may be helpful to understand that managers and employees might want to protect existing resources (time to finish work tasks or attain work-related goals, time for other nourishing activities, professional image of self, professional role as a shield) before they invest in developing new resources as offered by an MBP. If it is not possible to provide a safe group setting, offering managers and employees the opportunity to attend an open MBSR/MBCT course in the local community may be a viable alternative. Providing one-on-one sessions could be another option.

Figure 6.1 Recommendations for practice



6.4 Outputs and dissemination strategy

I have used several opportunities over the last four years to present my research and get feedback from professionals in the field. In spring 2019, I presented early findings from my realist review within a train-the-trainer programme for workplace mindfulness teachers. In fall 2019, I presented and discussed my programme theory from my realist review in a one-day workshop for coaches, consultants, and human resources representatives. And in spring 2022, I presented my refined programme theory and recommendations for practice to a group of workplace mindfulness instructors. Overall, my colleagues resonated with my findings. Many of them found relief in hearing that their own challenging experiences in delivering MBPs (for which they often blamed themselves) had a lot to do with within-organisation dynamics in which participants of MBPs were caught. Their feedback and our discussions, in turn, helped me put my programme theory in words and reminded me to be aware of my biases (see 'Personal

reflections' in this chapter). Most importantly, my colleagues encouraged me to proceed with my research and disseminate my findings. I have published my review and sent it occasionally to decision makers in organisations and instructors who contacted me to inquire about how to implement a workplace MBP. Unfortunately, there were no opportunities to present and network at conferences or other major events during the COVID-19 pandemic.

I intend to continue disseminating my research findings to organisational decision makers and mindfulness instructors. In addition, coaches and consultants who work more generally in the field of workplace health and wellbeing may also find certain aspects of my programme theory valuable. My main objectives will be to inform and engage in a dialogue. The most important tool for distributing my findings and inviting others to comment will be my social media accounts (mostly Linked.in; helpful strategies can be found in Bik and Goldstein, 2013; Ross-Hellauer et al, 2020). In addition, I will use my personal website to make my research visible. This includes branding and creating a story from my findings to attract a larger audience (Bik et al, 2015). I will also continue giving talks and running workshops for professionals in my field. Finally, I plan to publish the findings of my realist evaluation.

6.5 Strengths, limitations, and future research directions

Strengths

The strength of a realist approach lies in moving beyond looking at the mechanisms of change proposed by the official theory of change to see how these mechanisms play out in real life, under which conditions they become active, and what other mechanisms might get triggered that help explain the outcomes of a programme. Another strength of realist research is that it seeks to find theoretical explanations for outcome patterns. This means

I did not only look for barriers and enablers of a workplace MBP but attempted to understand *why* and *how* managers and employees engage differently with it in different contexts. For example, previous studies have found a quiet room, where individuals can practice undisturbed, crucial for the succes of workplace mindfulness training. However, while noise and interruptions have been identified as key barriers to successful implementation of a workplace MBP, looking at the mechanisms underlying people's call for a private space has revealed the concern of being exposed. Understanding this mechanism is important as it might need to be addressed differently than the noise issue. Noise, for instance, can be used as an object of meditation and thus as a learning opportunity (Moorhead, 2012). The concern of exposure may be more difficult to address because participants may not express this concern openly.

My refined programme theory can be applied across industries and professional groups because it is based on understanding the behaviour of widely occurring mechanisms under different contexts. In other words, the mechanisms I have identified in my research do not apply to a specific setting or programme but will most likely be present in other situations as well (Punton et al, 2016; Pawson and Tilley, 1997). This claim rests on the assumption in realist philosophy that mechanisms are real phenomena that can be activated in various situations. This provides a warrant for the transferability of the findings and is another strength of my research.

Linking my programme theory to organisational theories such as COR, psychological safety, and broaden-and-build theory further strengthens its transferability and opens venues for future research. Future studies may, for instance, use the job demands-resources model that is based on COR theory as a potential moderator when measuring the effects of an occupational stress and wellbeing intervention. Future research might also consider the model of psychological safety climate (Dollard and

Bakker, 2010) as an alternative to psychological safety to investigate interactions between stress and wellbeing interventions and health outcomes. It may further be worthwhile to use self-determination theory, particularly the aspects of relatedness and competence to investigate health-related outcomes of workplace MBPs. Finally, theories of professional identities (Miscenko and Day, 2016) and self presentation (Goffman, 1959) may be used to further explore my theories around 'being human' at work and authentic leadership.

Understanding the interplay between a programme and its context improves the quality of advice. More specifically, a detailed understanding of CMO configurations enables (1) tailoring programmes to particular contexts and hence improving programme effectiveness and (2) understanding which programmes are best suited for which contexts (Westhorp, 2014). This makes my findings particularly useful for practitioners and decision makers and adds to the strength of my research.

Finally, my evaluation included a mixture of in-person, online, and hybrid MBPs. This allowed me to compare outcome patterns across various training formats. With a growing number of organisational health and wellbeing programmes moving from in-person to online or hybrid formats, my findings are timely.

Limitations

My research has several limitations. In what follows, I will discuss each of these limitations and point out implications for future research.

Self-reported outcomes and short term effects

In my evaluation, conclusions regarding programme outcomes are based on participants' self-assessments. This can be problematic as social desirability response bias might have affected the results. Particular caution is needed with regard to findings related to interpersonal outcomes such as empathy and compassion. Future studies should include

data from colleagues, subordinates, staff, patients, and clients who are potentially affected by interpersonal outcomes. As a further limitation of my research, most data, both in the studies from my review and my own study, were collected immediately after course completion. We do not know how lasting the reported stress, wellbeing, and (self-) compassion outcomes and the effects on aspects of the context such as psychological safety were. We also do not know whether or how quickly the insights participants gained washed out and whether or how long participants continued to use the practical tools they received in the course. It is conceivable that the reported feedback loops and ripple effects related to participants opening up to each other may continue reinforcing each other. The lack of evidence on the long-term effects of MBPs is a common issue in mindfulness research with results from longitudinal studies only slowly beginning to emerge (Solhaug et al, 2019). More research is needed to develop theories related to lasting change in workplace MBPs.

Small sample sizes

Sample sizes in my realist evaluation were too small to compare results across programmes. They may also have been too small to detect significant differences between onsite MBPs and the offsite MBP and between groups of different levels of engagement with home practice (ie how often participants meditated). Even statistically significant results need cautious interpretation, given that comparisons were made between very small numbers. This is particularly unfortunate as one quarter of the completed surveys could not be used for analysis due to inconsistencies in the respondent-generated identification codes. Inconsistencies in respondent-generated identification codes are a common problem in survey research and can result in losses in up to 50% of the cases (Schnell et al, 2010). Research has shown though, that including more components in the code than only two, as I did (Ripper et al, 2017) and applying ‘one-off’ or ‘two-off’ rules

or using matching software to compensate for errors in the code significantly reduces loss (Schnell et al, 2010). I would consider these strategies in future studies where participant anonymity is required and where I cannot obtain participants' email addresses. I may also consider using coded questionnaires to identify respondents so that they do not need to worry that they could be identified.

Convenience sample

An arguable weakness of my evaluation is that I used a convenience sample. This may have led to the under- or over-representation of certain groups in the study. For example, were those programme participants who did not take part in the study dissatisfied with the programme? Did they not trust their employer or me, or were they simply too busy? A convenience sample lends itself to collecting data from people who volunteer and therefore are more likely to have benefited from the programme. This was also a limitation in many of the studies from my review. It has to be noted though, that both my review and evaluation include data from participants who were critical of the programme and/or dropped out.

Realist research does not aim to generalise to populations but develop transferable theories. With certain participant groups not being represented or being under-represented, my programme theory may lack certain aspects or may not be as refined as it could be. My evaluation would have benefitted if more employees with administrative jobs or from lower hierarchy levels had taken part. This would have given more strength to the claims I make regarding outcome differences between different professional groups and hierarchy levels. The fact though that data across programmes supported my theories adds to their robustness and trustworthiness. Future research may use the present programme theory as a framework to investigate how, why, and in what respect different

employee groups within an organisation may benefit differently from workplace health and wellbeing programmes.

Unresolved inconsistencies between findings from review and evaluation

There remain a few inconsistencies between my review findings and my evaluation findings. For example, 'feeling permitted to take care of self' was a mechanism that was very present in documents from previous studies yet did not seem to play much of a role for interviewees in my evaluation. This inconsistency could be due to a reporting issue with participants from previous studies having been disproportionally often quoted using the words 'allowing myself' or 'feeling permitted to take care of self'. It could also be that other mechanisms (eg group-related mechanisms) played a larger role during the pandemic. A further unresolved inconsistency is whether the mechanism 'sense of professional growth' contributes to a participant's wellbeing or enhances tension and stress. Further research is required to bring more clarity to these inconsistencies.

No realist explanations for PSS-10 and WHO-5 outcomes

A major limitation of my research is that I could not draw firm conclusions regarding how and under what conditions workplace MBPs reduce stress and enhance wellbeing. The available data did not allow me to unpack health-related outcomes, particularly those further down the outcome chain. This was not surprising in my review as the data from included studies had not originally been collected for realist analysis and synthesis. However, my evaluation did not answer these questions either. I was unable to draw links between my theories and outcomes measured by the PSS-10 and the WHO-5. Interviewees reported how they benefitted from the programme and mindfulness, but this was not necessarily reflected in their PSS-10 and WHO-5 results. And vice versa, many interviewees whose PSS-10 and WHO-5 scores improved provided explanations that were

not connected to my theories (they mentioned eg the weather, exercising, meeting friends etc). There are several possible explanations for that.

For one, differences on the PSS-10 and WHO-5 between time points were small and might have been too small to have a real and palpable effect on participants' lives (ie changes may have been statistically but not clinically significant). As a result, interviewees may have been unable to give genuine explanations for something they did not experience.

Second, a mistake in the online survey affected a very small number of interviews. I mistakenly switched the order of some items in the German version of the PSS-10 and consequently reverse-coded two items incorrectly, which lightly skewed some participants' scores. Four participants expressed their surprise and disagreement in the interviews and gave an assessment that retrospectively fit their corrected scores. (As an unintended positive side effect, this speaks to their honesty and hence to the credibility of the data.) The skewed survey results may have influenced two participants, and I decided not to use their stress-and wellbeing-related interview data for analysis.

Third, the survey results may have been largely influenced by the COVID-19 crisis. Data collection took place during various stages of the pandemic, from June 2020 to June 2021. Studies have indicated that the pandemic's impact on people's mental health varied, depending on the stage of the pandemic. In addition, trajectories were different for different populations and professional groups (Banks et al, 2021; Kromydas et al, 2022; Reis et al, 2022). This was also reflected in the survey of my study and in the interviews where some participants seemed to be more stressed by the pandemic and social isolation than others. Since I did not explore pandemic-related theories in my interviews, I do not know how the pandemic affected the survey results.

Fourth, and most importantly, stress resilience and wellbeing are broad, multi-faceted outcomes that emerge from the complex interplay of many biological, psychological, and social factors (Suchecki et al, 2021; Diener et al, 1999). My study was not designed to investigate the plethora of dynamically interacting mechanisms that lead to the emergence of health-related outcomes. To give just one example, I did not explore biological mechanisms that may have been involved in outcomes measured by the WHO-5 (where individuals were asked how vigorous, relaxed, or refreshed they felt). Unsurprisingly, interviewees talked about physical exercise, weather, sleep, or pregnancy when I asked them to explain their WHO-5 outcomes. A wellbeing scale that is more focussed on cognitive aspects of wellbeing (Tov, 2018; Diener et al, 1999) may have made it easier to test my theories. In addition, more granular theories may have yielded better results. Ultimately though, health and wellbeing research calls for a more comprehensive interdisciplinary approach (WHO, 1986; Bhaskar et al, 2018).

Narrow focus on programmes

With the growing awareness of the complexity of health issues, there is a call to move away from measuring the effectiveness of single interventions toward a whole systems approach (Hawe et al, 2009; Rutter et al, 2017; Skivington et al, 2021). In my research, I developed theories of how an MBP affects the system (ie the organisation) in which it takes place. Data from my review and evaluation suggested, for example, that workplace mindfulness training can promote the de-stigmatisation of stress and distress; empathy, and compassion as well as trust, and bonding between co-workers. It can create feedback loops and ripple effects further enhancing some of these outcomes. However, I am aware that focusing on programmes and programme participants did not allow me to draw conclusions about the footprint that an MBP may have left on an organisation (see footnote 8). During the pandemic, with most managers and employees working from

home, research within organisations would have been difficult, if not impossible, to organise. This is a clear limitation of my thesis. Future evaluations of workplace MBPs would benefit from, for example, in-depth case studies that include the wider organisation (eg teams, supervisor-associate relationships). They could, for instance, track changes in relationships or observe how participants integrate what they learned in an MBP into their daily routines (eg in meetings, in communication, during breaks) and how this affects colleagues who have not participated in the MBP.

Transferability of the programme theory beyond the COVID-19 pandemic

While one of the strengths of realist research is that the findings are potentially transferable to other settings, the question is whether this still applies to research conducted in extraordinary circumstances such as the pandemic. I would like to argue here that I think my programme theory is potentially transferable beyond the COVID-19 pandemic. For one, I developed my programme theory from pre-pandemic secondary studies and only tested and refined it against primary data that I collected during the pandemic. Second, my programme theory is supported by substantive theories. I would like to expand on this using a concrete example.

My findings suggest that if participants opened up to their peers in the sessions, this led to a range of beneficial outcomes on individual and interpersonal levels. Social isolation during the pandemic may likely have created an increased need for employees to be in touch with each other and talk to peers. Participants may have generally been more vulnerable and as a result, shared more from their personal life and talked more openly about their emotions than in pre-pandemic times. However, this does not affect my theory that to open up, managers and employees need to feel safe and that in a workplace setting they feel safer the less they feel at work. As I described in the previous

chapter, the content of what participants shared did not matter what counted was that they made themselves vulnerable even if only for a brief moment. Showing vulnerability might mean something different in different times and circumstances just as it meant something different for different individuals in my study. The overall context-mechanism-outcome configuration though remains unchanged. Yalom's therapeutic factors as substantive theory and previous research on the effects of dyads and self-disclosure support my theories and strengthen their transferability.

It is conceivable, as I have argued above (see 'Unresolved consistencies …'), that group-related mechanisms may have played a larger role during the pandemic. This observation may be an artefact though of my focus on group-related theories in my study. Nevertheless, certain theories may at certain times be more in the foreground than others. Realist theories are demi-regularities. They are semi-predictable patterns that are relative, partial, and conditioned by circumstances. The context in which we do research is complex, too. It is in constant flux and what may be important at one point in time may no longer be in a few years (Jagosh, 2019). Future research may test my programme theory in post-pandemic circumstances.

6.6 Personal reflections

Being a researcher and mindfulness instructor

Being at the same time researcher and practitioner has advantages and disadvantages (Padgett, 2008). The advantages for me were that I (1) was able to recruit programmes during the pandemic through my professional network, (2) was familiar with relevant mindfulness research, and (3) had knowledge of the topic both through professional and personal experience (including many years of meditation practice). My knowledge and experience helped me mostly during analysis and synthesis when making abductive

inferences. Put differently, it helped me think through the causal forces that might have been at work when participants practiced mindfulness and shared their experiences in the group. The biggest disadvantage of being a practitioner was lack of distance. Being too familiar with the studied topic can create blinders (Padgett, 2008) and prevent us from seeing the obvious patterns (Lipson, 1984). Halfway through my analysis, I noticed that I tended to consciously and unconsciously overlook data in which participants reported how they benefitted from mindfulness practice. These stories were so familiar that I did not pay attention to them, instead looking for the new and disconfirming. It was only when I talked about my research to people not from the field that I was reminded to take note of the obvious and expected outcome patterns as well.

In one MBP from my evaluation, I was also the instructor. This poses the risk of various types of bias. For one, I may have delivered the programme in a way that supported my theories. I may, for example, have talked explicitly about the mechanisms that I thought enhance acceptance and compassion. Yet, the data from my own course did not differ substantially from the other programmes' data, and I therefore felt comfortable using it for analysis. As another risk of bias, interviewees may not have talked about negative aspects related to the instructor (ie me). And indeed, interviewees did not talk much about the instructor but neither did participants from the other programmes. Across programmes, group processes played a more prominent role in participants' accounts than the instructor, which was somewhat surprising. One explanation could be that relationships with peers and supervisors were more important to participants because they ultimately had a bigger impact on their lives. Another explanation might be that interviewees saw me as instructor as well and did not want to talk openly about 'us', especially since they knew their instructors were my colleagues. Not knowing why the

instructor was not much of a topic for participants is a limitation of my research and has to be considered when reading my findings.

Being both researcher and instructor also increases the risk of confirmation bias. As mindfulness instructor and practitioner, I believe in what I do. I have experienced the benefits of mindfulness and meditation for my own wellbeing. Furthermore, I see myself as part of a larger movement that wants to create broader social change and believes that mindfulness can contribute to that. Therefore, I might have looked for and interpreted information confirming my own positive beliefs. On the other hand, the idea for my research project was born from my own challenges with delivering workplace MBPs. This, in turn, may have made me look for data consistent with my own negative experiences. I was aware of these risks of bias. To minimise them, I deliberately looked for disconfirming evidence whenever the data confirmed either my positive or negative experiences and beliefs. Discussing my findings with others alerted me to potential biases.

Being both mindfulness researcher and instructor created role conflicts (I will talk more about this with respect to the interviews in the next section). The mindfulness movement (of which I am part) can be quite enthusiastic, sometimes almost missionary in its intent to transform institutions and society. Recent publications have described this succinctly (Kucinskas, 2019; Brown, 2019). Communicating slightly more critical findings that may question the goal of social advocacy (making mindfulness available to large population groups) can feel like betraying the social cause, and it certainly did so for me. This is a conflict between the normative and scientific, which has lately been the cause of heated debates in the field (Thompson, 2020; Wright, 2020).

My research has changed the way I look at mindfulness and MBPs. Having two supervisors who are experts in health research yet outsiders to the mindfulness field allowed me to open my view. Through their support and applying realist methodology, I

began to see what I previously believed to be the 'one and only story' (ie the official theory of change in MBPs) as only one of many possible stories of what is happening in an MBP. If I had to start my project all over again, I would involve a larger spectrum of stakeholders, especially occupational health experts. A broader stakeholder group might have allowed me to widen my view at an earlier point and draw from more organisational literature to develop my initial programme theory. In retrospect and for someone from outside the mindfulness community this might look like the obvious step to do. It does for me now. However, research that investigates workplace MBPs in the field of organisational health psychology is only beginning to emerge (Bartlett et al, 2019).[8]

Finally, my findings have had an impact on my work as mindfulness instructor. I have become more relaxed about whether and how much participants of a workplace MBP meditate, and I am more aware of the group dynamics. Most importantly, I realised that as independent instructor (who is not part of an organisational system), one easily overlooks the impact workplace dynamics have on participants of organisational mindfulness training. As a consequence, I have shifted the focus away from optimising my programmes, their length, content, and language to optimising the conditions in which they take place. Above all, I pay more attention to creating the conditions in which managers and employees feel safe to engage with mindfulness and selfcare at work.

[8] Recently, results from one of the largest and most expensive studies in mindfulness research, a cluster randomised control trial involving over 8000 students and 84 schools including teachers in the UK showed that mindfulness training failed to improve the mental health of children compared with a control group (Montero-Marin et al, 2022). The children were simply not interested in mindfulness and did not meditate. One of the principal investigators concluded that this was a 'wake-up call' for future studies to think about MBPs in a broader sense and include the wider context (Kuyken, 2022). The intervention had an effect on teacher burnout, yet that effect was no longer observable in the one-year follow-up. Interestingly though, the school climate (the way children and teachers see leadership, a sense of safety and connectedness, respect towards each other, and anti-bullying strategies) changed over the course of the intervention and that change did not disappear in the one-year and two-year follow-ups.

My roles in the realist interviews

Hill (2006) urges the qualitative researcher to position themselves in relation to the research participants and reflect 'Who was I to them?' and 'Who did I want to be to them?' Depending on the interview situation and the interviewees' roles, I was a researcher, consultant, mindfulness instructor, colleague, doctorate student, and a human being affected by the pandemic, just like them. All these different 'identities' (or roles) impacted the interview process.

For example, as mindfulness instructor, I often had an urge to support an interviewee's growth and change and hence ask inquiry questions (a technique used in MBPs to elicit insights in participants) rather than realist questions. I had to remind myself repetedly that my role and aim as researcher was to produce knowledge (Kim, 2011). I instructed participants at the beginning of the interview that, despite being a mindfulness instructor, my role in the interview was that of a researcher. And whenever I noticed a role conflict in the interview, I made that transparent. A few times, I suggested that we continue the interview and that they could talk to me as mindfulness instructor after the recording stopped. This happened occasionally, mainly in the interviews with participants from my own course. Role conflicts also emerged when I presented participants their survey results and when there was no or a negative change. In general, interviewees found they benefitted from the course, some were enthusiastic, and all had invested time and effort. I noticed disappointment when the survey outcomes did not reflect the positive change they described. This raised ethical issues regarding whether the interviews created harm (doubt, discouragement to continue with practices that participants found beneficial). When this happened, I first asked interviewees how they would explain the inconsistencies (which is in line both with my role as instructor and realist researcher) and

then did whatever I felt—as instructor—to be supportive of their wellbeing (eg direct their focus back to their learnings and takeaways).

Talking about emotionally sensitive areas came naturally to me, something other therapist researchers have described before (Lipson, 1984). Again, this raised ethical questions. How much of what participants disclosed could I present in my thesis? All participants had given explicit consent for recording the interview and using pseudonymised interview excerpts in my thesis and future publications. Yet, to what extent did they continue to be aware they were being recorded throughout the interview? To ensure that colleagues or supervisors could not identify participants, I decided to delete details in some of the quotes that I used (both in the main text and in the appendices) and not name job titles or age ranges.

As consultant, I was aware of a subtle expectation to deliver exciting results to the client and reformulate ad hoc recommendations. This showed, for instance, when an interviewee, in most cases these were executives and instructors, started to take over and ask the questions. I realised, though, that once I presented them my theories, we engaged in a fruitful exchange of ideas. This is known as 'I'll show-you-my-theory-if-you-show-me-yours' strategy (Pawson, 1996: 307) that fits well with the model of the teacher-learner cycle in realist interviews. As colleague (when I interviewed other instructors), I had to be careful not to switch into an informal conversation where I no longer felt the need to make things explicit because I simply assumed that we had a common understanding.

Overall, I was surprised by my interviewees' openness and willingness to cooperate, particularly as some were overwhelmed with parenting in their home office, sickness in the family, and social isolation. There may have been several reasons for their openness. They had just completed the MBP and were used to talking about their

experiences, especially in the presence of a mindfulness instructor. They might also have unconsciously projected their good relationship with their instructor onto me (as instructor). They knew I was a doctorate student and wanted to support my project. And lastly, I was a human being in social isolation during the pandemic just like them; there was a tacit understanding that 'we're in this together'. Once participants opened up, we entered the teacher-learner cycle, where I presented my ideas, and they presented theirs. It took several interviews for me to trust that this quite straightforward realist interview technique works, but once I saw it did, it helped me return to my role as researcher whenever I noticed that one of the other roles prevailed.

All the above identities have shaped my interviews. This is unavoidable. Our behaviour as interviewer 'will always affect participants' responses' and thereby influence to some degree the direction of findings (Finlay, 2002). Different researchers prompt different replies. Or, in realist terms, different researchers activate different mechanisms in interviewees (eg willingness to cooperate or not; tendency to agree with statements or not; tendency to reveal something or not; openness to being vulnerable or not) and thereby produce slightly different results.

Final reflections

In my research I identified mechanisms through which workplace mindfulness training works (or does not work) and explored how particular contexts impact these mechanisms and consequently intended or unintended outcomes. For me as mindfulness instructor, the most valuable findings have been that participants of workplace MBPs may protect resources before they invest in acquiring new resources; that properties of the setting in which an MBP takes place may be more important for the programme's success than properties of the programme; that the development of compassion requires psychological

safety; that psychological safety depends on participants being able to let go of their professional roles and status; and that, at the same time, not everyone wants to bring their whole self to work. All of these findings seem intuitive in retrospect. Some of them, though tentative, might also apply to other health and wellbeing programmes in the workplace, especially to programmes that are time intensive and where people risk being seen as non-productive or vulnerable.

The explanations that I provide for outcomes of workplace MBPs are semi-predictable (Wong et al, 2013b). That is, my programme theory has been able, through its CMOCs, to shed light on the question what works under what conditions, for whom, why, and in what respects in workplace mindfulness training, but I do not claim to have developed an exhaustive and definitive programme theory. As with any complex intervention operating in an open social system, there are most likely additional explanations for outcomes in workplace MBPs, which will need further research to address.

Lastly, many parts of the programme theory that I developed may come as no surprise to experienced mindfulness instructors and HR professionals who already design, implement, and teach MBPs. Yet, with growing numbers of new mindfulness instructors, new MBPs, and a plethora of related health and organisational promises, they may help orient those who are less versed in the field about what works (and does not work), under what conditons, for whom, why, and in what respects.

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Appendices

Appendix A Search strategy

1. Embase, Ovid MEDLINE(R), PsychINFO:

Mindfulness (ti, ab) AND work* OR occupation* OR profession* OR staff OR employee* OR manager* (all fields) NOT athlet* NOT military NOT soldier* (all fields)

n= 3,662 (after removal of duplicates)

2. Pubmed:

Mindfulness (ti, ab) AND work* OR occupation* OR profession* OR staff OR employee* OR manager* NOT athlet* NOT military NOT soldier*

n=620

3. Web of Science:

Mindfulness (TS) AND work* OR occupation* OR profession* OR staff OR employee* OR manager* (TS) NOT athlet* NOT military NOT soldier* (TS)

n=645

4. Scopus:

Mindfulness (ti, ab, key) AND work* OR occupation* OR profession* OR staff OR employee* OR manager* AND NOT athlet* AND NOT military AND NOT soldier*

n=2,193 (after removal of duplicates)

5. Cinahl:

Mindfulness (ti, ab) AND work* OR occupation* OR profession* OR staff OR employee* OR manager* NOT athlet* NOT military NOT soldier*

Anonymous documents, books and book reviews were deleted.

n=623

6. Business Source Complete:

Mindfulness (ti) OR mindfulness (ab)

n=529

7. ABI/INFORM Global

Mindfulness (ti, ab) AND work* OR occupation* OR profession* OR staff OR employee* OR manager* NOT athlet* NOT military NOT soldier*

n=659

Appendix B Inclusion/exclusion criteria

Quantitative, qualitative, mixed-methods studies (including dissertations), and reports were included based on the following criteria:

- The research was undertaken in an occupational setting and/or targeted towards professionals.
- Mindfulness meditation was a key element in the program provided.
- The outcomes were related to health and well-being.
- All program delivery formats (face-to-face, online, telephone, self-help manual) were included, as well as programs of various lengths (from half day to several months and from very brief practices two biweekly ≥2-hour sessions); and publications in English, German, French, Spanish, or Portuguese.

The following studies were excluded:

- Non-intervention studies assessing trait or state mindfulness and programmes in which mindfulness meditation was not a core element. Based on these criteria, 'mindfulness-informed' programmes (Crane et al, 2017) such as Attention and Commitment Therapy (Hayes et al, 2011), Dialectical Behavioural Therapy (Linehan, 1993), and Mindful Self Compassion (Neff and Germer, 2013) were not considered.

- Programmes that included mantra or flow meditations and in which meditation instructions were accompanied by auditory or visual cues, such as music, sounds and lights, as these activities might activate additional mechanisms.
- Programmes with a focus on relaxation (e.g. progressive muscle relaxation or manipulation of breath) and movement-based interventions (yoga or walking), as they have different theoretical underpinnings.
- So called 'second-generation' MBPs (Singh et al, 2014; van Gordon et al, 2015; Crane et al, 2017) that distinguish themselves from 'first-generation' MBPs in that they explicitly place mindfulness in the context of spiritual development rather than health, wellbeing, and personal effectiveness (Shonin and Gordon, 2015).
- Studies conducted in sports, arts, or military settings; and research with professionals in training (students, trainees, and/or residents) as their situation differs considerably from that of qualified professionals and individuals working within the structures and hierarchies of an organisation.

Studies involving both professionals and individuals in professional training were considered if results were reported separately.

Appendix C Participant online information and consent sheet

(English version)

"Mindfulness-based programmes for mental health and well-being at work: a realist evaluation"

Introduction

My name is Katrin Micklitz and I am a Doctorate Student in the Department for Continuing Education at the University of Oxford, United Kingdom (UK). You are being invited to take part in a research study that aims to investigate the impact of workplace mindfulness training on your mental health and well-being. This project is being completed under the supervision of Dr Geoff Wong (Nuffield Department of Primary Care Health Sciences, University of Oxford, UK) and Dr Jeremy Howick (Faculty of Philosophy, University of Oxford, UK).

Before you decide if you would like to take part it is important that you understand why the research is being done and how you will be involved. Please take the time to read this information and if you have any queries or would like more information, please contact me using the details below.

Why is this research being conducted?

A growing body of evidence suggests that mindfulness-based programmes reduce workplace stress and burnout while enhancing performance and wellbeing. However, the current evidence is heterogeneous, involving many different programme types, professions, and industries. In order to implement mindfulness-based programmes successfully, in specific settings, for different people we need a better understanding of what makes them successful under what circumstances.

Why have I been invited to take part in this study?

You have been invited to participate as you have signed up for the mindfulness programme offered through your workplace.

What will happen if I decide to take part?

This study consists of two parts:

(1) In the first part we are interested in how the mindfulness programme impacts on aspects of your mental health and wellbeing. We are also interested in certain aspects of the context in which the programme takes place. You will be given some questions to read, and then answer the questions by ticking the most appropriate answer. This should take approximately 10 minutes. No background knowledge is required. Upon completion of the programme you will be contacted again and asked to fill out the same online survey.

(2) In the second part we are interested in learning more about what might have caused the outcomes of the mindfulness training (e.g. certain aspects of mindfulness or how the programme has been implemented). To do this, we will be conducting interviews with some volunteers who have completed the survey at both times. The interview will take place online via MS teams or Zoom. It should not take longer than an hour. We will contact you to find a time that meets your schedule. With your consent, we would like to audio record the interview so we can have an accurate record of your thoughts.

You can decide to participate only in the first part of the study.

Do I have to take part?

No. Taking part is entirely voluntary. You may withdraw at any point for any reason, before submitting your answers, by pressing the 'Exit' button. You may withdraw from the interview at any time by advising me of this decision. You don't need to give a reason for your decision, and there won't be any adverse consequences.

Are there any benefits in taking part?

We cannot say that the study will have any direct benefit to you. However, taking part in the interview gives you the opportunity to reflect your outcomes and experience of the programme. The information we get from this study is likely to be useful with regards to the future implementation of mindfulness-based programmes in the workplace and contribute to the growing evidence base behind mindfulness itself.

Will my answers be confidential?

Your answers will be used only for the purpose of this research project. No details will be shared with your employer or the course instructor. I may share and discuss anonymised answers with my two supervisors.

The transcripts from the interviews will be anonymised by removing any identifying information and replacing your name with a pseudonym. Names from the survey will also be replaced by pseudonyms. For the time of the study your data will be stored password-protected and encrypted on a secure cloud service provided by the University of Oxford. A back-up copy will be stored on a on a different secure University share point site. The linkage list for pseudonyms will be stored separately from your personal data.

The only reason I would break this confidentiality agreement is if you tell me something that makes me concerned about your safety (e.g. risk from suicide) or the safety of others. In either of these cases I would inform you that I must break confidentiality and inform the relevant agencies.

Will people know it's me in the written report?

No. The transcripts from the interviews will be analysed by myself. I will write up the findings of the research and submit them to the University of Oxford as part of my DPhil thesis. Direct quotes from you may be used in this report, however any information that could potentially identify you, your employer, colleagues, or supervisors will be removed from the quote.

What happens to the data provided?

The information you provide during the study is the research data. Any research data from which you can be identified (name, audio recording) is known as personal data. Your data will be used only for the purpose of this research project. Any personal data will be stored password-protected and encrypted on a secure cloud service provided by the University of Oxford. Once the research has been completed it will be deleted from that location. A back-up copy will be stored on a different secure University share point site for a minimum of three years after publication or public release.

The results of this research may be submitted for publication in an academic journal, and I may present the findings at conferences. I may share it on my professional website or use it for further publications. You will not be personally identified at any point.

Who has reviewed this study?

This study has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee (Reference number: EQ C1A 20 001).

Who do I contact if I have a concern about this study or wish to complain?

If you have a concern about any aspect of this project, please contact me katrin.micklitz@kellogg.ox.ac.uk or my supervisors Dr Geoff Wong (geoffrey.wong@phc.ox.ac.uk) or Dr Jeremy Howick (jeremy.howick@philosophy.ox.ac.uk). We will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how we intend to deal with it. If you remain unhappy or wish to make a formal complaint, please contact the relevant Chair of the Research Ethics Committee at the University of Oxford: Dr Alistair Ross, OUDCE DREC, researchethics@conted.ox.ac.uk, Research Services, University of Oxford, Wellington Square, Oxford OX1 2JD. The Chair will seek to resolve the matter in a reasonably expeditious manner.

Data Protection

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the study. The University will process your personal data for the purpose of the research outlined above. Research is a task that we perform in the public interest. Further information about your rights with respect to your personal data is available from https://compliance.web.ox.ac.uk/individual-rights.

Responsible members of the University of Oxford may be given access to data and/or audit of the study to ensure we are complying with guidelines, or as otherwise required by law.

What to do next

Thank you for taking your time to read the above information. If you agree to participate with the understanding that the data (including any personal data) you submit will be processed accordingly, please check the relevant box below to get started.

☐ Yes, I agree to take part in the survey

☐ Yes, I am interested in being considered for an interview. This does not mean I am consenting to being interviewed at this time.

If you ticked 'yes' to being considered for an interview: Please provide an email address in order for me to contact you after the programme _____.

Please note that you will only be considered for an interview if you completed the survey before and after the programme. Depending on the number of people who have volunteered for an interview you might not be contacted.

For any further questions please feel free to contact me at *katrin.micklitz@kellogg.ox.ac.uk*.

Appendix D Consent form interview

(English version)

Consent was obtained orally at the beginning of the interview and recorded (see interview schedule, appendix 2.6).

		Please initial each box
1	I confirm that I have read and understand the information for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
2	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without any adverse consequences.	
3	I understand that research data collected during the study may be looked at by authorised people outside the research team. I give permission for these individuals to access my data.	
4	I understand that this project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee.	
5	I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project.	
6	I understand how this research will be written up and published.	
7	I understand how to raise a concern or make a complaint.	
8	I consent to being audio recorded.	
9	I understand how audio recordings will be used in research outputs.	
10	I agree to the use of pseudonymised quotes in research outputs.	
11	I agree to take part in the study.	

Appendix E Online survey

(English version)

Pretest/posttest

[PSS-10] When answering the questions, please tick the response that best describes your thoughts or feelings. Work quickly and don't think too long about your answers:

In the last month, how often have you been upset because of something that happened unexpectedly?

In the last month, how often have you felt that you were unable to control the important things in your life?

In the last month, how often have you felt nervous and "stressed"?

In the last month, how often have you felt confident about your ability to handle your personal problems? (R)

In the last month, how often have you felt that things were going your way? (R)

In the last month, how often have you found that you could not cope with all the things that you had to do?

In the last month, how often have you been able to control irritations in your life? (R)

In the last month, how often have you felt that you were on top of things? (R)

In the last month, how often have you been angered because of things that were outside of your control?

In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Please select the most appropriate answer (5-point likert scale: never, almost never, sometimes, fairly often, very often.

How much has the pandemic (COVID-19) had an impact on your perceived stress levels?

Feelings of stress and distress have increased.

Feelings of stress and distress have decreased.

Feelings of stress and distress have not changed.

Please select the most appropriate answer

[WHO-5] How did you feel during the last two weeks?

I have felt cheerful in good spirits.

I have felt calmful and relaxed.

I have felt active and rigorous.

I woke up feeling fresh and rested.

My daily life has been filled with things that interest me.

Please select the most appropriate answer (6-point likert scale: all of the time, most of the time, more than half of the time, less than half of the time, some of the time, at no time)

[SCS-short] How do you relate to yourself in difficult moments?

When I fail at something important to me, I become consumed by feelings of inadequacy. (R)

I try to be understanding and patient towards those aspects of my personality I don't like.

When something painful happens, I try to take a balanced view of the situation.

When I'm feeling down, I tend to feel like most other people are probably happier than I am. (R)

I try to see my feelings as part of the human condition.

When I'm going through a very hard time, I give myself the caring and tenderness I need.

When something upsets me, I try to keep my emotions in balance.

When I fail at something that's important to me, I tend to feel alone in my failure. (R)

When I'm feeling down, I tend to obsess and fixate on everything that's wrong. (R)

When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

I'm disapproving and judgmental about my own flaws and inadequacies. (R)

I'm intolerant and impatient towards those aspects of my personality I don't like. (R)

Please select the most appropriate answer (5-point likert scale: almost never-almost always)

[Items from Edmondson's Scale of Psychological Safety] A few questions with regards to your workplace:

When someone makes a mistake at work, it is often held against him or her (R).

At work, it is easy to discuss difficult issues and problems.

At work, people are sometimes rejected for being different (R).

Please select the most appropriate answer (5-point likert scale: strongly disagree, disagree, neutral, agree, strongly agree)

[TTC 1] Thinking about your colleagues, do you think you can openly talk with them about a mental health problem?

Yes

No

[TTC 2] If you noticed a colleague was struggling with their mental health, what would you do?

I would encourage them to talk to me or someone else at work.

I would make an extra effort to reach out (e.g. suggest going for lunch together or send a text).

I would raise it with a line manager/well-being officer/HR contact

I would raise it with them but would feel uncomfortable doing so.

I would not do anything if I noticed a colleague was struggling with their mental health.

I would feel uncomfortable asking them about it so would avoid the topic.

Tick all that apply.

[TTC 3] If you noticed a colleague was struggling with their mental health, how would you feel?

I would want to support them but wouldn't know how.

I would feel comfortable supporting them and would know how.

I would think it's not my place to pry and ask questions.

I would be worried about the level of work I might need to take on to cover for them if they go off sick.

None of the above.

I would worry that they might be unpredictable or volatile.

I wouldn't want to sit near them/work closely with them as I'd worry I would end up supporting them.

Tick all that apply.

Personal data pretest questionnaire

What is your profession?

What is your gender?

Male

Female

Other

Prefer not to say

What is your age group?

18-24

25-34

35-44

45-54

55-64

Above 64

Do you have previous experience with mindfulness/meditation?

Yes

No

What previous experience do you have with mindfulness/meditation?

I have read about it.

I have attended a taster session.

I have been using an app (e.g. Head Space)

I have attended an eight-week programme (MBSR/MBCT).

I have a regular meditation practice (less than 4 years).

I have a regular meditation practice (more than 4 years).

None of the above.

Please tick the most appropriate

Identification code

In order to match pre- and posttest result, we need to create an identification number.

What are the first three letters of the month in which you were born (Example: February = FEB)

What are the last 3 digits of your mobile number? (Example: 2463708 = 708)

Additional questions on posttest questionnaire:

How many course sessions did you attend?

7-8 sessions

5-6 sessions

3-4 sessions

1-2 sessions

What were the reasons for missing sessions? I attended all sessions.

I didn’t find the time.

I have been sick.

I have been on vacation.

I guess mindfulness/meditation is not my thing.

I did not feel comfortable doing this with my colleagues.

Technical issues

Other reasons

Tick all answers that apply.

How often did you meditate?

Daily or almost daily

Often

Sometimes

Only during the sessions

Additional questions pilot:

[Ryff’s Wellbeing Scale**]**

Some people wander aimlessly through life, but I am not one of them (R).

The demands of everyday life often get me down.

I live life one day at a time and don't really think about the future.

In general, I feel I am in charge of the situation in which I live (R).

I am good at managing the responsibilities of daily life (R).

I sometimes feel as if I've done all there is to do in life.

For me, life has been a continuous process of learning, changing, and growth (R).

I think it is important to have new experiences that challenge how I think about myself and the world (R).

I gave up trying to make big improvements or changes in my life a long time ago.

Please select the most appropriate answer (7-point likert scale: strongly agree, somewhat agree, a little agree, neither agree or disagree, a little disagree, somewhat disagree, strongly disagree).

Appendix F Interview schedule

(English version)

I. Collect consent

Say: As you know from the information sheet, this study is designed to understand how, under what circumstances, and in what respect workplace mindfulness training enhances mental health and well-being. We are interested in your experience from the [programme] with [instructor] that took place [time & place]. As you will also know from the information sheet you are free to terminate the interview at any point or request a break. Any names will be replaced by pseudonyms and kept confidential. However, if you were to disclose anything that I feel puts you or anyone else in danger I would have to act accordingly on this information as per my duty of care. You don't have to talk about anything that makes you feel uncomfortable. The interview should last no longer than one hour.

Collect consent from participant: Is it OK that I now record your consent? Start recorder, read out written consent form [appendix 2.4] and tick of boxes as participant agrees. Then say: Let's start with the interview now.

II: Topic guide (in interviews with instructors * will be replaced by 'the participant(s)')

Could you explain your reasoning for signing up for the mindfulness-based programme?/ What were you* hoping for?*

What do you consider the outcomes of the programme to have been for yourself/for your* colleagues/co-workers? [Perhaps refer to that participant's* results from online questionnaire.] Can you give an example of [outcome named in previous question]?*

Do you think that the outcomes have been the same for all? In what ways have they been different? [If applicable refer to overall results from online questionnaire.] How would you explain the differences?

We are very curious about how the programme causes its outcomes. What is it about the programme that has caused/led to/helped you [the outcome identified by the respondent]?

What did the training provide that was new? Was it mainly about new skills, do you think, or new attitudes? How did that help [the outcome]?

Has [the programme/element of programme] changed the way you think or feel about [probe for mechanisms such as 'acceptance and/or compassion'] in any way? [Probe for alternative mechanisms such as 'feeling able to cope'/'sense of growth'/'feeling permitted to take care of self'.]*

There are lots of ideas about how the programme/elements of the programme actually work, and we probably think the programme works differently in different places or for

different people. One of those ideas is [brief description of main mechanism acceptance/compassion]. Can you relate to that? Can you give an example?

What is it about the setting/way the programme was implemented that made a difference to how it worked? [Probe for 'psychological safety' in group.]

We have seen that MBPs work differently in different places. What is it about your organisation that makes a difference to how the programme has worked/has not worked? [Probe for 'psychological safety' at work.]

If you could change something about this programme to make it work more effectively here, what would you change and why?

What else do you think we need to know, to really understand how this programme has worked here?

Before we finish do you have anything else you would like to share?

Do you have any further questions?

III. Closure. Thank the participant for their involvement.

Appendix G Clean verbatim transcription rules

The transcribed text does not include:

Speech errors
False starts (unless they add information)
Stutters
Repetitions (unless they express emphasis, e.g. 'I found that very, very helpful.')
Filler words, such as 'uh', 'um', 'you know', 'like', 'I mean', 'so', 'kind of', 'well' or German equivalents (unless they add meaning to a sentence)
Slang words ('yeah' is transcribed as 'yes'; 'gonna' and 'wanna' are transcribed as 'going to' and 'want to'; the same applies to German equivalents)

Appendix H Complete list of all CMOCs from realist review along with all data excerpts from the included documents

CONTEXT-MECHANISM-OUTCOME CONFIGURATION (CMOC)	SECTIONS OF VERBATIM TEXT USED TO DEVELOP EACH CMOC
STAGE 1	OFFERING AND SIGNING UP FOR STRESS/MENTAL HEALTH PROGRAMME AT WORK
PROTECTION OF RESOURCES	
CMOC 1: In a context where any investment has to produce financial returns (C), a wellbeing course like an MBP might trigger concerns of productivity loss (M) with management hesitant to invest in it (O1) or stopping to invest in it (O2) if it does not pay off.	*[…] mindfulness training was […] seen as a benefit to workers and a company cost.* Various Industries, Europe (Islam et al, 2017) *'[…] while my background and intentions of introducing mindfulness have to do with well-being and self-fulfilment, the business case has to be linked with productivity for us to gain access.'* Consultant, Clausen Consulting, Denmark (Islam et al, 2017) *'Our clients expect us to deliver results that we can measure and prove. That won't go away, as far as I can see, as it's the core of our business to have visible impact and it justifies the hours we invoice them for […].'* Co-Partner, Vivien Consulting, France (Islam et al, 2017) *'This is really not typical for the work that we do the rest of the time in companies. They are more flexible with it (trying mindfulness) […] they put their faith in the unknown, I would say.'*

	Consultant, Vivien Consulting, France (Islam et al, 2017) *'My focus is their happiness, but I understand that the company wants to see improvements, and there generally is a marked improvement, from feedback I've heard and seen.'* Consultant, Thomas Consulting, UK (Islam et al, 2017) *'It's disheartening, because if they could only take a wider perspective on what mindfulness is, they could shift to seeing it as a precious and wise life philosophy, rather than only in light of what it can offer them.'* Consultant, Thomas Consulting, UK (Islam et al, 2017) *[…] trainers and participants struggled with the idea of practicing mindfulness as an efficiency tool, but felt that efficiency claims were instrumental to justify the time dedicated to the course.* Various Industries, Europe (Islam et al, 2017) *'How can I know that it's really useful? You know, I fear it's just become a trend, something people think has magic but is actually really basic. Isn't this stuff (mindfulness exercises) we already do? I don't fully get it, to be honest. But again, blind faith. We will see!'* Manager, Post-Secondary Education, Denmark (Islam et al, 2017) *Although uncertainty was allowed and sometimes embraced, respondents concurred that ultimately, results would have to be evidenced, and the doubt or 'flexibility' was a provisional concession to such programs.* Various Industries, Europe (Islam et al, 2017) *'I'm still figuring out what mindfulness is all about and how it can fit into our business model. […] While personally I support the program whole-heartedly, I'll have to find some way to prove that the program works if we are to continue with it onwards. It's just the reality.'* Controller, Accounting Firm, UK (Islam et al, 2017)

CMOC 2: In a context where stress and distress are stigmatised (C), participants might be reluctant to sign up for a stress/mental health programme (O) because they are concerned that they will be seen as weak and vulnerable (M).	*Some participants suggested that the stigma associated with the act of asking for help within a workplace context could be reduced by increasing the availability and accessibility of such a programme.* Healthcare, UK (Black and Carroll, 2016) *'It would be good if the Trust would offer something like this once in a while as part of the training to let people see there is a way of coping with their stress without making them go looking for it… That they could say everybody's the same… this is available but not make you look as if you've got a weakness… Not making you feel guilty about feeling stressed (or) about wanting to seek help in any way… Cause seeking help's nearly like being a failure you know, you're always given this impression you're sick you're a failure …'* Participant #03, Healthcare, UK (Black and Carroll, 2016) *'[…] I think it is important to use the language of "focus and productivity" rather than "stress and health" when talking about the benefits of mindfulness in the workplace. It's about improving the way we work, better planning, prioritisation and productivity, and our own awareness of how we work.'* Government Department UK (Carter et al, 2016) *Mindfulness does not sell itself. The most well-known applications of mindfulness are in spiritual or clinical/therapeutic settings or as daily mobile 'apps', so there is a possible stigma or reluctance in considering mindfulness training beyond these areas.* (Carter et al, 2016) An internal champion, or senior sponsor, is also important in talking about mindfulness and making it 'okay' for high performers. (Carter et al, 2016) *The intervention was marketed as a 'Mindful Stress Reduction' class aimed at teaching stress reduction skills, since potential participants might interpret the word 'therapy' to imply that they would be required to make deeply personal disclosures.*

	Hospital, USA (Luberto et al, 2017)
INVESTMENT OF RESOURCES	
CMOC 3: If an MBP appeals to an organisation's overall business strategy, values, and practices (C), it becomes an attractive investment for management (O) as it is believed to enhance not only health and wellbeing but also overall productivity and/or work performance (M).	*[…] they [participants] experienced this study as an opportunity for personal improvement and at the same time as a factor capable of increasing their working efficiency. It thus played a strategic role in reducing the distance between the individual and the organisation and between private interest and corporate objectives.* University, Italy (Baccarani et al, 2013) *The head of the palliative care program was present at the kickoff and declared her interest in supporting the program in whatever way made sense both during and beyond the 12 weeks. She also reported seeing particular value in the new e-mail listserv as heretofore there had been no way to debrief volunteers. […] The new communication system was envisaged as acting both as a way to simply share details as well as to play a role in promoting team communication […]. In sum then, from early on, the Being There Mindfully program enhanced the work of the palliative care team.* Palliative Care, USA (Bradbury, 2014) *Buy-in was obtained by focusing on inter-organizational values and ongoing initiatives undertaken by the state agency and the academic department. These included efforts to improve the organizational climate through culture building, wellness, decreasing medication and restraint usage, and non-coercive, strengthbased, person-centered care.* Hospital, USA (Byron et al, 2015) *'I think if we are going to do a culture change of integrating new approaches into treatment then staff need to be trained.'* Manager, Hospital, USA (Byron et al, 2015) *Several participants' statements describe the value in having this local champion articulate the 'value-add' of the innovation by appealing to organizational cultural values.*

	Hospital, USA (Byron et al, 2015) *'We perceived a real win-win for individuals and the organisation through the increase in emotional self-regulation which mindfulness practice achieves. We knew that, if our staff are "being present in the moment", recognising that they are about to enter a stressful situation and "putting the pause in" to control their response to situations, this would lead to better decision-making and better advice being given to clients.'* Manager, Global Professional Services Firm, UK, Australia (Carter et al, 2016) *Head of HR at BlueBay is quoted in People Management magazine (Lewis, 2015) as saying: 'Clients rely on our technical insight and investment decision-making, so a key focus for us is enhanced performance through clearer thinking to produce the best outcomes for our clients. Mindfulness fits really well with that.'* Asset Management Firm, UK (Carter et al, 2016) *Mindfulness was pitched as achieving a mental state of complete awareness purely in a 'business sense', highlighting the benefits that increased focus, calmness and concentration could bring in a high-pressure working environment. The […] overall aim was described as enabling staff to achieve their peak performance.* Asset Management Firm, UK (Carter et al, 2016) *A review of the literature on nursing and healing supports the fit between nursing and MBSR. Many nursing theorists have suggested that relationship-centered care is at the heart of the nursing profession and the nurse's identity.* Hospital, USA (Cohen-Katz et al, 2004) *Relationship-centered care can be broken down into several components: therapeutic presence, self-care, and understanding oneself as a 'wounded healer' (self-awareness).* Hospital, USA (Cohen-Katz et al, 2004) *During the course of running a general MBSR program for patients of the hospital system, we noticed that a subset of every group we ran consisted of hospital healthcare providers (physicians, nurses, residents, etc). Although they enrolled as patients with symptoms similar to those of everyone else in the group, they*

	experienced benefits specifically tied to their work as healthcare providers. These benefits included being able to be more fully present with their patients, enjoying their work more fully, and at times feeling that they were functioning at a higher level of competence. Hospital, USA (Cohen-Katz et al, 2004) *During her 5-year tenure in this role at LVHHN, Capuano has increased retention and employee satisfaction dramatically, through innovative strategies such as forming a nursing advisory council, enhancing the model of shared governance, and increasing opportunities for education and professional development for nurses in the hospital system. When approached with the idea of an MBSR program for nurses, Ms Capuano believed that it would be a logical next step in her efforts to care for the nursing staff.* Hospital, USA (Cohen-Katz et al, 2004) *'So I felt a program like this one would be an important piece of caring for nurses, which I believe will ultimately pay off in the way they care for patients.'* Senior Vice President, Hospital, USA (Cohen-Katz et al, 2004) *The programs were often described simultaneously as attempts to improve well-being, independently of economic considerations, and to improve employee productivity and performance.* Various Industries, Europe (Islam et al, 2017) *In terms of program conception, the intervention's economic relation to the company was often described as an investment in people, using a 'training' logic that mindfulness meditation would result in human capital payoffs.* Various Industries, Europe (Islam et al, 2017) *'We work in a high-stress environment, so it's very important that our people are at their best. We need to be sure that we're taking care of them in all possible ways […].'* Client (Islam et al, 2017)

	[…] the enactment of mindfulness as practice-oriented, proactive, and individual feeds back into an ongoing construction of mindfulness programs as good investments and as performance-based Various Industries, Europe (Islam et al, 2017) *'I see how they are working better […] since we started the program. They seem to understand our clients better, and to understand each other better. Maybe they see things more clearly now because of the mindfulness exercises, I don't know, what I do know is that we as a company are going on a good path, which makes me pleased.'* Manager Telecommunication, Norway (Islam et al, 2017) *'I see mindfulness as bringing an alignment between personal and professional aspects of their lives that allows the participants to have optimal well-being […] a return to the fullness of themselves, and this transition is accompanied by better results in their work, as a sort of by-product of feeling better and being more satisfied with themselves […]. My focus is their happiness, but I understand that the company wants to see improvements, and there generally is a marked improvement, from feedback I've heard and seen.'* Facilitator, (Islam et al, 2017) *Many of our respondents were cognizant of the urge to change business-as-usual and found in mindfulness a mechanism that might effect such a change.* Various Industries, Europe (Islam et al, 2017) *'I think the problem is that people keep doing things in the same way as always. It's difficult for them to change, or maybe they don't want to, and so, well, mindfulness cracks that open, but gently, so that people realize that the old model doesn't fit anymore.'* Manager, IT Services, France (Islam et al, 2017)
CMOC 4: If an MBP is offered as a professional development programme (C1) or otherwise appeals to an individual's professional aspirations,	*ll the psychologists were engaged in private practice and cited this as a motivation to engage in MiCBT training, both as a goal and as part of their current working practice.*

values, or practices (C2), it becomes a worthwhile investment (O) as it is seen to enhance not only mental health and wellbeing but also professional functioning and development (M1) and/or to help achieve workplace goals (M2).	Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *'If I can practice that myself, then I know I'll be able to better manage my clients.'* Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *Their professional stance was influenced by a sense of personal responsibility, which encouraged the psychologists to engage in deeper personal practice until they felt the model would work effectively for their clients.* Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *'I didn't feel confident enough and it just wasn't coming through […] with my clients. So since putting more emphasis on that myself […] I make sure now that we go right through to the end with my clients.' The psychologists […] reported regular continued professional use of MiCBT.* Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *'My use of MiCBT declined since the eight-week course, over the past two years, and it started to improve as I prepared to enter into the (advance) training course.'* Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *Mindfulness was promoted internally as a 'brain work-out', an approach grounded in neuro-science which allows people to increase their grey cell matter and neuro-plasticity, since that was thought most likely to engage with the analytical staff audience.* Global Professional Services Firm, UK, Australia (Carter et al, 2016) *The Head of Treatment Services […] believes people are motivated because what the programme is teaching them is relevant and makes sense in their daily lives, both professionally and personally.* Transport for London, UK, (Carter et al, 2016)

	'You say that striving is not a good thing but that is what keeps us as executives successful is striving. I can see I'm becoming more present for me. I'm beginning to understand with your coaching that I can have balance and be successful without striving.' Participant #02, Executive, USA (Linger, 2016) *'I have some tools that I feel comfortable using with patients.'* Participant, Hospital Employee, USA (Luberto et al, 2017) *'I'm drawn to mindfulness because it intersects … my practice as a chaplain ….'* Participant, Healthcare, USA (Lyddy et al, 2016) *A third perception affecting motivation and adoption of mindfulness practices was their integration within interviewees' preexisting life, including work routines and sense of self.* Healthcare, USA (Lyddy et al, 2016) *Positive experiences with mindfulness practices encouraged more mindfulness practice, as did integrating mindfulness into daily routines in ways consistent with other activities, goals, and their sense of self and identity.* Healthcare, USA (Lyddy et al, 2016) *Interviewees did not simply use mindfulness practices for themselves; a few described teaching the mindfulness techniques they learned to colleagues and patients. […] this further demonstrated that some individuals saw mindfulness practices as an effective tool for achieving workplace objectives.* Healthcare, USA (Lyddy et al, 2016) *'Good ideas for treatment/suggestions for my patients (acute inpatient psychiatry).'* Participant, Hospital Employee, USA (Luberto et al, 2017) *'Part of what I teach (patients) is how to lower their stress level … I very gently sometimes talk about ways they can breathe, just take 5 min of quiet time for themselves ... I say, "You can sit in the bathroom for 5 min, and no*

	one will bother you, and you can breathe." ... It gives them a little more control over how they can take care of themselves'. Participant, Healthcare, USA (Lyddy et al, 2016) *'I have a client ... She has ... been in shelters, ... has a history of trauma. ... I'm aware that she needs to become more aware herself. It's hard for her to be in the moment. She's often disassociating, spacing out. So that's part of what I'm trying to bring into the session. ... This past week, we were trying to work on that, just some open awareness.'* Participant, Healthcare, USA (Lyddy et al, 2016) *Rather than focusing on potential conflicts between mindfulness practice and tasks, these participants saw mindfulness as a valuable tool for realizing workplace goals.* Healthcare, USA (Lyddy et al, 2016) *Some staff seemed more interested in attending the group as a potential stepping stone to using MBCT.* Mental Health, UK (Marx et al, 2014) *[...] when participants were provided the opportunity to practice their core skills mindfully, as they experienced during the group sessions, they deepened their level of attention to their clients, as described by one participant, 'I really appreciated being challenged on a basic skill (listening) which we utilize each day. I have taken this into my work and I am more mindful of where my mind is at when with clients.'* Social Work, Canada (McGarrigle and Walsh, 2011) *Participants suggested that because of their professional responsibilities, they are more apt to practice or implement stress management techniques at work. As one participant stated, 'In my personal life, it tends to be day-today, whereas in my professional, I have to be accountable to someone else.'* Social Work, Canada (McGarrigle and Walsh, 2011)

	'To me, it (mindfulness) really is an important aspect of providing the best practice to our clients and it makes me happy to know that I work for an agency that is recognizing its (mindfulness) value.' Participant, Social Worker, Canada (McGarrigle and Walsh, 2011) *Interest in mindfulness by participants in this study was driven by their professional accountability to their clients: they noted a positive shift in their service when they managed their stress and implemented coping strategies the moment they were aware of their stress.* Social Work, Canada (McGarrigle and Walsh, 2011) *Participants felt the positive outcomes associated with contemplative practices, including mindfulness, were more likely to occur at work, therefore the place for practice was at work.* Social Work, Canada (McGarrigle and Walsh, 2011) *'So, I've seen a tremendous amount of growth as I've been a part of it with my kids because each year I try to do it as much as I can with my class.'* Participant, Teacher, USA, (Napoli, 2004) *Retreat participants also spoke about their motivation to develop their own mindfulness group within their own practise.* Professional Training Psychiatrists, UK (Razzaque and Wood, 2016) *'I certainly think elements could be brought into my general practice and I hope to be part of the larger change in our profession.'* Participant K, Professional Training Psychiatrists, UK (Razzaque and Wood, 2016) *'It was fantastic to meet colleagues who are equally interested in mindfulness and to hear about potential ways to incorporate mindfulness into my practise, for the benefits of patients.'* Participant K, Professional Training Psychiatrists, UK (Razzaque and Wood, 2016)

	'A first for me, prolonged period of quiet introspection and increased self-awareness, (I was also having) thoughts about the pertinence of positive growth and development.' Participant J, Professional Training Psychiatrists, UK (Razzaque and Wood, 2016) *A few noted that CARE was a powerful model for professional development because it adopted a strengths based as opposed to deficit approach: BPD (professional development) is all 'you are doing this and this wrong,' whereas CARE's focus is completely different.* Education, USA (Schussler et al, 2016) *'I've been in this whole process of at that point in time of CARE, thinking about different, like the way I eat and all of that kind of stuff so it just lent itself to things I was already trying to do in my life. Even the responsive classroom stuff for kids, it kind of played into that a little as well.'* Participant, Kasey, Teacher, USA (Sharp, 2013) *Various individuals talked about how CARE provided validation that they were using effective practices in their classroom and led to changes at home and school.* Education, USA (Sharp, 2013) *'[…] will be using mindfulness in my studies so was extremely important for me to attend.'* Participant, Healthcare, UK (Scott, 2010) *Grief group facilitators […] reported benefits, and improved MBSR skills that could enhance their group work with grieving persons […].* Grief Support Group Facilitators, USA (Supiano and Overfelt, 2018) *A sense of professional authenticity was voiced by several participants as they felt more comfortable conducting the relaxation activities in the grief support program manual, and more confident in adapting those activities to the needs of each grief group and group member.*

	Grief Support Group Facilitators, USA (Supiano and Overfelt, 2018) *Skye's job as a charge nurse on a physical rehabilitation ward would likely have involved working with patients who may ruminate on past abilities or think far ahead into the future regarding their recovery. She notes that the idea that things are 'impermanent' is important to her. The idea of impermanence and not living life in the future is a central tenet of mindfulness and so here we see that Skye's personal coping style (remembering that things are impermanent in a working environment where there is an increased potential for rumination on lost abilities) fits with the ethos of mindfulness and therefore mindfulness presents as intrinsically appealing to her.* Healthcare, UK (Turner, 2013) *'…when I'm talking to patients, in a one to one capacity I certainly bring mindfulness into the conversation but I might not use that term you know, but I might speak about just […] how do you let go of thoughts that you would normally ruminate about and bringing some...calmness em to your, to your mind.'* Participant Skye, Healthcare, UK (Turner, 2013) *'I started to notice the qualities of people that were teaching these types of things, the nature of how they were.'* Participant, Luna, Healthcare, UK (Turner, 2013) *'I see behaviors modeled in the teachers […] there is a sort of common tone and kind of vibe from them which I think is really attractive and I think I would love to be like that.'* Participant, Nicola, Healthcare, UK (Turner, 2013) *'I would love to be like that' captures the initial appeal of mindfulness in terms of it being perceived as something that could benefit the participants in their work and home lives and the qualities of mindfulness being ones that they aspired to acquire.* Healthcare, UK (Turner, 2013) *[…] the fact that MBSR was offered as part of the regular CPD programme and accredited by the professional bodies was certainly a facilitating factor*

	GP Professional Training, NL, (Verweij et al, 2016) *When offered as part of the regular CPD [continuing professional development, KM] programme, MBSR appeared to be feasible and acceptable for GPs.* GP Professional Training, NL, (Verweij et al, 2016) *Explicitly linking the weekly theme to the context of clinical care and supervising trainees at the start of the sessions […] increased acceptance and facilitated learning* GP Professional Training, NL, (Verweij et al, 2016)
STAGE 2	FINDING THE TIME AND PLACE TO ENGAGE WITH THE PROGRAMME AND ITS ACTIVITIES
PROTECTION OF RESOURCES	
CMOC 5: If an MBP competes with work tasks (C) managers and employees might be concerned that by attending training sessions and practicing mindfulness they will not be able to attain work related goals (M1) or get their job done (M2) and therefore prioritise work over engagement with the programme and its activities (O).	*The difficulty to find time away from others was the most commonly reported obstacle to adherence.* Healthcare, UK (Black and Carroll, 2016) *The primary barrier identified by direct care providers was lack of planning to provide coverage for them to attend training sessions.* Mental Healthcare USA (Byron et al, 2015) *'So in order for that to have worked (floor staff attend trainings) many of us would have to of covered the floor, […] a way to make that work would have just to have offered just to the Direct Care Staff and then, you know, just one or two hours a week then we could make a plan to cover the floor. You can't have both. That's a challenge.'* Participant, Mental Healthcare USA (Byron et al, 2015)

	The issue of protected time available to attend the eight weekly classes emerged as the largest barrier for participants. Protected time would mean that the individual was able to attend and not have to cover their patients or make up the time later. Statements such as, 'I recognize the importance, but it is always about the time,' 'there was no way I could ever commit,' 'it's lack of time,' and 'I was unable to attend because of the demand' were interpreted as time barriers. In order to attend training sessions, employees had to find coverage from a co-worker or take that time out of their own schedule. Mental Healthcare USA (Byron et al, 2015) *Staff described the fact that participation was optional […] facilitated their participation. Because this approach respected the value staff place on the limited time available to complete their responsibilities, they did not feel pressure or coerced.* Mental Healthcare USA (Byron et al, 2015) *The difficulty of finding the time for classes mirrors one of the major barriers that participants within classes encounter […] during the program. This barrier to implementation has also been described in a previous study of MBSR delivered in a health care setting. In a randomized controlled trial with health care professionals of a veteran hospital, 44 % of participants dropped out citing lack of time (Shapiro et al. 2005).* Mental Healthcare USA (Byron et al, 2015) *Future efforts could avoid this barrier by providing coverage for direct care staff to attend the training […].* Mental Healthcare USA (Byron et al, 2015) *A practical difficulty arises when incorporating mindfulness practices into workplace contexts that are already pressurised by a competitive business environment. Creating the space for new interventions in 'the day job' can be difficult with competing priorities, initiatives, and day-to-day delivery pressures.* Various Business Sectors, UK (Carter et al, 2016) *One dropout told me that he had performed a mental cost-benefit analysis and, while he realized that the course would be beneficial to him in the long run, he reasoned that the pressing needs of his parish had to come first.*

	Diocese, USA (Davis, 2011) *'It's an issue of—it's just that fine line, that tight rope of what do you think that the staff are going to buy into? When there are so many things that you are being measured against from a metric system in a performance improvement system and then that fine line of adding something else.'* Facilitator #08, Member of Staff, Healthcare, USA (Duggan and Julliard, 2018) *Integrating mindful, meditation practice into daily life proved to be a significant challenge for many of the participants with the logs indicating less than half the available practice sessions were used.* Healthcare, Australia (Foureur et al, 2013) *For each participant, negotiating time off the ward to attend the one-day workshop to which they were allocated proved to be challenging as rosters were often changed at short notice to accommodate the needs of staffing and workloads.* Healthcare, Australia (Foureur et al, 2013) *Creative strategies need to be developed for further/future workshop participation for nurses and midwives whose self-care needs are often postponed or neglected, as the needs of others become their priority.* Healthcare, Australia (Foureur et al, 2013) *The MBI class took place in working hours, and job content did not change, which might create other demanding characteristics. It might be one of the reasons why MBI did not work out in this field [improvements in job control and job demand, KM]* Manufacturing, Taiwan (Huang et al, 2015) *The MBCT program was […] not well integrated into the hospital culture. Hospital administration supported the implementation of the program but was not asked to work directly to accommodate employees' schedules or interests in participating.* Healthcare, USA (Luberto et al, 2017)

	[…] attendance rates declined across sessions (76% at session 2 vs. 54% at session 4) due primarily to work-related scheduling conflicts. Healthcare, USA (Luberto et al, 2017) *Twenty-four participants provided a reason for missed sessions. The vast majority stated that they missed sessions due to work conflicts.* Healthcare, USA (Luberto et al, 2017) *'Missed one session due to being at a conference and the last due to catching up from the week at the conference... I regret missing the last one, I truly was impressed with the class.'* Participant, Hospital Employee, USA (Luberto et al, 2017) *'Unfortunately I had to miss the last 2 sessions because of department needs.'* Participant, Hospital Employee, USA (Luberto et al, 2017) *'I felt horrible for only being at half of the classes. We had operational and staffing issues that required me to stay in the department during the last 2 sessions.'* Participant, Hospital Employee, USA (Luberto et al, 2017) *'We had the […] workshops at maybe 5:00 PM … That's a really hard time because that's when I'm trying to triage … who needs to be seen today, who can I push until tomorrow.'* Participant, Healthcare, USA (Lyddy et al, 2016) *'It (is) challenging to find the time … to do it. […] I'm going and it's just like one thing after the other. ... Sometimes it's just stuff ... that you have to respond to and you know what you have to do. … I'm not thinking about I need to take 10 min out of my time to reflect and to think. It's very hard.'* Participant, Healthcare, USA (Lyddy et al, 2016) *Competing priorities […] affected implementation of mindfulness practice.*

	Participant, Healthcare, USA (Lyddy et al, 2016) *[…] our concerns that the full MBSR program might be prohibitive for nurses and nurse aides who are already juggling multiple demands and time pressures were supported by the fact that, despite providing multiple brief sessions each week, attendance was difficult or impossible for many potential participants.* Hospital, Canada (Mackenzie et al, 2006) *'I find it interesting that everyone seems to be jumping on the bandwagon train of incorporating mindfulness practices into their workplace, but not purposefully making time for this.'* Participant, Social Worker, Canada (McGarrigle and Walsh, 2011) *Time was identified as critical in practicing self-care and wellness, both in having and taking time to implement self-care strategies.* Social Work, Canada (McGarrigle and Walsh, 2011) *[…] a few participants commented on the MSCR [mindful self-care and resiliency, KM] program length and recommended abridging the sessions, particularly when clinical work was thought to be accumulating in their absence.* Healthcare, Australia (Slatyer et al, 2018) *Given the demanding schedules that many of the participants had at the hospital and at home, participants found the scheduling and timing of the course challenging.* Healthcare, Australia (Slatyer et al, 2018) *Overall, participants agreed that they liked learning most of the formal mindful meditation practices […] taught in the course. However, the lengthy home assignments acted as barriers to their successful adoption of mindfulness practices, and conflicted with their demanding work schedules.* Hospital, USA (Valley and Stallones, 2018)

CMOC 6: When managers and employees are under a lot of pressure (C), adding tasks (such as course attendance and home practice) can exacerbate feelings of stress/distress (M) and result in inability to practice mindfulness (O1), dropping out from the programme (O2) and/or experiencing lack of beneficial effects (O3).	*One volunteer chose to drop out at this stage [after the kick-off workshop, KM], finding it too difficult to sit in the chair in such a concentrated fashion when she felt unusually frenetic and anxious about work tasks.* Palliative Care, USA (Bradbury, 2014) *'I found myself doing a lot of you know shifts and it was stressful to get to the stress management class! So there was times when it was like, "Oh my god how can I be so stressed out trying to get to the stress management class!"'* Participant, Mental Healthcare, USA (Byron et al, 2015) *Several participants noted that the training added one more thing on top of an overburdened schedule.* Mental Healthcare USA (Byron et al, 2015) *[…] two found that their stress levels were such that they could not continue.* Diocese, USA (Davis, 2011) *'There's a lot of stress in our department right now, which is exactly why we need mindfulness moments, granted, but sometimes you let that go instead of using it as a force to help you through.'* Facilitator #15, Member of Staff, Healthcare, USA (Duggan and Julliard, 2018) *'If for some reason there was some chaos in the morning, frequently then it (the mindfulness moment) would be our after-lunch sort of regrouping effort. I found it got to the end of the day and I'd say 'Oh, gosh, I wanted to have done that and I didn't.' Just surprising in that, it did not happen as I had intended it to happen which I find, as I said, surprising only because I was so enthusiastic and so excited and continue to be so enthusiastic and excited.'* Facilitator #03, Member of Staff, Healthcare, USA (Duggan and Julliard, 2018) *'[…] being highly stressed depletes capacity to engage in mindfulness practice: once it takes hold, it inhibits my capacity to draw on any strategies. My cognitive space is occupied with thinking through problems, preparing scenarios, anticipatory anxiety.'*

	Participant #07, Higher Education, UK (Hugh-Jones et al, 2018) *A number of participants discussed their experiences of distress during the 8-weeks which they directly attributed to either the intensity of the course structure, or the amount of requisite meditation home practice. […] this distress was felt on a continuum ranging from mild discomfort to more intense anxiety.* Mental Healthcare, Canada (Irving, 2013) *[…] those in the SRP2 who did not complete the follow-up data had higher levels of distress at baseline consistent with a mild disorder of mood and anxiety according to the total K10 score than those who completed follow-up who fell into the ‚healthy' range.* University Employees, Australia (Koncz et al, 2016) *'One could use it if one was really, really stressed and wanted to calm down, but I think if I was so stressed about everything I had to do, it would make me more stressed to do something other than to start working on it.'* Participant, Physician, Healthcare, USA (Lyddy et al, 2016) *Although the subjective reactions to the MBC were overwhelmingly positive, there were elements of stress described by the staff during the training period because of having to make time for the class during work hours, writing in the journals, and finding time to practice the techniques.* Pediatric Oncology, USA/Israel (Moody et al, 2013) *One participant withdrew from the course at week 5, stating that she felt too stressed by the burdens of the course.* Pediatric Oncology, USA/Israel (Moody et al, 2013) *There were no significant differences between the groups at baseline or follow-up on the MBI. Notably, nearly 100% of participants met criteria for high levels of burnout in the categories of personal accomplishment (PA) and depersonalization (DP). These findings were found in both the control and interventional arms at baseline and at the end of the study. In the category of emotional exhaustion (EE), greater than 95% of participants in both groups, at both time points, showed moderate or high levels of burnout.*

	Pediatric Oncology, USA/Israel (Moody et al, 2013) *The lack of benefit may have been because of the severity of the problem in pediatric oncology. Compared with other studies […] our sample was significantly more stressed and burned out.* Pediatric Oncology, USA/Israel (Moody et al, 2013) *[…] both groups' average scores were more than 1 standard deviation higher at both time points than the national (United States) average, suggesting higher than average levels of perceived stress in this group of health care providers* Pediatric Oncology, USA/Israel (Moody et al, 2013) *[…] some of our participants found that the course actually added stress to their day by requiring them to accomplish yet another task on top of their already very full workload.* Pediatric Oncology, USA/Israel (Moody et al, 2013)
CMOC 7: If supervisors do not explicitly support the practice of mindfulness at work (C), employees refrain from doing the exercises (O) because they are concerned that disadvantages might result from taking time off for selfcare instead of working (M).	*While coworkers were largely supportive, feasibility was negatively influenced by […] attitudes of management.* Public Sector, Australia (Bartlett et al, 2017) *MMI facilitators indicated several conditions as necessary for the successful implementation of mindfulness programs into the organization […].. These conditions included the following: (1) additional support at the institutional level, including leadership support […].* Healthcare, USA (Duggan and Julliard, 2018) *One participant described her practice of arriving for a meeting with clients early and preparing for the visit by meditating and getting focused for the visit. She said she was unsure if that this practice 'would be counted as work time or not ... some supervisors may not count it, others might.'* Social Work, Canada (McGarrigle and Walsh, 2011)

	Moreover, there are high rates of noncompletion of the intervention and therefore questionnaires […]. Reasons for attrition have not been explored, but may relate to […] managers not supporting attendance […]. University Employees, Australia (Koncz et al, 2016) *Negotiating with managers, who may have been in key posts at the planning stages but not when the groups actually came to start was also challenging. Managers who were dealing with imminent major changes to their services had so much to deal with that thinking about a staff MBCT group simply could not beat the top of their list of priorities. On the other hand, we also encountered very enthusiastic managers who remained in their post throughout the process and were delighted to be offered this resource and willing to put their own time and energy into making sure it was delivered successfully. As those seemed to be the locations where staff continued to meet to meditate after the group had finished, it seems very important to ensure managers are as on board as possible in order to increase the chances of the intervention and its effects enduring within the workplace.* Mental Health, UK (Marx et al, 2014) *According to study participants, leaders in the agency play a significant role in establishing an environment that fostered self-care and wellness for the staff.* Social Work, Canada (McGarrigle and Walsh, 2011) *Therefore a culture or environment that allotted time, gave permission and a place for individuals to practice self reflection, self awareness, and self-care appears leader dependent.* Social Work, Canada (McGarrigle and Walsh, 2011) *Some participants alluded to an organizational culture that may inhibit individual efforts to prioritize MAP [mindful awareness practice, KM].* Healthcare, Canada (Wasylkiw et al, 2015) *‘(…) it’s the whole awareness and being mindful that is not in our culture. I have never been exposed to anything like this prior to all of the education sessions I’ve taken.‘* Participant #08, Healthcare, Canada (Wasylkiw et al, 2015)

	'I think it's great that you guys are doing the study and having it in the workplace is a great thing. Whether or not the employers were supportive of all of it is a different story, in terms of each individual, department, and directors and all of that (…) and understanding what that is. That's definitely an issue.' Participant #01, Healthcare, Canada (Wasylkiw et al, 2015)
CMOC 8: In an environment that lacks private or dedicated space for mindfulness practice (C), participants fear interruptions (M1) and might feel exposed in front of non-participating colleagues (M2), which negatively affects their ability to do the practices (O1) and reduces their engagement with mindfulness at work (O2).	*While coworkers were largely supportive, feasibility was negatively influenced by limited access to quiet spaces for practice […].* Public Sector, Australia (Bartlett et al, 2017) *Indeed, finding the time in a day without interruptions (e.g. phone calls, others intruding upon practice time) was the most commonly reported challenge to adhering to practice.* Healthcare, UK (Black and Carroll, 2016) *'We have the moments (MM), but they are frequently interrupted because it's like the room doesn't lock and we have people come in and out. And sometimes we're doing it and somebody comes and says, "Bob, I need to talk about this" and we're like, "Oh, give us a second."'* Facilitator #18, Member of Staff, Healthcare, USA (Duggan and Julliard, 2018) *Our quantitative results show that mindfulness enhances qualities of effectiveness and team cooperation in the daily working culture of an agile team. The qualitative open questionnaires distributed to the teams after the trial, however, draw another perspective on our findings. While several participants saw the personal use of the exercise, none would continue it in a public setting.* Agile Project Teams, IT, NL (den Heijer et al, 2017) *[…] although the results show statistically significant increases of effectiveness on several entries, the perceived usefulness does not raise to the level that the participants want to keep on using it in a public setting. The teams apparently encountered a barrier to introduction of these practices.* Agile Project Teams, IT, NL (den Heijer et al, 2017)

	Several participants in Team 4, for example, indicated that the fact that they conducted the exercises in an open space, they felt looked at by other teams. Agile Project Teams, IT, NL (den Heijer et al, 2017) *'Yes, I want to do those exercises more often. I have chosen to do this at home and not at work.'* Participant Team 7; Agile Project Teams, IT, NL (den Heijer et al, 2017) *If, as the qualitative data examples showed, people feel exposed, the practices will not function very well.* Agile Project Teams, IT, NL (den Heijer et al, 2017) *[…] the lack of private space at work prohibited practice* Higher Education, UK (Hugh-Jones et al, 2018) *Program leadership advocated for stable and protected room space, which improved the delivery of the program.* Hospital, USA (Luberto et al, 2017) *'During my workday, it doesn't really make sense (to meditate) … just because I don't know where I would go and who wouldn't bother me … when I'm on call.'* Participant, Healthcare, USA (Lyddy et al, 2016) *'(The) socialized mind never really quite settles down when you realize that there are other people observing you.'* Participant, Healthcare, USA (Lyddy et al, 2016) *Some struggled with formal meditation at work, finding that this technique was ineffective for eliciting mindfulness. One informant said that, 'I tried to meditate here (at work) … That was a disaster. The phone didn't stop, people kept knocking … It was just not good.'*

	Healthcare, USA (Lyddy et al, 2016) *Barriers in the social context had principally to do with the subjective norm: participants did not feel at ease doing the exercises at work as the following quote by an interviewee demonstrates:'… So I'm standing, doing the swan exercise behind my desk and then suddenly a colleague walked in. And he said: What on earth are you doing? You know, that kind of reaction. …'. They reported feeling a lack of privacy and understanding by not participating colleagues.* Research Institute, NL (van Berkel et al, 2013)
CMOC 9: When individuals are used to taking care of others (C), they might feel guilty about taking time off for themselves (M) and skip training sessions and/or home practice (O1) or drop out of the programme (O2).	*Interviewees described an overwhelming need to give to patients, family, and community even while they recognized that they felt used up or empty. This conflict sometimes was associated with guilt about taking time to participate in the program, even while recognizing that it was contributing to their greater effectiveness as physicians.* Primary Care, USA (Beckman et al, 2012) *The third theme from the interviews was participants' recognition of an unfulfilled need to reflect and care for themselves, and their guilt in taking the time to do so. Of the interviewees, 70% (14) placed a high value on the course having an organized, structured, and well-defined curriculum that designated time and space to pause and reflect—not something they would ordinarily consider permissible.* Primary Care, USA (Beckman et al, 2012) *'I felt this guilt about being there [silent retreat day, KM] and not being at home, and my wife didn't even make me feel guilty. It was just me.'* Participant #10, Primary Care, USA (Beckman et al, 2012) *The theme of caring for others before caring for oneself was highly relevant. As previously mentioned, nurses are often socialized to care for everyone but themselves. During the course, several nurses expressed feeling guilty when caring for themselves […].* Hospital, USA (Cohen-Katz et al, 2005a)

	'I'm having trouble focusing on myself and not others' problems. It's the nurse in me.' Participant, Nurse, Hospital, USA (Cohen-Katz et al, 2005a) *Creative strategies need to be developed for further/future workshop participation for nurses and midwives whose self-care needs are often postponed or neglected, as the needs of others become their priority.* Healthcare, Australia (Foureur et al, 2013) *[…] taking time to complete a mindfulness practice often led to feelings of guilt about what they could have achieved in that time.* Higher Education, UK (Hugh-Jones et al, 2018) *[…] the course was described as an 'indulgence,' and there was a level of guilt at taking time out* Healthcare, UK (Hunter et al, 2018) *[…] our analyses yielded the finding that many participants experienced feelings of guilt when making efforts to engage in basic self-care.* Mental Healthcare, Canada (Irving et al, 2014) *'I have my family to think of, and with my wife at home caring for our three children, spending this time on top of all the time I'm away working has got to mean that it brings a better situation for us.'* Participant, Accountant UK (Islam et al, 2017) *[…] 'being a high-level executive and a woman, I have been conditioned to succeed by ignoring my own personal needs. My orientation is to take care of everyone and everything. I am sometimes short with my staff, and don't often take time to smell the roses as I know I should. I need to be able to shift to a place of self-care more often than I do […].'* Participant #02, Executive, USA (Linger, 2016)

CMOC 10: If the MBP competes with private time (C) participants might feel that by attending the training sessions, they have to give up other nourishing activities (M) and they have to make a deliberate decision of what to prioritise (O).	*One reason given for non-participation in the study was the fact that this course demanded a significant commitment of time and energy from people who already work long hours.* Diocese, USA (Davis, 2011) *'I mean truthfully, after a full day at work and we get to these staff meetings, all you want to do is go home. And the faster we get out of there, the happier we are.'* Facilitator #07, Member of Staff, Healthcare, USA (Duggan and Julliard, 2018) *Participant 11 discussed her sense of feeling a freedom from her usual structure, and having mixed feelings about this. On the one hand she felt liberated from strict adherence to her usual schedule of activities, while on the other hand she noted a worry about changing a selfcare routine based on exercise.* Mental Healthcare, Canada (Irving, 2013) *'Time is such an issue for us […] If I'm not on the floor, I should be reading something for tomorrow when I'm on the floor […] If I had an extra hour […], I'd ... spend more time at home or get to the gym.'* Participant, Healthcare, USA (Lyddy et al, 2016) *'I know that the weekends are the big thing that everybody – especially with kids and activities and all that – it's hard to give up […].'* Participant, Emma, Teacher, USA (Sharp, 2013) *One participant mused that attending the MBSR class was initially a challenge for her, requiring an additional evening away from home beyond her existing volunteer commitment to facilitate a grief support group. She later concluded, 'This (was) my gift to myself—that is lived self-compassion.'* Grief Support Group Facilitator, USA (Supiano and Overfelt, 2018) *To create the time to practice he had to eliminate other things. Because mindfulness practice was a priority […] he was able to incorporate it. To find the time, he stopped going along on routine family expeditions and curtailed his attendance at professional meetings.*

	Participant University Employee, USA (Williams, 2006)
INVESTMENT OF RESOURCES	
CMOC 11: When managers and employees are offered an MBP through their employer (C), they see that as a sign of care and appreciation (M1) and/or as a sign that their health and wellbeing are important (M2) which may enhance their engagement with the programme and its exercises (O1) and, more generally, facilitate investment in selfcare (O2).	*Ms Capuano [Senior Vice President, KM] fully supported the program, endorsing it to managers and asking them to help employees adapt their schedules so that they could attend the program, encouraging nurses to enrol, and contributing a significant portion of the tuition costs for every nurse who signed up.* Hospital, USA (Cohen-Katz et al, 2004) *Encouragement would not be limited to articles in diocesan newspapers voicing on the positive benefits of such programs, but might also include release time, financial incentives, tuition reimbursement, and so forth. Clergy would be more willing to support these initiatives if it was felt that they were being offered to all by the Church in a spirit of caring in order to promote health and wellness.* Diocese, USA (Davis, 2011) *As one participant said to me, ‚If the diocese offered this program to me, it would be a real symbol of (diocesan) support of me and my work in the Church.'* Diocese, USA (Davis, 2011) *'I think it is important to have someone worry about the employees (...).'* Participant, Healthcare, Brazil (dos Santos et al, 2016) *Since its inception in 2011, the intervention, called 'MBSR Mindfulness at Work' had been offered […] as a stress reduction and well-being programme for all employees. Provision of the programme reflected an organisational intention to deliver more illness prevention, early intervention and well-being support for free to the workforce.* Higher Education, UK (Hugh-Jones et al, 2018)

	'[…] the fact that the University ran the course seemed to be saying it's okay to take care of yourself; it gave you the right to do it […].' Participant, Higher Education, UK (Hugh-Jones et al, 2018) *[…] programme attendance became, for many, a demonstration of self-care (e.g. 'I'm allowing myself that hour of paying attention to me completely', (…) 'I'm sort of valuing myself enough to say this is important' (…). Nonetheless, there appeared, for many participants, to be a process of intellectual justification, whereby taking care of one's mental and physical health needed a logical defence. This justification seemed greatly supported by the fact that the programme was embedded in, and provided free by, the organisation: 'I think it legitimised self-investment. (…) if you don't look after yourself, you're not well (…) In this organisation, in this University, it legitimised self management and looking after yourself and being nice to yourself, as opposed to always being nice to other people, so that helped me then invest some time'.* Higher Education, UK (Hugh-Jones et al, 2018) *[…] our participants […] reported that it was the organisation's provision of free and easy access to the intervention, and thereby its representation of support for staff well-being, which also strongly legitimised their participation.* Higher Education, UK (Hugh-Jones et al, 2018) *[…] the personal and organisational legitimisation of self-care for stress management appeared foundational for investment in mindful practice.* Higher Education, UK (Hugh-Jones et al, 2018) *[…] although legitimising self-care was an ongoing process (e.g. 'there is time in my busy schedule'), it is presented here as an early first stage of change as it appeared foundational to intervention engagement and the securing of subsequent benefits.* Higher Education, UK (Hugh-Jones et al, 2018) *In our provisional model, legitimising self-care directly fosters awareness.*

	Higher Education, UK (Hugh-Jones et al, 2018) *The workplace context played a significant role in participants' ability to strive toward self-care and wellness. As one participant explained, 'I think it would be an important message to employees that this agency values their well-being.'* Social Work, Canada (McGarrigle and Walsh, 2011) *Participating in the CARE program not only validated the need for self-care but also gave teachers the permission to attain it.* Education, USA (Schussler et al, 2016) *Several participants voiced appreciation of the format of this MBSR class —that it was not merely a skill-building class intended to make them better grief group facilitators, but was instead 'for them' to use and grow as they might.* Grief Support Group Facilitators, USA (Supiano and Overfelt, 2018) *'It was about going along … for me. And that was something I hadn't experienced before' captured the surprise that the participants felt regarding the fact that the course was focussed on their selfcare as opposed to the care of patients […].* Healthcare, UK (Turner, 2013) *'I thought if you're being allowed to do something in your work time it would be more about, em, learning a set of skills … and I kept waiting for that to happen […] but it didn't which I was quite pleased about.'* Participant, Bryan, Healthcare, UK (Turner, 2013) *'Um, it felt, very caring (…) it comes back to what I wanted in the first place, that you could take some time out and to reflect … um, it was just a really nice little pocket, in my week.'* Participant, Kate, Health Care, UK (Turner, 2013)

CMOC 12: If participants receive official release from their work to attend training sessions (C1), they feel 'permitted' to take care of self (M), which facilitates investment in the programme (O1), engagement with the exercises (sO2) and/or the ability to practice mindfulness (O3). Feeling permitted to take care of self can just by itself be relaxing (O4) and stress reducing (O5), and it might facilitate investment in selfcare more generally (O6).	*Meetings occurred during work hours but at periods of low call volume so as to minimize the impact on productivity. Group meetings were scheduled at different times and days of the week to accommodate various work shifts.* Call Centre, USA (Allexandre et al, 2016) *[…] the opportunity to practice during work hours was important not only to program engagement but also for practice and relaxation, even if only once a week.* Call Centre, USA (Allexandre et al, 2016) *On the basis of participants' feedback, group practice led to greater program engagement and participation. It […] provided an opportunity to take time off work to de-stress and practice the techniques once a week.* Call Centre, USA (Allexandre et al, 2016) *Ultimately […] management must acknowledge that time is a scarce commodity informally valued among employees and must be compensated for in order to successfully implement a mindfulness training program* Mental Healthcare, USA (Byron et al, 2015) *Ms Capuano [Senior Vice President, KM] fully supported the program, endorsing it to managers and asking them to help employees adapt their schedules so that they could attend the program […].* Hospital, USA (Cohen-Katz et al, 2004) *The participants reported enjoying the simple pleasures around them, such as practicing meditation without guilt […]!* Hospital, USA (Cohen-Katz et al, 2005a) *In the future, it would be extremely helpful to provide support at both the parish and diocesan levels for release time or time-off for self-care so that participants did not feel guilty about neglecting other aspects of their ministry.*

	Diocese, USA (Davis, 2011) *'I think having the buy-in of like the two heads of the department really made a difference. And having (name) say, "I want to allow people to do this as part of their workday rather than requiring them to do it on their own time" is really useful.'* Facilitator #04, Member of Staff, Healthcare, USA (Duggan and Julliard, 2018) *'In any department in the hospital, there is a lot of emotions and a lot of stress that linger and I think this serves to contain some of those feelings to provide five minutes for oneself to be with others not focusing on work-related tasks.'* Facilitator #19, Member of Staff, Healthcare, USA (Duggan and Julliard, 2018) *[…] lack of effects in the study of van Berkel et al. […] might be due to the intervention's being run on the participants' own time. Our intervention was implemented during paid working hours. In other studies with positive results, their MBIs were also delivered at the workplace during work hours […]. Effective workplace health-promoting interventions need the organization's commitment to facilitating the changes both for employees and their working conditions […].* Manufacturing, Taiwan (Huang et al, 2015) *[…] across each of the 4-week groups, attendance rates decreased from the first to last session. Qualitative results revealed that conflicting work demands were the primary reason for missed sessions. Indeed, this attrition rate is inconsistent with findings from previous studies of workplace employee mindfulness programs, which showed 97% retention and included approved time release to attend sessions (Klatt et al. 2015). In contrast to Klatt's (2015) study, participants in the current study did not receive institutional release to attend sessions, which may be important for enhancing intervention uptake.* Healthcare, USA (Luberto et al, 2017) *Hospital administration supported the implementation of the program but was not asked to work directly to accommodate employees' schedules or interests in participating.*

	Healthcare, USA (Luberto et al, 2017) *Participants described the need to find a balance between their own accountability for self-care and the challenges of self-care at their workplace. 'It's got to be a balance, right? We've got to do it on our own as well as there could be time incorporated in our job to help us.'* Participant, Social Worker, Canada (McGarrigle and Walsh, 2011) *Participants in the study felt that 'promoting' self-care and wellness at work was not enough, the workplace needs to commit to staff's self-care by providing time, permission, and a place for the staff to learn and practice self-care strategies.* Social Work, Canada (McGarrigle and Walsh, 2011) *Granting time and permission for participants to engage in the group sessions at work, led participants to feel less stressed, as one practitioner explained, 'over the past eight weeks I have been busier but less stressed, I have felt calmer inside and peaceful knowing that thing(s) will get done.'* Social Work, Canada (McGarrigle and Walsh, 2011) *The workplace context included subthemes of time, permission, and a place to practice reflection and learn the skill of mindfulness for it to be successful.* Social Work, Canada (McGarrigle and Walsh, 2011) *'Giving myself permission to use mindfulness at work and not feeling the time spend as being non-productive/wasteful.'* Participant, Health Care, UK (Scott, 2010) *The fullday and follow-up sessions were scheduled during work days. Participants in senior positions were able to diarize their attendance. Ward-based staff negotiated time to attend with their nurse manager or attended during days off.* Healthcare, Australia (Slatyer et al, 2018)

	Many participants described a new approach of taking time for themselves away from their caring roles at work or at home, such as […] doing the exercises … actually allocating it and naming it – (saying) that's self-care activity that you've done for today.' Healthcare, Australia (Slatyer et al, 2018) *Following the MSCR program, participants felt comfortable devoting resources to their own well-being. For example, a nurse manager who was otherwise doubtful about the benefit of the MSCR program admitted, 'I have given myself permission to allocate 30 minutes per day every day to play my piano.'* Healthcare, Australia (Slatyer et al, 2018) *For some professions, the organisation of work did not allow flexibility in working hours and therewith hindered participation in the training.* Research Institute, NL (van Berkel et al, 2013) *[…] perceived facilitation of participation by the supervisor (β=0.60, 95%CI 0.15 to 1.04) and the organisation (β=0.51, 95%CI 0.01 to 1.02) were both positively associated with compliance. Perceived support of participation by the supervisor (β=0.29, 95%CI -0.21 to 0.79) or the organisation (β=0.19, 95%CI -0.32 to 0.69) however, were not […].* Research Institute, NL (van Berkel et al, 2013) *Stimulation by the supervisor or organisation (for instance, summoning to participate via email) alone, does not contribute to compliance. It needs to be translated into actions (practical facilitation) for it to be associated with compliance.* Research Institute, NL (van Berkel et al, 2013) *Facilitation could for instance be provided by allowing flexible handling of working hours […].* Research Institute, NL (van Berkel et al, 2013)

STRATEGIC USE OF RESOURCES	
CMOC 13: In a context where pressure and workloads are high (C1) and/or in moments of immediate stress/distress (C2), mindfulness exercises, particularly the brief ones, provide individuals with a sense of coping (M) and thereby reduce perceived stress (O). Coping mechanisms range from enhanced awareness (M1) and attention regulation to (M2) taking a few breaths/deep breathing (M3), cognitive reappraisal (M4), relaxing (M5), zooming out (M6), and/or reminding oneself that these strategies are available (M7).	*'I have noticed I am able to do the brief practice like 3-min breathing even when I am in a lot of stress.'* Participant, Staff, Mental Healthcare, UK (Banerjee et al, 2017) *'I didn't know about the 3min breathing space before (the intervention started), but I think I have always done it, especially before important meetings. I always tend to pause and relax for a bit.'* Participant, Katie, Mental Healthcare Staff, UK (Banerjee et al, 2017) *'It was like learning to swim. You don't always swim but once you know how to you will never drown. I now know about mindfulness and the being mode, I can use it when I am stressed. (…) I have more control now.'* Participant, Sarah, Staff, Mental Healthcare, UK (Banerjee et al, 2017) *'Learning ahh about the mountain meditation for one… where you could, even in the midst of a disruptive meeting, you could step back, without losing the focus of the meeting, you could step back and take yourself to a place where these people didn't matter and you're just coming back to it fresh… Very useful to learn wee techniques like that.'* Participant 7, Healthcare, UK (Black and Carroll, 2016) *'I have a funny story—when hiking recently we got way off trail and ended up facing sheer rock-face with no choice but to climb up. So I found myself clinging to a rock knowing there was nowhere for me to go. I got very nervous and I am so tired my muscles were shaking. […] At that moment I looked at the rock and thought I can either freak out or meditate. And suddenly I thought now would be a good time to meditate. So I went with taking 5 deep breaths. When I opened my eyes I saw a rock cranny I hadn't notice and I jumped and made it. […] So this program helped make a very stressful situation manageable. And it made clear that you can meditate in any circumstance. It helped a lot.'* Participant PG, Palliative Care, USA (Bradbury, 2014)

	'All I do is ten minutes practice a day on the train travelling to work instead of reading my book plus one hour of me-time at work on a Friday. The confidence it gives me has helped my resilience at work.' Participant, Senior Leader, Government Department, UK (Carter et al, 2016) *'The 3min of silence helped me rest and relax. It helped gather my senses back after a few hours of (usually) stressful work.'* Participant, Agile Project Teams, IT, NL (den Heijer et al, 2017) *'And the techs […] and […] some of the nurses, too, have said that they really appreciate when they get to participate in the mindfulness moments, but even … when they don't […], kind of knowing that it's available to, like a chance to take a three-minute break and calm down […]'.* Facilitator #19, Member of Staff, Healthcare, USA (Duggan and Julliard, 2018) *'The techniques of looking at shades of green when driving in the car certainly helps me stressing out in traffic.'* Participant, Healthcare, Australia (Foureur et al, 2013) *'Looking at the leaves technique has helped a lot with my stress levels.'* Participant, Healthcare, Australia (Foureur et al, 2013) *'I did it before night shift to decrease my stress about not sleeping during the day before nights start'.* Participant, Healthcare, Australia (Foureur et al, 2013) *[…] 'just go into a room and take time to de-stress … there is nowhere to go here … no time or space … but we can make time and space.'* Participant, Healthcare, Australia (Foureur et al, 2013) *'Several teachers noted the effects of taking a breath or using deep breaths as a means to calm themselves.'* Education, USA (Hraha, 2013)

	'I feel more peaceful and calm when I take a deep breath'. Participant, Teacher, USA (Hraha, 2013) *'I learned that if I focused too much on one particular child I go crazy instead of looking at the whole overall classroom, like I feel claustrophobic. And after we went through (the training), I don't know, just after the (training) and I went back to the classroom for some reason the breathing helped a lot and just being able to concentrate on that particular child or on the whole classroom overall, just reminding myself that I can get through this.'* Participant, Teacher, USA (Hraha, 2013) *Many participants talked of now having 'toolkits' […] for […] managing stress triggers and stressful episodes.* Higher Education, UK (Hugh-Jones et al, 2018) *[…] '(a mindful practice) is like a nice detox, it just settles your mind, and then I'm alright and I'll carry on.'* Participant #09, Higher Education, UK (Hugh-Jones et al, 2018) *'When my anxiety or stress levels get too high, then I do start to feel out of control, and that's when things start to, um, go a little bit wrong … (mindfulness) gives me an element of control.'* Participant, Sophie, Midwife, Healthcare, UK (Hunter et al, 2018) *They [employees, KM] give themselves this time to be free of all concerns, simply to be, which sounds so simple, but we rarely seem to do that these days. And when they go back to their desks […] they have new energy, they are at their best, and they are inclined to be like this through their day.'* HR Director, Medical Imaging, Switzerland (Islam et al, 2017) *'It doesn't stop, so I have to, in order to gain some sense of peace and keep on track […] I can only change myself, so that's what I'm doing, so that I can better cope with what I have to somehow do.'* Participant, IT-Technician, France (Islam et al, 2017)

	'This coaching intervention has been an invaluable opportunity for me to learn skills and a practice that is not rocket science but something I can do to enhance my wellbeing, reduction in rumination and my shifting from negative place to a more positive one whenever I need to.' Participant #06, Executive, USA (Linger, 2016) *'The ability to be able to shift from the place of overwhelm to calmness is proving to be a valuable tool to me during my day. That shift happens relatively easily and seems to sustain me throughout the day.'* Participant #01, Executive, USA (Linger, 2016) *'I have been practicing twice a day since we have started the intervention, and I find that my stress shifts into a very calm and confident space once I'm done with the practice. I seem to gravitate toward the practice when things are rough for me. It is as if I'm using it as an antidote to difficult moments and events.'* Participant #02, Executive, USA (Linger, 2016) *'I am much more focused and when things seem a bit overwhelming, I take a few minutes to re-center myself with some of the techniques.'* Participant, Hospital Employee, USA (Luberto et al, 2017) *'(I found mindfulness practice) most beneficial when I'm going into a situation that I know is going to be complicated, or … be overwhelming. … Being able to meditate … before I go into the situation really makes a world of difference.'* Participant, Healthcare, USA (Lyddy et al, 2016) *'When it's a stressful day at work, I'm feeling particularly overwhelmed, (I) just … sit and … do … meditation.'* Participant, Healthcare, USA (Lyddy et al, 2016) *'I could say I've used mindfulness anywhere, I feel like I've tried to use it in … the aftermath of (difficult) situations.'*

	Participant, Healthcare, USA (Lyddy et al, 2016) *Participants routinely engaged in several types of informal Opportunistic and On-the-Fly practices during the workday, enabling completion of brief mindfulness practices ranging from seconds to minutes during typical and stressful situations.* Healthcare, USA (Lyddy et al, 2016) *There were reports of feeling less overwhelmed and several participants pointed to the breathing exercises as a way to allow their minds to relax.* Participant, Pediatric Oncology, USA/Israel (Moody et al, 2013) *'STOP kept me calm and relaxed throughout the day.'* Participant, Pediatric Oncology, USA/Israel (Moody et al, 2013) *'I have also used the centering activity when I have to go to a meeting where I'm nervous or it's a higher profile meeting with a parent that you never know what to expect when you walk in. I can feel myself like it's in the pit of my stomach where I get nervous. I just take a few minutes to … get my paperwork organized and I can just kind of think about it and center myself before the meeting gets started and I feel like it can run a little more smoothly if I can be more calm. Otherwise, I have a tendency to talk fast and I end up with a teammate telling me to slow me down ... So if I can just organize myself a little bit, I feel like I appear more together even if I'm not.'* Participant FG1, Teacher, USA (Schussler et al, 2016) *When asked about the most helpful practices, teachers tended to identify those that immediately affected them, especially those practices that helped them take care of themselves, namely by reducing their physical and emotional stress.* Education, USA (Schussler et al, 2016) *For Kasey, the attractive CARE strategies were those strategies that did not require a daily commitment: Some of the other things that I am doing, I think the reason I am doing them is because they're not something you have*

	to do every day. So, I'm using them as I need them, but they're not things that I have to commit to doing every day. Education, USA (Sharp, 2013) *When we discussed what Kasey was using from CARE, she began by saying 'I would say that I don't use it the way it should be used. I don't use it proactively. I definitely use most of the strategies reactively.' However, she went on to clarify, 'I let my elevator get too high and then I stop and ground myself and breathe.'* Education, USA (Sharp, 2013) *'In class, feeling grounded and all that kind of stuff, maybe I don't even think of it of it that way anymore. But just, "I'm here. I'm present. I'm gonna do the best I can. And I'm not gonna be panicky trying to make kids do stuff. I'm just gonna relax and be the best teacher I can." You know, I think that's still a part of kinda what CARE was getting at. I think that was part of it because sometimes you just have to breathe and be grounded and try to do the best you can.'* Participant, Aiden, Teacher, USA (Sharp, 2013) *In addition to using wait time, Emma reported giving herself 'more time not to feel rushed' during her morning routine and using deep breathing to address situations in which she found student behavior challenging.* Participant, Emma, Teacher, USA (Sharp, 2013) *One young ward-based nurse recalled learning, 'skills to de-stress and I actually use them at work . . . the three sighs and I listen to the (supplied meditation) CD and sometimes it's just like ringing in my mind.'* Healthcare, Australia (Slatyer et al, 2018) *'When we were actually doing the course, you know we thought it was interesting and whatever but we couldn't imagine incorporating it into our lives unless we felt a real need for it.'* Participant, Janet, Healthcare, UK (Turner, 2013)

	The majority of the participants did not report maintaining the formal practices of mindfulness […] but still reported that they used the informal practices and reported employing mindfulness when faced with a situation that caused them stress. Healthcare, UK (Turner, 2013) *'[…] it's that whole sort of stop everything, focus on, and almost taking you out of yourself. […] yeh and I think that's really quite important and that's the skill that I never had before […] - it's like stop the world I want to get off, but just stop the world for 5 minutes.'* Participant, Melanie, Healthcare, UK (Turner, 2013) *'I remember that I will be able to use the mindfulness skills forever, focusing on the breath which can be done anywhere anytime.'* Participant, Hospital, USA (Valley and Stallones, 2018) *'I have become very aware of the breathing, which suits me well. The breathing comes and goes […] you are always carrying with you. It also gives me safety, it can bring me back to myself, and […] it can be an indicator of how I feel at a particular moment.'* Participant, GP Professional Training, NL, (Verweij et al, 2016) *'Sometimes too, if I'm getting really stressed or something, I try to be mindful and go walk away and just empty my brain or something.'* Participant, Healthcare Manager, Canada (Wasylkiw et al, 2015) *Two specific activities have been shown to provide tangible and easily accessible methods to practice mindfulness. The acronyms STOP (stop, take a breath, observe, proceed) and RAIN (recognize, accept, investigate, nonattach) help redirect the focus away from the stressful thought or event and return it to the breath, which decreases the sympathetic nervous system response to threat.* Health Care, USA (Willgens et al, 2016)

	'I could focus on myself and my body… It was a release of … stress and energy. So this was a way not to focus on the things I had to do at work or reports I had or who I had to call, I could focus on myself and my body'. Participant, Physical Therapist (Willgens et al, 2016)
CMOC 14: When mindfulness practices can be integrated easily into existing routines and busy work schedules (C), take up is high (O) because individuals feel they can do something for their health without having to invest extra time and effort (M1) and/or because it helps them make good use of 'empty' time (e.g. wait time, commute time) (M2).	*Shorter practices […] were noted as a facilitator of engagement, for example, 'I am still practising the breathing exercise. I think I'll make a habit of it'.* Mental Healthcare, UK (Banerjee et al, 2017) *'I struggle to make time for things at work, but the short practices I can do during lunch.'* Participant, Sophie, Staff, Mental Healthcare, UK (Banerjee et al, 2017) *'I think it (mindful walking) is short and easy to fit into your schedule'.* Participant, Katie, Staff, Mental Healthcare, UK (Banerjee et al, 2017) *Some participants noted that mindfulness was similar to their natural coping style, and hence, engaging in the intervention was not perceived as an extra undertaking.* Mental Healthcare UK, (Banerjee et al, 2017) *'I found myself in a boring meeting that didn't have much to do with clinical patient care, and found myself looking out the window…. And there was this incredible gust of snow that blew the window off a very steep slope of roof with light behind the roof and birds flying through at the same time. I thought … this is just a beautiful moment in time.'* Participant #08, Primary Care, USA (Beckman et al, 2012) *A number of participants suggested that 15–30 minute practice sessions might be more realistic given the business of their daily routines.* Healthcare, UK (Black and Carroll, 2016)

	Most participants […] were able to find some mindfulness techniques they considered helpful and beneficial (perhaps unsurprisingly, the quicker and more practical exercises such as the three-minute breathing space were the most popular). Healthcare, UK (Hunter et al, 2018) *'You can notice you're letting your shoulders drop, releasing tension, um, hopefully it means that you're not going to be quite so tired in the shift because, you know, you've done something to nourish yourself.'* Participant, Nadia, Midwife, Healthcare, UK (Hunter et al, 2018) *'A particular thing is switching on the computer … it does make me think "right, this has got to happen, I've got to wait for it to come on, so I could just sit quietly and just focus for a minute, and just breath."'* Participant, Emma, Midwife, Healthcare, UK (Hunter et al, 2018) *'Traditionally, it's going walking in nature that does that for us, but here in the office, these practices are much more practical, you see!'* Manager, Telecommunication, Norway (Islam et al, 2017) *A number of participants discussed how they adopted strategies over the weeks of the course to flexibly work mindfulness practices into their weekly schedules, such as shortening the time required for sitting meditation.* Mental Healthcare, Canada (Irving et al, 2014) *A third perception affecting motivation and adoption of mindfulness practices was their integration within interviewees' preexisting life, including work routines […].* Healthcare, USA (Lyddy et al, 2016) *'I like the on-the-go (meditation) too because it's integrated more into my everyday life … I really ... hope that (mindfulness is) going to be present in my whole day, all of it'.* Participant, Healthcare, USA (Lyddy et al, 2016)

	'I found these moments where I was standing in line and … I was like "great … I don't have anything else to do in line, let me practice (meditation).' Participant, Healthcare, USA (Lyddy et al, 2016) *Commuting was often cited as an opportune practice time.* Healthcare, USA (Lyddy et al, 2016) *'I do it … on the subway, on the way to [work] … as a formal thing … it's pretty much exactly 10 min (before) I get off … I usually meditate both ways.'* Participant, Healthcare, USA (Lyddy et al, 2016) *'[…] try to do it twice a day ... My cat …. likes company while he eats, so I sit with him'* Participant, Healthcare, USA (Lyddy et al, 2016) *'I walk a lot … all over the hospital. …. Usually … I try to take that time as meditation time …. I feel my feet or just listen to the sound of my feet to … center myself, because I never know what is going to happen. … It's helpful for my work …. (but) I wouldn't say it's enough.'* Participant, Healthcare, USA (Lyddy et al, 2016) *'I have done the best I can do to accommodate that loss (of planned practice time) by fitting small opportunities for mindfulness into my day.'* Participant, Healthcare, USA (Lyddy et al, 2016) *'I had … been using … objectless meditation and breathing … which is great, because you can slip in and out of it wherever, whenever. You don't have to set aside time. … It's immediately accessible.'* Participant, Healthcare, USA (Lyddy et al, 2016)

	HCPs [healthcare professionals, KM] largely eschewed a classic, formal meditation practice routine, suggesting that they struggled to adopt traditional mindfulness practices. Instead, they relied heavily on informal and opportunistic practice models to increase mindfulness levels. Healthcare, USA (Lyddy et al, 2016) *Opportunistic Practice occurred within spaces—physical, social, and temporal—in the workday, enabling the completion of brief mindfulness practices ranging from seconds to minutes. Although these moments were typically unscheduled, interviewees reported anticipating their occurrence and using them in lieu of formal practice times. For example, several interviewees described changing locations or mindfulness of ambient sounds or body sensations as good opportunities for informal practice.* Healthcare, USA (Lyddy et al, 2016) *'Sitting meditation and mindful walking. Meditation – find relaxing and easy to do when have spare 10 mins.'* Participant, Healthcare, UK (Scott, 2010) *CARE participants did not see the CARE program as separate and distinct from other efforts in which they were engaged. Many of them connected CARE with practices they already had established and other self-care/supportive practices in which they were involved.* Education, USA (Sharp, 2013) *For Kasey, CARE seemed to fit nicely into her broader wellness efforts and her focus on cultivating a healthy lifestyle. Thus, the ability to connect CARE with existing knowledge or synchronistic efforts seemed to facilitate participants' understanding and assimilation of CARE.* Education, USA (Sharp, 2013) *Rayleen talked about how her involvement in Al-Anon 'ties in very closely with what CARE taught as far as taking things easy and just kind a taking care of yourself.' She described what she learned in CARE as reinforcing some of what she learned in Al-Anon […].* Education, USA (Sharp, 2013)

	'I've been in this whole process of at that point in time of CARE, thinking about different, like the way I eat and all of that kind of stuff so it just lent itself to things I was already trying to do in my life. Even the responsive classroom stuff for kids, it kind of played into that a little as well.' Participant, Kasey, Teacher, USA (Sharp, 2013) *'I do the breathing…Sometimes it's deliberate, like those times and other times it's just sort of automatic transitioning time. Like let's say I finished the reading lesson and I'm going to sit down at my desk and then call kids up to talk to me at my desk. I'll find myself doing it at times like that to just sort of regroup and then move on, but it's not like the whole counting.'* Participant, Nadia, Teacher, USA (Sharp, 2013) *It was evident that the choice of strategies that could be applied at work or at home contributed to the perceived feasibility of the program.* Health Care, Australia (Slatyer et al, 2018) *Meditation promoted relaxation and focus but was difficult to use during the working day. A compromise was to use the three breaths, a strategy seen to be easy, unobtrusive and, therefore, sustainable in routine practice.* Health Care, Australia (Slatyer et al, 2018) *[…] the strategy of three short breaths was the most frequently used as it was quick and unobtrusive and could be done in any setting.* Health Care, Australia (Slatyer et al, 2018) *A number of participants described how they had integrated aspects of MAP [mindful awareness practice, KM] into other relaxation practices such as yoga and stretching and how they had learned to fit brief practice sessions into their work days.* Healthcare, Canada (Wasylkiw et al, 2015)

CMOC 15: When psychoeducational elements help participants make sense of their experience (C), they provide a sense of control (M) which positively affects engagement with the MBP and its practices (O).	*'The justification given about how this (mindfulness) works, kept me motivated to keep carrying on (practice).'* Participant, Mental Health Care Staff, UK (Banerjee et al, 2017) *'I didn't know about this technique of thinking. It (intervention) was explained nicely so you know how this (mindfulness) works and why worrying might not always be good. That kept me going'.* Participant, Amber, Mental Health Care Staff, UK (Banerjee et al, 2017) *'[...] it is very important for me to understand what I am doing and why, I guess if I didn't understand the logic clearly I would have given up.'* Participant, Martha, Mental Health Care Staff, UK (Banerjee et al, 2017) *'[…] if there would be more clarity of how mindfulness works I might have given it another go. I understand worrying might not help but how this (mindfulness) would help I am not sure.'* Participant, Charlotte, Mental Health Care Staff, UK (Banerjee et al, 2017) *MMI facilitators indicated several conditions as necessary for the successful implementation of mindfulness programs into the organization. These conditions included […] more education around the benefits of mindfulness […].* Healthcare, USA (Duggan and Julliard, 2018) *The proposed first stage of change is an experience of resonance. This could be in terms of intellectual resonance, whereby the psycho-educational components of the programme makes sense to people ('I need the evidence and I liked that and I kind of engaged with that more because I kind of understood how it worked' […]; 'it all clicked with me quite well, right from the beginning (…) it fitted into a framework that made sense' […].* Higher Education, UK (Hugh-Jones et al, 2018) *Many of our participants wanted the intervention to be justifiable intellectually and from the outset. Psychoeducation components and the group were important in meeting this need, typically by representing both the psychophysiology and social views of stress in ways that made sense to them.*

	Higher Education, UK (Hugh-Jones et al, 2018) *Specifically, psychoeducation and the effect of the group appeared to facilitate intellectual resonance and normalisation of the stress response, which in turn helped people to re-frame their stress experience as modifiable.* Higher Education, UK (Hugh-Jones et al, 2018) *'I am really enjoying the coaching on the science behind the changes that occur during practice and that occur over the long term with consistent practice.'* Participant #01, Executive, USA (Linger, 2016) *'Also the educational component of this intervention was so important to me. […] it helped me make sense of what was happening to me each time I practice […]. As an executive, what I realized is that I have a need to know [...].'* Participant #02, Executive, USA (Linger, 2016) *'I was really intrigued with learning about how our brains work and that the left hemisphere is associated with rational analytics and logical process where as the right hemisphere is associated with nonverbal awareness thought and visual/special perception and the expression of emotions. I appreciated the fact that regular mindfulness practice can help us shift towards the right brain hemisphere and bring about a calm state.'* Participant #04, Executive, USA (Linger, 2016) *'Todos os participantes compreenderam a realidade de um ponto de vista científico […].'* Participant, Manager, Portugal (Ramos and Gonçalves, 2017) *For Nadia, the CARE practices were not the most useful part of the training; instead learning about the neuroscience of emotion and how that applies to students in her classroom was much more informative.* Education, USA (Sharp, 2013)

	Nadia's feedback illustrates how learning basic neuroscience regarding human emotion impacts educators in the way they process their own emotions as well as the emotional reactions of their students. Education, USA (Sharp, 2013) *In the present research, one of the most impactful findings was that participants found the information about how human emotions work to be extremely useful.* Education, USA (Sharp, 2013) *Participants indicated that MSCR psychoeducation content helped them to recognize the impact of stress in their lives and provided coping skills.* Healthcare, Australia (Slatyer et al, 2018) *'I tend to be a very concrete person and am very interested in the theory and evidence behind why something works. I didn't find this included in the class and so in some situations I found myself to be less engaged.'* Participant, Hospital, USA (Valley and Stallones, 2018) *Although the course instructor provided articles reviewing the research on mindfulness during the first session of the MBSR course, the evidence was not discussed in detail with the participants. Participants stated that thoroughly presenting supporting evidence is especially important among health care workers given their foundation in evidence-based medical training and health care practices.* Hospital, USA (Valley and Stallones, 2018) *[…] it was reported that language use that was rather vague and not down to earth to be a barrier for compliance.* Research Institute, NL (van Berkel et al, 2013) *Participants […] commented on the qualitative nature of the study, sharing a preference to know, have facts, and be told what to do, rather than turn inwards and become curious about the contents of their mind.*

	Health Care, USA (Willgens et al, 2016) *He attributed his sustained benefits to the general lessons that he learned from Jon Kabat-Zinn's book Full Catastrophe Living, which were reinforced by participation in the MBSR program and by the community yoga classes.* Participant University Employee, USA (Williams, 2006)
STAGE 3	OPENING UP AND SHOWING VULNERABILITY AT WORK
PROTECTION OF RESOURCES	
CMOC 16: If managers and employees attend sessions in their professional roles (C), they might not talk openly about their struggles and experiences (O) because they are concerned that being seen as weak and vulnerable could hurt their professional self (M).	*Three participants agreed that the size of the group (13) was optimum in terms of facilitating openness between group members' contributions and avoiding higher levels of attrition due to feeling more inhibited in greater numbers.* Healthcare, UK (Black and Carroll, 2016) *While the data suggest that there may be some positive benefits derived from using mindfulness as part of a clergy wellness program, it is also clear that there are a number of questions that remain to be answered before it can be wholeheartedly endorsed. One of these questions concerns the advantages and disadvantages of offering the program within a particular diocese to a community of people, that is, with professionals who have contact with one another on a regular basis.* Diocese, USA (Davis, 2011) *One of the challenges in engaging a group of clergy is that they may be less willing to share their personal experiences in the weekly discussion groups. Rather than being regarded as a time of letting down professional barriers, some could see this as a threat to their professional selves and become even more guarded.* Diocese, USA (Davis, 2011)

	In a group such as this in which they all were parish priests in the Diocese of Pennsylvania, there may have been a tendency for respondents to want to appear more 'normal' and to underreport symptoms of stress for fear that they will appear less competent. Diocese, USA (Davis, 2011) *[…] it was also evident that on occasion, the course could make participants feel uncomfortable.* Health Care, UK (Hunter et al, 2018) *Participants described not only the isolation which they experienced when faced with distress relative to the workplace but they also discussed the sense of stigma related to openly discussing such issues.* Mental Health Care, Canada (Irving et al, 2014) *Most clients entered the intervention with mixed feelings about their competency to complete the seven session requirement. Although there was excitement around beginning the process, there was also ambivalence and self-doubt. They also expressed issues with self-disclosure. The primary concern was they were not used to disclosing due to their high-level positions where they had learned not to share too much about themselves, their fears, weaknesses, or vulnerabilities.* Executive Program, USA (Linger, 2016) *In the early stages of the study, the HLEs [high-level executives, KM] indicated a difficulty in being comfortable disclosing information about themselves and sharing emotions as a result of not wanting to be seen as vulnerable. This difficulty appeared to be a cultural norm for participants relative to their position or status in the workplace. […] What is normative according to participants is the reliance on ego for HLEs to present the appearance of power and perfection. Appearing vulnerable was not an option for any of the participants in their workplace as it is considered a sign of weakness.* Executive Program, USA (Linger, 2016) *It is our view that for mindfulness to take effect, the practices have to be engaged with personally, as human beings encountering our own bodies and minds, rather than primarily as professionals scoping out techniques for later use with patients. Even though we emphasized this […] there did seem to be a fine line within a*

	professional context between giving staff permission to come to the groups for themselves and risking shaming, and therefore putting off, professionals who are used to presenting themselves as relatively invulnerable at work. Mental Health, UK (Marx et al, 2014) *Staff participants sometimes arrived late resulting in some personal responses for the facilitator to work with! Their contributions to the enquiry included experiencing the meditation as 'relaxing'; working with the content of the previous clinical encounter and finding shopping lists uppermost in their minds. When responding to patient struggles staff tended to offer advice to ameliorate experiences.* Mental Healthcare, UK (Moorhead, 2012) *The issue of participant mix is interesting. The group set out to explicitly normalize psychological distress. However, it appears that not all staff were entirely comfortable with this […]. Whether the initial (score 5/7 on acceptability of a group format and on its mixed participant nature) relative reservation suggests this staff member thought that some would be inhibited in the group or that the group would be unable to adequately help the more vulnerable members or some other is unclear.* Mental Healthcare, UK (Moorhead, 2012) *It may […] be that the focus of struggle for staff was on the experience of working with service users. This would understandably be difficult to share in a mixed-participant group. In CBT supervision, staff report credibility to their patients as a barrier to trying new things: they find it difficult to show vulnerability to people with whom they have a professional role relationship.* Mental Healthcare, UK (Moorhead, 2012) *An important point was made about the nature of the course, because of the course being experiential, it can touch on negative thoughts and feelings as well as positive. The latter requires to be handled sensitively, ensuring that a balance is found between the course not being seen as a therapeutic course, but also being able to put measures in place to cope with an individual's distress, if it arises.* Healthcare, UK (Scott, 2010)

	'I know Susan was there and you could speak with her if you needed to, but I don't know if I'd have felt comfortable doing it in that environment - going away to speak with her was showing that you were having difficulties.' Participant, Healthcare, UK (Scott, 2010) *After a discussion on the size of the group, the consensus appears to have been that it was too large to facilitate group debate, and that 9-10 people would have been a better number. A smaller room would have helped the feeling of intimacy and improved group dynamics, or perhaps splitting into smaller groups when it came to discussing issues.* Healthcare, UK (Scott, 2010) *'Possibly a smaller group – 21 was quite large, felt intimidating if one wanted to speak of more difficult things that course raised up in oneself.'* Participant, Healthcare, UK (Scott, 2010) *'This was a very large group and I felt it was too big to be able to talk about some of the difficulties I was having although I was able to do this in smaller groups – especially when so many people were finding it so beneficial.'* Participant, Health Care, UK (Scott, 2010) *'There was a bit of an atmosphere of not wanting to speak up. Small groups would have helped, but the large group was quite good - the anonymity was quite useful.'* Participant, Health Care, UK (Scott, 2010) *'Maybe sharing is not as appropriate, as mindfulness is an intensely personal process.'* Participant, Health Care, UK (Scott, 2010) *There was consensus that including nurses of varying seniority in the same group negatively influenced the group dynamics, constraining discussion. From the perspective of senior nurses, there was some reluctance to*

	divulge work problems and emotional difficulties in the presence of junior staff. In turn, others became uncomfortable if they felt discussion was stifled. Healthcare, Australia (Slatyer et al, 2018) *'I found I was becoming more silent because it was just a group that wasn't very "feedback-y". And whether that was because of the participants, because […] the majority of the group was a fairly highflying participants. … I found that very difficult.'* Participant, Nurse, Australia (Slatyer et al, 2018) *Dispenser un programme MBCT dans le cadre de l'entreprise revêt certaines difficultés. Il faut constituer des groupes qui ne font pas cas d'éventuels liens de subordination entre participants. Autrement ces liens seraient susceptibles d'entraver l'expression des échanges expérientiels lors des séances ou d'amener certains participants à taire des informations professionnelles. C'est notamment le cas lors des exercices cognitifs où il est demandé de faire état des expériences difficiles vécues au travail, ou dans la partie psychoéducative du stress où les participants expriment les facteurs de stress auxquels ils sont soumis.* Industry, Luxembourg (Strub and Tarquinio, 2013) *'I think probably because … you're revealing things about yourself' […]. Here Skye notes that due to the focus on the experiential nature of the group there was an opportunity to talk about 'yourself'. This could potentially be seen as making Skye feel vulnerable and indeed there is a sense that she experienced this as initially intimidating but that this was diminished over time potentially due the non-judgemental attitude of the group.* Healthcare, UK (Turner, 2013)
INVESTMENT OF RESOURCES	
CMOC 17: When participants feel safe to explore emotional difficulties and share them with others (C), normalisation of stress/distress (M1) and the experience of acceptance	*A nonjudgmental atmosphere helped participants feel emotionally safe enough to pause, reflect, and disclose their complex and profound experiences, which, in turn, provided reassurance that they were not alone in their feelings.*

through group and/or instructor (M2) plant the seeds for greater acceptance (O1) and compassion (O2). The experience of acceptance through group and/or instructor can also set the ground for transforming difficult emotions (O2).	Primary Care, USA (Beckman et al, 2012) *In one of the classes we had to describe a traumatic experience, realizing that this was the first time I talked about it outside of the event that it happened, probably two years later. This was the first time I really expressed anything realizing that this must really mean something, having it all bottled up. That was an enlightening moment.* Participant #01, Primary Care, USA (Beckman et al, 2012) *Participants talked about the importance of the group dynamic which seemed to play a pivotal role in establishing a safe and trusting setting in which to open up and talk about the difficulties people were facing. Various adjectives were used to describe the characteristics of the group dynamic such as it feeling 'safe', 'comfortable', 'supportive', 'encouraging' and 'open' between group members.* Healthcare, UK (Black and Carroll, 2016) *The description of 'an unspoken and unacknowledged bonding' that had taken place between members seemed to echo the importance of group cohesiveness as a precondition for change.* Healthcare, UK (Black and Carroll, 2016) *Participants […] described an overall accepting, normalising and non-judgemental atmosphere.* Healthcare, UK (Black and Carroll, 2016) *One mechanism of change in the achievement of group cohesiveness seemed to be the facilitator's role in bringing together the disparate issues that individual group members faced by encouraging a unified approach to dealing with each problem 'through the lens of mindfulness'. This ability to synthesis individual problems into a collective way of managing them appeared to reassure participants.* Healthcare, UK (Black and Carroll, 2016) *In the first week's group support meeting, one volunteer complained of experiencing high anxiety levels when meditating. The PI was happy it had emerged forthrightly and quickly as it provided a good opportunity to address how common it is for all of us to feel anxious, even when not among dying people.*

	Palliative Care, USA (Bradbury, 2014) *Sharing this understanding of anxiety was very useful to the group as it normalized not having a calm mind, which is the default mode for human cognition.* Palliative Care, USA (Bradbury, 2014) *'One day a couple weeks ago while in a crowded public area, I felt an attack coming on. […] I recalled what you'd said in the support group about anxiety being a default for most of us and the point being just to be with it to recognize it, not try to turn it off, but turn to it . . . and so I did. And it worked. It was awesome, I simply watched the anxiety as separate from me. I have dealt with anxiety since I was little. I stopped taking meds for it. That was the biggest thing that I took from the program so far.'* Participant KM, Palliative Care, USA (Bradbury, 2014) *'I was hoping when we started that the mediation would make my discomfort lessen. But what I have in fact noticed is that my awareness of discomfort has shifted. Now I simply notice that I am not feeling comfortable! And I notice it is what it is and I am Ok with that. I make a mental note, that's all. I see that this is very different from my research work. In research if something doesn't work it's because you did something wrong. In this work, I see that we all feel sometimes like it's not working. And that's life. So it's a worldview shift to just accepting things.'* Participant KM, Palliative Care, USA (Bradbury, 2014) *[…] nurses in the beginning of the program were challenged […] by restlessness. As they progressed and, presumably, their minds began to settle down, unresolved emotional issues began to surface. Some of these issues included an unrecognized abuse history, a long-suppressed sadness about an ended marriage, a troubling sense of guilt about a childhood event, and a pervasive sense of resentment that was largely unseen by the participant. For the participants, becoming aware of the wound was both painful and ultimately extremely useful, helping them to move forward in their lives.* Hospital, USA (Cohen-Katz et al, 2005a)

	A typical quote was, 'The body scan caused me to abruptly tear up. I felt sadness and anxiety, seemingly out of nowhere.' Hospital, USA (Cohen-Katz et al, 2005a) *[…] a participant who was an incest survivor experienced extremely unpleasant memories as she practiced her first body scan. She was unsure about whether she could return to class the following week. Encouraged by her group to stick with it, she returned every week and discovered within herself the strength to experience these memories and the associated feelings and thoughts without becoming overwhelmed by them. This discovery gave her increased confidence in herself.* Hospital, USA (Cohen-Katz et al, 2004) *As this example illustrates, in MBSR, healing happens at both the individual and the group level. Similarly, in most cultures, and even in psychotherapy, the healing of wounds is done through connecting with others. For example, in the healing ceremonies of indigenous cultures, the community is present as the demons are expelled; […] Likewise, in the MBSR classroom, the woundedness of the patient is honored in a community. Patients are given the message that they can truly bring all of themselves into the room—even parts of themselves they consider undesirable. The MBSR group can then be a community in which these wounds can be touched, accepted, and healed.* Hospital, USA (Cohen-Katz et al, 2004) *A large increase in comments relating to self-acceptance, self-awareness, and self-care (14 of 25 nurses; 18 comments) occurred in Week 5, which continued through Week 8 and the final evaluation.* Hospital, USA (Cohen-Katz et al, 2005a) *'I'd actually go into the panic attack symptoms, which definitely gave me something to practice with, that's for sure. So it wasn't that it drove me away from it… it basically gave me something meaty to practice on.'* Participant, Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *'It was the (interoceptive) exposure that reduced my anxiety in the end.'*

	Participant, Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *Participants described difficulties with concentration, external distractions linked to noise and music, and being physically uncomfortable when meditating. However, it was evident that they managed to use most of these experiences as something useful to work with—Grist to the mill—in the development of new mindfulness skills.* Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *Participants reported the development of new skills in acceptance (I. ‚I was a bit more accepting of them. Just yeah sitting back and letting that happen,' W. 'Managing lying and accepting the process')* Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *'The ability to observe in an equanimous manner has been the most useful tool for me personally and I expect it will be the same for others.'* Participant, Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *Hearing others' accounts of workplace stress had an engaging and normalising function: ‚it does give you a sense of comfort to know that what you're experiencing is not uncommon.'* Higher Education, UK (Hugh-Jones et al, 2018) *Resonance was also supported through group validation as everybody was experiencing some kind of stress, and there was that shared experience.* Higher Education, UK (Hugh-Jones et al, 2018) *For many, this resonance was felt to support the emergence of acceptance and compassion at a group level: 'the shared experience which was quite nice, because I felt kind of quite isolated at the time' […], 'it was very reassuring; it was a very comforting place'.* Higher Education, UK (Hugh-Jones et al, 2018) *'I wasn't making any changes but I was becoming much more aware.'*

	Participant, Higher Education, UK (Hugh-Jones et al, 2018) *[…] 'it's being in the present moment, the centring, to actually think 'this is now' […] and it's the acceptance of events […]; 'accepting people for who they are'.* Higher Education, UK (Hugh-Jones et al, 2018) *At ease in the present represents a new way of relating to everyday events with acceptance: ‚it really is being able to accept that things aren't always great' […]; ‚It's that acceptance of life events […] it gives you strength to cope with whatever comes your way'.* Higher Education, UK (Hugh-Jones et al, 2018) *[…] internal challenges such as distractibility, boredom and irritation were mitigated through group dialogues in which experiences were normalized by instructors and other participants.* Mental Healthcare, Canada (Irving et al, 2014) *'I have to say I felt very supported of course… Because there was a point, I couldn't control my emotions. It was very upsetting for me, and I felt I had to kind of express it to the group… I felt they would have lots of questions like "what's going on with her?" I think the way it was handled, I couldn't have handled it better, you know, it was excellent. It relieved everything I was feeling, I felt o.k. "everything is normal". At the beginning, because of my nature, I felt very apologetic that I had taken time from everybody and this kind of stuff. But afterwards, (Instructors) just handled it as a normal thing, so "that's how you are feeling, it was really intense […] So it was a very good experience for me in that respect. […] I learned from it a lot.'* Participant #21, Mental Healthcare, Canada (Irving, 2013) *Participants […] discussed how vicarious learning opportunities provided by the group format normalized their emotions and facilitated their growth.* Mental Healthcare, Canada (Irving, 2013) *'I also found it very effective in the sense that normalizing that emotions, strong emotions, intense emotions, are real they are going to happen.'*

	Participant #18, Mental Healthcare, Canada (Irving, 2013) *'There was that sense in the group that no matter what happened it was going to be O.K.'* Participant #19, Mental Healthcare, Canada (Irving et al, 2014) *'Having a coach has enabled me to feel safe, to be open and to vent during this process.'* Participant #02, Executive, USA (Linger, 2016) *'Even though the coaching took place by telephone, I felt heard and understood, I felt the coach was engaged with me. The fact that we were using the telephone did not matter in this case.'* Participant #06, Executive, USA (Linger, 2016) *'I have found the coaching aspect of this experience the key for the success I am experiencing; your gentleness, your willingness not to judge me, to encourage me and to care about how I am feeling on this journey has been a really inspiring and exhilarating experience.'* Participant #01, Executive, USA (Linger, 2016) *'Being accepting of my imperfections and being okay with them is really setting the stage for how I'm able to look at others without judgment and with compassion.'* Participant #01, Executive, USA (Linger, 2016) *'I am learning what it means to be in the moment. As a result I notice that I am able to "feel" the feelings that come up for me no matter how harsh or difficult, and they are not having the same impact on me that they have had sometime in the past. […] I am not running away from the pain of some of the feeling and thoughts – I am just feeling them and becoming okay with them for as you have said, the purpose of this practice is not to change things but to experience them. It seems change comes about through experiencing each moment.'* Participant #04, Executive, USA (Linger, 2016)

	Having the opportunity to talk about what did not work well in a safe space can provide both the coach and the participant with an advantage to manage any difficulties together that may present in the weeks ahead which could in turn keep the participant from being successful in their practice and living mindfully. Executive Program, USA (Linger, 2016) *'Gave me a chance to reflect with others, acknowledge that we are all in the same place. It's pulled us all together and appreciated other people's stress levels. Being in a group gave major benefits and positive regard for one another.'* Participant, Mental Health, UK (Marx et al, 2014) *'Better to have one facilitator. Having three breaks up the relationship between the facilitator and the rest of the group somehow.'* Participant #04, Health Care, UK (Scott, 2010) *'Would probably have been more feedback if there had been one facilitator for the whole eight weeks - get to build trust and rapport. There's an element of feeling safe.'* Participant #05, Health Care, UK (Scott, 2010) *In class mindfulness practice and in discussion about the challenges of providing grief care, participants felt comfortable sharing personal and professional experiences in an encouraging and judgment-free setting.* Grief Support Group Facilitators, USA (Supiano and Overfelt, 2018) *'It is encouraging to face my own stressors with this good group of colleagues who understand what we face with grievers, equipping me to "walk the walk I recommend for clients."'* Participant, Grief Support Group Facilitators, USA (Supiano and Overfelt, 2018) *This atmosphere, as created by the facilitators and the group members, may be a potential reason why the group was experienced as novel […] and as a sanctuary […].*

	Healthcare, UK (Turner, 2013) *'I just remember it being a really… the word that comes to mind when you say that is "Oasis".'* Participant, Nicola, Healthcare, UK (Turner, 2013) *'[…] you felt very held.'* Participant, Bryan, Healthcare, UK (Turner, 2013) *As articulated by a number of participants there is often a sense of competitiveness in this type of work environment that was not experienced as strongly in this group.* Healthcare, UK (Turner, 2013) *'… and you often don't get that, you know at meetings (…), not that I'm saying people are judgmental but there's a different kind of atmosphere and coming together as a group like that, it felt very safe, protected […] and I think when we're always working as hard as we do, you often don't get that kind of dynamic.'* Participant, Kate, Healthcare, UK (Turner, 2013) *'I think probably because … you're revealing things about yourself'[…] Here Skye notes that due to the focus on the experiential nature of the group there was an opportunity to talk about "yourself". This could potentially be seen as making Skye feel vulnerable and indeed there is a sense that she experienced this as initially intimidating but that this was diminished over time potentially due the non-judgemental attitude of the group.* Healthcare, UK (Turner, 2013) *'I felt … I felt like it was a place where if I wanted to say something I was kind of free to say it so I didn't feel intimidated or awkward or like I'd be judged.'* Participant, Luna, Healthcare, UK (Turner, 2013)

	Reported facilitators related to the provider were a good trainer-participant relationship, the ability to create a confidential atmosphere in the group […]. A reported barrier, on the other hand, was when the trainer-participant relationship was perceived as poor, resulting in miscommunication and irritation. Research Institute, NL (van Berkel et al, 2013) *Other barriers were […] the changing group participants and the consequent changing group dynamics (because of catching up for missed sessions in other groups) […].* Research Institute, NL (van Berkel et al, 2013) *Participants began to practice the tools offered to them and noticed mind wandering, negative thought processes, past-oriented thoughts, and future-oriented worry. They shared feelings of anger, self-doubt, defensiveness, and irritation.* Healthcare, USA (Willgens et al, 2016)
CMOC 18: When participants leave their professional roles and status behind (C), they see their own humanness and vulnerability in others (M), which might plant the seed for greater acceptance (O1) and compassion (O2).	*'For that brief period of time, I felt more wholly me … it wasn't about anybody else…. It's just helpful to have time to reflect and I tend to just go, go, go, and I don't take a moment to pause.'* Participant #19, Primary Care, USA (Beckman et al, 2012) *As the nurses acknowledged their needs and humanness, they began to develop greater self-kindness and reported a dramatic shift in their capacity to care for themselves.* Hospital, USA (Cohen-Katz et al, 2005a) *'To hear somebody in my professional sphere say "have compassion towards yourself" in one way or another, is very unusual. I'm used to hearing that from the Dalai Lama, or in the theoretical sense, and it doesn't hit home. To hear it in this context, it's a very powerful facilitator of the message and it's probably the deepest message I can think of… I had the sense that this is a group of people who know what it's like to be taking care of other people for a living and therefore there was a degree of a pre-existing understanding there. People have all kinds of projected fantasies on therapists, health providers, care providers and it would be very seductive to continue living in that projection… It's interesting. I anticipated (pause) there was a little trepidation, because here was a*

	professional group. Is it going to be the usual sense of position taking and here are my credentials? I'm more experienced than you kind of thing. But it melted away very quickly'. Participant #22, Mental Healthcare, Canada (Irving, 2013) *'Personally, I especially appreciated that we were all from different backgrounds and disciplines. It was interesting, because as much as it can be logical to yes have only doctors together to observe things, to go further, to dig deeper… it's also good for the doctors to realize that what it boils down to is a human being in front of another human being. That's the base, that's the common denominator here, it's more fundamental than having a PhD, or being a psychologist, a nurse, an acupuncturist, etc… so yes that's good too. I really wanted to say that I found it enriching and pleasant.'* Participant #01, Mental Healthcare, Canada (Irving, 2013) *'It's a very non-judgmental practice; yoga and meditation. What I found particularly useful for my work is the realization that we share all the same issue. There is no space in our profession to actually do that, and that sort of breaks boundaries between different disciplines. . . I felt a lot of connection, a connection I didn't have before with my colleagues. I felt it was very important in terms of my relations with the others to have that, that interdisciplinary team, and seeing the difficulties that I feel that I project on to myself, like "Oh my God it's just me that feels this way."'* Participant #26, Mental Health Care, Canada (Irving, 2013) *'It helped me bring out more compassion towards the doctors because I don't work, I don't have any doctors on my team and I get a lot of clients and the things they say about the doctors and I find it interesting to see how they get caught in that grind and in those difficulties. It touched me a great deal to see how difficult it is and I think that was important for me.'* Participant #17, Mental Health Care, Canada (Irving, 2013) *One of the most significant findings of the study was the ability of the participants to move beyond personal vulnerabilities, fears, and executive culture to a place of acceptance which enabled them to accept themselves as they were without judgment […].*

	Executive Program, USA (Linger, 2016) *'I had developed an inflated ego of myself to make me feel stronger and better […] It didn't work, but I tried to make myself believe that I was okay with myself, competent, and in charge. All the while I was as vulnerable as heck.' […]* Participant, Executive, USA (Linger, 2016) *[…] as participants' real time awareness of self […] increased, fear diminished, they became more open, calmer, and kinder to themselves and others, and were more open to sharing their thoughts and feelings. Fear, which was a big motivator for nondisclosure, guarded communication and anticipation of negative outcomes, began to diminish as participants connected with moment-to-moment experience, without judging themselves or others […].* Executive Program, USA (Linger, 2016) *Several participants voiced appreciation of the format of this MBSR class —that it was not merely a skill-building class intended to make them better grief group facilitators, but was instead 'for them' to use and grow as they might. Having a highly trained MBSR facilitator who was not a practicing clinician reinforced this approach in the experience participants.* Grief Support Group Facilitators, USA (Supiano and Overfelt, 2018) *The participants felt the course was special because it was about their thoughts and feelings and not just about teaching them a new way to help patients.* Grief Support Group Facilitators, USA (Supiano and Overfelt, 2018) *The participants felt the course was special because it was about their thoughts and feelings and not just about teaching them a new way to help patients.* Healthcare, UK (Turner, 2013)

	'I think mindfulness deals with […] a sort of unconditional right of existence, that all people have. And the consequence of that, for me, is that I don't have to prove myself, that I can simply be the way I am. And that it is OK like that […].' Participant, GP, Professional Training, NL, (Verweij et al, 2016) *The fifth theme was about attitude towards oneself. Participants mentioned attitudinal changes towards themselves, aspects of self-acceptance and compassion.* GP Professional Training, NL, (Verweij et al, 2016)
CMOC 19: When participants share work related or personal issues (C), receiving practical support from peers (M) reduces feelings of isolation (O1), enhances normalisation (O2), and might just by itself promote coping (O3) and wellbeing (O4).	*The group size was kept small to minimize disruption to the call center workflow while still providing an intimate setting for group interaction and sharing.* Call Centre, USA (Allexandre et al, 2016) *Participants were assigned to one of three group meetings throughout the duration of the study to create cohesion and familiarity within each group.* Call Centre, USA (Allexandre et al, 2016) *Managers and supervisors were excluded so that participants would be able to freely share their experience […].* Call Centre, USA (Allexandre et al, 2016) *Participants reported finding actual or perceived emotional support through the simple act of sharing each other's work or life challenges as well through recognizing that they are not alone facing those challenges.* Call Centre, USA (Allexandre et al, 2016) *[…] the addition of group practice and support was associated with greater program engagement and participation and an improvement in outcomes […].. On the basis of participants' feedback, what mediated the increased benefit of group practice is most likely multifactorial, including not only greater program engagement*

	and participation but also social support in itself. Social support can help cope with stress and promote well-being […] and has been associated with decreased burnout and increased job satisfaction. Call Centre, USA (Allexandre et al, 2016) *For 75% (15) of the physicians, sharing personal experiences from medical practice with colleagues was one of the most meaningful outcomes of the program.* Primary Care, USA (Beckman et al, 2012) *'The most meaningful part was being with other physicians, sharing and discussing some of our experiences, and being able to have the immediate understanding of peers with respect to the struggles that we all have.'* Participant #16, Primary Care, USA (Beckman et al, 2012) *'Simply gathering, especially primary physicians who tend to be isolated in their practices…. Gathering them together into a meeting place where they were invited to reflect more deeply…. Just that is tremendous.'* Participant #19, Primary Care, USA (Beckman et al, 2012) *'But I also liked that sometimes it wasn't even (the facilitator) giving you advice, it was the other people… that was in the group…'* Participant #04, Healthcare, UK (Black and Carroll, 2016) *'Yes so everything didn't have to go through (the facilitator)…'* Participants #01, #02, #04, Healthcare, UK (Black and Carroll, 2016) *'Yes, their own experiences maybe that they've … found a way of dealing with something that was bothering them that you were actually going through at that time. Like something in work or something and they had given you their advice. That, that was a good thing […].'* Participant #02, Healthcare, UK (Black and Carroll, 2016)

	Others expressed appreciation for the group experience, and for them being in a group seemed to be as important as practicing the mindful techniques themselves. It seems that informal communities of caring, whether practicing mindfulness or not, would be beneficial for clergy. This is especially true for clergy serving in small parishes who do not have the benefit of daily contact with colleagues and who are most prone to feelings of isolation. Diocese, USA (Davis, 2011) *Attending a mindfulness course with a group of previously known or unknown colleagues initiated a process of group bonding which participants found incredibly supportive and beneficial.* Healthcare, UK (Hunter et al, 2018) *'I'm not sure I'd put that (change in workplace culture) down to mindfulness itself, or whether I would put it down to the fact that we just did something as a group - whether it was more about that team bonding, team support kind of thing.'* Participant, Gill, Midwife, Healthcare, UK (Hunter et al, 2018) *Other participants discussed their sense that the group had provided an opportunity to see that other health care professionals also struggled and suffered due to job-related challenges.* Mental Healthcare, Canada (Irving et al, 2014) *Other participants also discussed the impact of having a multidisciplinary group composition, noting that this led them to feel less isolated in their professions, and to have more empathy for individuals in related professions other than their own.* Mental Healthcare, Canada (Irving et al, 2014) *Appreciation for the group discussions during the training was also expressed in the journals.* Pediatric Oncology, USA/Israel (Moody et al, 2013)

	The mindfulness retreat provided an opportunity for practitioners to come together and discuss topics unique to patient care issues, which can be very depleting. Support from a group of like-minded physicians is likely partly responsible for some of the benefits, and may be more difficult to measure. Healthcare, USA (Schroeder et al, 2018) *Delivery of MSCR content in a group format offered opportunity to reflect and learn from each other. Sharing with peers tended to normalize experiences of stress and reduce isolation.* Healthcare, Australia (Slatyer et al, 2018) *One nurse summed this up as 'just really helpful to know that you're not alone.'* Healthcare, Australia (Slatyer et al, 2018) *Participating in a group with colleagues appeared to be supportive in terms of recognition, normalising stress symptoms, and allowing participants to learn from one another.* GP Professional Training, NL, (Verweij et al, 2016)
CMOC 20: When the facilitator is trusted and embodies mindful acceptance (C), participants feel safe to explore and try out new ways of being (M) which enables change (O).	*What became apparent across cases in this study of HLEs [high level executives, KM] was that no matter how different or difficult participants' work lives or personal lives were at the time of the intervention, the coaching element assisted them in feeling safer, calmer, trusting, and empowered; setting the stage for each of them to dive deeper into the lived experience of mindfulness and readying themselves to experience changes.* Executive Program, USA (Linger, 2016) *The stance of the facilitators appeared to act as a precursor to the participants feeling able to explore new ways of being, several participants alluded to be given implicit 'permission' to test out new ways of being* Healthcare, UK (Turner, 2013) *'I remember at the start FACILTATOR 1 said (…) there is kind of homework and you can do it if you want, you don't have to do it (…) and for me I'm a real organised, I do all the pre-reading, I like theoretical, I'm a theorist kind of thing, that's how I learn, and I like the pre-course reading, I always do it, I do my homework I'm very*

	I'm a girly swot type person, and em, to actually be given permission…just don't do it I thought okay I'll actually not do it, (laughter), so that felt a really different experience.' Participant, Nicola, Healthcare, UK (Turner, 2013) *Considering that this way of being has been successful for Nicola for most of her life, relinquishing this striving could potentially be perceived as frightening and something to be wary of so a strong facilitator is needed to give her permission to do this. Along with the facilitators giving permission for the participants to experiment with new ways of being it emerged that an important part of the group members engaging with or 'buying into' mindfulness as a concept was the facilitators appearing credible: '…in order to believe in it you kind of need to believe in them.'* Healthcare, UK (Turner, 2013) *Several participants alluded to being given implicit 'permission' to test out new ways of being. In order to try out these new ways of being it appears that it is important to trust the facilitators, the participants' 'old ways' of being have been successful for them and so to relinquish elements of their personalities (such as the goal-driven and striving elements to their personalities) requires a facilitator that they experience as authentic and can trust.* Healthcare, UK (Turner, 2013) *[…] the fact that the atmosphere of the group still emerges as a non-specific factor which appears to contribute to the sense of the group as a sanctuary and a safe place to experience new ways of being is important for considering how mindfulness achieves its effects in group settings.* Healthcare, UK (Turner, 2013)
STAGE 4	INTEGRATING NEW BEHAVIOURS AT WORK AND IN DAILY LIFE
PROTECTION OF RESOURCES	
CMOC 21: If mindfulness is seen to be incompatible with work practices	*[The social workers, AB] reported losing confidence in MiCBT over time, which was linked to perceived unsuitability of clients and difficulties with the method of delivery […].*

(C), managers and employees might stop investing in it (O1) or only use it sporadically (O2) because they are concerned that it negatively affects their work performance (M).	Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *They found it impractical in everyday client-facing situations and lost faith in the model over time.* Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *'I don't know if I could be that prescriptive with my clients, and this is my social work training […].'* Participant, Psychologist Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *The social workers […] only implemented elements of it, in an ad hoc fashion, when they deemed it to be in their clients' best interests.* Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *[…] social workers in the current study chose not to use MiCBT professionally, and showed little inclination towards further training* Professional Training for Health Professionals, Australia (Darby and Beavan, 2017) *For some members, the pause before the standup was useful, because they could focus on their activities done in the previous day. But for the rest of the team, the exercise was considered just not suitable with their own way of working.* Agile Project Team, IT, NL (den Heijer et al, 2017) *Interviewees occasionally saw mindfulness practice as possibly interfering with job performance.* Healthcare, USA (Lyddy et al, 2016) *'[…] you're jumping through hundreds of hoops to get to a point where you've got qualified and then you're continually looking for hoops to jump through, […] and I don't think that encourages a way about being centered and non-attaining […]'* Participant, Bryan, Health Care, UK (Turner, 2013)

	[…] several participants also described how heightened attention sometimes felt like a barrier to their continued mindfulness practice as well as to their daily functioning. These participants said that they did not always want to have deliberate and focused attention. Hospital, USA (Valley and Stallones, 2018) *'Paying attention to extreme detail is hard and not always effective. In extreme stressful situations I need to be on automatic pilot.'* Participant, Hospital, USA (Valley and Stallones, 2018)
CMOC 22: If managers and employees find their new (mindful) ways of dealing with workplace stress to be incompatible with workplace culture (C), disillusionment (M1) or concerns about no longer fitting with the team (M2) might negatively impact not only their engagement with mindfulness practices (O1) but also overall work engagement (O2).	*A note of caution was raised in the Government Department case. Open workshops for self-nominating employees may increase wellbeing and ability to cope for those individuals. However, if these results are isolated from improvements in the workplace environment or a mindful organisational culture, in some cases the results can negatively impact on employee engagement.* (Carter et al, 2016) *[…] if, through increased self-awareness or situational awareness, individuals identify a better way of working or innovations in the company's products or services, but are not 'allowed' or not supported in implementing novel ideas, then disillusionment can quickly result.* (Carter et al, 2016) *'[…] you would need to have a culture where everyone had to attend at least one class of it because that way it's not just a few people. If everybody has attended at some point and has that knowledge … then it doesn't dwindle away. But if they attend a class and then they go to work and nobody else has experienced it […] it disappears immediately.'* Facilitator #16, Member of Staff, Healthcare, USA (Duggan and Julliard, 2018) *'And I think it's important to do it as a group, so that it's not just one person, or just the residents but not the attendings, or just the attendings but not the house doctors, or just the doctors but not the nurses. I think that it's really critical that each different constituent sees that it's a full, hospital-wide initiative that can impact anyone.'*

	Facilitator #07, Member of Staff, Healthcare, USA (Duggan and Julliard, 2018) *Also, a work environment that required acting in a manner identified as 'counter to mindfulness' such as constant rushing from patient to the next and requisite multitasking were named as impediments.* Mental Healthcare, Canada (Irving et al, 2014) *For participants who wanted to practice at work, permission included workplaces which demonstrate an acceptance of mindful practice, as one participant articulated, 'If my reflection/mindfulness is not well received or contrary to team member's programs/processes I may not get the most out of it.'* Social Work, Canada (McGarrigle and Walsh, 2011) *'If I was to just sit there for 10 min and concentrate on my body, there'd be things that need to happen. I can't be at the hospital doing that, you know?'* Participant, Healthcare, USA (Lyddy et al, 2016) *'It seems to just be a competition…and it's like if you do something fun, you're not doing your job […].'* Participant FG4, Teacher, USA (Schussler et al, 2016) *Although this teacher became more aware that she should be taking better care of herself, she juxtaposed that awareness with the unspoken expectations of her colleagues, who were not participating in CARE, to whom it was difficult not to compare herself.* Education, USA (Schussler et al, 2016) *Additional barriers described by the participants included […] the lack of group discussion on how to apply mindfulness skills in the health care setting […].* Hospital, USA (Valley and Stallones, 2018) *Barriers in the social context had principally to do with the subjective norm: participants did not feel at ease doing the exercises at work as the following quote by an interviewee demonstrates:'… So I'm standing, doing the swan exercise behind my desk and then suddenly a colleague walked in. And he said: What on earth are you*

	doing? You know, that kind of reaction. …'. They reported feeling a lack of privacy and understanding by not participating colleagues. Research Institute, NL (van Berkel et al, 2013)
INVESTMENT OF RESOURCES	
CMOC 23: If participants experience acceptance/compassion in the group and/or in their relationship with the instructor (C), they gain confidence in bringing this experience to difficult moments at work (M). They experience this as stress reducing (O1) and rewarding (O2).	*'In general, I think that I am a pretty good listener. I will spend extra time with my patients if they need it, but I felt in some ways that it was kind of sucking me dry. […] I would empathize to the point of where I would be so in their shoes. I would start to feel the way that they felt and I mean, you know, take four of those in a row in a day, and I would be just wiped out […] It's not that I don't empathize with them anymore, but (now) I feel OK just to listen and be present with them … and I think that […] is a wonderful thing that you can do for patients…. I just needed to learn that myself, I guess.'* Participant #18, Primary Care, USA (Beckman et al, 2012) *'A couple of days ago I saw a patient for the second time … he had had a liver transplant…. I was basically just listening to what happened and his wife, she said, "I just want to thank you. You're the first person who just listened to me. You know, no one else just sat there and listened. You didn't try to do anything, you just listened."'* Participant #11, Primary Care, USA (Beckman et al, 2012) *'When I started I thought I was there to help people work through their denial and to face death, but now I know I am there simply to provide a space for their agenda, not mine.'* Participant DM, Palliative Care, USA (Bradbury, 2014) *'There was a coding patient last visit and I had seen him earlier that day. So I went back to his room and saw the palliative care team and all of a sudden it was clear to me what would happen in terms of varying scenarios and I felt hopeful that we were all doing the best thing and that I was part of that in holding the sense of there being hope and dignity here—and hope looks different in different contexts of course—but overall I am accepting*

	things as they are playing out and being a part of that playing out in my own way. I participate by bringing intentions to the situation, intentions for healing and dignity for all concerned, including myself.' Participant PR, Palliative Care, USA (Bradbury, 2014) *'The big difference is before I was overthinking and now I am more just being with. I see that I have kept my mind busy all the time. And I realize I do better work now and I am calmer if I take advantage of the quiet rather than filling up all my time. Sometimes that's with meaningless trivia, like games on my iPhone when I am waiting for a meeting for 2 mins. So now the difference is that I notice if I am doing something just to escape the quiet.'* Participant RP, Palliative Care, USA (Bradbury, 2014) *'My mindfulness practice has allowed me to acknowledge my feelings of anxiety, but not stew on them. This in turn frees up energy to be directed at the patient. It took a lot of energy to stew! I feel like I am better at letting things go . . . living in the moment more.'* Participant PG, Palliative Care, USA (Bradbury, 2014) *Participants observed positive changes in their relationships […]. They were more fully present with others. They […] reported paying more attention to their current patient, rather than thinking about the next assignment or where they were going next.* Hospital, USA (Cohen-Katz et al, 2005a) *[…] after the program ended, one nurse's 2 adult children moved back home after being laid off from work. Previously, this may have been experienced as a demand for greater caregiving; however, she reported feeling more empathy and understanding and less pressured to 'fix the problem.'* Hospital, USA (Cohen-Katz et al, 2005a) *Several participants discussed how a moment when one group member's experience of feeling overwhelmed by strong emotions in a session, led to the outcome of a shift in their attitudes regarding navigating strong emotions in others.*

	Mental Healthcare, Canada (Irving, 2013) *'It's a new territory for me in my everyday practice that, and I think I am able to listen better to what people have to say because I am trying to really just be there as opposed to 'o.k. I have a role to play, I'm here to listen but I have to fix you'. And I noticed that when I have this experience that even if something difficult happened there was a very empathetic interaction. I think I didn't have a plan that I came in with and I just … I just was present and that worked, by itself.'* Participant #06, Mental Healthcare, Canada (Irving, 2013) *'I had always, had a hard time seeing what my role was, even though I was told we weren't fixing anything. I always felt that …my patients were coming to me to have something fixed, and that my expectation of myself was that I was supposed to do something. . . if they are not getting better then I'm not doing something. And I think I came to realize … part of my job, was to be there with patients, and that even though that sounds simple…I think that's what this kind of confirmed for me just being there in the present moment and with their experience is, is very powerful.'* Participant #03, Mental Healthcare, Canada (Irving, 2013) *[…] many participants differentiated between the practice of doing/fixing vs. being when working with patients, and how they had shifted to see both as viable possibilities.* Mental Healthcare, Canada (Irving et al, 2014) *[…] health care professionals emphasized the central nature of awareness of perfectionism, self-criticism, focusing on others and the automaticity of a helping and fixing mode. For many, this awareness led to specific attitudinal and behavioural changes, which were identified as significant and meaningful.* Mental Healthcare, Canada (Irving et al, 2014) *'I don't know if it's like that for others, however for me it allows me to manage, to engage with others, even when it's difficult and stressful, without shutting down.'* Participant, Engineer, France (Islam et al, 2017)

	'I am finding that […] I am better able to notice others, to hear them better, to be present for them better. I am learning that as I accept myself without judgment or assumption, I am better able to accept others […] and appreciate their value here in the workplace.' Participant #01, Executive, USA (Linger, 2016) *'Being accepting of my imperfections and being okay with them is really setting the stage for how I'm able to look at others without judgment and with compassion.'* Participant #01, Executive, USA (Linger, 2016) *'Sitting with things that are uncomfortable I believe can impact how we deal with difficult situations on the job and helps us not to jump into making decisions that are not good for our organization or the people who are our direct reports.'* Participant #04, Executive, USA (Linger, 2016) *'What I noticed about the practice is that I am able to feel where my body is, where my mind is at and I am learning not to judge myself, but rather send kind thoughts to myself. I am also learning not to change my breath but to just notice it and notice everything. I like the feeling because when you are noticing things you are not trying to change things which is not normative to me. I try to change and fix things, that is, my job as a high-level executive. So this is good for me.'* Participant #06, Executive, USA (Linger, 2016) *'Taking the time to notice, not judge, accept and be kind to self is a new way of being and I can see that the investment of practicing mindfulness is really paying off with my sense of esteem in that I feel okay at the times I am most vulnerable.'* Participant #06, Executive, USA (Linger, 2016) *'So I had a few challenges with staff and some communication issues. Because I had just practiced a mindfulness session at my office prior to a staff meeting, I seemed a lot more open to what was being said and didn't automatically decide how to fix what I thought was problematic. Instead, I listened and the clarity of my listening*

	seemed clearer after a mindfulness session. I was listening without judging what I was hearing or without making internal decisions relative as to how I was going to handle the situation.' Participant #01, Executive, USA (Linger, 2016) *'All you have to do to succeed is to be there. Everyone is looking to succeed at something. To know that success is simply just being and not doing. […] I have been a superior court judge, administrative law judging, supervising judge […] etc. To know that this gem of mindfulness has been available all along, I just didn't know it. I'm glad I'm able to take advantage of it now.'* Participant #03, Executive, USA (Linger, 2016) *'I am becoming okay with the fact that I don't have all the answers and don't know everything. Not having to take responsibility for everything all the time, good or bad, is freeing. Just being able to sit with things as they unfold is freeing. Not having to do anything is wonderful.'* Participant #05, Executive, USA (Linger, 2016) *'Four years ago I would have thought I was very mindful and very focused, but in reality I was pretty purposeful. … But, being mindful to me is something really different, it's just kind of in a sense accepting things as they come as where sometimes when we set a purpose for things we have expectations. … So, I've seen a tremendous amount of growth […].'* Participant, Teacher, USA (Hraha, 2013) *Notably, MBSR participants felt better equipped to address the suffering of grieving persons in the grief support groups […].* Grief Support Group Facilitators, USA (Supiano and Overfelt, 2018) *'I can take what I learned in this safe group and create an atmosphere in my (grief support) group that promotes mindfulness, self-acceptance and self-compassion.'* Participant, Grief Support Group Facilitators, USA (Supiano and Overfelt, 2018)

	'[…] learning how to sit with your own emotions and learning that they're not as scary as you maybe initially thought they were means that there's kind of a faith now and there's a kind of, em,…experience that I've had that I can draw on.' Participant, Luna, Healthcare, UK (Turner, 2013) *'When I first started if someone was upset I just immediately wanted to take their pain away (…) now I just sit with their distress, em, and just kind of look at how they can regulate that and be present with it.'* Participant, Luna, Healthcare, UK (Turner, 2013) *'…the practice of doing it means that learning how to sit with your own emotions and learning that they're not as scary as you maybe initially thought they were means that there's kind of a faith now and there's a kind of , em,…experience that I've had that I can draw on.* Participant, Luna, Healthcare, UK (Turner, 2013) *In describing what gave her [Luna, KM] the confidence to become more present with patients and a reduced feeling that she needed to ,take their pain away' she notes that her own mindfulness practice had increased her 'faith' in her ability to sit with distressing emotions.* Healthcare, UK (Turner, 2013) *'… with the people that I manage, I think are also feeling a bit more empowered to make their own decisions as well, as autonomous practitioners and that I've seen some good development.'* Participant, Kate, Healthcare, UK (Turner, 2013) *Kate, a clinical team lead, implies that her previous reaction to a colleague asking for advice may have been to act as the 'rescuer' and offer solutions […] whereas she now reacts in such a way as to empower colleagues through increasing their autonomy.* Healthcare, UK (Turner, 2013)

	Skye and Nicola both noted that they are aware that mindfulness practice is not about goal attainment and that it is more akin to incorporating a 'way of being' into daily life. Healthcare, UK (Turner, 2013)
CMOC 24: If participants experience improvements that they attribute to their mindfulness practice (C), they continue practicing (O1) because they feel that they will be OK as long as they do the exercises (M1) and/or might improve even more (M2). This can create feedback loops (O2) or even set off gain spirals (O3).	*Most participants noted that some changes brought about by participating in the intervention changed their 'way of being', and this in turn motivated them to engage more.* Mental Healthcare, UK (Banerjee et al, 2017) *'As the weeks went by I realised I am changing, so I kept going (practising).'* Participant, Amber, Staff, Mental Healthcare, UK (Banerjee et al, 2017) *'My job is very stressful and I am usually quite anxious at work. My colleague pointed out the other day that I have slowed down, I am calmer now. I definitely think it is because of this course so I am not going to give it up.'* Participant, Martha, Staff, Mental Healthcare, UK (Banerjee et al, 2017) *'I used to get very angry very quickly. I have noticed I don't get angry so easily, it is probably because I am handling stress better these days, so I am planning to continue practice.'* Participant, Emilia, Staff, Mental Healthcare, UK (Banerjee et al, 2017) *'I feel more in control of myself and less regulated by my mind. It is a good feel; I feel more liberated…I think I will continue mindfulness.'* Participant, Katie, Staff, Mental Healthcare, UK (Banerjee et al, 2017) *[…] participants who perceived themselves as becoming more mindful remained more engaged with the intervention.* Mental Healthcare, UK (Banerjee et al, 2017)

	Themes from the current study demonstrate that perceived increase in self-compassion also facilitates engagement. Mental Healthcare, UK (Banerjee et al, 2017) *The key facilitator for participants' engagement was the perception of improved psychological well-being. This relates strongly to previous research suggesting improvements in psychological well-being and association between regular practice (Finucane and Mercer 2006).* Mental Healthcare, UK (Banerjee et al, 2017) *'(Meditating) makes a positive difference—I know this because when I don't do it I am off kilter and in fact I rarely don't do it—even if I am running late, I still do it […].'* Participant, Palliative Care, USA (Bradbury, 2014) *Most participants expressed the desire to continue with the mindfulness practices postintervention because they recognised and valued the tangible health benefits and the increased sense of wellbeing, energy, and balance.* Social Work, Australia (Crowder and Sears, 2017) *'I do it every day, because it calms me down, I work better.'* Participant, Healthcare, Brazil (dos Santos et al, 2016) *With increasing confidence that mindfulness 'works', and with a more positive and hopeful state of being, participants seemed to experience a renewed ability to cope with work demands and stress.* Higher Education, UK (Hugh-Jones et al, 2018) *'I think of mindfulness like fitness, it's part of my routine that makes me a better person. I feel more creative, more tuned in and more relaxed because of it.'* Participant (Islam et al, 2017)

	Moreover, there are high rates of noncompletion of the intervention and therefore questionnaires […]. Reasons for attrition have not been explored, but may relate to […] lack of perceived benefit […]. University Employees, Australia (Koncz et al, 2016) *'Now that I have a glimpse of what life can feel like, I intend to keep going there to find it.'* Participant #03, Executive, USA (Linger, 2016) *'This was a wonderful growth experience and my intention is to continue practicing beyond this study.'* Participant #04, Executive, USA (Linger, 2016) *Positive experiences encouraged, and negative experiences discouraged, further workplace mindfulness practice.* Healthcare, USA (Lyddy et al, 2016) *One interviewee stated that, the more I remind myself, 'hey, this (meditation) worked,' … the more I find that it's easier to come to (mindfulness).* Healthcare, USA (Lyddy et al, 2016) *'I will continue in my mindful movement and sitting meditations. Also I will include the body scan from time to time as I find this enables me to sleep better.'* Participant, Healthcare, UK (Scott, 2010) *'[…] you wouldn't be doing it if you didn't think something was changing about yourself.'* Participant, Nicola, Healthcare, UK (Turner, 2013) *Another facilitator was an immediate perceived effect after a session of training. Interviewees reported feeling 'revitalised', 'fresh', 'energetic', and 'peaceful'. On the other hand, the immediate effect faded away in time, which was considered a barrier for further participation […].*

	Research Institute, NL (van Berkel et al, 2013) *'If I had a really stressful day, I just felt so much relaxed and instead of driving home like a zombie, I could actually drive and think and be aware of everything. […] I found that very very beneficial which is why it […] made me want to continue with it.'* Participant, Higher Education, Australia (Wongtongkam et al, 2017)
CMOC 25: Positive effects in one area (C) can have a ripple effect leading to improvements in other areas as well (O) because individuals feel they have more energy at their disposal (M1), have gained confidence in themselves and in the mindfulness approach (M2) and are better able to regulate their emotions and behaviour (M3), which encourages them to take better care of their health (M4).	*Thematic analyses of informant text reports revealed observed improvements in relationships, attention, productivity, stress, emotional regulation, and vigor.* Public Sector, Australia (Bartlett et al, 2017) *'My mindfulness practice has allowed me to acknowledge my feelings of anxiety, but not stew on them. This in turn frees up energy to be directed at the patient. It took a lot of energy to stew.'* Participant PG, Palliative Care, USA (Bradbury, 2014) *Project leaders were targeted through the cross-government programme. Both these project leaders, and leaders at different levels in other cases, described a ripple effect or chain of impact. By becoming a more mindful leader, they could produce better teamworking, higher performance and improved employee experiences of the workplace.* Government Department, UK (Carter et al, 2016) *When asked, 'Please state what you feel you got from MBSR,' responses included more self-awareness, relaxing in myself, a way to center myself, improved focus on my thoughts and needs, ability to handle stressful situations, inner peace, joy and healing, and ability to think clearly and remain calm.* Hospital, USA (Cohen-Katz et al, 2005b) *Other benefits included better sleeping, driving skills, and work prioritization […].* Hospital, USA (Cohen-Katz et al, 2005a)

	Another shared that she now had the confidence to walk into a car dealership alone and buy the car she wanted, including negotiating the price—for the first time! Hospital, USA (Cohen-Katz et al, 2005a) *'When you take care of yourself, you just have more to give. I'm more focused on my patients now, even though they probably wouldn't know it!'* Participant, Nurse, Hospital, USA (Cohen-Katz et al, 2005a) *We were surprised […] to learn that one nurse supervisor had become fairer and more consistent and that one nurse was less interested in gossiping and complaining. These findings are promising because they suggest the potential of MBSR to transform, not only individual relationships but also the overall work environment.* Hospital, USA (Cohen-Katz et al, 2005a) *Several commented on additional physical health benefits they were experiencing, including improved sleep, feeling calmer, healthier eating habits, and feeling more connected to the body—'I'm…eating wise and therefore everything falls into place for me, I feel healthier, I'm breathing better'—motivating changes in personal and professional lifestyles.* Social Work, Australia (Crowder and Sears, 2017) *Many mentioned that they were making better choices, particularly around work habits and caseloads, as they were more aware of their own emotional and physical fatigue and the need for rest and exercise breaks […].* Social Work, Australia (Crowder and Sears, 2017) *As the teachers enhanced their ability to understand and, consequently, connect with their students, there were noticeable positive changes in the classroom and with individual children. Evident changes included the children's use of emotion words with the teacher and with one another, increased pro-social behavior, increased ability to regulate emotions, and mimicking the teacher's behavior.* Education, USA (Hraha, 2013)

	'It's actually much more relaxed. […] It's much more quiet. I wouldn't have believed that that could happen. […] I actually think that being aware of myself and taking care of my own needs first and showing that sort of responsibility, because I think kids know when you're off, when you're not feeling good yourself and you're off, really, in general, motivates a sort of peaceful atmosphere for everybody. So, yes, it's pretty self-regulating now, the classroom, yes.' Participant, Teacher, USA (Hraha, 2013) *One-hundred percent of teachers interviewed cited examples of changes in the overall climate of their classrooms and students' behavior resulting from teachers' increased self-awareness and utilization of skills learned in the teacher training.* Education, USA (Hraha, 2013) *Results showed that state and trait mindfulness are inversely related to employees' emotional exhaustion and positively related to their job satisfaction. The same relationships were found when mindfulness was induced by a self-training intervention, suggesting that the direction of effects is such that mindfulness precedes and affects emotional exhaustion and job satisfaction. Since our findings do not exclude the existence of reverse causation, it is important to note, that effects may in fact be bidirectional. Mindfulness may decrease emotional exhaustion and increase job satisfaction and set free resources that may, in turn, lead to even higher levels of mindfulness creating a positive upward spiral […].* Various Industries, Germany (Hülsheger et al, 2013) *[…] participants reported dynamic processes whereby, as awareness became more routine, so did self-care. They reported being more able to interrupt a stress experience and replace it with a beneficial activity (such as break-taking or exercise)[…].* Higher Education, UK (Hugh-Jones et al, 2018) *Once the core principles of mindfulness were accessible to participants, a process of upward spiralling emerged. This is […] influenced directly by self-care, awareness and choosing new ways of responding.* Higher Education, UK (Hugh-Jones et al, 2018)

	Choosing to bring positive experience into high resolution, or 'becoming more sensitive to all the good things out there' […] was, for some, a further constituent of the upward spiralling process. Higher Education, UK (Hugh-Jones et al, 2018) *Recovering agency was talked about by participants more than any other stage of change, and it was expressed as evolving over time, supported by detection-choice opportunity and upward spiralling.* Higher Education, UK (Hugh-Jones et al, 2018) *'[…] a few times I just decided I'm going for a massage and that way I know next week I'll feel better. In the past, I would say "o.k. I don't have time for this". Now I think that if I'm feeling good I can be more attentive and I can really do my job much better, as simple as that.'* Participant #02, Healthcare, Canada (Irving, 2013) *Many participants discussed how awareness of their own tendency towards inattention or 'mind wandering' had provided a starting or entry point for refocusing and noticing other aspects of themselves and their environment.* Mental Health Care, Canada (Irving et al, 2014) *Our data indicate that not only were participants willing to work mindfulness into their repertoire of self-care skills but that they also increased or made changes to other aspects of self-care: making time for breaks during the workday, setting limits in the workplace and prioritizing self-care more generally.* Mental Health Care, Canada (Irving et al, 2014) *'So going early once a week for this mindfulness course has provided an escape, or rather, a way, to not be so worn out, to take care of myself better. And I do find my work goes better too, as I'm more satisfied with my life overall.'* Participant, Accountant UK (Islam et al, 2017) *'I've experienced profound changes in myself, I would say, through the year of the course … it's something that has stayed with me, has expanded over time. It has brought a bigger picture of existence to my life, and my relationships have deepened. I listen more carefully to others, and they in turn are more kind and patient with*

	me. I feel we understand each other' more than before. This has meant that projects with colleagues advance more smoothly […]' Participant, Computer Technician, Norway (Islam et al, 2017) *'It changes who I am, and I like this new version of myself! It makes me realize things that I wouldn't otherwise have done, kind of like opening up a portal of creativity.'* Manager, Accounting Services, UK (Islam et al, 2017) *Teachers reported that CARE improved their self-awareness (96%) and wellbeing (92%). They also strongly agreed or agreed that as a result of CARE they were "better able to manage classroom behaviors effectively and compassionately" (77%) and "better able to establish and maintain supportive relationships" with the children they taught (83%). Finally, participants noticed improvements in students' (much better or better) prosocial behavior (76%), on-task behavior (66%), and academic performance (57%)* Education, USA (Jennings et al, 2013) *'I am realizing this is not mystical or rocket science, it is really about being there for myself so I can be there for others. It really is about self-care.'* Participant #01, Executive, USA (Linger, 2016) *'I am beginning to be kinder to myself and recognize that the more I take care of me the more I will be available to help others who need me during the day at work and home. Mindfulness practice is helping with this.'* Participant #04, Executive, USA (Linger, 2016) *'By simply slowing down on purpose, everything becomes clearer for me. The freedom to just be is something I'm not regularly used to doing, it feels good. I can feel my sense of wellbeing widen.'* Participant #05, Executive, USA (Linger, 2016) *'The freedom associated with not focusing on what I am doing wrong in the practice translates and ripples out to my worklife.'*

	Participant #06, Executive, USA (Linger, 2016) *'I think that it was most impactful to see a change in my own wellness ... I have been more positive to all the people I work with, I have a calm that has come over me in crisis, I am feeling 100% better in my everyday life'.* Participant, Social Work, Canada (McGarrigle and Walsh, 2011) *The interconnection between mindfulness, reflection, and self-care occurred through recognizing stress, reflecting on its possible causes and then implementing coping strategies that decrease stress and increase well being.* Participant, Social Work, Canada (McGarrigle and Walsh, 2011) *There were journal entries that commented on reduced stress, including a greater ability to relax and to see improvements at work and in the patients.* Pediatric Oncology, USA/Israel (Moody et al, 2013) *'More awake in my own skin and therefore I make better choices for myself in all areas.'* Participant, Pediatric Oncology, USA/Israel (Moody et al, 2013) *'It's about like finding ways to care for yourself and then in turn it just makes you better like as a facilitator, a communicator, listener, mentor, role model.'* Participant, Sandy, Teacher, USA (Sharp, 2013) *Participants described feelings of inner calm that they believed, not only promoted their own well-being, but also facilitated more productive interactions with colleagues in the workplace and at home.* Healthcare, Australia (Slatyer et al, 2018) *Participants described how adopting mindfulness practices led them to pay more attention to themselves and their surroundings. Many participants described how their heightened awareness led to a cascade of positive effects. The psychological and interpersonal benefits participants described transferred into their professional*

	roles as health care workers where they experienced increased task focus and improved interactions with colleagues and patients. Hospital, USA (Valley and Stallones, 2018) *They were making more deliberate choices, taking rest occasionally, and setting limits; additionally, they were taking better care of themselves […].* GP Professional Training, NL, (Verweij et al, 2016) *John found the mindfulness practices of yoga and meditation to be very exciting and very rewarding. He reported 'gradually coming to see them as tools that I could use to do a lot of what I was trying to do, just reduce stress, focus on things, eliminate a lot of old, outmoded, and outdated things from my life to make room for new things. This seems to be the route that has been most successful for me.' John indicated that this had affected every area of his life.* Participant University Employee, USA (Williams, 2006) *As he gained success in one area, it appeared that it gave him confidence and trust that it would be useful in other areas.* Participant University Employee, USA (Williams, 2006)
CMOC 26: If managers and employees see colleagues benefiting from mindfulness (C), they might think that they 'want this too' (M). This can lead to contagion effects with more and more individuals getting involved with mindfulness in an organisation (O).	*The process began through the leaders creating buy-in to the change process, followed by the participants gradually internalizing and implementing the learning in the work environment. Staff became more inquisitive and receptive to mindfulness as the training sessions got underway. One social worker characterized the phenomenon as a 'contagion effect,' describing how people observed mindfulness in practice and then 'others get into it.'* Mental Healthcare USA (Byron et al, 2015) *[…] after training sessions were implemented on one unit, staff on other units noticed this new practice and requested implementation on their unit.*

	Mental Healthcare USA (Byron et al, 2015) *By offering the training on more than one occasion, staff had the opportunity to notice peers benefiting from mindfulness, creating an environment that encouraged participation and changing the organizational culture.* Mental Healthcare USA (Byron et al, 2015) *The pilots' successes were explained by the Chair of the Department's staff health and wellbeing programme, in an email to this report's authors: 'The successful spread of mindfulness is because of local champions and practitioners who create a ripple effect. Their enthusiasm is infectious. Organisation change can start bottom up. Anyone can light the fires and get the passion going.'* Government Department, UK (Carter et al, 2016)

Appendix I Overview of all CMOCs from realist review

The table includes the number of documents (*) in which I found data to support each CMOC and the number of data excerpts (**) that I used to build each CMOC.

CMOC	Description of CMOC	*	**
		55	587
STAGE 1	OFFERING AND SIGNING UP FOR A MENTAL HEALTH/STRESS PROGRAMME		
Protection of resources			
01	In a context where any investment has to produce financial returns (C), a wellbeing course like an MBP might trigger concerns of productivity loss (M) with management hesitant to invest in it (O1) or stopping to invest in it (O2) if it does not pay off.	1	10
02	In a context where stress and distress are stigmatised (C), participants might be reluctant to sign up for a stress/mental health programme (O) because they are concerned that they will be seen as weak and vulnerable (M).	3	6
Investment of resources			
03	If an MBP appeals to an organisation's overall business strategy, values, and practices (C), it becomes an attractive investment for management (O) as it is believed to enhance not only health and wellbeing but also overall productivity and/or work performance (M).	6	23
04	If an MBP is offered as a professional development programme (C1) or otherwise appeals to an individual's professional aspirations, values, or practices (C2), it becomes a worthwhile investment (O) as it is seen to enhance not only mental health and wellbeing but also professional functioning and development (M1) and/or to help achieve workplace goals (M2).	15	52
STAGE 2	FINDING THE TIME AND PLACE TO ENGAGE WITH THE PROGRAMME AND ITS ACTIVITIES		
Protection of resources			
05	If an MBP competes with work tasks (C) managers and employees might be concerned that by attending training sessions and practicing mindfulness they will not be able to attain work related goals (M1) or get their job done (M2) and therefore prioritise work over engagement with the programme and its activities (O).	13	31
06	When managers and employees are under a lot of pressure (C), adding tasks (such as course attendance and home practice) can exacerbate feelings of stress/distress (M) and result in inability to practice mindfulness (O1), dropping out from the programme (O2) and/or experiencing lack of beneficial	9	19

	effects (O3).		
07	If supervisors do not explicitly support the practice of mindfulness at work (C), employees refrain from doing the exercises (O) because they are concerned that disadvantages might result from taking time off for selfcare instead of working (M).	6	10
08	In an environment that lacks private or dedicated space for mindfulness practice (C), participants fear interruptions (M1) and might feel exposed in front of non-participating colleagues (M2), which negatively affects their ability to do the practices (O1) and reduces their engagement with mindfulness at work (O2).	7	14
09	When individuals are used to taking care of others (C), they might feel guilty about taking time off for themselves (M) and skip training sessions and/or home practice (O1) or drop out of the programme (O2).	8	11
10	If the MBP competes with private time (C) participants might feel that by attending the training sessions, they have to give up other nourishing activities (M) and they have to make a deliberate decision of what to prioritise (O).	7	7
Investment of resources			
11	When managers and employees are offered an MBP through their employer (C), they see that as a sign of care and appreciation (M1) and/or as a sign that their health and wellbeing are important (M2) which may enhance their engagement with the programme and its exercises (O1) and, more generally, facilitate investment in selfcare (O2).	8	18
12	If participants receive official release from their work to attend training sessions (C1), they feel 'permitted' to take care of self (M), which facilitates investment in the programme (O1), engagement with the exercises (sO2) and/or the ability to practice mindfulness (O3). Feeling permitted to take care of self can just by itself be relaxing (O4) and stress reducing (O5), and it might facilitate investment in selfcare more generally (O6).	12	27
Strategic use of resources			
13	In a context where pressure and workloads are high (C1) and/or in moments of immediate stress/distress (C2), mindfulness exercises, particularly the brief ones, provide individuals with a sense of coping (M) and thereby reduce perceived stress (O). Coping mechanisms range from enhanced awareness (M1) and attention regulation to (M2) taking a few breaths/deep breathing (M3), cognitive reappraisal (M4), relaxing (M5), zooming out (M6), and/or reminding oneself that these strategies are available (M7).	23	51
14	When mindfulness practices can be integrated easily into existing routines and busy work schedules (C), take up is high (O) because individuals feel they can do something for their health without having to invest extra time and effort (M1) and/or because it helps them make good use of 'empty' time (e.g. wait time, commute time) (M2).	11	34
15	When psychoeducational elements help participants make sense of their experience (C), they provide a sense of control (M) which positively affects	11	24

	engagement with the MBP and its practices (O).		
STAGE 3	OPENING UP AND SHOWING VULNERABILITY AT WORK		
Protection of resources			
16	If managers and employees attend sessions in their professional roles (C), they might not talk openly about their struggles and experiences (O) because they are concerned that being seen as weak and vulnerable could hurt their professional self (M).	11	26
Investment of resources			
17	When participants feel safe to explore emotional difficulties and share them with others (C), normalisation of stress/distress (M1) and the experience of acceptance through group and/or instructor (M2) plant the seeds for greater acceptance (O1) and compassion (O2). The experience of acceptance through group and/or instructor can also set the ground for transforming difficult emotions (O2).	17	52
18	When participants leave their professional roles and status behind (C), they see their own humanness and vulnerability in others (M), which might plant the seed for greater acceptance (O1) and compassion (O2).	7	15
19	When participants share work related or personal issues (C), receiving practical support from peers (M) reduces feelings of isolation (O1), enhances normalisation (O2), and might just by itself promote coping (O3) and wellbeing (O4).	10	24
20	When the facilitator is trusted and embodies mindful acceptance (C), participants feel safe to explore and try out new ways of being (M) which enables change (O).	2	8
STAGE 4	INTEGRATING NEW BEHAVIOURS AT WORK AND IN DAILY LIFE		
Protection of resources			
21	If mindfulness is seen to be incompatible with work practices (C), managers and employees might stop investing in it (O1) or only use it sporadically (O2) because they are concerned that it negatively affects their work performance (M).	5	10
22	If managers and employees find their new (mindful) ways of dealing with workplace stress to be incompatible with workplace culture (C), disillusionment (M1) or concerns about no longer fitting with the team (M2) might negatively impact not only their engagement with mindfulness practices (O1) but also overall work engagement (O2).	8	9
Investment of resources			
23	If participants experience acceptance/compassion in the group and/or in their relationship with the instructor (C), they gain confidence in bringing this experience to difficult moments at work (M). They experience this as stress	10	35

	reducing (O1) and rewarding (O2).		
24	If participants experience improvements that they attribute to their mindfulness practice (C), they continue practicing (O1) because they feel that they will be OK as long as they do the exercises (M1) and/or might improve even more (M2). This can create feedback loops (O2) or even set off gain spirals (O3).	13	23
25	Positive effects in one area (C) can have a ripple effect leading to improvements in other areas as well (O) because individuals feel they have more energy at their disposal (M1), have gained confidence in themselves and in the mindfulness approach (M2) and are better able to regulate their emotions and behaviour (M3), which encourages them to take better care of their health (M4).	21	43
26	If managers and employees see colleagues benefiting from mindfulness (C), they might think that they 'want this too' (M). This can lead to contagion effects with more and more individuals getting involved with mindfulness in an organisation (O).	2	4

Appendix J Details of MBPs from evaluation

Format/Elements	**Programme A (Finding Peace in a Frantic World by Williams/Penman)**	**Programme B (MBSR)**	**Programme C (Finding Peace in a Frantic World by Williams/Penman)**	**Programme D (Customised programme based on MBSR)**	**Programme E (Finding Peace in a Frantic World by Williams/Penman)**
Duration	8 weeks (75-90 min/session)	8 weeks (2.5 hrs/session)	8 weeks (75-90 min/session)	8 weeks (90 min/session)	8 weeks (75-90 min/session)
Format	Hybrid (online and office)	In-person	First two sessions in-person (office) then online (home and office)	Online	Online
Mindfulness meditations (daily home practice)	10-25 min	15-45 min	10-25 min	10-30 min	10-25 min
Brief mindfulness exercises/daily life mindfulness	Yes	Yes	Yes	Yes	Yes
Reflection/Inquiry	Yes	Yes	Yes	Yes	Yes
Psycoeducation	Based on MBCT for non-clinical participants	MBSR + 'Inner stress drivers' test	Based on MBCT for non-clinical participants; elements of trauma-sensitive mindfulness	MBSR + 'Inner stress drivers' test, Circle of influence, work related communication exercises	Based on MBCT for non-clinical participants
Mindful yoga	No	Yes	No	Yes	No
Mindfulness day	No	Yes	No	Yes (focus on work related topics)	No

Appendix K List of all CMOCs from realist evaluation along with all interview excerpts in support of each CMOC

Many interviews were conducted in German. I have translated them into English and tried to stay as close to the original as possible. As I am not a professional translator and my native language is not English, there may be sentences that are grammatically incorrect or sound slightly awkward. I have indicated all translations. Translations always include all interview excerpts from one person. Within-interviewee excerpts are separated by *, between-interviewee excerpts are separated by **. Since I developed new CMOCs in my evaluation, the numbers that I had originally attributed in my review to each CMOC have changed. I have added the old numbers in grey after the new numbers.

CONTEXT-MECHANISM-OUTCOME CONFIGURATION (CMOC)	SECTIONS OF VERBATIM TEXT USED IN SUPPORT OF THAT CMOC
STAGE 1	OFFERING AND SIGNING UP FOR STRESS/MENTAL HEALTH PROGRAMME AT WORK
PROTECTION OF RESOURCES	
CMOC 1 (CMOC 1): In a context where any investment has to produce financial returns (C), a wellbeing course like an MBP might trigger concerns of productivity loss (M) with management hesitant to invest in	No data

it (O1) or stopping to invest in it (O2) if it does not pay off.	
CMOC 2 (CMOC 2): In a context where stress and distress are stigmatised (C), participants might be reluctant to sign up for a stress management/mental health programme (O) because they are concerned that they will be seen as weak and vulnerable (M).	No data
INVESTMENT OF RESOURCES	
CMOC 3 (CMOC 3): If an MBP appeals to an organisation's overall business strategy, values, and practices (C), it becomes an attractive investment for management (O) as it is believed to enhance not only health and wellbeing but also overall productivity and/or work performance (M).	ANDREAS (D): One of our biggest challenges is that [we as organisational division] develop more into an organism, we're no longer a machine . . . . We really have to look at these New Work topics and the new needs of employees . . . if we want our employees in the future to be good, content, motivated and committed. INTERVIEWER: Would you say that mindfulness supports you in your vision of being an organism rather than a machine? ANDREAS (D): Yes. * ANDREAS (D) (pulls out a chart): What you can see here are our values. There's 'mindfulness', 'work-life balance', 'being there for each other', 'trustful work relationships', and 'appreciation'. These are the topics that we have defined for our unit. [translated from German]

	** JIAN (E): Some of the things that we do here would be doing assessments for the elderlies and then also doing something what we call the chaplain—so [being] the chaplains for them. And I think that's why certain programmes that we run here are in line with the mindfulness course that we attended. We plan to infuse mindfulness into some of our programmes with our elderlies here. ** ZOÉ (instructor, E): And these two organisations [that participated in the MBP] have been kind of interacting a little bit together prior to this where the young kids in the preschool get to visit the residents of the rest home and they were hoping to have what we call an intergenerational project. Mindfulness was one of the components that they were wanting to explore, so this is how this came about
CMOC 4 (NEW): If a workplace MBP is advertised as a stress/mental health programme (C), managers and employees might receive that as a sign that it is acceptable to talk openly about stress/distress (M). This can contribute to the de-stigmatisation of these topics in the workplace (O).	CLAUDIA (D): Simply being offered such a course already had an impact on me. I thought 'Wow, your employer is really offering this? How great is that. It means you're allowed to say that you're stressed, otherwise they wouldn't offer it.' I thought it was an invitation to address these issues openly. It was a good sign that came from the employer. [translated from German]
CMOC 5 (CMOC 4): If an MBP is offered as a professional development programme (C1) or otherwise appeals to an individual's professional aspirations, values, or practices (C2), it becomes a worthwhile investment (O) as it is seen to enhance not only mental health and wellbeing but also	CHRISTINA (A): I personally want to grow in many directions. I want to stop thinking that we are perfect and find ways to deal with imperfection, on a personal but also on a work level. * CHRISTINA (A): For me [such a course] feels like as a 'must' of modern work. As we spend one third of our life at work, I believe such education should come from the very beginning, from every employer. Maybe I

professional functioning and development (M1) and/or to help achieve workplace goals (M2).	think like this because I used to work for HR but for me, humans embody this need for personal growth and healthy growth. If you don't have this, you cannot work efficiently. ** INTERVIEWER: Sometimes participants who see that their way of working improves with mindfulness seem to be more motivated than those who only do it for their health. I would like to know what your observation has been. GEORG (instructor, D): Yes. [nods] I would agree with that. One of the heads of the department had done a 'Mindfulness for Managers' course with me, he was very engaged. The other head of the department had done several things with me before, he always liked these mindfulness exercises and the inner stance [connected to mindfulness], but he had never done a course before. He also participated actively. Then there was this woman, she was lovely, very active, always running full power. [laughs] She practiced a lot and talked about it and about her difficulties. For her it wasn't about health, it was more about, 'How can I cope better with all the challenges and be more relaxed and better as a supervisor and project manager?' The topic of health didn't come from health management, but it came from the context of, 'We as managers, here in the pandemic, we all have stress, how can we deal with it?' * GEORG (instructor, D): In one department, the managers had discussed, 'We have to work on our self-management skills, each of us individually, and we have to support our employees.'. . . The topic had been on their list. * GEORG (instructor, D): It's possible that some of the managers were more engaged because they know that this one-year leadership training [mindful leadership] will start in June. [translated from German]

	** INTERVIEWER: What motivated you to sign up for the MBSR course? HANNAH (B): I had a professional interest in it because I started my own business as a trainer. I thought about which direction to go and ended up with health. I was fascinated that there are trainings or tools that could have a positive impact on both employees and companies. I didn't want to go into classic management trainings, because I personally think they are mainly about getting young people to work as much as possible. [laughs] I want to generate a benefit for both sides with my future trainings and that's why I got involved with mindfulness, that's why I wanted to go through the 8-week programme myself. INTERVIEWER: So stress wasn't an issue, you rather had a professional interest. HANNAH (B): Exactly. Becoming an MBSR trainer myself and starting with the basics [laughs], that was my main motive. [translated from German] ** JAN (D): I didn't feel very stressed before . . . I thought that I was in control of my situation and my work and my life. I didn't do the course primarily for that reason but rather . . . how I can do my work or my communication in my role as—I'm a project manager, I speak a lot, I do a lot of moderations; communication is such an important instrument and I wanted to improve it with this course. [translated from German] ** INTERVIEWER: When the programme was offered in your workplace, can you recall what your first internal reaction was?

	JIAN (E): I was quite intrigued because [there are] not many opportunities of having such a mindfulness course in Singapore and in the elder care sector. INTERVIEWER: So you saw a potential to work with the elderly people and bring mindfulness to them. JIAN (E): Yes, that's right. * JIAN (E): . . . I think the main thing is, [it's] for the elderlies here who will subsequently be in the programme. I mean the programme being shared at the end of the day can be quite tiring but when we know that the true cause for it is the elderlies then I think it's something worth going for and ensuring that after we participated, we have sufficient experience. ** INTERVIEWER: What motivated you to sign up for the course? LISA (C): I heard from colleagues that these brief exercises with the class had a great effect, simply sitting on the chair, closing your eyes, hands on your knees, breathing. I wanted to try this out with my pupils, because it was a very restless class . . . and I am thrilled how it works, the pupils respond so well to it. When they're done with tidying up, most of them are sitting there, ready, knowing that we'll continue with [a brief practice], it's something very intuitive for children. When the course was advertised . . . I thought, I would take the chance and develop this more professionally. * LISA (C): In May Martina [instructor] will do another online session and this will be about mindfulness meditation in the school context. I'm very happy that this is possible, and I really want to participate. I'll keep that evening free.

	[translated from German] ** INTERVIEWER: From everything you said it seems like the aspect of professional growth was not so important in that group? MARTINA (instructor, C): I think it [professional growth] infuses every cell of their teacher being, so I wouldn't separate it, but was not in the foreground, they always talked about themselves in their examples. It did have an impact though, I know one participant talked about it with others in the group [and] how she's already integrating a lot with her students, so they look forward to that. * MARTINA (instructor, C): I think in the beginning it was more [about] stress and 'I have no time for selfcare' and when we got [to] sessions five and six that deepened more into the growth aspect of self-care and kindness. As teachers, they constantly have to judge and assess students. One participant got really upset, because 'How can I be compassionate? I need to push, and I need to judge, and I need to—.' That was the big discussion, not discussion but exploration, how to be kind, with open-hearted clarity, open-hearted fierceness, 'How is that possible? Is it [possible] for you?' or is it rather 'I have to be the teacher'? (raises her index finger) 'Is it necessary to close your heart because you have to be clear and set boundaries and give a bad mark?' These were the topics of growth, that popped up here and there. INTERVIEWER: As a motivator to continue doing this and engage with the practices and concepts? MARTINA (instructor, C): [nods] Yes. ** PHILIPP (D): I imagine leadership from the past to be rather hierarchical . . . associated with strength and power. I definitely don't want to be that kind of leader [laughs], and I don't think I am. It's more about being

	human, being authentic. I try to imagine what would happen to you if you were in this situation, you would be happy if someone was there for you. INTERVIEWER: It sounds like what was taught in the course is really in line with your leadership values and principles. PHILIPP (D): [nods] Yes, definitely. It goes very, very well together, yes. INTERVIEWER: Will you participate in the leadership programme [one-year mindful leadership programme for managers]? PHILIPP (D): Yes. INTERVIEWER: To what extent did that play a role for to engage with this course? PHILIPP (D): Very much so, I think, yes, very much. There are different aspects: First, I think it's super exciting for the team to have such an experience, most of the people from my team also took part, I really, really liked that. I'm already thinking about how we can maybe build on this and continue and use it for us, that is definitely a point. . . . What I also found exciting was to explore together with the other leaders how we can develop and maybe bring a new or somewhat different leadership style to the company. We work in a technology-oriented industry, very energy-intense, very technology-heavy. . . . This leadership style isn't very common yet in our company, but I think it's exactly what we need. [translated from German] ** SEBASTIAN (D): At work you have more relationships with people with whom you have to get along without having a choice. . . . Therefore I think it makes more sense to do it [the course] in the work environment than in a private setting.

	* INTERVIEWER: To what extent do the topics that you have been taught support your leadership style or your work culture? SEBASTIAN (D): I try to be authentic, as far as possible, and I think that what we learned in the course can only support that, being authentic, opening up. I try to bring that [into my work]. There are a lot of little things you can start with, like brief exercises at the beginning of a meeting, just pausing or ending with an ALI [German acronym for 'breathe – smile – pause'] and so on. INTERVIEWER: It seems that what you were taught helped you grow in your leadership role. SEBASTIAN (D): I haven't been in a leadership role for very long, less than two years, so I still have a lot of space to grow. . . . I know that I can and want to learn a lot and that's why I like to participate in things like this. And I think it has been successful. INTERVIEWER: Was that a motivator to stay engaged with the programme? SEBASTIAN (D): I didn't need a motivator to stay with it, but you could certainly say, 'Yes, that contributed to it.' INTERVIEWER: I think there will be another [mindful] leadership training next year. Do you know about it? SEBASTIAN (D): Well, we're working on leadership guidelines [together with the instructor], and we had a workshop on this yesterday. I already had the honour of working with Georg [instructor] three times this week. [laughs] [translated from German] **

	INTERVIEWER: Does what you've learned in the mindfulness course have an impact on your work? SILVIA (C): Yes. I was able to bring it a little bit into the class council, maybe I put my questions a bit different than I did before or I make a bit more room for, 'How are you doing right now?' The children like that a lot, they enjoy that, the ritual, taking time for themselves, reflecting, 'How am I doing right now?' They are invited to say how they feel and put a stone down. I already did that before, but I do it with more awareness now, I give it more time so that they can really take their time and try to sense, 'How am I doing right now?', it has definitely become a bit quieter. [laughs] Maybe I can mirror them a bit better if they can't find the words. We have a lot of children who don't speak German, so this is important. [translated from German] ** TONI (instructor, B): I can see them in front of me, one of them sitting on the right, a younger woman [HANNAH (B)]. She had this big smile . . . and she said it felt so good. She was very committed; she continues writing me asking for meditation recordings. [see Hannah (B)] * TONI (instructor, B): Of the nine participants from the hospital, three got into it and six remained 'shoppers'. . . . They were committed, they did the exercises, they explored, they gave feedback, they asked questions, they felt good in these sessions. [laughs] . . . . But when I see them in front of me and the others who signed up because of stress, because of strain, because of sleep disturbance, because of pain, I see a difference. INTERVIEWER: Would you also see a difference with regards to self-compassion? TONI (instructor, B): I think the nursing professions can't develop enough self-compassion. They can't develop enough of it but . . . it's not easy for them to have self-compassion and to develop it. Self-compassion was a topic for everybody, also for the 'shoppers'.

	INTERVIEWER: … because it's something that is so important in their profession. TONI (instructor, B): Exactly. Not because they were under great stress or so. [translated from German] ** ZOÉ (instructor, E): . . . for some people it was clearly personal whereas for other people, we could see there was a bit of both, personal plus professional reasons [for signing up].
CMOC 6 (NEW): If a workplace MBP is offered to enhance productivity and/or work performance (C1) or if participants see mindfulness as something they will be doing with their own team members, patients, or students (C2), this might trigger in them a 'doing' mode and/or a cognitive mode rather than a mindful 'being' or experiential mode (M). As a result participants might get more stressed (O1) and may not apply the practices in their private time (O2).	INTERVIEWER: How did you perceive the group? MARTINA (instructor, C): A group of female teachers . . . very engaged, very overburdened with their job and their deep, deep passion to serve the children and the families and the system. When I met them the first time, I felt that they're in for like, 'Let's do this on top of everything else, let's do this', so doing it and getting it in and adding it to whatever they are doing, a lot into 'doing' [laughs], doing it all. * INTERVIEWER: Is there anything else that I should be aware of that had an impact on that course? MARTINA (instructor, C): . . . . I'm thinking of [how] the question of transferring [mindfulness] into their work as a teacher, doing mindfulness with their pupils and students . . . stressed them out. I could witness . . . how that question of doing mindfulness with someone else breaks into that holy space of being with experience. They were so relieved when they realised, they have a say in it . . . 'How can we integrate mindfulness here and there?', not as a big concept, not as 'How does the whole school do it?' but rather, 'How can I integrate it for myself and with my students at the same time, here and there, in small ways?' That's the question now and that brought it back down to the spaciousness of mindfulness. . . . You know, talking about the workplace where usually there is an outcome, there needs to be something measured and it's going to be contributing to efficiency and productivity and collaboration and whatever, how that whole question has a dampening effect, right now, on

	me when I think of this group how I witness them tensing up and then relaxing again when noticing, 'No, we're not going that way, we're going this way.' ** ZOÉ (instructor, E): There were some people who were very experiential. Their feedback during inquiry was, 'Oh my god, I hadn't realised I have a breath' and it was quite moving; you knew a hundred percent that that person was actually experiencing it and there was hardly anything about how it [mindfulness] was going to be applied to others. Then there were a few who would be asking questions about, 'I applied it to something else and I was thinking about that' and the inquiry feedback was a little bit more cognitive. You realised they were not really doing the home practices.
CMOC 7 (NEW): If a workplace MBP is free and/or convenient (C), managers and employees are more likely to try it (O) because it is a low threshold opportunity (M) to do something that might otherwise be too expensive, too difficult to organise and fit into one's schedule or to try out something that is simply new and different.	CHRISTINA (A): I signed up immediately because it was something, I wanted to dive into, but I knew it's expensive. I thought, 'What an offer—for a company to offer this.' ** FABIAN (A): I like to experiment, learn new things and mindfulness meditation has already been on my radar before. I thought this could be useful information, maybe some new practices that I can try, but also maybe get myself again into the practice of meditation. I did it for quite some time last year, I guess half a year, and then gave up on it. * FABIAN (A): I'm usually a calm person and interested in psychology and different approaches to psychotherapy. I was already applying or testing quite a lot of these things, especially when I had my own issues before with anxiety. I guess I was kind of prepared for this journey with the course. [smiles] *

	INTERVIEWER: Was there anything where you thought, ‘This is a difficult moment right now, that’s why I would like to take up meditation again’? FABIAN (A): No, it was more the external initiative, that the company decided to offer this course, nothing internal. ** INTERVIEWER: Can you summarise in a few words what your first inner reaction was when you saw the offer? JAN (D) [laughs]: I think it was along the lines of, ‘Let's see what kind of mumbo jumbo this is.’ The topic ‘mindfulness’ has been around here [in the company]. At first, I'm always a bit sceptical about things like that but I also thought, ‘Okay there is this opportunity here and now, some people think it's good, I'll sign up and see how I like it.’ [translated from German] ** INTERVIEWER: Do you think that it was perhaps more stressful for you because the course took place during working hours or immediately afterwards? Would it have been different if it had taken place at the weekend or in the evening? LISA (C): I thought about it, and yes, it has been an error to think—so on the one hand there was the idea, ‘It's a workday, I have everything organised, I can do something for myself’ and on the other hand there was, ‘No, I can't do this, because I'm always behind in my work anyway.’ However, I wonder whether I would have signed up for it or whether I would I have said, ‘I can still do it in a year from now on a Saturday, for example’, because it never really fits in. You always find a reason why it doesn't work and that's why I'm glad it has been like this. The threshold for signing up was very low.

	[translated from German] ** MARC (D): I am open to new things, although I was sceptical at the beginning. I had read about the topic before. When the employer offered this [course], I thought, ‘It won’t make you dumber, so let's join in.’ [translated from German] ** INTERVIEWER: What motivated you to participate in the course? MARIE (A): I had a mindfulness course at university. . . . I liked it very much, but it was too short, it was maybe three times for an hour or two hours, I can't remember. I got interested in meditation and I downloaded the app Calm and used it quite consistently for a while. At some point I stopped . . . although I noticed that I liked doing it . . . but somehow, I didn't continue. I thought now was a good time to take it up again. [translated from German] ** INTERVIEWER: Can you summarise in a few words what motivated you to take the course? MAX (A): One thing that motivated me [to sign up] was ease of access because it [the MBP] was offered through my employer. It was easy for me. I only had to go down two floors. I was also motivated by curiosity because it's a topic that I had heard about but had no idea what it was. ** INTERVIEWER: Did your employer pay for the course?

	MELANIE (B): Yes, they paid for the course. The hospital pushes you, encourages you to do the course, and I have to say, that's good. I was certainly critical at the beginning because I'm very down-to-earth, and if something is too esoteric it won't work for me. [translated from German] ** INTERVIEWER: Can you summarise in a few words what your first inner reaction was when you saw the advertisement? NADINE (C): I was interested because I couldn't really imagine what this was about. I just found it interesting, this mindfulness, particularly in these times [during the pandemic] because you live from day to day, nothing really happens. I found it quite interesting that we had this offer. [translated from German] ** INTERVIEWER: Can you summarise in a few words what motivated you to take part in the course? SVEN (D): The topic wasn't new to me. I always wanted to do such a course, but then you don't get around to doing it or you have other things to take care of, so that's . . . why I found it very, very exciting. [translated from German] ** ZOÉ (instructor, E): I think it's important to introduce it in a workplace, particularly when you know these people are not going to do it outside of their work because they are so busy.

CMOC 8 (NEW): A low threshold opportunity or incentive for managers and employees to sign up for an MBP (C) can trigger a 'shopper attitude' in them (M). As a result they might engage only superficially with the programme and its activities (O).	TONI (instructor, B): There were nine [participants] from the hospital. The hospital pays for the course or provides time, so there is an incentive. Anyone starting new in the hospital is told, 'Take this course.' * TONI (instructor, B): When I do the pre-course interviews, suffering is almost always higher with people who don't come from the hospital. The people from the hospital don't come because they're suffering, they come because it's offered by their employer as a preventive measure . . . . The others, those who come voluntarily and pay for the course suffer, they have a trigger, they have a high motivation, otherwise you don't pay for something like this, the price for such a course is quite high where we live and also the effort is high, these eight times and all these practices. . . . For those from the hospital, it is just part of the 'Healthy at Work' scheme, and that's a difference . . . it's just part of the hospital's continuing education scheme. They come and look and enjoy, some of them get into it . . . . There is an additional training [offered by the hospital], something with hypnosis. In order to do that training you first have to do the MBSR course. Someone once said to me, 'Actually, I want to do the hypnosis course, but I have to do the MBSR course first.' . . . Of the nine participants from the hospital, three got into it and six remained 'shoppers'. . . . They were committed, they did the exercises, they explored, they gave feedback, they asked questions, they felt good in these sessions. [laughs] . . . But when I see them in front of me and the others who signed up because of stress, because of strain, because of sleep disturbance, because of pain, I see a difference. [translated from German]
STAGE 2	FINDING THE TIME AND PLACE TO ENGAGE WITH THE PROGRAMME AND ITS ACTIVITIES
PROTECTION OF RESOURCES	
CMOC 9 (CMOC 5): If an MBP competes with work tasks (C), managers and employees might be concerned that by attending training	CHRISTINA (A): At work, we usually start at ten, sometimes we start earlier. The company placed the sessions before the official start. I'm aware that there were some people who couldn't join the course because it started at nine and they start at nine as well.

sessions and practicing mindfulness they will not be able to attain work related goals (M1) or get their job done (M2). Some might prioritise work over engagement with the programme and its activities (O1). Others (who stay eg because their supervisor participates as well) may feel distracted during the sessions (O2). However, those who stay (C) may begin to notice that, at the end, they gain more than they invest (M) and hence benefit from the programme (O).	** CLAUDIA (D): I had a bit of an issue with my working hours because I had an hour and a half less, but I tried to let go. In the end it made me feel better and that was more what I saw. [translated from German] ** INTERVIEWER: There weren't a lot of people participating in this course. What do you think was the cause for that? FABIAN (A): Maybe because people considered it part of the workday and they would rather finish their work-related things during that time . . . . I think what the company could do—because they do it quite a lot when they provide something extra, like we would have some kind of training or some workshops, but they always make the point that this shouldn't affect your work hours, so you still work eight hours on top of that . . . . If the company would loosen up about this, it's just one extra hour, the company will not be ruined or will not lose any money because of this, and just allow people to count this towards their workday, maybe the attendance would have been better. ** GEORG (instructor, D): People often said, 'I thought about not coming to today's session because I really don't have the time, but I came and I'm glad I did.' I think that the burden of coming to the sessions was smaller than doing practice in between. * GEORG (instructor, D): Participants thought, 'The practice is part of work and I do it whether it's useful or not.' . . . I said, 'No, you can also do it during break, you can close your door for 5 or 10 minutes and sit. That's okay,

	you’re allowed to do that’, and the supervisors confirmed that. There was this thought, ‘The practice is something we do during working hours.’ INTERVIEWER: And then it became an obstacle because it took place during working hours? GEORG (instructor, D): Exactly, because then there was no time. [translated from German] ** JAN (D): Since I was sceptical about the whole thing at the beginning, investing one and a half hours on [weekday] mornings, I had the expectation that I better take away something. * JAN (D): I’m still very sceptical with regards to all these meditation exercises, and I had difficulties doing them. They took a very long time, sometimes 20-30 minutes and I must honestly say that when I opened my computer at eight in the morning and then [had to do] 20-30 minutes of such a meditation exercise—it was extremely difficult for me to concentrate and stay with it. [translated from German] ** INTERVIEWER: What was it like for you to do the course in the workplace? JESSICA (D): I found it difficult, because we always had it in the morning and that’s the start of the workday. The workday starts and you were mentally at work, ‘What's on the agenda today?’, ‘What needs to be done?’ Sometimes you weren’t entirely there.

	* JESSICA (D): Maybe it depends on the person, but for me, the course began when I usually start may workday, so mentally I was already at work . . . I don't know if it had been better at a different time, in the afternoon. INTERVIEWER: It sounds like the sessions collided with your most productive time of the day? JESSICA (D): Yes, that's in the morning, exactly. [translated from German] ** MARC (D): Did you ever see the course as an extra burden? MARC (D): No. INTERVIEWER: What contributed to it not being a burden? MARC (D): Signing up for the [weekday] group contributed to it, rather than [weekday] or [weekday] . . . when my workload is higher. [translated from German] ** MARIE (A): It [the course] would have been much more useful for me if it had been after work . . . . I work from home, and I would like to be done with my workday as soon as possible. I find it difficult to distance myself from work, because my workplace is here and then it feels like my whole day is a working day. . . . For me it would have been better, if the course had been at the end of the day as a kind of digestive. . . . That would have given me a clearer separation between work and, 'I'm doing something for myself.'

	* MARIE (A): I would have found the course better or I think it would have been more useful for me personally if it had been at the end of the working day, because then I can let go of work more easily. In the morning I know that I have a whole working day ahead of me and because I only start work at 10 a.m., I have to work until 7 p.m. or 7.30 p.m. and then it feels like a huge, long working day. And that was . . . a bit of a burden for me. INTERVIEWER: Did it add stress? MARIE (A): Yes, a little bit. For sure, yes. [translated from German] ** PIA (A): I don't have the best memory. When I remember something, I don't feel like it's a good idea to let that thought go and forget about it, when I have the workday ahead of me. When I think, 'I have to do that', I feel like I should not let that thought go, because I will probably forget if I let it go. * PIA (A): I feel like I need to start the day filling my mind up with things what to do and to get into the mode of being active and doing things.
CMOC 10 (CMOC 6): When managers and employees are under a lot of pressure (C), adding tasks (such as course attendance and home practice) can exacerbate feelings of stress/distress (M) and result in inability to practice mindfulness (O1), dropping out from the	HANNAH (B): I find it very difficult to apply these methods when you are acutely stressed, when you have the feeling that you're already so stressed and now you have to do something on top of that. I haven't managed to continue practising yoga, instead I went to work early. . . . I know that it would be good for me but it's difficult to keep it up when you have an increased workload. [translated from German]

programme (O2) and/or experiencing lack of beneficial effects (O3).	** LISA (C): It was good for two or three sessions but then I realised that it was overwhelming me. There were also many parent meetings because January is reporting time . . . and that did the rest. [laughs] I realised that I couldn't do it anymore because I took the work home with me, I worked late in the evening because of that, and it put too much strain on me. [translated from German] ** LUNA (A): I have more time [now during the pandemic]. I don't have to go to work, it takes time to go to the office. When you go to the office and then come back home, you feel tired, you don't have the time or the energy to do anything else * LUNA (A): I couldn't have done that [course] when I had to go to the office. There was always this pressure of waking up in the morning and taking the train. It consumes a lot of energy and time. When I work from home, I can focus on myself, I can do a meditation, for example, after working out or I can take a walk in the morning. I wouldn't be able to take a walk in the morning if I had to go to the office. ** MARTINA (instructor, C): There were two participants who dropped out, one dropped out quite early, I saw her twice . . . . The other one sent me an email before the final module, but I hadn't seen her a lot. She really struggled to make the time and space to participate, she was overburdened with work. INTERVIEWER: Was the course rather seen as a sign of appreciation or as a burden, another task on an overburdened schedule?

	MARTINA (instructor, C) [laughs]: I would say both. The first time I went to the school, the bell rang, and all these kids were running around to get out of their classrooms. I went down the stairs to that room . . . and there was this hassle and bustle of ending the class, students running out, teachers running to get to their mindfulness training and basically running out of being a teacher and all the hectic of ending and sitting down for the mindfulness training. It felt like, 'Now it's the next class', 'Let's do this as well', 'I'm tired but let's do it.' [laughs] ** SILVIA (C): Everyone's stress level was very high at the beginning of the course . . . . You could tell that we were all at our limits and some people didn't participate or missed sessions again and again because of that. * SILVIA (C): I think it [high level of stress] had an impact on the course, especially in terms of attendance. There was almost always someone missing, we were almost never complete. [translated from German] ** THOMAS (D): I always saw the time as well invested. However, there was a discrepancy between how I would have liked to behave, which the course made very clear, and how things actually went in my daily life. That discrepancy was particularly large in March, and it frustrated me to get that mirrored so clearly. INTERVIEWER: We say that you should do a mindfulness course when you have a minimum of resources available, because otherwise it can quickly become too much. THOMAS (D): That's exactly what seems to have happened, yes. [translated from German]

CMOC 11 (CMOC 7): If supervisors do not explicitly support the practice of mindfulness at work (C), employees refrain from doing the exercises (O) because they are concerned that disadvantages might result from taking time off for selfcare instead of working (M).	INTERVIEWER: A course like this is also quite time-consuming, there are a lot of exercises, practices etc. Sometimes employees say that it has been an additional burden. What was it like for you? SUSANNE (D): Less so, but this is certainly due to the way it is modelled by our supervisors and colleagues. Small side remarks like, 'Oh, they weren't available, they were in the course again', or 'They didn't get that done today' [laughs] can be enough. [translated from German] ** SVEN (D): Yes, for sure . . . . If the acceptance of management hadn't been there, I doubt that I would have done the course. I would have done it privately, but not during working hours. [translated from German]
CMOC 12 (CMOC 8): In an environment that lacks private or dedicated space for mindfulness practice (C), participants fear interruptions (M1) and might feel exposed in front of non-participating colleagues (M2), which negatively affects their ability to do the practices (O1) and reduces their engagement with mindfulness at work (O2).	INTERVIEWER: Can you say what it was about doing this at school and in that room? LISA (C): Well, it's the chair where you sit, it's the working environment. The pupils had just left and one day the cleaning lady came in although I had closed the door. That's the way it is, you're never completely undisturbed. [translated from German] ** INTERVIEWER: What comes into your mind when you think about doing the course in the company? LUNA (A): A lot of people come and go in that area where we do our trainings. There are many distractions, and when I close my eyes, I feel like someone will . . . look at me, being silly with the meditation. That's why I always turned off the video. I just want to focus on my being, I don't want to think about the people surrounding

	me. So, I think it's easier for me to do it alone, in my apartment rather than in the company, for sure. Imagine we are doing the meditation, either sitting or lying on our back and then someone from outside comes in and then they're like, 'What are these people doing?' [laughs] And then you're going to be distracted . . . thinking about what they're thinking about us. ** JESSICA (D): It helped to be at home, I think I wouldn't have done it [the course] in the office. Here [at home] I'm sitting alone, in my office, and in the workplace I might have felt observed. I would have felt a bit uncomfortable. [translated from German] ** MARTINA (instructor, C): Some [participants] were at school, and some were at home. Some of those who were still in the school building got interrupted. [laughs] They were in their classroom and there seems to be the message that you are available for whatever. [laughs] People were around, wanting something, it had an impact. ** INTERVIEWER: What was it like for you to do this course at work? NADINE (C): I actually found it a bit difficult because my office is on the ground floor, and there are people passing by. I always had the feeling that if a colleague who doesn't know what kind of course I'm doing sees me, they might wonder why I'm doing such things, these exercises, or sitting there with my eyes closed. That inhibited me a bit. There is a window, and I can pull down a blind, but there is also a window next to my door, and I couldn't cover that window. Unfortunately, I was never in the home office on those days. INTERVIEWER: Did that inhibit you to engage with the meditation?

	NADINE (C): Yes, I would say so. I would open my eyes from time to time and get distracted by thoughts like, 'Did someone just walk by?', 'Did they see me?', 'What are they thinking?' That inhibited me a bit. INTERVIEWER: Do you know others who felt the same way? NADINE (C): Yes, a colleague next door. She was also mostly in the office, and as far as I know she felt the same way. [translated from German] ** PHILIPP (D): Before we had this programme, we had a little meditation group on Monday mornings . . . where we did brief online meditations together with a few colleagues. I participated a few times from my office, you're a bit more distracted, because you don't have privacy, even if you have your own office. We have glass windows on our doors and even if you don't mind someone watching you, it's still irritating when they walk past. [laughs] [translated from German] ** INTERVIEWER. So, this opening up, letting go, getting involved is easier when you have privacy? SUSANNE (D): Yes. We have this workplace yoga group . . . . We do 10 minutes of stretching, sitting yoga and—we're this small group of people who are always there. I always go into an office where I know that no one will come in. I can't do that, doing (makes a yoga gesture, laughing) and then someone comes in. [laughs] I wouldn't get anything out of it. [translated from German]

	** INTERVIEWER: What was it like for you to do the course in the work environment? THOMAS (D): It was something I preferred to do in my home office. Here in front of my window is a bus turning area, so when we did a [movement] exercise, I was always thinking about my colleagues outside, who might look through the window and see me standing here like this. That made me feel rather uncomfortable. Online with my other colleagues I had no problem. * THOMAS (D): Sitting meditation was less of a problem. But any activities where you thought, 'What are these people outside thinking, seeing me here like this?' Whether I have my eyes closed or not [during meditation], I'm sure they can't see that. [laughs] I talked to a colleague who also participated, and he said he felt the same way. He could do it at home, but in the office, it was very difficult for him. [translated from German]
CMOC 13 (CMOC 9): When individuals are used to taking care of others (C), they might feel guilty about taking time off for themselves (M) and skip training sessions and/or home practice (O1) or drop out of the programme (O2).	No data
CMOC 14 (CMOC 10): If the MBP competes with private time (C) participants might feel that by attending the training sessions, they have to give up other nourishing	INTERVIEWER: So, it [the course] was and add on, it took place outside of your working hours. How was it for you to have this as an add on? CHRISTINA (A): If I'm going to sit down and think about it, I realise, 'Oh yes, it was an add on.' But putting it just before you start [working] it felt like part of the working day. I would not say it's an abuse [of our time], I

activities (M) and they have to make a deliberate decision of what to prioritise (O).	would say that it helped me start my day better . . . . I would just get up half an hour or 45 minutes earlier to join the class. * INTERVIEWER: How do you explain that there were only so few people interested in participating in this program? CHRISTINA (A): Because of COVID, everybody was working from home. And this made the bonding of the company, the culture of the company a little bit weaker. So, people did not see this as a collaborative work, to work with ourselves. They thought, 'I want to be less available for the company, I'm with my computer, I don't want to do anything with them' or something like this. Not offensive but because the new status was you work for the company, with your computer, at home, you can choose the hours you will be in contact with the company and your colleagues, whereas if we all come to work, it's easier to commit to a collective session. ** MARTINA (instructor, C): One person, the first dropout, I think for her it was not what she was looking for . . . . She left early because her yoga class was right after this mindfulness slot and then she got stressed and had to leave early to get to her yoga class. She realised she's happy with yoga, she doesn't need the stress of doing both. ** INTERVIEWER: What else do you think might have contributed to the fact that only few people took part in it? MAX (A): A certain commitment, that it's eight weeks and in the morning at 9 a.m. and 'I usually start at half past nine', or 'Then I always have to come, but I'll be on vacation in two weeks.' That's a bit of an issue here. **

	INTERVIEWER: Many participants report that when such a course is offered in the workplace, they feel that they are allowed to invest time in their wellbeing, that it is like an 'official permission', like, ‘Okay, your health is important, and you can invest time in it.’ Did you feel like that? SILVIA (C): Well, as a teacher you're very responsible for how you manage your time and how you look after yourself. It was more like a break where I knew that this was my window that I would now invest time for myself, not so much the permission but more, ‘This is my time.’ . . . I really liked that. As a teacher you have to give yourself the permission to look after yourself. [laughs] It’s a challenge, in this profession, to find a good balance. [translated from German]
CMOC 15 (NEW): If the course material (handouts, audio files) is distributed through a work channel (e.g. MS Teams or Slack) (C), participants might associate it with work (M) or will not want to access a work channel in their private time (M). As a result, they do not do the exercises (O).	GEORG (instructor, D): They work with MS Teams, and I created a Teams channel which they could access any time, but if they didn't download everything onto their mobile phone, they had to dial into Teams, into the ‘office’ [every time they wanted to use the material]. I thought it was great because it’s easy to distribute the material via Teams but if I were to do this course again, I might not do it via the same tool that the company uses. INTERVIEWER: Just to take it out of the work context. GEORG (instructor, D): Yes, exactly . . . . I think it would improve the chances that they practice at home. [translated from German] ** PIA (A): Maybe I would have explored the material more if it would have come directly from you and not in our work slack channel. I know this might sound kind of strange, but it would have felt like a more personal experience for me if I was doing it—I tend to turn slack off when I finish work, so I’m not going to go into slack to find material like this, to do something for myself outside working hours. But I also wouldn’t allow myself to do it during work hours.

CMOC 16 (NEW): Participants from lower hierarchy levels or in precarious job positions (C) might feel uncomfortable to engage with selfcare activities at work (O) because they are concerned (M) that they may lose their job if they do not perform professionally.	PIA (A): There are two kinds of people at work, people who live their workday thinking, 'if I don't perform, I will lose my job, and I am being watched all the time' and 'everyone here is putting in their effort so I have to make sure that I'm doing the same.' * PIA (A): I'm just one of those people who, in a work context, feel extremely judged 24/7. This has nothing to do with how my managers are, it's just how I feel about work. In a work context I feel like—even just getting up and getting a coffee, if I'm doing it too often, I will look like I'm trying not to work. So, this spending an hour focusing on myself in a work context is a strange thing for me. * PIA (A): I feel very, very fond of my work. I feel very grateful for the opportunities and the salary that I have. I have worked in many jobs . . . for a very, very low salary and low amount of respect.
INVESTMENT OF RESOURCES	
CMOC 17 (CMOC 11): When managers and employees are offered an MBP through their employer (C), they see that as a sign of care and appreciation (M1) and/or as a sign that their health and wellbeing are important (M2) which may enhance their engagement with the programme and its exercises (O1) and, more generally, facilitate investment in selfcare (O2).	INTERVIEWER: There is that idea that being offered such a programme through your employer can be seen as a sign of care. Does that hold truth for you? CHRISTINA (A): Absolutely. INTERVIEWER: Has being offered that course through your employer been a motivation for you to take better care of yourself? CHRISTINA (A): Yes, to a large extent, yes. Especially with the combination of the health crisis this year and the changes of work and private life, how we work from screens and everything. Yes, absolutely.

	** DANIEL (D): It is very unusual in our company that something like this is being offered. There were many, many people who were simply grateful little things like that. [translated from German] ** INTERVIEWER: There is the idea that, when employees are offered a mindfulness course through their employer, this is seen as a sign of care and appreciation, which then enhances engagement with the programme and the exercises. Does that hold true for you? FABIAN (A): I do see it as a care move, yes. The company cares about our mental health and wants to do something for us. ** INTERVIEWER: In other organisations participants also report they feel an incredible appreciation that their employer gives them this opportunity. GEORG (instructor, D): [nods] Yes. [translated from German] ** JESSICA (D): The fact that the course was offered by the employer [signalled] that this is important to the employer, that employees, or the employees' health, are important. [translated from German]

	** LISA (C): Just the fact that the course was offered at school, was a sign for me that you're allowed to, that you should use this time for yourself. For me it was a strong signal from the two principals that they organise such courses. You don't hear that so often. INTERVIEWER: What does that do to you when you get a signal like that? LISA (C): On the one hand it's nice because I'm glad that the principal cares about my health, that she sees how engaged I am at work . . . and that she cares about me. [translated from German] ** INTERVIEWER: There is that idea that being offered such a mindfulness training through the employer is a sign of care and appreciation. LUNA (A): Yes. [nods] When they offered this course, I was like, 'My company cares about my being as a human.' I feel—because this is one of my interests, mindfulness, self-care, self-love, something that I always have in my heart—and I feel like, 'My company sees me.' I feel close to my company. ** INTERVIEWER: Many participants say that they see the fact that the employer offers such a course as a sign that their health and well-being are important. Has that also been the case for you? NADINE (C): Yes, definitely. What immediately comes to my mind is, 'My employer thinks these topics are important.' It makes a positive impression that they think about something like that. It signals to me that they care about me, that you are important as an employee and that you should not only perform but also stay healthy. It's a nice gesture.

	[translated from German] ** INTERVIEWER: What do you think were the main outcomes? MARTINA (instructor, C): Participants said, 'I'm finding ways to integrate mindfulness, even if it's only 10-12 minutes a day.' . . . . They referred to this as 'This is more important than anything, this is my time where no-one else has anything to request, demand, or I'm not worrying I have to do something for anybody, it's my time.' INTERVIEWER: Many participants say, 'Being offered this course by my employer is for me a sign that I am allowed to do that.' Would you say this was true for your participants? MARTINA (instructor, C): Yes. There was an initiative for the school year 20/21 and there was another course they offered at the same time. The theme of that initiative was 'wellbeing' and something like 'taking care of yourself'. So, there were two courses offered in the same email to all teachers with the message, 'We have so many themes and we are overwhelmed with themes and projects but let's take care of ourselves.' I think that's a good message, it's not just 'Hey, deliver and serve the school and the students and the teachers' but also 'We know we have to take care of ourselves in order to do that.' ** INTERVIEWER: Can you summarise in a few words what motivated you to take part in the course? SEBASTIAN (D): Well, the first thing was that you have the opportunity to get something like this from your employer, to have the opportunity to take part in something like this. I don't think that's common, and for that reason alone I was interested. [translated from German]

	** INTERVIEWER: Some employees say, that if such as course is offered at the workplace and the management supports it, like a signal that your health is important. SVEN (D): Yes, that's what this company stands for and that's why I found it very, very nice that they offered this to us. And for that reason alone, it was important for me to participate. It increased my motivation to complete the programme. [translated from German]
CMOC 18 (NEW): If managers and employees are offered an MBP through their employer (C), they might feel obliged (M) to make good use of its resources. This can enhance engagement with the programme and its activities (O1), yet it can also add stress (O2).	PIA (A): I feel very, very fond of my work. I feel very grateful for the opportunities and the salary that I have. I have worked in many jobs . . . for a very, very low salary and low amount of respect. So, for me having something like this or the opportunities that we have, like yoga courses at work and paid dinners or whatever it is, for me, I feel extremely grateful for this. I feel this pressure from it to matter. * PIA (A): Having it [the course] as part of the workday, made me feel like it needed to be beneficial for me in a work aspect, as opposed to just personally. ** INTERVIEWER: Can you summarise in a few words what your first inner reaction was when you saw this course was being offered? JAN (D): I think it was along the lines of, ‘Let's see what kind of mumbo jumbo this is.’ . . . I also though a little bit, ‘How will it look if I don't take part?’ because my colleagues and superiors were in the same course. [laughs]

	INTERVIEWER: Do you think there would have been a chance that if they hadn't participated, you wouldn't have signed up for the course? JAN (D): That's possible, yes. [translated from German] ** JIAN (E): I am aware that I put in some form of effort to enjoy, because initially incorporating all these practices into my life was quite tough, yes, it was quite tough . . . . INTERVIEWER: So, you really made an effort to make this work for yourself. What helped you engage with the course and the programme? JIAN (E): I guess what helped me keep in line with the course was the money spent. I wouldn't want to waste corporate money, to just attend and then end up not having a programme that is beneficial for anyone of us. ** LISA (C): Just the fact that the course was offered at school was a sign for me that you're allowed to, that you should use this time for yourself. For me it was a strong signal from the two principals that they organise such courses. You don't hear that so often. INTERVIEWER: What does that do to you when you get a signal like that? LISA (C): On the one hand it's nice, because I'm glad that the principal cares about my health, that she sees how engaged I am at work . . . and that she cares about me. On the other hand (sighs), I know that I have to– . . . . The school administration is sort of throwing a line and offering this course, so I almost couldn't not sign up. . . . It felt a bit of an obligation to me but in a good way. I did it voluntarily, I knew I didn't have to—.

	INTERVIEWER: Sounds a bit double-edged, on the one hand it's good to get this wake-up call, this support and on the other hand there's maybe a bit of pressure, like 'Now I really have to do something?' LISA (C): Exactly. That's exactly it. [translated from German] ** NADINE (C): I think that if I do these exercises or take some time out, my employer may even find that good because I use what I was told in the course. [translated from German] ** INTERVIEWER: What was your role in the programme? Were you just a participant or did you have another role and function? PHILIPP (D): I would say I was a participant, yes, more of a participant. Maybe I also had a bit of a role because I'm a supervisor, and our role was also to make sure that our team participated. [translated from German] ** THOMAS (D): Generally, I was very positive and open towards the whole thing, and I was looking forward to the final [full day] workshop. I thought it was very special that we were given so much time for it. I felt a bit obliged to make something positive from it. [translated from German]

CMOC 18 (NEW): If managers and employees are offered an MBP through their employer (C), they might feel obliged (M) to make good use of its resources. This can enhance engagement with the programme and its activities (O1), yet it can also add stress (O2).	PIA (A): I feel very, very fond of my work. I feel very grateful for the opportunities and the salary that I have. I have worked in many jobs . . . for a very, very low salary and low amount of respect. So, for me having something like this or the opportunities that we have, like yoga courses at work and paid dinners or whatever it is, for me, I feel extremely grateful for this. I feel this pressure from it to matter. * PIA (A): Having it [the course] as part of the workday, made me feel like it needed to be beneficial for me in a work aspect, as opposed to just personally. ** INTERVIEWER: Can you summarise in a few words what your first inner reaction was when you saw this course was being offered? JAN (D): I think it was along the lines of, 'Let's see what kind of mumbo jumbo this is.' . . . I also though a little bit, 'How will it look if I don't take part?' because my colleagues and superiors were in the same course. [laughs] INTERVIEWER: Do you think there would have been a chance that if they hadn't participated, you wouldn't have signed up for the course? JAN (D): That's possible, yes. [translated from German] ** JIAN (E): I am aware that I put in some form of effort to enjoy, because initially incorporating all these practices into my life was quite tough, yes, it was quite tough . . . .

	INTERVIEWER: So, you really made an effort to make this work for yourself. What helped you engage with the course and the programme? JIAN (E): I guess what helped me keep in line with the course was the money spent. I wouldn't want to waste corporate money, to just attend and then end up not having a programme that is beneficial for anyone of us. ** LISA (C): Just the fact that the course was offered at school was a sign for me that you're allowed to, that you should use this time for yourself. For me it was a strong signal from the two principals that they organise such courses. You don't hear that so often. INTERVIEWER: What does that do to you when you get a signal like that? LISA (C): On the one hand it's nice, because I'm glad that the principal cares about my health, that she sees how engaged I am at work . . . and that she cares about me. On the other hand (sighs), I know that I have to—. . . . The school administration is sort of throwing a line and offering this course, so I almost couldn't not sign up. . . . It felt a bit of an obligation to me but in a good way. I did it voluntarily, I knew I didn't have to—. INTERVIEWER: Sounds a bit double-edged, on the one hand it's good to get this wake-up call, this support and on the other hand there's maybe a bit of pressure, like 'Now I really have to do something?' LISA (C): Exactly. That's exactly it. [translated from German] ** NADINE (C): I think that if I do these exercises or take some time out, my employer may even find that good because I use what I was told in the course.

	[translated from German] ** INTERVIEWER: What was your role in the programme? Were you just a participant or did you have another role and function? PHILIPP (D): I would say I was a participant, yes, more of a participant. Maybe I also had a bit of a role because I'm a supervisor, and our role was also to make sure that our team participated. [translated from German] ** THOMAS (D): Generally, I was very positive and open towards the whole thing, and I was looking forward to the final [full day] workshop. I thought it was very special that we were given so much time for it. I felt a bit obliged to make something positive from it. [translated from German]
CMOC 19 (CMOC 12 - refined): If participants receive official release from their work to attend training sessions (C1), and especially if their supervisor participates as well (C2), they feel 'permitted' to take care of self (M), which facilitates investment in the programme (O1), engagement with the exercises (O2) and/or the ability to practice mindfulness (O3). Feeling permitted to take care of self (M) under the above conditions	FABIAN (A): If the company would loosen up about this—it's just one extra hour, the company will not be ruined or will not lose any money because of this—and just allow people to count this towards their workday. Maybe the attendance would have been better. INTERVIEWER: What do you think that would do to people? FABIAN (A): They would think, 'This is my workday anyway and I just take this one hour to do this thing which is also going to improve my work. Then I have to work seven hours instead of eight.' It would be a small incentive, but I think the company thinks that organising this course is already an incentive [laughs], that we should be grateful for having this and then use our personal time for it.

(C1+2) can just by itself be relaxing (O4) and stress reducing (O5), and it might facilitate investment in selfcare more generally (O6).	** GEORG (instructor, D): I perceived all groups as very interested and very committed during the sessions. During check-in at the beginning many of them said, 'I'm looking forward to the day today' . . . . or 'That's nice that the week ends like this.' . . . It was a bit of an oasis for them . . . . They drew strength for the week on Monday, they reflected the week and brought it to a close on Friday, this has been their feedback. They actually used the word 'oasis'. [translated from German] ** LUNA (A): Every Tuesday morning I felt excited because I felt like, 'Today in the morning I can talk to my colleagues about my feelings.' Usually, we start our day with stand-up, with work and it's really nice to be human, at least for one morning every week, with these people that I usually talk about work. So, Tuesday morning was something that I was always looking forward to. INTERVIEWER: Did you receive official release from your work to attend these classes? Was attendance counted as private time or as work time? LUNA (A): Interesting question. I don't even know. [laughs] I have never really asked myself that question. I think it will count as—I'm not sure, private time would be something that is entirely different from the company, but in this case even the CFO was there, so maybe it's company time? I'm nervous, I cannot answer that one. [laughs] INTERVIEWER: It just wasn't an issue for you. LUNA (A): No, not at all. **

	INTERVIEWER: Did it help that the management supported this [programme], initiated it, participated in it, and sent a signal, 'This is important'? MARC (D): Yes. It gave you a certain legitimation. If someone wanted something from you— 'No, we're doing this as a group and not me as an individual.' INTERVIEWER: 'I'm allowed to take care of my health.' MARC (D): [laughs] Yes, you don't only have to function. [translated from German] ** INTERVIEWER: Do you think that the principal having been part of that course might have contributed to participants staying with it? MARTINA (instructor, C): Yes, I'm sure. I think otherwise there would have been more messages like, 'I'm sorry, but there is this parent meeting, I'm so sorry.' There would have been more of that, I'm sure. She [the principal] was there for every session. The message was like, 'We can do it, with all the demands and whatever else should be done. The days are just not long enough but we can do this.' INTERVIEWER: So that was a sign that you were permitted to do that? MARTINA (instructor, C): Yes. INTERVIEWER: You think it was more about 'feeling allowed' than the fear of her sitting there and monitoring who comes and who doesn't come? MARTINA (instructor, C): I would say an allowing, a supporting, and even also understanding. I never noticed her being judgmental when someone couldn't make it.

	** PIA (A): It was always interesting to be a part of it, I did enjoy having the time of the day . . . scheduled for this. It meant I was not supposed to be doing any work at the time and I could allow myself just to focus on this, which felt good because obviously this is less straining than doing work. ** SUSANNE (D): I've been here for two years, and I've noticed that the management strongly encourages us to take the time to do this. [translated from German] * SUSANNE (D): I didn't perceive it [the course] as a burden. I really managed to . . . allow myself to do this. Otherwise, it's a half-cooked thing. I deliberately chose [weekday] morning which suited me quite well, it's not so busy. I think the lived environment makes a huge difference. INTERVIEWER: And management was also involved. SUSANNE (D): Exactly. [translated from German] ** INTERVIEWER: If the director is participating, she's already sending a signal that this is important in a way and so people feel, 'Okay, I'm allowed to be here if my manager is here too'? ZOÉ (instructor, E): Yes.

CMOC 20 (NEW): Managers and employees who can handle their working hours flexibly (C) might be more relaxed about taking time off for selfcare at work (M1) or even see the MBP as compensation for working overtime (M2) and hence engage with the programme and its activities (O).	INTERVIEWER: How was it for you, to do this course during your workday? FABIAN (A): It was fine. Now, with working from home I have more ways to manage my time. I don't have to be in the office from 10 a.m. to 6 p.m. I assume that I can do some things which I need to do for my private purposes flexibly during the workday and then, if needed, I can work in my private time kind of interchangeably. So, it wasn't a problem at all for me. INTERVIEWER: Why was it different for you, you think? FABIAN (A): . . . maybe I'm more flexible with my approach to working hours. If the company needs me to do overtime at a certain period when there is a big tender or a big client or something that needs to be done urgently, I work overtime. But then the company has to accept that I do some personal stuff during work time. It's just some internal agreement that I made. The company doesn't explicitly say this but you kind of figure this out from the culture in the company, 'Is it a culture where you are being monitored all the time or is it a culture where your input is valued and as long as you deliver on all your promises you are free to do it whenever you want to?' Maybe on those Tuesdays when the class took place, I finished at five, maybe I took a longer lunch, but it's really not a precise calculation in my head. I just allow myself certain things and then I allow the company to do certain things to me. [laughs] * FABIAN (A): It really depends on the department. It also, depends on your boss. My boss never monitors precisely when and what I'm doing, so I feel free to be flexible about this. Maybe some other departments work differently, I don't know. ** INTERVIEWER: Did the sessions take place during your working hours? Or did you get time off for these sessions?

	MAX (A): I did— (question mark in his face). Well, we don't really pay much attention to this . . . . I work overtime anyway, I don't have to clock in. I keep an eye on it, but it wasn't like, 'Today you only started at half past ten, now you have to stay for eight hours', no it wasn't like that.
STRATEGIC USE OF RESOURCES	
CMOC 21 (CMOC 13): In a context where pressure and workloads are high (C1) and/or in moments of immediate stress/distress (C2), mindfulness exercises, particularly the brief ones, provide individuals with a sense of coping (M) and thereby reduce perceived stress (O). Coping mechanisms range from enhanced awareness (M1) and attention regulation (M2) to taking a few breaths/deep breathing (M3), cognitive reappraisal (M4), pausing (M5), relaxing (M6), zooming out (M7), and/or reminding oneself that these strategies are available (M8).	GEORG (instructor, D): These two departments are under a lot of pressure, they have a heavy, tightly timed schedule with difficult, quite responsible tasks such as coordinating the broadband expansion in the city or responsibilities for multi-million projects. We had these brief pauses in the sessions, for example, there were 10-minutes of physical exercise in every session. Some people said after these exercises, 'That's great' and 'Now I'm awake.' INTERVIEWER: So, they experienced how nourishing it is to pause. GEORG (instructor, D): Exactly. Almost everybody said what they took away and what they do all the time is ALI [German acronym for 'breathe – smile – pause'], and that's this pausing. [translated from German] ** LISA (C): In the afternoon, when school is over and the children are gone, I'm sometimes sitting there, thinking, 'Okay and now, where do I start?' and then I think, 'This would be the moment—.' I run an audio file and try to calm down and sort myself . . . . I was pleased to see in the course that, if I take the time and sit down and listen to this [audio file], I can calm down and sort myself very quickly. INTERVIEWER: Some participants say after a course, 'Just knowing that the possibility exists is reassuring.' LISA (C): Yes, that's true for me too.

	INTERVIEWER: I know that, if it’s overwhelming me, I always have the option. LISA (C): And I am able to do it. [translated from German] ** MARIE (A): I've noticed that when I say, ’I'm going to take three minutes or one minute and just take a deep breath’ in moments when things flare up, I can relax. INTERVIEWER: Did you have the impression that that your stress decreased? MARIE (A): Yes, for sure. Because then I could withdraw from that situation a little bit and somehow see the bigger picture and say, ‘Okay, whatever. It's not as bad as it felt at that moment.’ [laughs] INTERVIEWER: So, to get a bit of a distance. MARIE (A): Yes. [nods in agreement] [translated from German] ** INTERVIEWER: Did you only meditate in the sessions or more often? PHILIPP (D): Occasionally. [laughs] INTERVIEWER: Would you like to say something about meditation?

	PHILIPP (D): At the moment I only do it when I have high levels of stress and need something to calm down a bit. [translated from German] ** SILVIA (C): Simply having the possibility to say, ‘What’s happening right now?’, to pause for a moment, that helps. [translated from German] ** INTERVIEWER: Did the course or what you learned there support you in any way during this stressful time? THOMAS (D): It's the little things, this breathing exercise, or this ALI [German acronym for ‘breathe – smile – pause’] exercise for example, the acronym is very, very simple. I often thought, ‘Okay, let’s do that now’ . . . or bringing more awareness to transitions, not rushing from one appointment to the next, that certainly [helped]. [translated from German] ** VERENA (B): This 3-minute meditation—I don't even need three minutes for that, but if I get upset or something doesn't work, I put my feet on the ground, take a breath and the world immediately looks different. That has helped me a lot. [translated from German]

CMOC 22 (CMOC 14): When mindfulness practices can be integrated easily into existing routines and busy work schedules (C), take up is high (O) because individuals feel they can do something for their health without having to invest extra time and effort (M1) and/or because it helps them make good use of 'empty' time (e.g. wait time, commute time) (M2)	JAN (D): I always told myself after the session, 'Okay, this is something super important and it seems like it's not that difficult for you to implement it. You have to force yourself a bit—.' It doesn't cost me anything, but it might bring me a lot in return and that's why I tried to apply it immediately. [translated from German] ** JIAN (E): When I'm on my way to work . . . it drains me. Every time when I have nothing to do, I start to feel a little bit tired. I replace these depleting moments by carrying out a breathing space . . . . It clears my mind, it helps me to take my mind off that tiredness, focussing on breathing, focussing on the sounds in the environment—and by the time I reach the next destination I don't think about it anymore
CMOC 23 (CMOC 15): When psychoeducational elements help participants make sense of their experience (C), they provide a sense of control (M) which positively affects engagement with the MBP and its practices (O).	No data
CMOC 24 (NEW): When individuals who have attended an MBP are taught memorable and easy to use psychoeducational elements (C) it is easier for them to cope in stressful situations (O1) or change their behaviour (O2) because they can recall what to do (M).	CLAUDIA (D): I already knew many things before, but it was good to get them in such a compact form again. 'Acceptance' was a big topic, especially at the moment . . . where you don't have much control over things, that you can say, 'okay', let it sink in, digest it with all the emotions and then ask, 'Is there anything, that I can do?' That really helps me, it really does . . . . I don't get stuck in negative emotions, I have the feeling that I have more agency, I'm more positive, and it makes me happy when I realise that I can do something. [translated from German] **

	DANIEL (D): . . . looking more at what I can change and what I can't change, that's one of the main things that I have taken away. [translated from German] ** GEORG (instructor, D): They were all engineers or businesspeople, the majority had an academic background, so I introduced the 'Circle of Influence' and put it in the context of mindfulness. More than half of them said repeatedly that 'acceptance' was an important topic. [translated from German] ** JAN (D): I drew quite a lot from the theoretical parts where things were explained. Some of these things stayed with me, especially with regards to 'acceptance', for example, the effects of not accepting things you can't influence. I think it had been clear to me before, subconsciously, that if you can't change something, it doesn't make much sense to ruminate about it, but it was very good to hear it again. * INTERVIEWER: We also measured wellbeing, that is how much energy you feel you have, how rested, relaxed, and happy you feel. At the beginning of the course your scores were in the middle range, after the course they were above average. Do you see a connection to the course? JAN (D): I could imagine at least a partial connection to the course, because as I already mentioned, acceptance was one of the things I picked up. I think it's important and I have always tried to live it before, but not like that. I try to do this more now, to accept things that I can't change and don't get too upset about them. So that's why the course might have contributed to the fact that these scores have increased.

	INTERVIEWER: And what was it about the course that helped you with regards to more acceptance? JAN (D): I think deep down everyone knows . . . that it's not helpful to spend your energy on things you can't change. But sometimes you just need someone to explain it to you again in a more scientific framework. I'm quite receptive to scientific results. [translated from German] ** INTERVIEWER: What has been the most important thing that you took away from this course? JESSICA (D): For me it was the theoretical part . . . background information or [learning about] different ways of, for example, listening or communicating, so that you notice in certain situations, 'Why do I react like this?' and perhaps also understand the reactions of others a bit better. That's what I mainly took away. * JESSICA (D): There were these impulses that made you reflect things, or that you have to accept certain things that you can't influence, I liked that Georg [instructor] talked about this in the theoretical parts. INTERVIEWER: Does that help you to in dealing with stress? JESSICA (D): I can't really tell whether it helps me [but] I think differently about things. I remember certain teachings and tell myself, 'Okay, there are some things that you can't influence', maybe I don't let myself be stressed by these things, I remind myself of the content that was taught in moments when I'm stressed or overwhelmed. [translated from German] **

	INTERVIEWER: What do you think contributed to this increase, that you have a kinder attitude towards yourself? MARC (D): In one of our meetings, I heard the phrase, ‘You can only take care of others if you take care of yourself.’ That's what I try to do. Instead of always saying, ‘Yes, I’ll do it’ or ‘Okay’ asking myself, ‘What do **I** want?’, taking care of myself. [translated from German] ** MAX (A): This image of the beach house hit home for me, when you see these big waves coming and you get upset, you carry a few more pictures up to the first floor, but at some point, when the fifth wave hits the house, you just say, ‘It is as it is’, you just have to accept it as it is, not wine and scream. [laughs] That was a good image. Of course, then you have to change things, maybe you have to move or put your house higher up and so on, but in that moment, just saying, ‘Okay, it is what it is, we can't change it, half of the furniture is gone, but I'm alive.’ Having equanimity in an extreme situation like this—I really liked this image. INTERVIEWER: In how far do you use this image in your daily life? MAX (A): It fizzled out; I have to admit. However, this awareness is always there, awareness hopefully in that very moment and sometimes at least afterwards, that’s still there, this analysis and awareness. ** INTERVIEWER: Can you say what it was about the course that made you relate to yourself with more kindness? NICOLE (B): We filled out a test [inner driver test] and I scored very, very high on what others think of me. That made me think . . . . I think that’s what triggered that I take better care of myself.

	[translated from German] ** INTERVIEWER: … you said that you learned to distinguish between what you can change and what you need to accept? PHILIPP (D): Yes, exactly, yes. That's what helped me [reduce stress]. INTERVIEWER: Do you have an example? PHILIPP (D): Yes, I do. [laughs and gives a confident example] I tell myself, 'Let's see what the future will bring, we can't influence that at the moment, but let's see how we can make best of it and act accordingly.' [translated from German] ** INTERVIEWER: What has been the most important element of the course for you? SILVIA (C): I always found the theoretical parts very helpful, for example learning about thoughts. [translated from German] ** VERENA (B): I can certainly say that I've become calmer. There was this image of a pyramid during the course where you have the 80-20 rule that 80% [of stress/distress] is caused by emotions and only 20% is based on numbers, data, facts. This has become my guiding principle. Whenever something upsets me, I remember this pyramid and I say, 'numbers, data, facts', and I relax.

	[translated from German]
STAGE 3	OPENING UP AND SHOWING VULNERABILITY AT WORK
PROTECTION OF RESOURCES	
CMOC 25 (CMOC 16): If managers and employees attend sessions in their professional roles (C), they might not talk openly about their struggles and experiences (O) because they are concerned that being seen as weak and vulnerable could hurt their professional self (M).	INTERVIEWER: What was it like for you to do the course at work? CLAUDIA (D): Big issue actually—this has been one of the reasons why I thought about participating because, basically, I'm the way I am, whether I'm with friends or at work. I am as I am, a leopard can't change their dots. I just try to be self-confident—so I thought about it, because I think these are quite some topics and I think I could have opened up even more if they were people I didn't know. I think it was the same for some of my colleagues. Sometimes, when Georg [instructor] asked, 'And?', the responses were a bit slow. [laughs] I think that's because you couldn't free yourself from the fact that they were colleagues and, 'What will they think about me?' . . . . Maybe you think about it more than if they were strangers . . . . It was an issue. But I decided to do the course . . . and I am really happy that I did it. I just hope that no one thinks . . . I don't know—that nothing bad remains, I just hope that. INTERVIEWER: Was this an issue all along or did it change? CLAUDIA (D): . . . you couldn't free yourself from the fact that they are colleagues and, 'What will they think about me?' It came up every now and then, but it didn't inhibit me all the time, I wanted to free myself from it. Whenever I noticed the thought came up, I [said to myself], 'Come on, it's important that we all participate, otherwise the course will be useless.' But somehow it still came up now and then [laughs] . . . whenever we were asked to disclose something. INTERVIEWER: And you say this was also true for colleagues who were in the course? CLAUDIA (D): [nods] Many of them didn't know each other, so that was the first impression—and I found that even more difficult. With others whom I've known for a longer time—we already know how we are.

	* CLAUDIA (D): Both heads of the department were in my group and in the first session I thought, ‘Oh dear.’ [laughs] My supervisors are super nice and they're easy going and yet I thought, ‘Now you've got your two supervisors here, what are they going to think of you when it comes to stress?’ I know that I'm not that stress-resistant and these are not necessarily topics the employer is happy to hear about. [laughs] So, this was an issue. * INTERVIEWER: Do you think the others participated as persons or were there also many who remained in their role? CLAUDIA (D): Both, I think many remained in their role, I did have that impression. INTERVIEWER: How did that manifest? CLAUDIA (D): Some of them didn't say anything. It may also depend on the person, some are more passive, some are more active . . . . Yet, I think it’s one thing to do it [the course] individually where you don’t know the others and you know that you'll never see them again and another thing when you do it at work with colleagues and maybe even one of your supervisors participates. [translated from German] ** INTERVIEWER: What did you observe? DANIEL (D): Well, in the conversations, ‘Who gets involved, who doesn’t?’, ‘Who is opening up?’, ‘Who thinks it's good to do this across hierarchies?’ I’m on a first-name basis with all my staff, some open up completely, others don't open up at all . . . . That's something I took away, that it can work, but there are also certain sentiments against it.

	* DANIEL (D): It was interesting to see that some people blocked completely . . . but I think you need to accept this . . . it's not mandatory to open up to your colleagues. [translated from German] ** GEORG (instructor, D): Inquiry was difficult, so I stopped earlier when something came up than I would do in an [open] MBSR course . . . . Instead, I took examples from myself, which I don't do in MBSR courses. I would say, 'Okay, this happened to me once' or 'I did this and then I noticed that' . . . because I noticed that these were examples that they didn't want to share in the group or perhaps couldn't share. * GEORG (instructor, D): . . . their supervisor also happened to be in in that group, he wanted to be in another group but that wasn't possible because of time conflicts. So we said, 'It doesn't matter, actually we want this kind of mix [of hierarchies]' but maybe that also played a role [that some participants chose not to be seen via camera]. I'm not sure. [translated from German] ** JAN (D): In general, I'm someone who tries to bring in his experiences, because I think the whole thing lives from that. I didn't like that some people over the eight weeks—I never heard them talk unless they were directly addressed. I don't like that. I always like to get involved, but I still think that depending on how personal the questions are, you think twice about what you answer. [translated from German]

	** INTERVIEWER: I was wondering what made it possible for you as a group, in the workplace, to share openly? JIAN (E): I would say probably it's more the topic everyone chose. I think there are still things that—probably not everything was discussed. I think the topics were more neutral, so that even though they go slightly deeper . . . there is no conflict of interests with work. * INTERVIEWER: Did it help that the CEO was participating as well and that the course is embedded a larger project at the workplace? JIAN (E): [laughs] I think it's double-edged. It did help but it also scoped down the things that the majority of us would want to say. That's why I thought about certain topics—we kept these topics neutral, we couldn't go into sensitive topics, very, very sensitive topics, which I thought we could have done in a mindfulness course. That would have been even more interesting. INTERVIEWER: Do you think it would also have been more effective if you had had the possibility to go more into depth? JIAN (E): Yes, definitely. ** JESSICA (D): I experienced [people] as being quite cautious, at least when we were in the [big] group. There were only a few colleagues who always said something or who shared openly. In the smaller groups, we might have discussed certain topics more intensively . . . there was a deeper sharing. In the [big] group I found it difficult. INTERVIEWER: What do you think prevented the participants from talking openly?

	JESSICA (D): It might to some extent be due to the fact that the whole thing took place online. It's easy to withdraw [when you're online], the groups were quite large. I'm also just not the type who, with certain topics, brings them up or blares them out. I don't know if a smaller group would have been better. It would probably have been similar for me. * JESSICA (D): . . . you know these colleagues who were in your group, so there might have been a restraint to talk openly about it [emotions and bodily sensations]. INTERVIEWER: Did you participate in the course as a human, Jessica, or as an employee/project manager? JESSICA (D): I would say that I participated as a human and not as a project manager [pauses] or as—yes, as a human [pauses] but, on the other hand, also as a colleague. [laughs] INTERVIEWER: As a colleague? JESSICA (D): Yes. INTERVIEWER: Not as a friend. JESSICA (D): Yes, exactly. [translated from German] ** INTERVIEWER: In such a mindfulness course you also talk about difficult things, perhaps difficulties that you have when you cannot meditate or difficult emotions that might come up. What was it like for you to do this course with colleagues and even more so with the principal?

	LISA (C): I have to admit, it didn't get that emotional for me . . . . I think that if I were to go further, it could become very emotional for me, but I would prefer—I could imagine having a private session with Martina [instructor], as a one-on-one, that would be better for me. INTERVIEWER: Than to do it with colleagues or at work? LISA (C): Yes, exactly. I think, if it had become more emotional, I would not have opened up so much. I'm not the kind of person who raises her hand and talks openly. I think I would have controlled myself. [translated from German] ** MARC (D): It was good that my line managers were in the other course, maybe I felt a bit freer. [laughs] [translated from German] ** INTERVIEWER: Since you teach so many courses for private persons and in the workplace, did you notice a difference? MARTINA (instructor): I think I do. I was also running a private one and they overlapped. I was quite aware of the difference and how much more relaxed people are in a private setting. At the workplace . . . there's so much more pressure. Just being aware of sitting there with your colleagues is different. It might be easier at the beginning to grow into that space of sharing because most of them know each other and decided to do it together but it took a while, the opening up and the sharing and not only do it cleverly. At the beginning it seemed to me that they needed to be very clever. Every time they said something, they had to prove they get it cognitively. It took a bit longer, it seemed to me, to allow a more integral or more emotional and bodily sharing of experiences. It took a bit longer.

	** INTERVIEWER: What was it like for you to do this course in the work context? MAX (A): There's a certain unease when your supervisor is there . . . . you're not quite as free. In these workshops that I attend outside of work I always feel much freer . . . . because there is no judge, there's no one who later evaluates my performance and determines my pay raise. * INTERVIEWER: You participated, to some extent, in your role and function and not only as human being? MAX (A): No. [I didn't only participate as a human] No. It's interesting because I can really compare this to these workshops I attend in my private time. I'm much more open there because I feel safer. That's very clear. * MAX (A): I'm more open when it's not [in the workplace]. I've noticed that with some people when they say that they're so tired in the morning or something, I thought, 'oh', I was quite surprised sometimes. That's definitely an issue that I'm always a bit guarded [at work], whereas in a private [environment] I feel more protected. INTERVIEWER. There's this theory that in order to develop compassion for ourselves, this acceptance, this inner peace we— MAX (A): Or surrender— INTERVIEWER: Surrender—that we learn that by turning to our weaknesses and faults. And then the question is to what extent participants in a mindfulness course at the workplace, do that at all or whether there is not the danger that one is perceived as weak or vulnerable by colleagues and supervisors?

	MAX (A): Or a certain—even if your mind doesn't want his, in the end there remains something, not enough separation. I think among colleagues it's okay, but not with your superiors who also have power . . . or who, at the end of the day, run appraisal interviews and decide about you. That's a difference, that's definitely an issue . . . . As long as there exists a certain . . . power structure—. It's better to be to be more equal or less dependent on each other. * MAX (A): Maybe it's also a bit me, that I'm a bit into this pleasing, a bit 'old school', obeying your parents or so. That's what I thought sometimes, the way they talked sometimes, they seem to be quite different than I am. I always think twice about how I say something. INTERVIEWER: So, you were sitting there with your brakes on? MAX (A): Yes. Maybe. * INTERVIEWER: This 'performing', to use your word, to what extent does that play a role here in the workplace? Or is that more your thing? MAX (A): We have a very relaxed, open atmosphere here, so to a certain extent I'm the one to put myself under pressure . . . . this being tense, putting pressure on yourself, this 'performing' is a topic for me . . . and they make it really easy for you here; however, even here you do find a bit of a 'watch-out' attitude. . . . we're still in a different context. * MAX (A): It was good to have this course, because it's sort of a 'goodie' from the company that we're allowed to do this. However, if I had to pay for it, I would always opt for a private setting. For me, corporate things always have a certain, 'Great that we have it, but—.' It's always like that for me. You can't free yourself completely.

	INTERVIEWER: So, what do you think a course like this actually achieves? MAX (A): A lot, I think. There's a lot happening in your mind, so this awareness—; however, during inquiry or in the sharing sessions you're perhaps not quite so open. Perhaps [there's more of] a separation between your thoughts and these official statements [laughs] . . . because something remains. We are at work here — I'm quite tough in my judgments—and there remains a certain nuance of judgment, when I think, 'Man, what are you saying there?' I don't sperate and when I have a call with that person an hour later, there remains a certain—something deep inside me. ** INTERVIEWER: In a mindfulness course you also talk about things that may not be so pleasant. You might talk about the fact that you are stressed or maybe sad. How was it for you to talk about such things with colleagues or with supervisors in the group? NADINE (C): I generally find this difficult in front of colleagues, whether it's a supervisor or a colleague, I'm generally a bit uncomfortable with that. I have to say that I didn't often raise my hand or talk openly, because that would have been too much. It can get very personal. INTERVIEWER: Did you think, 'I could say something now, maybe I would like to say something, but this is not the right place'? NADINE (C): Exactly, yes. Maybe in a smaller group, but in the big group, I didn't do that. I felt uncomfortable. INTERVIEWER: And what was it? Worries about being perceived as vulnerable and weak or not stress-resistant? NADINE (C): Yes, it goes in that direction, disclosing in general. INTERVIEWER: Did you participate more as a colleague or more as Nadine?

	NADINE (C): More as a colleague, because it [the course] took place at work, it was organised by the employer. I didn't really see it as a personal thing, more as a professional thing. [translated from German] ** INTERVIEWER: I wonder what it's like to do this course with people from your workplace? NICOLE (B): I think it's easier if it's not direct—probably I would have been less open if everyone had been from my direct work environment. INTERVIEWER: So, if they had been immediate colleagues? NICOLE (B): I have the feeling, yes. I don't know, but I have the feeling that it would have been different, that it was easier like this, but it might also have been easier because there was this harmony [in our group], maybe it was easier because of that. NICOLE (B): Maybe you wouldn't have talked about things so openly? NICOLE (B): That's the feeling I have, yes. [translated from German] ** INTERVIEWER: What was your role in the programme? Were you just a participant or did you have another role? PHILIPP (D): I would say I was a participant, yes, more of a participant. Maybe I also had a bit of a role because I am a supervisor, and our role was also to make sure that our team participated.

	* INTERVIEWER: Was there anything that was difficult in the work environment? PHILIPP (D): No. The only thing maybe was that you wouldn't talk so openly. INTERVIEWER: There were no people from your team in your group, right? PHILIPP (D): That's right. INTERVIEWER: Do you think that made a difference? PHILIPP (D): A little bit, for sure. Maybe less so for me, but I imagine it was probably a bit easier for my team that I wasn't there, just like it was maybe easier for me that my supervisor wasn't there. [translated from German] ** INTERVIEWER: What made it so difficult in the work context? PIA (A): I'm afraid to make myself seem mentally unhealthy or weak in front of someone who is then judging whether I perform well at work. I don't want to create the pre-context to my colleagues, managers— . . . . I don't want to give them the impression that I'm unable to work . . . . R. . . . was previously my manager and E. . . . is my manager, so I know he is judging my performance on a daily basis. I mean they're both super great people and I can be quite open with them when we have private meetings. It's more the kind of thing where I feel in this context, if I'm supposed to relax completely, and I feel some kind of control of how I come across—. * PIA (A): In the workplace, I'm used to trying to make sure that I'm on top and involved, and aware of everything that I'm putting myself into. So, it felt really uncomfortable to be . . . at work or with my colleagues

	and that I missed two sessions and . . . it feels like a course where you are learning and I'm not comfortable with being the worst student. [laughs] * PIA (A): I think, if you have a kind of personality where you feel all the time that you have to please other people, that you do tend to go into sessions like this, especially when you're expected to share your experience, you tend to focus on what other people want to hear rather than trying to explore how you actually feel. And even though you made it very clear that this is not your intention, for me, because it's with my colleagues, this is definitely something that I cannot get out of my mind. INTERVIEWER: So, that would have been different for you if you had signed up for a course like that in a private setting, with people that you don't know or with good friends. PIA (A): Yes. ** INTERVIEWER: Was there a difference between doing the course in a private setting and doing it at school? SILVIA (C): Yes. In a private setting you can go to points that you don't go to in school, so, yes, when something is very difficult, I think you don't open up quite as much as when you do it in a private setting. [translated from German] ** INTERVIEWER: You have done a similar course before, in a private setting, and now it was in the workplace. What was it like to do this course at work? SUSANNE (D): There wasn't such a big difference, although I did pay attention like, 'How far do I go?' After all this is work and they are colleagues not friends. I did hold back a bit compared to the course [that I did a few

	years ago] with complete strangers. But I also held back because the others didn't say anything, and I didn't want to be the only one [laughs], not because I have a problem saying that something is going wrong. I remember, in the first session I hadn't slept well. Everyone had to check in on how things were going, and the first five people started like, 'Everything is great.' I just thought, 'Oh, no, are you going to join in or are you going to be honest?' At the end I was honest, but for a moment I thought, 'All right, let the colleagues think you're doing fine, to.' [laughs] Most of the times I was honest. * SUSANNE (D): Sometimes I had . . . the feeling that I expressed what others thought and didn't dare to say. . . . I heard some colleagues say, 'I would never say that I have problems here or a problem there.' . . . Not many people talked, people listened a lot. Group discussions were very restrained, that's true, but I think in the one-on-one conversations it was okay. [translated from German] ** INTERVIEWER: Could you imagine doing a course like this in your workplace? VERENA (B): With certain people yes. [laughs] My profession is very—I always say, 'I'm working in a "gorilla park"' [laughs]. There are a lot of alpha animals working there. I think it all stands and falls with self-awareness, with being able to reflect yourself critically and with people being ready to let go of this self-protection. INTERVIEWER: So, you would day it's important to drop this self-protection and show vulnerability. VERENA (B): Yes, being honest with yourself. I often talk about these things with one of our managers, who is also a good friend, and he has this ability. We both agree that [it is important] to be able to look into the mirror and say, 'Okay, the situation is stressful or went wrong, what was my part in it?'

	[translated from German] ** ZOÉ (instructor, E): I did feel that, comparing a workplace and a community group, at the workplace people were a bit cautious about sharing openly. * ZOÉ (instructor, E): . . . at some point, I realised that this [participants remaining in their professional roles] might be happening because I was calling the manager a different name. But you can't help it because that's how they called themselves, so there would be 'Ms. O.' whereas the staff was just a name. So, there was a little bit of a difference. * ZOÉ (instructor, E): . . . the boss was quite involved with her staff. On one occasion I think she realised that because she's speaking the rest of the participants aren't speaking as much. She was concerned or I was also concerned because then there's this 'boss and staff' kind of hierarchy. She told me that she approached a couple of her staff and encouraged them to speak up during the course and she found out from them that they were actually really shy.
CMOC 26 (NEW): Employees from lower levels in the hierarchy (C1) might hesitate to talk about personal issues at work (O) because their professional roles help them set boundaries and because of their concern that they might lose this shield (M) when they become too personal.	GEORG (instructor, D): There was a problem in one group . . . four female staff members didn't have cameras. INTERVIEWER: Why didn't they have cameras? GEORG (instructor, D): The equipment of their job description doesn't include a camera. They were clerks and I think they might have had the possibility to dial in with their mobile phone or with another device, and one of them did that but the others didn't. I think they were fine with it because . . . they were level 4 . . . more classic clerical work.

	[translated from German] ** INTERVIEWER: What would be the biggest challenge doing such a course together with your colleagues? HANNAH (B): Lack of goodwill. [laughs] Well, it's difficult for me at the moment—as much as I try, I have very little sympathy for my boss. There would be a lack of trust to do a course like this. It's a pity because it would actually be a good thing, but—. * HANNAH (B): I wouldn't want to have this personal level with my boss, that he fully confides in me, because I sense that he wouldn't respect the boundaries. You know this, when you almost prefer to be called by your last name at work because the other person then won't cross boundaries? My supervisor is crossing boundaries, he's interacting with me as a person and not as an employee, according to my contract. He thinks he can use all my qualifications and resources and has tried to raise my hours after maternity leave, and I said, 'I can't do that, I'll go crazy at some point, because it's all too much for me.' I have to negotiate. [translated from German] ** INTERVIEWER: Do you think it was more difficult for some people to open up? JIAN (E): Definitely. I think there are some of the staff who, on the surface, are composed and are abiding. When you talk to the office people you do notice that some of them are facing their own challenges, but they choose to handle them themselves or at least not show it to others. **

	INTERVIEWER: Could you imagine doing this course in your workplace, with your team for example? MELANIE (B) (secretary): No, I'd rather not at the moment. INTERVIEWER: Can you say why not at the moment? MELANIE (B): Because I've decided—I'm nice to everyone, I help, but 'Stop, up to here and not—.' I'm setting boundaries and I don't want to go beyond these boundaries at the moment because I have used too much energy in the last weeks. INTERVIEWER: That would be too close then? MELANIE (B): Yes, exactly, yes. [translated from German] * INTERVIEWER: Some people say that if you do a course like that in the workplace, people might not feel safe and might not be so open, they might not want to talk about their difficulties. Others say a course like that is an opportunity for people to open up in the workplace. MELANIE (B): I think it could be an opportunity, but in reality, [it would be] more the first point . . . that people wouldn't open up as much or wouldn't express what they really feel. INTERVIEWER: Why do you think that is the case? MELANIE (B): Maybe a certain concern . . . that it gets too personal, that, if one really says what one feels and thinks, the others wouldn't accept it and maybe also not handle it discreetly, that it wouldn't stay in the group. INTERVIEWER: Fear that you show vulnerability and then it will be abused?

	MELANIE (B): Yes, exactly. [translated from German] ** SUSANNE (D) (assistant): I remember there was a question like, 'If you noticed that a colleague wasn't doing well, what would you do?' I thought, 'In the past, you would have put much more into this', today I would be more sensitive and then there is also this boundary—yes, I've [over the years] learned to draw a boundary, when things are not good for me and that fits with resilience, [to ask myself], 'Is this dragging me down too much?' [translated from German]
CMOC 27 (NEW): When participants who do not want to show vulnerability at work struggle emotionally (C), they might feel even more isolated and lonely during group sharing (M) and hence withdraw from the programme (O).	MARTINA (instructor, C): There was one participant, I knew her from prior to that training . . . . That specific participant, even if I hadn't met her before, [it] was clear to me that she was struggling with post-traumatic stress. I was wondering at the end, when she . . . dared to say during the final sharing . . . that she has a very special nervous system and that she sometimes just cannot do mindfulness, because her nervous system cannot tolerate it. It was a good point she made, that I think might get lost in bigger groups or in groups where maybe participants in workplaces would not dare to share this . . . . and she really said, 'My nervous system is special, it's different', setting herself apart from other humans who can do it and there was that notion of separateness and sadness and in a way also failure that with her special nervous system she cannot really be like others . . . . I was glad she was able to express it and I was able to talk to her and all the others about it. INTERVIEWER: Do you think, it makes a difference, whether you teach that course in a workplace as opposed to an open public course? MARTINA (instructor, C): Yes. I'm pretty sure she would probably—it's an assumption, but I facilitated so many trainings in the workplace, it's not that acceptable to say, 'My nervous system is so different and sometimes I cannot do mindfulness with this kind of nervous system', and your boss is sitting in the group and your colleagues and it's a very driven context, I don't think that's something that someone can say easily.

	** PIA (A): So, when things are just falling apart like this, my very best friend . . . lost her job here and also my friends around me lost their jobs, it just started to be an overwhelmingly negative time and I still feel it's very hard to get out of it—it doesn't help how much my colleagues seem not to struggle with it. It makes it much tougher for me, especially after starting the course with them, to have the feeling that they're completely fine. I find it really embarrassing to struggle with it when they are completely fine. * PIA (A): My boss is an amazing person and he's really encouraging but he's so positive, to the point where it's very hard for me as someone who sometimes struggles with depression, quite honestly, it's very hard not to be enthusiastic around him because he's so happy and energetic and even though it's very motivating, you can tell that he cannot understand not being the same. * PIA (A): At workplaces where I've been closer with my colleagues than I am here I can imagine I would have been more comfortable but with my workplace as it is now and with the group of people that was there—. It's funny that I mention the hierarchy because I think my other boss, for example, is not like someone I am too uncomfortable with because I don't think he's so dissimilar. It's more like these extremely happy, extremely emotionally connected people that I find really hard to be open with. * PIA (A): . . . when I feel low, I tend to get very quiet [laugh]) and just try to focus on something else. It's this inner exploration stuff, it can be quite tough. ** SILVIA (C): I had a traumatic experience in the past, and I think it influences my stress level . . . . When certain triggers came up . . . and my stress level was out of control . . . I noticed that I would have liked to have Martina

	[instructor] for myself, to have a closer look at this. You can't go into much depth . . . . She [instructor] was able to help me a little bit, but I realised that there wasn't enough time, or it wasn't the right place to really look at this in depth. [translated from German]
INVESTMENT OF RESOURCES	
CMOC 28 (NEW): If the programme takes place online and individuals participate from home (C), they no longer feel 'at work' and hence feel safer (M). As a result, they find it easier to get involved with the mindfulness practices (O1) and to open up and share (O2).	INTERVIEWER: What was it like for you to do this course online? CLAUDIA (D): I found it okay. I even found it quite good, because when we did these exercises, for example, you could just turn off your camera. And I think that if we had seen each other in person—I prefer online. INTERVIEWER: Many people who do the online course say that it's good to have this privacy. They say that doing it at work, closing your eyes and meditating, makes them feel uncomfortable because they are in a work context. CLAUDIA (D): I did ask myself that question because I did this course from my home office . . . . I'm sitting here at my dining room desk, looking out of the window, that certainly makes a difference. I asked myself whether I would lie down in the office and meditate, rather not. So, I would agree with that. [translated from German] ** INTERVIEWER: What would you say allowed people to open up? FABIAN (A): I think it's the change of context. We would come to the class, and you no longer felt like you're in a work call, although some people were in the office and although in front of you were colleagues. It helps to, at least mentally, take you out of the context of work, I think this was helpful.

	* FABIAN (A): A remote set-up helped. I was in the company in the first class, and then I decided that it is more comfortable for me to do it remote. There's something about being physically in the office that's constraining and puts you back in this context of work. When you're in these breakout rooms and you talk privately to that person, remote . . . that's very different, I think it helped you—it's easier to open up. [nods] ** INTERVIEWER: What was it like for you to do the course in the work environment? JAN (D): I thought it wasn't a problem, we're all working from home . . . . I imagine that it would have been different if I had been in one room, physically, with ten colleagues. I think I would have felt more compelled to participate in these meditation exercises. When I'm sitting alone in front of my computer, no one can control what I'm doing. It almost felt more like a private than a professional setting. [translated from German] ** LISA (C): I imagine that if you did it on your computer at home, in a comfortable chair or so, it would be quite different, yes. INTERVIEWER: Can you say what it was about doing this course at school and in that room? LISA (C): Well, It's the chair where you sit, it's the working environment . . . . There were all these things that I still needed to do on the desk in front of me and I thought, 'Oh man, you still have to do all this work until tomorrow.' I tried not to let myself be distracted by that, but it didn't work, the distraction was overwhelming. [translated from German]

	** INTERVIEWER: Do you think the course would have been the same if you had done it in the company? LUNA (A): Maybe not. I think it's easier for me to do the meditation alone through Zoom. I don't have to think about how I look if people open their eyes. I can just turn off my camera and my microphone and do it my way. ** MARTINA (instructor, C): I didn't see their [the participants'] bodies, I just saw their faces and sometimes I didn't even see their faces . . . because they chose not to be seen during practice and feeling safer or lying down for practice. INTERVIEWER: Did you notice a difference between those who were in the building and those who were at home? MARTINA (instructor, C): Yes. Those at home felt safer, more protected, especially those who were—I mean, we had to figure out, 'How can you let people know that you're not to be disturbed?' . . . They were more vulnerable when they stayed in their workplace and not in a special room dedicated to the seminar. INTERVIEWER: How did that show? MARTINA (instructor, C): Suddenly, you saw people responding to someone or being interrupted or disturbed by others in the building. It just became a topic, 'What do you need in this context to find your seat or your meditation or your mindful place?' In a way that was good too. I think they were more challenged to find that quiet, protected space when they stayed in their classroom . . . . I wonder because they do have keys and one participant said, 'Now I just lock the door and I know no-one can come in.' Why didn't they do that from the beginning? It felt like they tried to be who they are in that building as a teacher. It took them a while to figure out, 'Oh, I can do something to—' . . . Just the fact that it took them a while to realise, 'I can lock the door' because they can. [laughs] At home it was the same thing, one participant often said, 'Oh, now I can hear the

	kids screaming, I know my husband is there but still—‘ and at one point, one of her kids came in and—. [laughs] But this was a bit different, more familiar, and less intrusive. ** INTERVIEWER: The fact that the course took place in the workplace did that have any other effects? MAX (A): Yes. I was more tense, more nervous . . . and sometimes not so present . . . . Here you are in a professional context. You’re together with the same people with whom half an hour later you have a professional conversation. Then there’s the hierarchy, the fact that there was a person who evaluates your performance. And then the room—these were the same rooms where I would later have a meeting. I don't know if it’s vibrations, thoughts, memories that are still in here. Somehow this room is dedicated to something else. ** NADINE (C): I think the course worked a bit better for those who were in their home office. They had more of a distance from work and they were alone. I would imagine that this might have been a bit more comfortable . . . and might have had a different or better effect. * NADINE (C): I actually liked doing this online. Somehow, I couldn’t imagine all of us sitting in one room and doing this meditation together. I think I would have found it a bit strange . . . . Online, everyone could be in their own place or in a place where they wanted to be and not all of us in one room. You had more privacy and maybe it was easier to get involved. [translated from German] ** SILVIA (C): Maybe meditating was better [online] because you were at home in your private space.

	[translated from German] ** SUSANNE (D): I decided to participate from home. I'm in my home office every other week and I stayed at home on course days. There's not much going on in the office, but I didn't want to [participate from there]. I noticed [a colleague] who participated from her office and then someone came in—somehow, she couldn't really let go. So, I preferred to stay home. INTERVIEWER. Closing your eyes, letting go, opening up, getting involved is easier when you are in a private environment? SUSANNE (D): Yes. [translated from German] ** INTERVIEWER: How was it for you to do this course at your workplace? SVEN (D): It was okay for me. I've been in my home office since November, so it's not even my real workplace, it’s a home office after all. * INTERVIEWER: How was it for you to do the course online, not on site with all your colleagues in one room? SVEN (D): Well, that's a difficult question because I don't know how it would have been in another room. For me it was perfectly fine, but I can't compare . . . INTERVIEWER: I'll give you two scenarios. We interviewed people who did the course both on site and online or who had to go from on-site to online during the pandemic. Some said that it was easier for them to do it

	online because they were in their private space and no longer in the work environment, that they were more involved. Others said that they found it a pity that they no longer had direct contact with their colleagues and that it therefore didn't go as deep. SVEN (D): The first scenario came into my mind as well. At home I feel comfortable, I automatically have an atmosphere that is good. Of course, that makes it easier. Whether the other option would be worse I can't answer because I haven't experienced hat, but I can imagine the second scenario as well. [translated from German]
CMOC 29 (CMOC 18): When participants leave their professional roles and status behind and show vulnerability (C), they see their own humanness ~~and vulnerability and~~ in others (M), which plants the seed for greater acceptance (O1), empathy (O2), and compassion (O3) at work.	ANDREAS (D): I was completely immersed in it [the course] as a person [as opposed to leader]. I had the impression, in the dialogues with the employees, that we harmonised quite well in human terms, things were really brought to the table. * ANDREAS (D): I work a lot with humans, with employees too, of course, but they're all humans. [translated from German] ** INTERVIEWER: You did the same course two years ago. How was it this time? CHRISTINA (A): This time colleagues who are closer to me—I consider them as friends—were participating as well. It was more impactful. If you had asked me two years ago, 'What did you take away?' I would have told you, 'Maybe some meditation and some struggle of trying to sit straight'. This time I took more qualitative tools, because I had the chance to talk with friends/colleagues about situations. INTERVIEWER: What was the effect of doing the course with colleagues who were also friends?

	CHRISTINA (A): We would talk about hard core problems of our private life as well . . . So, there was deeper sharing, deeper examples that were more vivid. When you [instructor] gave us a task and you split us in rooms, we would not talk about the stress of the task that comes from the manager, which, bottom line, is not even important for life, it's just work. We would talk about these real concerns, about how tough life was, how it can affect us—of course, work can give you stress but private life can also be a reason why you're suffering—and how to deal with this suffering. INTERVIEWER: So, you would say that it opened up a space where you could meet as human beings rather than in your role and function of your work? CHRISTINA (A): Yes, and also because real deep problems would be discussed . . . . If your manager is an a**hole, you change work, but if you have this situation that you cannot change, this is the real work. This was enabled this time. ** DANIEL (D): I'm on a first-name basis with all my staff . . . . There's this saying that you should separate your private life from your work. I don't think so, I think we always talk to humans. * DANIEL (D): I got to know some people differently because different experiences were revealed. I definitely took away to bring more acceptance to other people being different. * DANIEL (D): I think when you talk to people for a longer period you notice why they may be the way they are. You might have more acceptance when you understand that. [translated from German]

	** INTERVIEWER: How was it for you to do this course with your colleagues? FABIAN (A): I think it's a very healthy teambuilding exercise. You see them more as humans rather than colleagues. I think it helps build trust because during the course they open up about sharing things, sharing personal things . . . . You find out something about their personal and daily life. When people distance themselves too much and think, 'This is only work and people are only colleagues', they stop seeing human beings behind this job role. I think it's important, it helps you understand why certain work-related things happen and helps reduce conflict. ** INTERVIEWER: How was it to do this course with colleagues? JIAN (E): It was pretty interesting. I got to know them a little bit better, from a different perspective, because some parts of this mindfulness course can be quite sensitive. So, I think for them to share their inner thoughts, their personal thoughts, that was interesting. In a way that can be quite difficult for some, but they did. It gave me an opportunity to understand them better as colleagues. ** INTERVIEWER: (…) there were supervisors sitting in there, right? LUNA (A): Exactly. INTERVIEWER: How was that for you? LUNA (A): At first it was a little bit awkward, but you had very good ice breaking moments when we were sitting together before we got into the break-out rooms. Once we got to the breakout rooms it felt like we had known each other even though we don't really work together on the daily basis. Most of them were people who

	don’t work in my team, but it felt like we share this common thing. In a way it felt like we are connected because we have the same problems, same feelings, it was just natural when we started the conversation. INTERVIEWER: How was it for you to have the CFO sitting in the course? LUNA (A): [laughs] It was okay . . . . I think it’s nice, at least he knows all of us as humans, and it’s really nice to see him also as a human, because all this time, I saw him as CFO, ‘Oh yes, he has things figured out.’ Seeing him in this course, I was like, ‘Oh, he also has problems, it’s also not easy for him.’ I felt I can understand his decisions in some parts, it’s also tough—it’s tough for everyone, even for the CFO. * LUNA (A): Before we had the course, I didn’t know how to open up to people. I couldn’t really relate to people. [laughs] I felt like I’m going through this alone, nobody understands. Now I feel like ‘It’s just human.’ It sucks being human but it’s also really fun being human. [laughs] ** MARC (D): It [the course] took place in a professional environment. I was always sitting in my office here [laughs] but, to a certain extent, I felt there was this private atmosphere. * INTERVIEWER: Is there anything else I should know to understand what this course did for you? MARC (D): I'm a bit more open to the whole thing now. Mindfulness, it's not just something for softies. [laughs] I think there should be more focus on it, both professionally and personally. INTERVIEWER: There should be more focus on what?

	MARC (D): The human being itself. [laughs] The human being as an individual and not the human being as a machine, that has to push things through. INTERVIEWER: To be perceived as a whole person. MARC (D): Yes. INTERVIEWER: And to perceive others as human beings. MARC (D): Yes. [translated from German] ** INTERVIEWER: You talked about the aspect of participants feeling safe which contributed to their opening up and sharing their difficulties. There is also that idea that the course allows them to meet as humans rather than in their role and in their function and that that enhances their feeling accepted. I was wondering whether that has been your observation, too? MARTINA (instructor, C): Definitely. INTERVIEWER: How did that show? MARTINA (instructor, C): Basically, the sharing of their experience, what they struggled with individually, and how they related to each other, recognising others have similar struggles or fears. Especially when it came to meeting the difficulties, the aspect of being unfriendly with self that was a big one, the bonding, realising how challenging they find it to have a caring tone with self-experience, and that they all struggled with that. They hardly ever talked about their teacher life at all, that was not a topic and if it came up, we agreed to have an additional meeting in a few weeks where we talk about transferring their mindful experience to their work with the classes and the students . . . . It was really about their own experience as a woman and as a human.

	INTERVIEWER: There is this idea that when they meet as human beings, they feel accepted as human with all their experience that that has an impact on self-compassion and compassion. MARTINA (instructor, C): I think both go hand in hand. As soon as we got closer to the difficulty . . . it became visible that there is little self-compassion with many of us humans . . . . It was touching to see how we all explored ways of . . . communicating kindness with self . . . and doing that together. It was like a new reality, so that's why I think it goes both ways, it [feeling accepted as a human] doesn't just enhance it [self-compassion/compassion] but exploring self-compassion, because we realise it's so difficult, creates a new space of humanity. INTERVIEWER: It's mutually reinforcing, it creates an upward spiral. MARTINA (instructor, C): Yes. ** PHILIPP (D): . . . In a way the course was a substitute for the fact that we hardly see each other at the moment. We normally have an after-work event once a month, where we do something together in the evening, where we just socialise, but we don't have that at the moment. So, I think it was really nice for everyone to see each other and to do something outside of work. * PHILIPP (D): What I found among the most exciting [things in this course] were these dialogues. To see that mindfulness is not just an issue for one or two people, but it somehow affects everyone in the team, just very differently. And to see how important it is to understand the person behind it, what their issues are in that moment, that was the most important thing. *

	PHILIPP (D): I found these small breakout groups to be the most intense and most interesting. We were very deeply immersed, we talked on a very personal level about stress and how to deal with it . . . . you get a feeling for how your colleagues work and why they maybe react a bit weird sometimes. You understand that better. * PHILIPP (D): Usually, we have a lot of discussions on a professional level, and in the team [meetings], we always have some small talk at the beginning, but that's on a quite superficial level. These dialogues [in the course] were very deep, and I found that super interesting. It was more about each person as a human being. INTERVIEWER: What did this showing yourself as human enable? PHILIPP (D): The conversations became more intense. * INTERVIEWER: It doesn't sound as if you were afraid of being perceived as weak or vulnerable. PHILIPP (D): No I wasn't . . . . I don't have a problem with that. I don't think that, as a leader, you have to appear strong. I think it's more authentic when you are there as a person, that's why I don't have a problem with that. * INTERVIEWER: In the survey, there was the question, 'How would you react if you noticed that a colleague was having problems?' The first time you said you would like to help, but you didn't know how. The second time you said you knew what to do. Do you see a connection to the course? PHILIPP (D): Yes. I would say, there is definitely a connection, because my empathy has clearly increased. At that time [towards the end of the course] I had a colleague in my team who was overwhelmed with a project. I couldn't help him professionally . . . but I was there for him. He could call me any time, we would talk, we

	would share the burden. I would say that has been a way to support him, even if I wasn't professionally involved. INTERVIEWER: Just by being there and listening. PHILIPP (D): Exactly. INTERVIEWER: Not being afraid, not shutting down or what is it? PHILIPP (D): Exactly. That colleague had quite a lot of work, he had really reached his limits. We looked whether we could distribute the work differently but that wasn't possible. So, I said, 'Okay, other people will help him with his task but I'm always available for him when he feels he's overwhelmed.' He could call me any time, we would talk, discuss the next days, structure them and in the end, it was more like listening or being there for him. Time didn't matter, we talked on the phone at the weekend, we talked late at night, it didn't matter. The main thing was that he could share his burden a bit. I think that helped a lot. INTERVIEWER: What triggered that you knew what to do? PHILIPP (D): I would say this programme helped you realise that all colleagues have different ways of dealing with stress. So to know that there are different ways, different solutions and to listen to what really helps that specific person has been very valuable. INTERVIEWER: Awareness of the other person. PHILIPP (D): Yes, exactly. [translated from German] **

	INTERVIEWER: Many participants of such courses say they meet as humans rather than in their role and function. What was it like for you? SEBASTIAN (D): Definitely, yes. I don't always see myself only as the role I perform in the company but rather as a person. [laughs] We didn't have our roles in mind, we saw everyone as a person, as a human being. * SEBASTIAN (D): I found it exciting, because you opened up, to some extent, even to people you didn't have much contact with before . . . . I had no problem with that, I wasn't worried about opening up. I found it interesting because I knew some of the people, and I wondered how they might feel about this. . . . I thought it was a very exciting chance for everyone if one dares to open up a bit. INTERVIEWER: What does that do to you in the workplace when you open up like that? SEBASTIAN (D): You get to know people better, you can trust them more, perhaps when you talk to each other you notice more easily where they struggle. * SEBASTIAN (D): [There was one person from my team in the course] with whom I didn't have such a good relationship, somehow, we weren't on the same wavelength. I found it very interesting to learn about their experiences and what's on their mind. It opened my eyes a bit . . . why that person sometimes reacts like that, that has been very interesting. [translated from German] ** SILVIA (C): You get a bit closer to each other, you meet in a different way . . . . You experience the others in a different environment, usually it's mostly school specific.

	[translated from German] ** INTERVIEWER: Many participants of such courses say they meet as humans rather than in their role and function. What was it like for you? SVEN (D): I definitely agree with that. I was Sven, the person and not Sven, the process manager, employee. [translated from German] ** INTERVIEWER: In this group, were you Thomas (D) or a colleague/project manager? THOMAS (D): I would say, Thomas. At one point we had the task to write down all stressors that came into our mind ... and [talk about them] in a one-to-one conversation. I was allocated to my boss, and we had a very, very, very personal conversation that went beyond the XY [name of the company] world. That's why I would say that I was Thomas and not the employee or colleague. [translated from German] ** TONI (instructor, B): There were people who knew each other [from the hospital], there were also supervisors and employees and that could have made it difficult, this opening up or disclosing, which is very important when exploring. But I believe that the very possibility that they were able to and allowed to show themselves, to experience this human closeness, contributed to, as they said, breaking down judgments that existed about each other. INTERVIEWER: With the people from the hospital, would you say they participated as humans?

	TONI (instructor, B): As humans, yes. I was a bit sceptical at the beginning with this supervisor because he didn't seem to be very motivated, he was sent by the hospital director. [laughs] But he really opened up, really allowed a lot of encounters internally. He works in palliative care and has seen many people die over these weeks, that was very touching . . . . he had no mask; the role of the supervisor was not an issue at all. [translated from German] ** INTERVIEWER: There is this idea that when it comes to these courses in the workplace, that people meet as people and not in their role and function. VERENA (B): Yes, exactly. INTERVIEWER: And that this makes it easier to open up. VERENA (B): Yes, I think that's crucial, yes, and I think this experience also helps me at work. I often deal with people in their roles and to see that there's always a human being behind it and to do this more consciously and more deliberately, to say, 'Try to see the human being and not their role—'. Perhaps you see that this person is stressed, and you might also see why they are stressed and how this can throw them out of their role. You meet them right there and that helps to de-escalate the overall situation. [translated from German] ** INTERVIEWER: People were more open to open up in the workplace when they were able to meet as human beings rather than in their role and function. Does that resonate with you, too?

	ZOÉ (instructor, E): Yes, absolutely. Taking off that role, isn't it? . . . The way I managed it was to put them in breakout groups. I found that that helped . . . . Once they began to be vulnerable to each other they began to see the humanness in each other.
CMOC 30 (NEW - incomplete): It might be easier for participants to leave their professional roles and status behind (O) if they do not need to maintain a regular professional working relationship with fellow participants (C1) or if they are friends (C2).	INTERVIEWER: You think these conversations would have been possible on site? CHRISTINA (A): Yes, with the same people I believe it could have been possible, even the nine of us as a group without splitting. We have all been in the company for three years, we know each other, some of us are close friends . . . . To be honest, due to my role change lately, all those colleagues are not directly working with me anymore. ** NICOLE (B): We had a great group . . . . If I could have chosen, I would have chosen exactly the same group. [laughs] INTERVIEWER: There were people from your workplace as well. Did you know these colleagues? NICOLE (B): No, I only knew two of them . . . . Otherwise, it was a new group with new people. [translated from German] ** PHILIPP (D): . . . we are generally very open-minded towards these topics, and we were already a super team that likes to meet privately, at least some of us. [translated from German]
CMOC 31 (CMOC 17): When participants feel safe to open up and	INTERVIEWER: Your self-compassion increased quite a lot. Does that surprise you?

show vulnerability ~~explore emotional difficulties and share them with others~~ (C), normalisation of stress/distress (M1) and the experience of acceptance through group and/or instructor (M2) plant the seeds for greater acceptance (O1) and compassion (O2). The experience of acceptance through group and/or instructor can also set the ground for transforming difficult emotions (O2).	ANDREAS (D): Not really. I think I can explain this, because there was a serious case of illness in my family, and I was extremely distressed . . . . I sat down with my closest colleagues, who also happened to take part in the course, three managers and one staff. I told them everything, I said, 'I'm feeling really crappy . . .', and I received immense support. I reduced my working hours; they re-organised everything for me and did whatever they could do. This has been a very, very difficult time for me but . . . I felt so much warmth and support . . . . I'm glad that I spoke openly about this . . . . That's what I associate with self-compassion. I had a hard time, but I noticed that the compassion of others and self-compassion allowed me to understand myself in a different way and to listen to myself. INTERVIEWER: One central idea of mindfulness is, that compassion arises from accepting your own vulnerability, that you open up a bit and receive compassion from others and through that develop self-compassion. ANDREAS (D): That's what happened, yes. [translated from German] ** INTERVIEWER: There is also that idea that participants learn to relate to their experience with acceptance and compassion, with a mode of 'being' rather than 'doing'. In how far has that been the case for you? FABIAN (A): What I guess I managed to achieve is less blaming myself for certain situations and even if I didn't manage to cope with emotions while—then I at least manage to accept that it happened. Maybe next time I'll do better. I think acceptance is what helps you to calm down and what helps you to be more in peace with what happens to you internally and also with external events which you cannot control. * INTERVIEWER: Yeah. How did mindfulness help you with anxiety? [this refers to a time before the course]

	FABIAN (A): . . . . acceptance of anxiety, that's the first important step. Not try to calm yourself down or sedate but just accept and embrace that it's happening to you. That was one of the main ways to deal with it. * INTERVIEWER: There is this idea that the experience of acceptance and the development of compassion is linked to people being able to talk openly about their struggles and about their experience. Yet at the same time, in the workplace, there might be the worry that you're seen as weak and vulnerable in front of your colleagues or even managers. Can you relate to that? FABIAN (A): It really depends on the company culture. There are companies that promote competition and working overtime and showing that you're a strong team player. In those contexts people wouldn't open up and they wouldn't show any weakness because then they would lose the competition, but in this company, I don't feel like it's a problem, I don't feel like people have any issues with showing vulnerability. . . . INTERVIEWER: Sounds like it's a quite safe work culture. FABIAN (A): Yes, I think so. ** INTERVIEWER: What makes it easier for you, now, to regulate your emotions? HANNAH (B): . . . trying to be able accept yourself more, to accept yourself as you are. I think talking about it . . . changes something. * HANNAH (B): I have dealt with the topic [mindfulness] before, the contents were not new to me, but through sharing with colleagues in the course it had a stronger effect, simply the group effect that comes with it. Just by engaging with it and talking about it, it becomes more normal.

	* HANNAH (B): Last week I made it very clear to my supervisor that I'm completely stressed and under pressure. Perhaps before [this course] I might have found it more difficult admitting this. Now I don't see it as a weakness anymore. I'm under pressure and overloaded, I have absolutely no problem admitting this [and say] that something has to change about the situation. * INTERVIEWER: Could you imagine doing this course at your workplace? HANNAH (B): Not at the moment, no. [laughs] . . . . There is no trust. [A course like this is] quite personal and—no, I can't imagine doing that at the moment. [translated from German] ** LUNA (A): I was hoping that I could do more meditation, more frequently, that I can get used to it, do it easily but apparently, it's not as easy as [just] going to the course and all of a sudden you can master it. . . . But right now, at least I have the idea that it's normal, that when you find it hard to find motivation or time to do that, it's kind of normal because that's what people were sharing in the course. So I thought, 'Oh, I'm not alone, that's what people are experiencing with meditation.' That's what I can take from the course. INTERVIEWER: So the sharing part was important, that you shared difficulties and then realised others are feeling the same way and that made you feel human rather than being 'weird'? LUNA (A): Exactly, yes. I think it's the acceptance of being human. A human always has these irrational feelings and emotions and I think that's what I really like about sharing and the exercise in the course, because before I never really shared about these deep things, about emotions and all of a sudden those people were

	talking to me about what they were feeling and, and I was like, 'Oh yes, I have been in that situation before, I've had that feeling before', so I am just human, and I have to accept this. INTERVIEWER: And you were never worried that you might be seen as weak and vulnerable in the workplace? LUNA (A): No luckily no. . . . I think it also depends on the person, maybe for me it's easy to open up to people. I mean not just to any people, because we had this circle . . . I'm not going to feel vulnerable—I mean of course it's vulnerable when you tell them about your feelings, but those people know exactly—I'm not going to tell this to anyone outside this course, because they don't know, they don't understand. ** MARC (D): We have a good and relaxed atmosphere here and you can talk about things that are not going well. Of course, you have a closer relationship with some colleagues than with others, but all in all it's possible to talk about problems. INTERVIEWER: How was it to talk about emotions and bodily sensations at work or to hear others talking about it? MARC (D): I found it very interesting to hear from others how they felt about the whole thing. . . . You listened to yourself, 'Do I have the same feeling right now?' Sometimes you might not come up with a certain word or thought yourself, so then you looked, 'Are you feeling the same at this moment?' INTERVIEWER: You learned …. MARC (D): Yes, exactly, and [it's] also a kind of confirmation that you are not the only one who is going through this at that moment. INTERVIEWER: So this shared humanity.

	MARC (D): Yes. INTERVIEWER: It becomes a bit normalised when you see that colleagues feel the same way. MARC (D): Yes. [translated from German] ** MARIE (A): I think you need to feel safe. I imagine that if I didn't feel safe, or maybe if a colleague was there, with whom I wouldn't feel comfortable, then I'm not sure to what extent I would share certain things . . . . So, I do think that you need to feel safe because you disclose parts of your soul. INTERVIEWER: And you felt that you could do that? MARIE (A): Yes, definitely. * MARIE (A): I would like to thank you again for the course. [smiles] It was very helpful to remind me again—, although I haven't reached my goal yet of meditating daily, but maybe that's good too, for me, not to be super strict with myself and instead say, 'Okay, now you haven't done it today.' And when I do it, to reward myself and say, 'Okay that's also good . . . and it's not the end of the world if I don't do it tomorrow or the next days, it will come back one day.' [translated from German] ** MARTINA (instructor, C): . . . there are many [participants] who say, 'How do I get to practice every day? It's so, so hard' and then realise that others find it hard too. . . . especially in a work context, where that matter of

	discipline—and then noticing, ‘Oh, the other teachers are struggling, too.’ [That] had a big supporting impact, I’m sure. * MARTINA (instructor, C): I think there’s also the—realising that mindfulness practice is not just an individual effort, that there is an ingredient of dependence on support. That’s what I’m sure is also part of it. INTERVIEWER: What does that support do? MARTINA (instructor, C): One thing is just knowing there is this weekly meeting, that sharing of the struggle, the comparison that happens, you know this ‘Oh you’re so disciplined, I’m not, I wish I were you’ [laughs] kind of thing. Sharing the idea or the notion of failure and then using that to bring kind mindfulness to these ideas of failure, of . . . not reaching your goal. Being with that and seeing, ‘What is the minimum I can do? Not yours, mine.‘ [laughs] It grows out of this collective sharing. * INTERVIEWER: Were you aware of any other outcomes? MARTINA (instructor, C): Kindness . . . I think was for most of what I heard a big realisation, the possibility of being kind with self, finding a kind inner coach or voice, that was a big one. ** NICOLE (B): . . . and just doing it in company, sharing with each other was nice, because everyone was doing the same thing, that was nice. INTERVIEWER: To see that we’re all very similar, that what happens in our minds is actually very similar in all of us?

	NICOLE (B): Yes. You would often see that when we shared our experience at the beginning, when you came in fifth or sixth, everything had already been said. It's impressive that a lot of things that came up, you experienced, too. [translated from German] ** INTERVIEWER: And now that you have done this course a second time, at school, what has been your main takeaway? SILVIA (C): The most important thing [is] perhaps [that] I'm into this self-compassion now. I have bought CDs and another book and yes, I have kind of discovered a new path. * INTERVIEWER: We measured your self-compassion in the survey. At the beginning of the course your scores were in the middle range and at the end of the course you were in the upper range, so your self-compassion scores went really up. SILVIA (C): Yes. In the course there were those who managed to practice every day and I had the tendency to beat myself up. [laughs] But then I said, 'No, that's just the way I am. For me it's always difficult to do things regularly, that's not my strength', and it didn't stress me as much anymore. [laughs] INTERVIEWER: More kindness towards yourself. SILVIA (C): Exactly. INTERVIEWER: Can you say what it was about this course that helped you develop this kindness?

	SILVIA (C): I think the group, because the first time I did it alone and . . . there was no comparing. In the group, you are comparing yourself to others, you realise what this comparing does to you, and you can address that. Martina [instructor], of course also contributed a lot to being able to accept it. INTERVIEWER: Can you say a bit more about this comparing? SILVIA (C): Well, there are people who manage to do it, they are super disciplined, they take these 15 minutes every day and do it. You realise, 'I can't do it', and you feel bad. And if you can then address that— . . . you can talk about it and Martina [instructor] can also say things about it and then you learn, 'I don't have to compare myself, it's just different with me.' INTERVIEWER: It's normalised and accepted, to some extent, by the group and by the teacher. SILVIA (C): Yes, exactly. [translated from German] ** INTERVIEWER: In a mindfulness course we are also confronted with things that are not always easy, for example, that the meditation does not go as we imagine or that difficult emotions come up or we talk about how stressed we are. Sometimes participants say that they find it difficult to do this in the work context because they are perhaps worried that they will be seen as weak and vulnerable by colleagues and superiors. How was that for you? SVEN (D): This hasn't been a problem for me at all. I'm generally very open, and we agreed at the beginning that we would give each other this space in this group, so it wasn't an issue for me at all. It was very relaxed, and GEORG [instructor] did it really well. INTERVIEWER: What contributed to this not having been an issue for you?

	SVEN (D): Georg [instructor] invited us in his kind manner—I thought he had a very good understanding for the situation, how one might feel or how the colleagues felt. That's why it was not difficult at all for me, there was no barrier for me to open up or to initiate a discussion. INTERVIEWER: And when people talk about their difficulties or say that they have problems or stress—one idea of mindfulness, is that just hearing that from others, normalises it a bit. You realise, 'Oh, I'm not the only one, others feel like that too', and that might already make you feel better. SVEN (D): Yes, I can confirm that. There were many situations where I said, 'I have experienced that, too' or 'I have just gone through this and felt the same way.' That was really, really interesting and made it much easier, I have to say. INTERVIEWER: What happened when you heard that? SVEN (D): [I felt a] relief and that I'm not the only one who feels like that. Let's say, in a simple exercise, in meditation, your mind has wandered off—that this isn't a problem, it's okay and normal that your mind sometimes wanders off, that you have certain reactions in stressful situations, that I'm not the only one . . . who loses focus from time to time, that it's all quite human. I really liked that we don't have to be so critical of ourselves. I really liked that, yes, it helped me. [translated from German] ** VERENA (B): The awareness of how things really are and how not to reject your emotions but say, 'Okay, it's happening, but I don't have to do anything. I can just let it pass by and be done with it.' [laughs] That was new for me, to apply that, just doing nothing sometimes. *

	VERENA (B): [It‘s an] acceptance of oneself and also [an acceptance] of how others might perceive something. . . . Their [perception] might be different from mine, I don't have to do anything with it just say, ‘Okay, that's their perception, and that's okay.’ INTERVIEWER: So acceptance of yourself and of others. VERENA (B): Exactly. Yes. * INTERVIEWER: Another thing we measured was self-compassion, how you deal with yourself in difficult situations. Your results show a clear increase in self-compassion. One theory of mindfulness is that participants learn to turn towards their difficulties and pain rather than away from it and that self-compassion grows from that. Has that also been the case for you? VERENA (B): I would say so, yes, because I don't have to judge. If I can't run as far and as fast as others, that's neither good nor bad, it's just me. I think this healthier attitude towards myself, not comparing, not judging, it's just the way it is and it's neither good nor bad, it really helps. [laughs]. INTERVIEWER: What would you say led to this learning? Was it mindfulness itself? Or was it also the course setting? VERENA (B): It was certainly the course setting. I’m a person who values exchange very much. . . . So, realising that everyone feels the same, that many people are dealing with various ‘pains’, be it stress or— it all takes place in the same brain area . . . and finding ways to deal with it and supporting each other. Toni [instructor] also had a really good way of teaching it with humour, in a fun way, showing that it’s not always easy for her as well. Yes, I think the whole setting—. [translated from German] **

	INTERVIEWER: Did you see in the course, in the interaction, any signs of changes with regards to self-compassion or compassion? ZOÉ (instructor, E): Yes, particularly for two people . . . . One came up right at the beginning with this mind wandering, not being able to focus, not being that concentrated, so there was a lot of harsh judgement, not being able to do the course well or even not being able to do home practice. She was almost afraid to speak up because she was not being able to do the task. Somewhere along she must have realised that that's how it is, and that mindfulness is not about judging yourself and all that. She was beginning to be more open about how she was not able to find the time, that she was so busy, and it completely changed. Once she started to open up on that she felt more creative about when she might do it and so it went from a stressful thing to 'Oh, this is not about stress, this is about taking care of myself.' That's all compassionate. [laughs] The other participant one wanted to understand things, like, 'I have to try to understand this', 'I have to try to understand it, if I can't understand it, then—.' [laughs] With mindfulness it's very difficult to do that. She slowly eased off and it came back in the responses that she was more able to just sit and be, to experience and let things be. There was a softness just in the way of speaking, you know, which is more subjective I suppose, but I definitely felt much softer afterwards. So if anything, for that person I think, compassion would be the thing she took away. . . . One of the things that this person said (pulls out her notes to quote the participant) . . . [was], '. . . the experience of getting to know our inner self and the selfcare . . . provides a grounding effect.' . . . . I think there's something about the process . . . where it's not a teaching isn't it? It's kind of a reflective process, they have the opportunity to stay there and reflect and share, to inquire inwards—.
CMOC 32 (NEW): When participants open up and show vulnerability towards colleagues or even across hierarchies (C), this is perceived as a sign of trust (M), and others begin to open up as well (O). This can set off a trust spiral (M) that enhances bonding (O2).	ANDREAS (D): I have a situation in mind where I cried and—I mean, I don't have this inner driver 'Always be strong', I'm certainly a bit more emotional and empathic as a leader, but it's also not normal that I cry as a leader. What I've noticed is that this vulnerability—, that there is an interdependence that can be very valuable. Those people around me who took care of me, they did a hell of a lot to make sure that I was doing well, and I am so grateful for that. There was this mutual relationship that I think is great, I can still feel a cold shiver running down my spine. I realised that now since my situation has become more stable again, people show vulnerability towards me, there is this upward spiral happening right now. I believe that when it comes to leadership it is extremely important that we allow this side and bring it in to create better bonding. [translated from German]

	** CLAUDIA (D): Sometimes I would have liked to have a bit more feedback from other colleagues. I was really happy when they said something. It brought me closer to them, it's good when you're open and honest. [translated from German] ** INTERVIEWER: And how was it for you to do this course with your colleagues? FABIAN (A): I think it's a very healthy teambuilding exercise. You see them [the other participants] more as humans rather than colleagues. I think it helps build trust because during the course they open up about sharing things, sharing personal things. ** INTERVIEWER: We also measured psychological safety in the workplace and, at the beginning, you said that it was not possible to talk about mental problems with your colleagues and, at the end, you said it is possible. I was wondering whether this was related to the programme in any way? JIAN (E): I'm a manager. During the coourse, some of the staff came and talked to me, [and I realised] 'Oh, they're facing this challenge in their personal life or at work', 'They are feeling overwhelmed and sometimes find that the atmosphere and policies [at work] cause them to perform.' They related to me in discretion, they opened up. This made me open up as well and the course helped me to talk to them with more empathy, getting to see and feel [things] from their standpoint or thinking about how I could help them as their supervisor. ** INTERVIEWER: Was there anything that was difficult in the work environment?

	PHILIPP (D): No, actually no. Maybe you wouldn't say everything openly . . . maybe with some topics you're not quite so open, although I think that only applies to some cases. You could notice that everyone was opening up and the supervisors disclosed as well and demonstrated, 'We trust. We want this exchange.' It worked really well. * INTERVIEWER: Showing yourself as a human being in this course—what did that enable? PHILIPP (D): Our conversations were more intense, there was a different kind of bonding. When you open up, you give your colleagues trust, but you also get back trust, so our cooperation has been strengthened. We now see each other as a good team. [translated from German] ** INTERVIEWER: What was it like for you to do this in the work environment? SEBASTIAN (D): I found it exciting, because you opened up, to some extent, even to people you didn't have much contact with before . . . . I had no problem with that, I wasn't worried about opening up. I found it interesting because I knew some of the people, and I wondered how they might feel about this. . . . I thought it was a very exciting chance for everyone if one dares to open up a bit. INTERVIEWER: What does that do to you in the workplace when you open up like that? SEBASTIAN (D): You get to know people better, you can trust them more, perhaps when you talk to others you notice more easily where they struggle. . . . It's important to build a relationship with colleagues and also across hierarchies, which are still there even though we try to keep it flat. You build trust and that is really positive.

	* INTERVIEWER: Stress and mental health are often taboo in the workplace. To what extent can a course like this contribute to making it less difficult to talk about it? SEBASTIAN (D): I think it can definitely contribute to it, especially if both [supervisors and staff] have participated. It's easier then to open up to the other person, maybe even more so if you have been in the same group. You've developed a certain level of trust. * SEBASTIAN (D): During that period I had all my appraisal interviews, where I had to face all of this [talking about problems and difficulties], because I had to say when things were not to my satisfaction. Overall, these conversations went really well, I was able to address things. Maybe I took away from the course, how I can address things, how I can say things. [translated from German] ** SUSANNE (D): There were colleagues who I didn't expect to be there and open up like this. [translated from German] ** SVEN (D): Sometimes you have to be careful, 'To whom do I open up?', 'To whom can I open up?' but also the other way round, 'Who can open up in my direction?' It really depends on the level of trust. *

	SVEN (D): I think that it will have a positive effect on how we work together because we bonded on a different level, on a more personal level. We got to know each other differently. I think that helped all of us a lot. INTERVIEWER: That strengthened trust. SVEN (D): Yes, exactly. [translated from German] ** INTERVIEWER: How was it for you that there were people in the course who you know from work? VERENA (B): It was nice, we got to know each other on a different level. Two of them, I don't see very often, they work in oncology, and we don't go there that often with our rescues. But at that time there was one situation where we had to take a patient there and we had a beautiful encounter. There's such a bonding. INTERVIEWER: What would you say led to this bonding? VERENA (B): I think sharing in the group, how one experiences things and how one deals with them. [translated from German]
CMOC 33 (NEW): With enhanced trust and bonding (C), employees and supervisors may feel safer (M), in the future, to address problems and mistakes at work (O).	THOMAS: . . . talking about safety, you feel more comfortable because you have already met these people in a different setting. INTERVIEWER: Safer to perhaps address mistakes at work? THOMAS (D): Exactly.

	[translated from German]
CMOC 34 (NEW): Opening up and talking about difficult issues in the sessions (C) may give participants the confidence (M) to address difficult issues at work too (O).	SEBASTIAN (D): During that period I had all my appraisal interviews, where I had to face all of this [talking about problems and difficulties], because I had to say when things were not to my satisfaction. Overall, these conversations went really well, I was able to address things. Maybe I took away from the course, how I can address things, how I can say things. [translated from German]
CMOC 35 (NEW): To a certain extent just having been together in the programme (C) can strengthen trust and bonding among colleagues (O) because they know they have something 'in common' (M).	INTERVIEWER: How was it for you to do the course with colleagues? LISA (C): It was nice, interesting. You got to know colleagues differently. When I saw the list of participants, I thought, 'Cool, this person is coming too.' I'm talking about two other teachers in particular, I wouldn't have thought, that they would join . . . that they would be interested in this. So I was surprised and also during the course – we got to know each other differently or better . . . there is this bonding. These two teachers—we were never very close but now I have the feeling, 'Yes, we do have something in common.' . . . We bonded on a personal level, even though we didn't meet that often. [translated from German] ** LUNA (A): Once we got into these breakout rooms it felt like we had known each other even though we don't really work together on a daily basis. Most of them are people who don't work in my team, but it feels like we share this common thing. In a way it feels like we are connected because we have the same problems, same feelings. ** MARTINA (instructor, C): To support each other in a training that is very personal, I'm sure it helped. [Doing something] as a group always helps but because they work together, they can now support each other just by

	looking at each other and knowing, ‘We’re all on a path of trying to figure it out about mindfulness and integrating it.’ ** INTERVIEWER: How does getting to know colleagues on such a very personal level effect your everyday working life? THOMAS (D): It was sort of an icebreaker because some colleagues I didn't know at all. I only knew their name and function. Now we have something that we share, even on a personal level, so this has been a bit of a catalyst for something that might otherwise have taken one or two years. [translated from German]
CMOC 36 (CMOC 19): When participants share work related or personal issues (C), receiving practical support from peers (M) reduces feelings of isolation (O1), enhances normalisation (O2), and might just by itself promote coping (O3) and wellbeing (O4)	LUNA (A): I really liked that people started to share not only how they feel but also how they overcome their problems. You can learn a lot when you share something. It’s not just throwing their problems or their negative emotions to you but they also [say], ‘I did this and that to help me’, so you have some kind of insights to work with yourself. ** PHILIPP (D): . . . the whole team or all the participants had the same subject area, the same field of work and that alone made us [feel] very close. It was more tangible when colleagues talked about stress factors [and] about personal tips and methods of dealing with them. I thought that was quite good. * PHILIPP (D): I found these one-on-one and small group discussions to be among the most intense and interesting. You were deeply immersed, you talked about your personal stress factors and how you deal with them.

	INTERVIEWER: Did that also have an impact on your sense of stress and wellbeing? PHILIPP (D): Yes, a little bit. For me stress comes from the pressure of having to achieve, performance pressure is what triggers stress for me and just knowing that it it's not just me, that it affects everyone—or sharing ideas . . . helps me deal with it a bit better. [translated from German]
CMOC 37 (NEW): If participants talk openly about stress/distress in sessions (C), enhanced awareness (M1) of these topics as well as their normalisation (M2) may make it easier for employees in the future to address stress/distress at work (O1) and/or support a colleague who struggles (O2).	CLAUDIA (D): [The course] touches on taboo topics, I'm not sure to what extent people really talk openly about stress at work. A course like this can certainly contribute to [the normalisation of stress] if everyone deals with it openly and honestly, because everyone has stress, you just have to dare to say that. * INTERVIEWER: The first time you said in the survey that you didn't know how to help a colleague who has psychological problems. The second time you said that you could deal with it and knew what to do. Is there a connection to the course? CLAUDIA (D): Yes, I would say that the course does play a role . . . . Somehow the awareness, the self-confidence, to dare—I think I would now dare to approach that colleague and talk to her, I would want to change something, I would face the issue. I think the course made me realise that I don't want topics like stress to be taboo at work. I would simply **want** to deal with it more openly. [laughs] . . . . I have a lot of empathy but then to take the next step, not only notice things, but to have the confidence and the courage to go one step further and to make something out of it—that's what I got from the course. [translated from German] **

	INTERVIEWER: There was a question in the survey, 'If you saw one of your colleagues struggling with a mental health issue, would you feel comfortable helping and would you know what to do?' At the beginning you said 'no' and after the course you said 'yes'. Can you relate to that? FABIAN (A): Yes. I think I would be able to at least give some advice what to do . . . . I didn't mean that I have a list of all the guidelines of what to do in that case but generally I think I can list options what to do and how to deal with certain um situations for the person to try out. INTERVIEWER: Could you think of a way that the course might have had an impact on you feeling more comfortable with that? FABIAN (A): Considering I did the course with my colleagues and talked to them, I guess now I feel a bit more comfortable to talk to them about some emotional aspect of work. Maybe they would be more open to talk about these things. ** INTERVIEWER: Does a course like this contribute to people being able to talk more openly and honestly about difficulties? JAN (D): Yes, I would say, yes. We shared personal experiences in the course and . . . the more people share personal experiences the more I get the impression that you can talk about difficulties and problems in general. [translated from German] ** INTERVIEWER: We also measured aspects of psychological safety. There was a change in your answers, and I am interested in knowing whether you see a connection to the course. In the first survey you said that you cannot talk to colleagues about psychological problems or about difficulties and problems in general. In the

	second survey you said that you can talk to colleagues about mental health problems and difficulties and problems in general. How did this change come about? JESSICA (D): Maybe because you have a bit more background knowledge and—you want to help your colleagues, but the question is, how can you do that? Do you even know what to do yourself? I think the background information and also the topic of wellbeing, that it is important, may have caused the change. [laughs] INTERVIEWER: You're more aware of the topic? JESSICA (D): Yes. The topic has been very present over these eight weeks, maybe that's why. [translated from German] ** INTERVIEWER: We also measured various aspects of psychological safety at work. There were some changes in your case: In the first survey you said that you could not talk openly about psychological problems with your colleagues. In the second survey you said that you could talk to colleagues about psychological problems. Do you see a connection to the course? PHILIPP (D): Yes, definitely. I think this stress factor, what it does to you and how you deal with it—I never talked about this with colleagues before. It showed that it makes sense [laughs] to talk about it, because it's not only an issue for me personally, but it affects everyone. A direct connection, I would say. [translated from German] **

	THOMAS (D): I think mental illnesses are illnesses that one can and should be allowed to talk about at work, full stop. It's nothing to be ashamed of. And if I had the feeling that I could help in some way, then I would do so. INTERVIEWER: You would be open to this and say, 'Okay, that's how it is.' THOMAS (D): 'We accept the situation', yes. INTERVIEWER: To what extent do you think such a course contributes to this kind of acceptance? THOMAS (D): Very much, I think, because you get to know your colleagues from a different perspective, and you reflect yourself in the work context. This has been a very new experience for me, so I think it supports that. INTERVIEWER: What has been a new experience for you? THOMAS (D): You get to talk with your colleagues, and you learn new facets about them in a completely different way than you would on a company event or something like that, these classic teambuilding events, where you let yourself fall backwards and the others will hold you, or whatever . . . . It's a kind of opener for such topics [mental health issues] to be addressed in the professional context. [translated from German]
CMOC 38 (NEW): (a): Participants who are used to expressing their opinions and/or talking about their feelings at work (C1) feel confident (M) doing so during group sharing (O). (b): Participants who lack the experience of expressing their opinions and/or talking about their	INTERVIEWER: There were some people who were a bit quieter, who weren't so engaged . . . How would you explain that some people found it more difficult to find access to the programme? ANDREAS (D): . . . I tend to notice that people from process or project management approach other people with more empathy. Those who work in IT tend to be more rational and cooler when you talk to them . . . they also tend to be extremely young . . . this would be my explanation. [translated from German]

feelings at work (eg due to their area of work, hierarchy level, or age/maturity) (C) are less likely to do so during group sharing (O) because they lack confidence (M)	** GEORG (instructor, D): There was a problem in one group . . . four female staff members didn't have cameras. INTERVIEWER: Why didn't they have cameras? GEORG (instructor, D): The equipment of their job description doesn't include a camera. They were clerks and I think they might have had the possibility to dial in with their mobile phone or with another device, and one of them did that but the others didn't. I think they were fine with it because . . . they were level 4 . . . more classic clerical work. [translated from German] ** INTERVIEWER: Where there any structural or cultural reasons why some people participated more and others less? Anything that goes beyond individual differences? JAN (D): I had the impression that you could somehow differentiate based on the career level or professional level. I would say the heads of the department . . . talked all the time. Then there were a colleague of mine and myself, who work in a similar position, and one or two others at the project management level or management level. We're all used to talking all day long and we were more open than, I would say, the clerks who deal with accounting and bills all day long and who talked less. INTERVIEWER: Can you explain why that might have been the case? JAN (D): I think it has a lot to do with your previous experience . . . If your managers encourage you to express your opinion or ask you for your point of view which is the case in our team, you have the self-confidence and the confidence to say, 'I can say what I think or what I feel . . . because that's important to my colleagues.' Often, in these rather classical departments, where you have your daily business, where tasks come in that need to be done, you just don't sit together to discuss bigger problems or projects. That's why I could imagine that

	these people just don’t know this from their daily work and therefore maybe don't have such an atmosphere where they are expected or feel allowed to express themselves freely, where that is accepted. [translated from German] ** INTERVIEWER: Do you think it was more difficult for some people to open up? JIAN (E): Definitely. I think there are some of the staff who, on the surface, are composed and are abiding. When you talk to the office people you do notice that some of them are facing their own challenges, but they choose to handle them themselves or at least not show it to others. ** INTERVIEWER: How was it for you to hear from those who talked about stress/distress or maybe even from supervisors? NADINE (C) (office clerk): I would like to be able to do that as well, I think it's good if people can do that. [translated from German] ** PIA (A) (office clerk): I don’t talk so much about spiritual things or feelings, so explaining experiences and things like this is not really my expertise. I like explaining things that are black and white and not my opinions. ** INTERVIEWER: If I understood you correctly, opening up and sharing difficult emotions or thoughts in front of your colleagues wasn’t an issue for you.

	SILVIA (C): No, it wasn't, this may be related to my profession . . . . As a teacher you're confronted with difficult emotions in the children and you need to be able to control your own emotions when you work with children, at least to some extent [laughs] . . . so for me it wasn't [an issue] and I think neither was it for the others, my experience was that we talked very openly. [translated from German] ** ZOÉ (instructor, E): . . . the boss was quite involved with her staff. On one occasion I think she realised that because she's speaking the rest of the participants aren't speaking as much. She was concerned, or I was also concerned, because then there's this 'boss and staff' kind of hierarchy. She told me that she approached a couple of her staff and encouraged them to speak up during the course and she found out from them that they were actually really shy.
CMOC 39 (CMOC 20): When the facilitator is trusted and embodies mindful acceptance (C), participants feel safe to explore and try out new ways of being (M) which enables change (O).	No data
STAGE 4	INTEGRATING NEW BEHAVIOURS AT WORK AND IN DAILY LIFE
PROTECTION OF RESOURCES	
CMOC 40 (CMOC 21): If mindfulness is seen to be incompatible with work practices (C), managers and employees might stop	MARTINA (instructor, C): As teachers, they constantly have to judge and assess students. One participant got really upset, because 'How can I be compassionate? I need to push, and I need to judge, and I need to—.' That was the big discussion, not discussion but exploration, how to be kind, with open-hearted clarity, open-hearted fierceness, 'How is that possible? Is it [possible] for you?' or is it rather 'I have to be the teacher?' [raises her

investing in it (O1) or only use it sporadically (O2) because they are concerned that it negatively affects their work performance or professional self (M).	index finger] 'Is it necessary to close your heart because you have to be clear and set boundaries and give a bad mark?' These were the topics of growth, that popped up here and there. INTERVIEWER: As a motivator to continue doing this and engage with the practices and concepts? MARTINA (instructor, C): [nods] Yes. ** INTERVIEWER: To what extent is mindfulness in line with your professional or workplace goals, practices, and values? MAX (A): Well, [there are] different aspects: On the one hand I want to be calm, authentic, in balance . . . . I want to learn that, and mindfulness might give me that. At the same time, I also like this performing, this façade, and this impulsivity, which I carry within me. I want to be impulsive and fiery because I find that quite emotional and exciting and cool. INTERVIEWER: So that there is a conflict of values. MAX (A): Yes, yes, yes. INTERVIEWER: This question, 'Do I really want this?' MAX (A): Yes exactly.
CMOC 41 (CMOC 22): If managers and employees find their new (mindful) ways of dealing with workplace stress to be incompatible with workplace culture (C), disillusionment (M1) or concerns about no longer fitting with the team	No data

(M2) might negatively impact not only their engagement with mindfulness practices (O1) but also overall work engagement (O2).	
INVESTMENT OF RESOURCES	
CMOC 42 (CMOC 23): If participants experience acceptance/compassion in the group and/or in their relationship with the instructor (C), they gain confidence in bringing this experience to difficult moments at work and in their daily lives (M). They experience this as stress reducing (O1) and rewarding (O2).	LUNA (A): You said in one of the sessions when you feel anxious, it's actually good to embrace that feeling and I think that's the attitude that I have been trying to do every time I feel anxious. Just try to take 10 minutes, to have a mental breakdown and then that's it and afterwards I feel better. INTERVIEWER: So, being with the difficult that is there. LUNA (A): Exactly. Yes, that's actually what I experienced before I went back home to my family. I had this anxiety, 'How is it going to be on the plane?', 'How is going to be at the airport?' I just took everything in, and I talked to several people about my anxiety and that's it. I went through it, and it was fine at the end. INTERVIEWER: So, what was it about the programme that helped you develop that attitude? LUNA (A): We had a lot of sharing sessions and just seeing that a lot of people have been going through the same thing and they were also struggling, to be with their emotions. I think that [is]one thing that I take from this course. Every time I find some hardship or every time, I'm faced with some anxious moments I just think about those people that I talked with, and I just feel like, 'This is it', 'This is what everyone is going through, I'm not special, I'm not the [only] one who is going through this' and eventually I will accept it. Acceptance is what I take from this course at the end. * LUNA (A): Right now in my team there are only two engineers, some quit already, so there is more pressure right now. Every time I feel this pressure, every time people ask me questions, people come to me, give me

	some requests . . . it triggers my anxiety. With mindfulness I feel like, 'I'm just going to take everything in' and take 5-10 minutes to have a mental breakdown and then I can focus [again] afterwards. ** INTERVIEWER: I was wondering about your pain. You said that your pain was one of the reasons why you signed up for the course. Have you learned to deal with you pain in a different way? VERENA (B): . . . . I will never be pain-free, so just saying, 'That's the way I am.' I don't know what it's like to be without pain, so why should I grieve for something I don't know? [translated from German]
CMOC 43 (NEW - incomplete): Once participants really *experience* mindfulness (M), they begin to apply it to other areas of their lives (O1) and not only to their work. As a result, participants are more likely to do the practices in their private time (O2).	ZOÉ (instructor, E): There were some people who were very experiential. Their feedback during inquiry was, 'Oh my god, I hadn't realised I have a breath', and it was quite moving, you knew a hundred percent that that person was actually experiencing it and there was hardly anything about how it [mindfulness] was going to be applied to others. Then there were a few who would be asking questions about, 'I applied it to something else and I was thinking about that' and the inquiry feedback was a little bit more cognitive. You realised they were not really doing the home practices. * ZOÉ (instructor, E): The person who was a little bit more cognitive in the beginning was saying things like, 'My intention was to incorporate mindfulness into subsequent practices.' I think he had probably the hat on where he was going to apply mindfulness in some ways. Now, a few of them although that was their initial intention, it looks like when they were actually experiencing the course, they went in quite experiential. *

	ZOÉ (instructor, E): There was one [participant] who said, 'I want learn more about how I can apply the course to my work and help others.' At the same time that person when she was experiencing it, she became very experiential in the course. * ZOÉ (instructor, E): . . . the minute it was experienced it seemed to flow into everyday life as well. . . . They talked quite a bit about how it influenced their daily lives, one talked about how he was preparing for a wedding and how he got really stressed with the preparation and how he remembered the breathing space and various other practices, another talked about being at home with the kids. So it seemed for some reason, although they learned it in a workplace [laughs] the application seemed to go towards the home and the weekend. INTERVIEWER: So you're saying there were some people who started to see it as something they would use at the workplace, then they made their own experience, and it became something that they could apply to their general life and the boundaries between work and personal or private were kind of resolved? ZOÉ (instructor, E): Right. It became just a practice of mindfulness; it didn't have that boundary. Some of them did of course say that it was helpful at work, but it didn't just stay within the workplace, it seemed to expand.
CMOC 44 (CMOC 24): If participants experience improvements that they attribute to their mindfulness practice (C), they continue practicing (O1) because they feel that they will be OK as long as they do the exercises (M1) and/or might improve even more (M2). This can create feedback loops (O2) or even set off gain spirals (O3).	No data

CMOC 45 (CMOC 25): Positive effects in one area (C) can have a ripple effect leading to improvements in other areas as well (O) because individuals feel they have more energy at their disposal (M1), have gained confidence in themselves and in the mindfulness approach (M2) and are better able to regulate their emotions and behaviour (M3), which encourages them to take better care of their health (M4).	NICOLE (B): My little son is very active and not always very easy to handle. Through this course I've noticed that he doesn't do things to annoy me, he's simply not able to be quiet for more than five minutes, he's just an active person. I've become calmer . . . and he gets calmer too and, in general, the whole situation in the family, I don't get upset about little things anymore, it's just calmer. Before the course I used to get upset and loud and then he would freak out and it would spiral up. Now it's the opposite, I realise that if I stay calm, he also calms down. * NICOLE (B): Somehow, it's all connected, I sometimes take a bath in the evening, I simply take much better care of myself, like taking some time for a bodyscan or yoga or—. * NICOLE (B): For me it [the course] had a positive impact in all areas, also in dealing with my animals, with my horse. Animals can sense the mood of humans and I have the feeling that this also changed for the positive, that it has improved. [translated from German] ** VERENA (B): I don't sleep very well because of the pain. I often wake up in the night and I used to get upset about it. [laughs] Today it doesn't bother me anymore, instead I think, 'These are a few minutes or hours where I'm awake, some peaceful time given to me.' I now see it [as a time] where nobody disturbs me, where I have peace and quiet to do something for myself, to take a breath. This waste of energy when you get upset—[laughs], not doing that anymore, gives you a lot of energy that you save for other things. INTERVIEWER: What are these other things for which you have energy now? VERENA (B): I've become aware [that] there are a lot of really beautiful moments at work with my assistant, where I'm much more mindful . . . where we just talk and complement each other. Before I was probably more

	absent-minded. And then in my family, with my daughter, she is eleven years old and from an early age she's used to the fact that I sometimes walk with crutches or that I have another surgery, she knows that. Now she often says, 'Mum, you're much more relaxed' or, when she comes and asks, 'Can we play a game?' and I say, 'yes' she says, 'You know, before you often weren't there.' These are really beautiful moments. . . . My husband also said [laughs] that before he would sometimes came home and first check the mood [laughs], and now he comes in, is relaxed and yes, these are small successes. It's not that it had never been like this before, but everyone notices that it's more relaxed now. [translated from German]
CMOC 46 (CMOC 26): If managers and employees see colleagues benefiting from mindfulness (C), they might think that they 'want this too' (M). This can lead to contagion effects with more and more individuals getting involved with mindfulness in an organisation (O).	No data
CMOC 47 (NEW): When an MBP goes over several weeks (C), it is easier for participants to integrate mindfulness into their daily lives (O1) and build new routines/habits (O2), because the repetitions help them familiarise with the content (M1) and solidify it (M2).	ANDREAS (D): It's valuable that many employees are dealing with this topic at the same time, it has an effect, especially over a period of several weeks. It can happen in a meeting that someone says, 'We've learned on Monday that we need to take a pause and create some space. Why don't we do an ALI [German acronym for 'breathe - smile - pause']? Why don't we do something for a change that's not 'faster, higher, further'?' [translated from German] **

	CHRISTINA (A): It has really worked for me because there was some repetition, repetition of concepts and repetition of content. For me, in order to learn and to become more familiar with ideas, it helps a lot to have this repetition. ** DANIEL (D): The goal was that people take something away for themselves and transfer it into their daily routine. That's why we had this eight-week programme, so that you have repetition and . . . develop automatisms. [translated from German] ** FABIAN (A): The main outcome [has been] that it [the meditation] returned into my habit again. And I started noticing something that I didn't have when I practiced before: In everyday situations I switch on this contemplation mode, where I observe my current feelings, it kind of happens on its own, I don't have to manually switch this on. I experience anxiety, or anger or not being calm and somehow instinctively switch on this observation mode, where I just look at this emotion and try to look at it from a distance . . . I think it helps a lot to deal with and cope with different situations. INTERVIEWER: It sounds like it has helped you to bring mindfulness more into daily situations? FABIAN (A): Yes. My goal was not to create a separate ritual but to integrate it [mindfulness] into daily life and make it part of my habit, routine, and automatic response to certain types of situations or certain types of emotions. *

	FABIAN (A): I tried to apply this approach in certain difficult situations, and I saw that it works and helps me and after a series of repeating events when I saw the benefits of it, I guess my brain started doing this more automatically. It became a more subconscious response ** INTERVIEWER: What was the most important tool you got? HANNAH (B): The regularity of the course, these eight weeks, where you really deal with this every day, you get into a routine. * HANNAH (B): I think that talking about it and repeatedly writing down your daily experiences changes something. * HANNAH (B): I had already been quite aware of what is good for me, but the course was a deepening. It became more automatic, that definitely helps, the practice and the routine. [translated from German] ** JESSICA (D): The topic has been very present over these eight weeks. Maybe that's how [the change came about]. [translated from German] **

	SEBASTIAN (D): I think the course helped me in so far as the topic [self-regulation] has become more present. Having these eight weeks . . . you always had the topic in the back of your mind, more so than if you did a one-day course. . . . This stretching over several weeks, has definitely helped me become aware of and familiarise myself with the topic. It solidified and it's still in my mind. The workshop may be over, but the topic is still in here, because I have dealt with it over some time. [translated from German]

Appendix L Overview of all CMOCs from realist evaluation

The table includes the number of participants (*) whose statements supported each CMOC and the cases (**) in which each CMOC was found. I have indicated new CMOCs; numbers in grey refer to old numbers from realist review. Grey and crossed-out passages in the CMOC descriptions indicate theory refinements.

CMOC	Description of CMOC	*	**
STAGE 1	OFFERING AND SIGNING UP FOR A MENTAL HEALTH/STRESS PROGRAMME		
Protection of resources			
01 (01)	In a context where any investment has to produce financial returns (C), a wellbeing course like an MBP might trigger concerns of productivity loss (M) with management hesitant to invest in it (O1) or stopping to invest in it (O2) if it does not pay off.	0	0
02 (02)	In a context where stress and distress are stigmatised (C), participants might be reluctant to sign up for a stress management/mental health programme (O) because they are concerned that they will be seen as weak and vulnerable (M).	0	0
Investment of resources			
03 (03)	If an MBP appeals to an organisation's overall business strategy, values, and practices (C), it becomes an attractive investment for management (O) as it is believed to enhance not only health and wellbeing but also overall productivity and/or work performance (M).	3	D, E
04 (NEW)	If a workplace MBP is advertised as a stress/mental health programme (C), managers and employees might receive that as a sign that it is acceptable to talk openly about stress/distress (M). This can contribute to the de-stigmatisation of these topics in the workplace (O).	1	D
05 (04)	If an MBP is offered as a professional development programme (C1) or otherwise appeals to an individual's professional aspirations, values, or practices (C2), it becomes a worthwhile investment (O) as it is seen to enhance not only mental health and wellbeing but also professional functioning and development (M1) and/or to help achieve workplace goals (M2).	12	A, B, C, D, E
06 (NEW)	If a workplace MBP is offered to enhance productivity and/or work performance (C1) or if participants see mindfulness as something they will be doing with their own team members, patients, or students (C2), this might trigger in them a 'doing' mode and/or a cognitive mode rather than a mindful 'being' or experiential mode	2	C, E

	(M). As a result participants might get more stressed (O1) and may not apply the practices in their private time (O2).		
07 (NEW)	If a workplace MBP is free and/or convenient (C), managers and employees are more likely to try it (O) because it is a low threshold opportunity (M) to do something that might otherwise be too expensive, too difficult to organise and fit into one's schedule or to try out something that is simply new and different.	11	A, B, C, D, E
08 (NEW)	A low threshold opportunity or incentive for managers and employees to sign up for an MBP (C) can trigger a 'shopper attitude' in them (M). As a result they might engage only superficially with the programme and its activities (O).	1	B
STAGE 2	FINDING THE TIME AND PLACE TO ENGAGE WITH THE PROGRAMME AND ITS ACTIVITIES		
Protection of resources			
09 (05 – refined)	If an MBP competes with work tasks (C), managers and employees might be concerned that by attending training sessions and practicing mindfulness they will not be able to attain work related goals (M1) or get their job done (M2). Some might prioritise work over engagement with the programme and its activities (O1). Others (who stay eg because their supervisor participates as well) may feel distracted during the sessions (O2). However, those who stay (C) may begin to notice that, at the end, they gain more than they invest (M) and hence benefit from the programme (O).	9	A, D
10 (06)	When managers and employees are under a lot of pressure (C), adding tasks (such as course attendance and home practice) can exacerbate feelings of stress/distress (M) and result in inability to practice mindfulness (O1), dropping out from the programme (O2) and/or experiencing lack of beneficial effects (O3).	6	A, B, C, D
11 (07)	If supervisors do not explicitly support the practice of mindfulness at work (C), employees refrain from doing the exercises (O) because they are concerned that disadvantages might result from taking time off for selfcare instead of working (M).	2	D
12 (08)	In an environment that lacks private or dedicated space for mindfulness practice (C), participants fear interruptions (M1) and might feel exposed in front of non-participating colleagues (M2), which negatively affects their ability to do the practices (O1) and reduces their engagement with mindfulness at work (O2).	8	A, C, D
13 (09)	When individuals are used to taking care of others (C), they might feel guilty about taking time off for themselves (M) and skip training sessions and/or home practice (O1) or drop out of the programme (O2).	0	0
14 (10)	If the MBP competes with private time (C) participants might feel that by attending the training sessions, they have to give up other nourishing activities (M) and they have to make a deliberate decision	4	A, C

	of what to prioritise (O).		
15 (NEW)	If the course material (handouts, audio files) is distributed through a work channel (e.g. MS Teams or Slack) (C), participants might associate it with work (M) or will not want to access a work channel in their private time (M). As a result, they do not do the exercises (O).	2	A, D
16 (NEW)	Participants from lower hierarchy levels or in precarious job positions (C) might feel uncomfortable to engage with selfcare activities at work (O) because they are concerned (M) that they may lose their job if they do not perform professionally.	1	A
Investment of resources			
17 (11)	When managers and employees are offered an MBP through their employer (C), they see that as a sign of care and appreciation (M1) and/or as a sign that their health and wellbeing are important (M2) which may enhance their engagement with the programme and its exercises (O1) and, more generally, facilitate investment in selfcare (O2).	11	A, C, D
18 (NEW)	If managers and employees are offered an MBP through their employer (C), they might feel obliged (M) to make good use of its resources. This can enhance engagement with the programme and its activities (O1), yet it can also add stress (O2).	7	A, C, D, E
19 (12 – refined)	If participants receive official release from their work to attend training sessions (C1), and especially if their supervisor participates as well (C2), they feel 'permitted' to take care of self (M), which facilitates investment in the programme (O1), engagement with the exercises (O2) and/or the ability to practice mindfulness (O3). Feeling permitted to take care of self (M) under the above conditions (C1+2) can just by itself be relaxing (O4) and stress reducing (O5), and it might facilitate investment in selfcare more generally (O6).	8	A, C, D, E
20 (NEW)	Managers and employees who can handle their working hours flexibly (C) might be more relaxed about taking time off for selfcare at work (M1) or even see the MBP as compensation for working overtime (M2) and hence engage with the programme and its activities (O).	3	A
Strategic use of resources			
21 (13)	In a context where pressure and workloads are high (C1) and/or in moments of immediate stress/distress (C2), mindfulness exercises, particularly the brief ones, provide individuals with a sense of coping (M) and thereby reduce perceived stress (O). Coping mechanisms range from enhanced awareness (M1) and attention regulation (M2) to taking a few breaths/deep breathing (M3), cognitive reappraisal (M4), pausing (M5), relaxing (M6), zooming out (M7), and/or reminding oneself that these strategies are available (M8).	7	A, B, C, D
22 (14)	When mindfulness practices can be integrated easily into existing routines and busy work schedules (C), take up is high (O) because	2	D, E

	individuals feel they can do something for their health without having to invest extra time and effort (M1) and/or because it helps them make good use of 'empty' time (e.g. wait time, commute time) (M2).		
23 (15)	When psychoeducational elements help participants make sense of their experience (C), they provide a sense of control (M) which positively affects engagement with the MBP and its practices (O).	0	0
24 (NEW)	When individuals who have attended an MBP are taught memorable and easy to use psychoeducational elements (C) it is easier for them to cope in stressful situations (O1) or change their behaviour (O2) because they can recall what to do (M).	11	4
STAGE 3	OPENING UP AND SHOWING VULNERABILITY AT WORK		
Protection of resources			
25 (16)	If managers and employees attend sessions in their professional roles (C), they might not talk openly about their struggles and experiences (O) because they are concerned that being seen as weak and vulnerable could hurt their professional self (M).	18	A, B, C, D, E
26 (NEW)	Employees from lower levels in the hierarchy (C1) might hesitate to talk about personal issues at work (O) because their professional roles help them set boundaries and because of their concern that they might lose this shield (M) when they become too personal.	5	B, D, E
27 (NEW)	When participants who do not want to show vulnerability at work struggle emotionally (C), they might feel even more isolated and lonely during group sharing (M) and hence withdraw from the programme (O).	3	A, C
Investment of resources			
28 (NEW)	If the programme takes place online and individuals participate from home (C), they no longer feel 'at work' and hence feel safer (M). As a result, they find it easier to get involved with the mindfulness practices (O1) and to open up and share (O2).	11	A, C, D
29 (18 – refined)	When participants leave their professional roles and status behind and show vulnerability (C), they see their own humanness ~~and vulnerability and~~ in others (M), which plants the seed for greater acceptance (O1), empathy (O2), and compassion (O3) at work.	16	A, B, C, D, E
30 (NEW – incomplete)	It might be easier for participants to leave their professional roles and status behind (O) if they do not need to maintain a regular professional working relationship with fellow participants (C1) or if they are friends (C2).	3	A, B, D
31 (17 – refined)	When participants feel safe to open up and show vulnerability ~~explore emotional difficulties and share them with others~~ (C), normalisation of stress/distress (M1) and the experience of acceptance through group and/or instructor (M2) plant the seeds for greater acceptance (O1) and compassion (O2). The experience of	12	A, B, C, D, E

	acceptance through group and/or instructor can also set the ground for transforming difficult emotions (O2).		
32 (NEW)	When participants open up and show vulnerability towards colleagues or even across hierarchies (C), this is perceived as a sign of trust (M), and others begin to open up as well (O). This can set off a trust spiral (M) that enhances bonding (O2).	9	A, B, D, E
33 (NEW)	With enhanced trust and bonding (C), employees and supervisors may feel safer (M), in the future, to address problems and mistakes at work (O).	1	D
34 (NEW)	Opening up and talking about difficult issues in the sessions (C) may give participants the confidence (M) to address difficult issues at work too (O).	1	D
35 (NEW)	To a certain extent just having been together in the programme (C) can strengthen trust and bonding among colleagues (O) because they know they have something 'in common' (M).	4	A, C, D
36 (19)	When participants share work related or personal issues (C), receiving practical support from peers (M) reduces feelings of isolation (O1), enhances normalisation (O2), and might just by itself promote coping (O3) and wellbeing (O4).	2	A, D
37 (NEW)	If participants talk openly about stress/distress in sessions (C), enhanced awareness (M1) of these topics as well as their normalisation (M2) may make it easier for employees in the future to address stress/distress at work (O1) and/or support a colleague who struggles (O2).	6	A, D
38 (NEW)	(a): Participants who are used to expressing their opinions and/or talking about their feelings at work (C1) feel confident (M) doing so during group sharing (O). (b): Participants who lack the experience of expressing their opinions and/or talking about their feelings at work (eg due to their area of work, hierarchy level, or age/maturity) (C) are less likely to do so during group sharing (O) because they lack confidence (M).	8	A, C, D, E
39 (20)	When the facilitator is trusted and embodies mindful acceptance (C), participants feel safe to explore and try out new ways of being (M) which enables change (O).	0	0
STAGE 4	INTEGRATING NEW BEHAVIOURS AT WORK AND IN DAILY LIFE		
Protection of resources			
40 (21 – refined)	If mindfulness is seen to be incompatible with work practices (C), managers and employees might stop investing in it (O1) or only use it sporadically (O2) because they are concerned that it negatively affects their work performance or professional self (M).	2	A, C
41 (22)	If managers and employees find their new (mindful) ways of dealing with workplace stress to be incompatible with workplace culture (C),	0	0

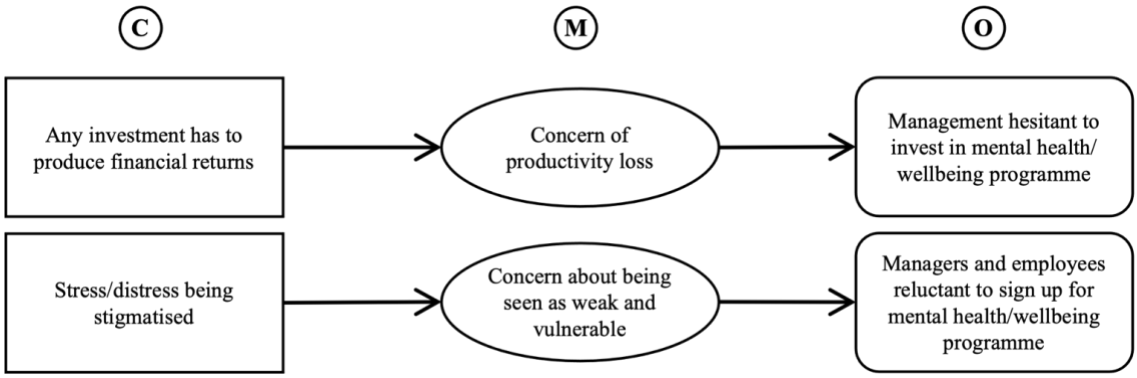
	disillusionment (M1) or concerns about no longer fitting with the team (M2) might negatively impact not only their engagement with mindfulness practices (O1) but also overall work engagement (O2).		
Investment of resources			
42 (23)	If participants experience acceptance/compassion in the group and/or in their relationship with the instructor (C), they gain confidence in bringing this experience to difficult moments at work and in their daily lives (M). They experience this as stress reducing (O1) and rewarding (O2).	2	A, B
43 (NEW – incomplete)	Once participants really *experience* mindfulness (M), they begin to apply it to other areas of their lives (O1) and not only to their work. As a result, participants are more likely to do the practices in their private time (O2).	1	E
44 (24)	If participants experience improvements that they attribute to their mindfulness practice (C), they continue practicing (O1) because they feel that they will be OK as long as they do the exercises (M1) and/or might improve even more (M2). This can create feedback loops (O2) or even set off gain spirals (O3).	0	0
45 (25)	Positive effects in one area (C) can have a ripple effect leading to improvements in other areas as well (O) because individuals feel they have more energy at their disposal (M1), have gained confidence in themselves and in the mindfulness approach (M2) and are better able to regulate their emotions and behaviour (M3), which encourages them to take better care of their health (M4).	2	B
46 (26)	If managers and employees see colleagues benefiting from mindfulness (C), they might think that they 'want this too' (M). This can lead to contagion effects with more and more individuals getting involved with mindfulness in an organisation (O).	0	0
47 (NEW)	When an MBP goes over several weeks (C), it is easier for participants to integrate mindfulness into their daily lives (O1) and build new routines/habits (O2), because the repetitions help them familiarise with the content (M1) and solidify it (M2).	7	A, B, D
*Number of participants whose statements supported that specific CMOC **Cases in which that specific CMOC was found			

Appendix M Visualisations of all CMOCs

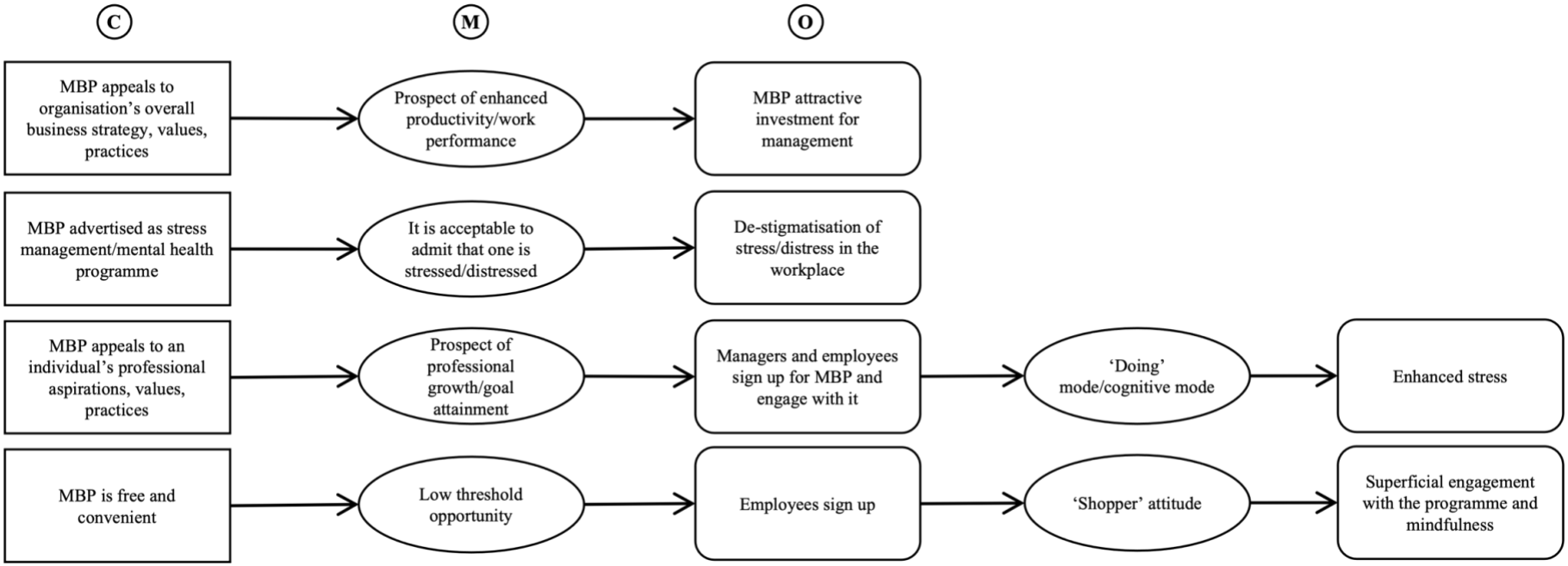
(unless illustrated in the main text)

Offering and signing up for stress management/mental health programme

Protection of resources (CMOCs 1 and 2)

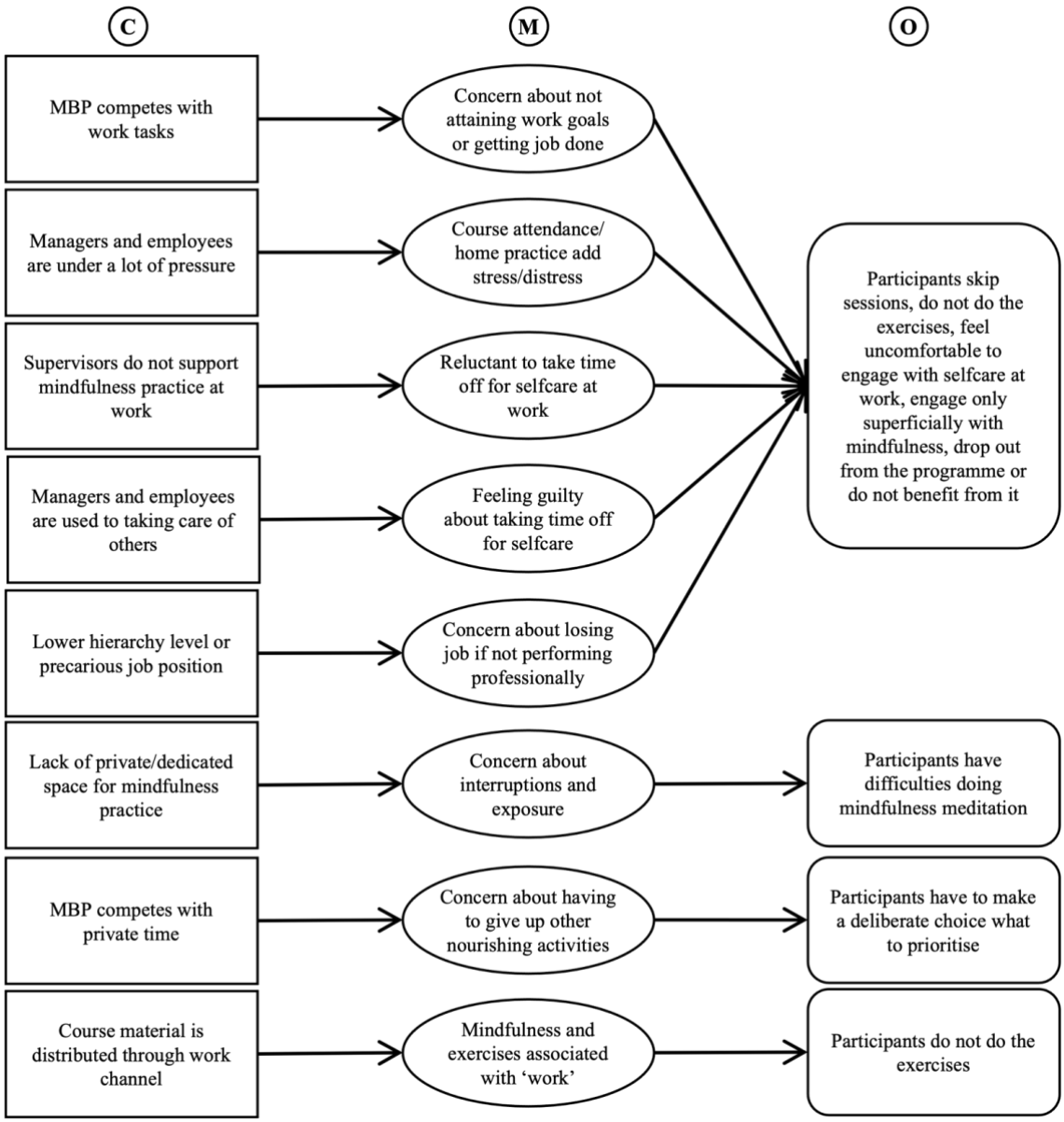


Investment of resources (CMOCs 3-8)

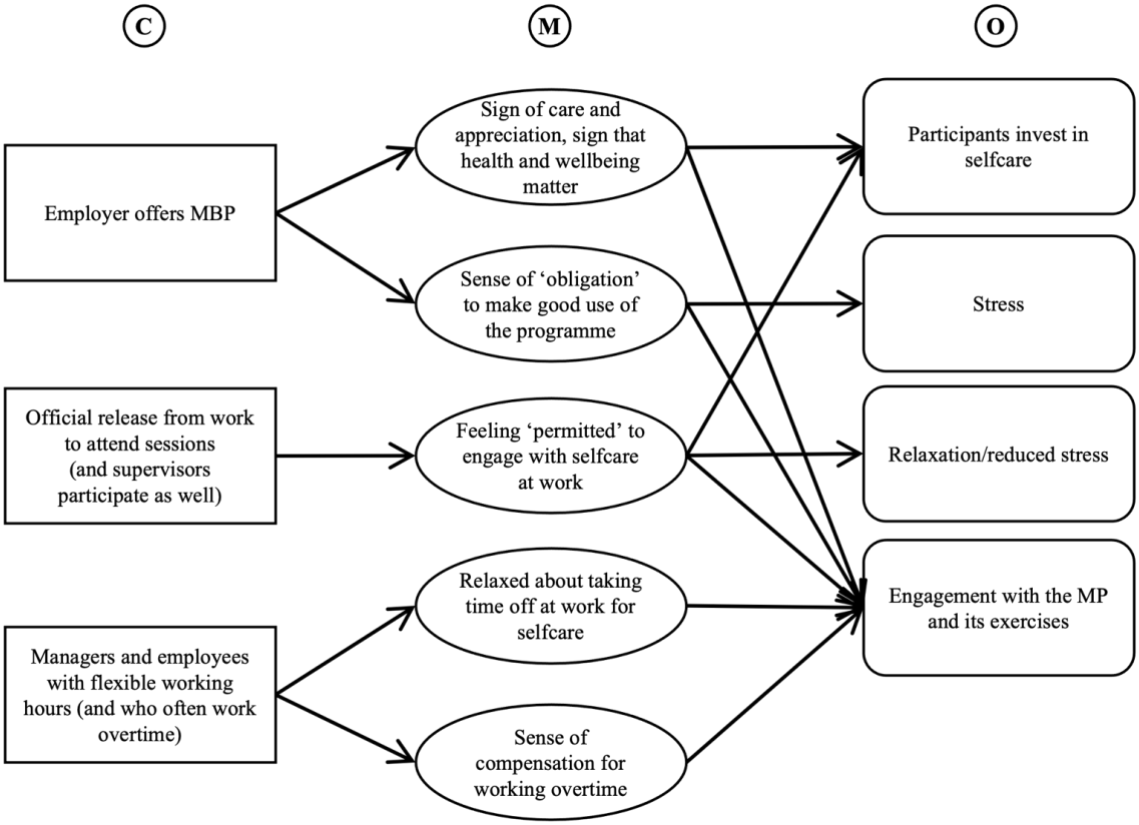


Finding the time and place to engage with the programme and its activities

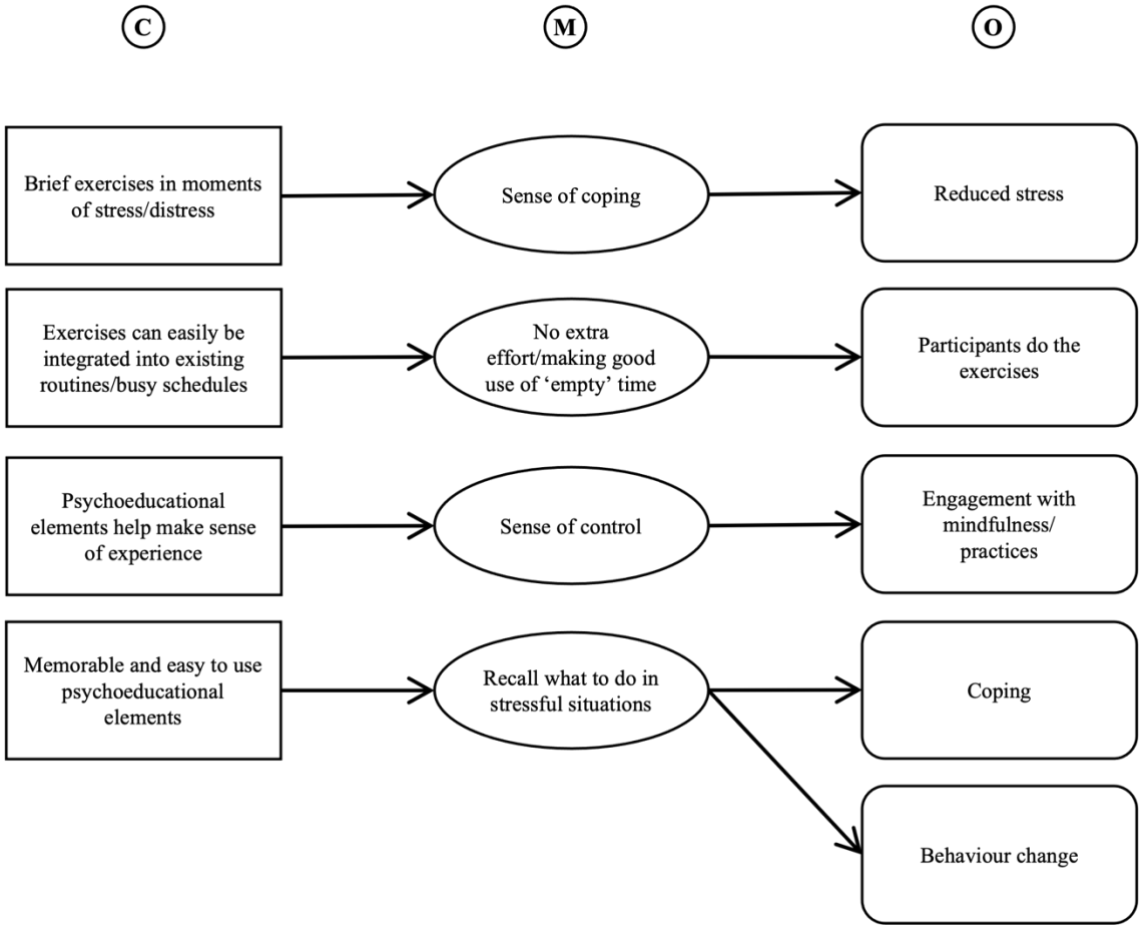
Protection of resources (CMOCs 9-16)



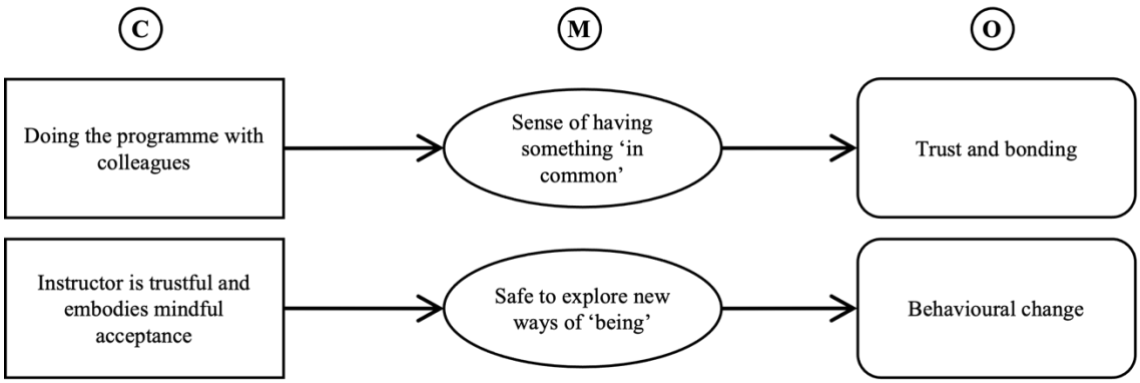
Investment of resources (CMOCs 17-20)



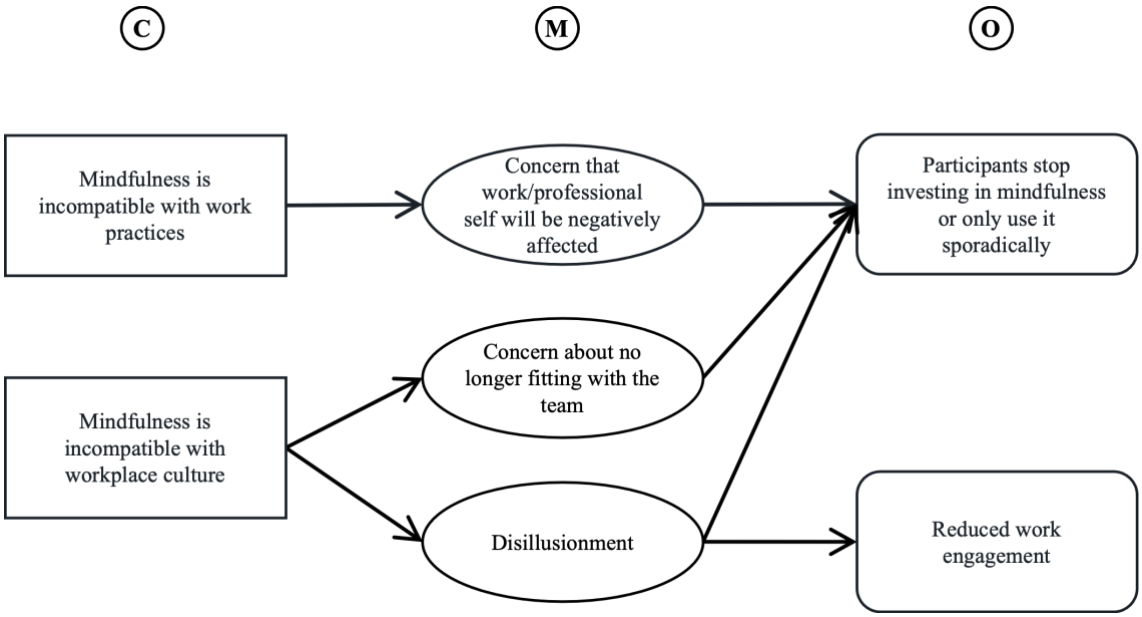
Strategic use of resources (CMOCs 21-24)



CMOCs 35 and 39



Protection of resources (CMOCs 40 and 41)



Investment of resources (CMOCs 42-47)

