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Mapping stress and healthy balance with the workable ranges model in mindfulness-based stress reduction: First-person embodied reflections

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Table of contents

Figures

Tables

.

Glossary of terms

Conceptual Encounter	A phenomenological research method for mapping how particular emotional experiences are organised. The researcher's conceptualisations are shared with research partners who discuss their own experience in relation to it (de Rivera, 1981).
Dysregulation	Disturbance in the regulation of psychophysical processes caused by too much or too little arousal for the system to remain regulated (Siegel, 2012).
Embodied mind	The theory that all features of the mind are affected by the whole organism. This is in contrast to the dualistic location of the mind in the brain and distinct from the body (Varela et al., 1991).
Enactivism	A theory linked with the embodied mind that proposes that meaning is actively made through the relationship between an organism and its situation. Meaning is enacted through living and for the purpose of adaptation (Varela et al., 1991).
First-person methodology (FPM)	Phenomenological methods that use procedures such as meditation to access and observe states of mind and emotion (Varela and Shear, 1999).
Illuminative evaluation	A strategy for evaluating educational innovations that aims to describe and understand how it works in practice (Parlett & Hamilton, 1976).
Immobilisation	A psychophysical defence and state characterised by low energy, a rigid or blank mind and dampened emotion. In the polyvagal theory from which it is drawn the term refers to the extreme freeze defences in trauma (Porges, 2011) However, in this thesis it also refers to a wider range of slowing and closing-down psychophysical reactions.
Inquiry	This term refers to a structured process of investigating and reflecting upon experiences during meditation practices and in daily life within Mindfulness-Based Programmes (Crane, 2009).
Mindfulness	A form of awareness gained through paying attention to experience in the present moment (Kabat-Zinn, 2003). The term refers both the act of becoming aware through meditation skills and the state of being aware.
Mindfulness-Based Stress Reduction (MBSR)	The original and most common eight-week mindfulness-based intervention. It was developed by Jon Kabat-Zinn in the 1980s to teach practices and principles from Buddhist meditation and yoga in a secular mind-body medicine context (Kabat-Zinn, 1990).
Mindfulness-Based Cognitive Therapy (MBCT)	This is an adaptation of MBSR for the treatment of depression. It integrates a cognitive-behavioural formulation of depression into the structure and meditation practices of MBSR (Segal et al., 2012).

Mindfulness-Based Programme (MBP)	This is the name given by the founders and developers of MBSR and MBCT to differentiate programmes that have meditation at the core from programmes that apply some of the principles in a different framework (Crane et al., 2017).
Mindfulness-Mediated Stress Response (MMSR)	The term given by Kabat-Zinn (2013) to differentiate chosen responses to stressful situations based on present-moment awareness, from automatic reactions.
Mobilisation	A psychophysical defensive reaction and state characterised by heightened energy and emotion connected with the fight and flight stress response.
Neuroception	The subconscious detection of safety and threat (Porges, 2004)
Participant Researcher (PR)	The term given to participants in phase one to reflect their dual roles of course participants and first-person researchers.
Regulation	The process and state of being regulated and balanced psychophysically.
Research Partner (RP)	The term given to participants in phase two to reflect their collaboration with me in investigating the research questions.
Self-regulation	The intentional regulation of psychophysical states and behaviour.
Stress	Physical, emotional and psychological reactions triggered by internal and external changes (stressors) that threaten a person's capacity to stay regulated by exceeding their current thresholds of tolerance.
Threshold of tolerance	The limits at which psychophysical energy and emotion moves from being regulated to dysregulated and over which experiences become uncomfortable and hard to manage (Ogden et al., 2008).
Window of tolerance	'A span of tolerable arousal in which internal or external stimuli can be processed in a flexible and adaptive manner' (Siegel, 2012 p.A1-84).
Workable Range Model (WRM)	A psychoeducation tool depicting a balanced and workable range of energy and emotion in the middle, with mobilised and immobilised states of dysregulation placed above or below it. Workable refers to the mind-body stability and flexibility in balanced states that feel comfortable, and support functioning and working on experience therapeutically (Rose, 2014).

Preface

I confirm that the research undertaken and writing is all my own and that credit has been given to the work of others where appropriate.

Work from the pilot project for phase one of the qualitative research has been published in the journal Mindfulness.

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The research was ethically approved by the University of Derby and local permission to conduct the research was granted by the University of Leeds**.**

Abstract

During Mindfulness-Based Stress Reduction (MBSR) courses, participants are taught to be more present with stressful experience in order to respond to it more effectively. The meditation-based experiential pedagogy is supported by didactic teaching about stress to increase awareness of patterns of reaction and to support the application of mindfulness to self-regulation. The content of teaching about stress, and how it is best taught within the pedagogy, is an important practical and theoretical consideration. This thesis addresses a gap in knowledge by focussing on this little-regarded area of practice.

The aim of this research was to develop practical and theoretical knowledge about the inclusion in the MBSR curriculum of the Workable Ranges Model of stress and emotional regulation, developed by the author. This visual model lays out regulated states and both mobilised and immobilised threat-based reactions in relation to each other. The main research question was: how does the Workable Ranges Model complement MBSR?

Three key themes were identified in the literature and began to address the research questions. They were: the role of didactic teaching about stress; the notion that how difficult experiences are negotiated is a paradoxical mechanism; and that the Workable Ranges Model provides a novel perspective on participants' progression through mindfulness-based programmes.

Qualitative research was conducted as an illuminative evaluation of the practice innovation. An enactivist, embodied-mind epistemology was used to consider both embodied and verbal forms of knowledge. The application of mindfulness-based, first-person phenomenological methodology, within the frame of the conceptual encounter method, functioned as both learning and data-collection processes.

The first phase focussed on the inclusion of the model in three MBSR courses. Data were gathered from participants in classes using diagrams and a question schedule. A template analysis elucidated engagement and resonance, awareness of the features of regulated and dysregulated states and patterns of reactivity, ways of responding to dysregulated states and applications linked with MBSR.

In the second phase, seven course graduates engaged in a diary exercise, post-meditation reflective inquiry and a group discussion. Thematic analysis identified an overarching theme that the Workable Ranges Model provides a dynamic map for the mindful exploration of stability and stress. Three interrelated processes were evident: charting regulated and dysregulated states, embodied application in mindfulness practice, and orienting to and resourcing regulation and self-care.

The themes from phase two shaped a broader meaning to both data sets. Three functions of the model as a map were identified and discussed. It worked: (i) as a method for teaching about healthy balance and stress; (ii) as a heuristic for self-exploration and developing insight; and (iii) as a guide for mindfulness-based self-regulation and self-care. Together, these aspects acted as aids to teaching and learning about mindfulness-based self-regulation. Theoretical and practical implications are discussed.

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The contribution to my learning and to the thesis by the participants is immeasurable. Likewise, I am indebted to all the clients, colleagues and trainees who have responded to and applied the Workable Ranges Model over the years.

Thank you to all my colleagues, friends and family who have shown interest and patience and supported my own emotional balance along the way. And, finally, I thank Alasdair for his love.

‘Our own life is the instrument with which we experiment with the truth.’

Thich Nhat Hanh

Chapter one

Introduction

In this Doctor of Health and Social Care Practice thesis, my intention is to investigate and reveal the potential value of the Workable Ranges Model (WRM) to the theory and practice of Mindfulness-Based Stress Reduction (MBSR). This chapter sets out my motivation for undertaking this research, the professional practice area in which it is set, and what I have brought to it. I will outline my reasoning for undertaking explicitly practice-based research. The rationale, research questions and intended contribution to knowledge and practice are introduced. An overview of the structure of the thesis is provided.

Motivation and rationale for the research

This original research investigates a combination of two forms of practice aimed at helping people manage stress more effectively. The first, Mindfulness-Based Stress Reduction (MBSR), is an established empirically supported intervention, which is widely implemented in a range of settings (Kabat-Zinn, 2003 & 2013). The second is a psychoeducational tool that I designed, to teach stress and emotion regulation, called the Workable Ranges Model (WRM: Rose, 2014). This is a localised practice that is used within the Staff Counselling and Psychological Support Service, and across the organisation where I work.

Mindfulness-Based Stress Reduction (MBSR) is an eight-week educational programme designed by Kabat-Zinn (1982 & 1990) to teach mindfulness meditation as a different way to relate to mental and bodily experience in order to ameliorate stress. The stated aim of the intervention is to relieve suffering and improve wellbeing in people facing challenges and stress related to ill-health and everyday stressors (Santorelli et al., 2017). Within this approach, mindfulness is defined as 'the awareness that emerges through paying attention on purpose in the present moment and non-judgementally' (Kabat-Zinn, 2003, p.145). A key premise of the training is that mindfulness skills and attitudes can be combined and applied as an effective method of managing stress.

MBSR, and programmes derived from it have meditation practice at their core. They have recently been called first-generation Mindfulness-Based Programmes (MBPs) to distinguish them from interventions that include some of the ideas and practices within a different

framework (Crane et al., 2017). I shall use the term MBPs when referring to the group of interventions based on and including MBSR.

My interest in mindfulness developed through training in forms of body psychotherapy that use mindfulness techniques to work safely with traumatic stress (Ogden et al., 2006). This led me to undertake a MBP course for myself and to establish an ongoing personal mindfulness practice. I undertook teacher training with the Centre for Mindfulness Research and Practice. In 2011, I piloted an adaptation of MBSR as a workplace intervention followed by a rolling programme of courses within my work setting. As an attachment-based psychotherapist, I came to mindfulness from practice organised around the presence and self-awareness of the therapist to support relational affect regulation (Fonagy et al., 2004). Within this modality, theorists have linked mindfulness with presence as a relational quality (Childs, 2007; Siegel, 2007).

I developed and applied the WRM as a psychoeducational tool about stress and emotion regulation in order to extend, re-contextualise and apply the principles of relational affect and autonomic arousal regulation used in attachment and body-oriented trauma psychotherapy, to a general population of working adults (Schore, 2003; Ogden et al., 2006). Two theories from the field of interpersonal neurobiology blended in the autonomic arousal model also underpin the WRM. Firstly, Siegel's (2007) notion of safe mindful presence supporting neural integration and optimal states for the functioning of the mind and therapeutic work. Secondly, Porges' (2011) polyvagal theory, which links the functions of the autonomic nervous system and stress regulation with safe social engagement.

The purpose of the WRM was to teach a wide range of people about stress reactions in relation to healthy balance and work functioning. Unlike stress-management training, which focus solely on high-energy, flight and fight mechanisms, this model includes low arousal reactions, freeze and flop, the inhibition of emotional intensity, withdrawal and depletion. Theories from attachment literature about subdued emotion and dampened stress arousal in avoidant attachment states had helped me to make sense of my own and my clients' experiences since the early nineties (Bowlby, 1993; Holmes, 2014). Including freeze and shutting-down reactions in the WRM enabled me to represent and mirror the whole range of stress-related reactions and experience (Levine & Frederick, 1997). In sensorimotor psychotherapy, Porges' (2011) polyvagal theory provided a psychophysiological rationale for starting therapeutic treatment of trauma with safety and explained features of self-protective shutting down as well as the mobilisation of flight and fight (Ogden et al., 2006). This enabled me to conceptualise my

therapeutic practice differently. As a model of stress regulation that articulates the importance of psychophysiological regulation and self-care to support workplace well-being and sustainable functioning, it provided organising principles for the service I lead.

The innovation under investigation is my practice of integrating the WRM into MBSR-based courses. This practice development was my way of bringing concepts from attachment theory and neurobiology, about stress regulation, into MBSR whilst maintaining the integrity of the programme (Rose, 2016). My knowledge and competence in working with MBSR and the WRM have developed in an inter-related way in my work over the past 10 years. In this thesis, I will investigate how the combining of MBSR and the WRM work together in practice and discover the manner in which the WRM may enhance and supplement the teaching of MBSR.

The theory and practice of both MBSR and the WRM are concerned with mind-body relationships and the integration of third-person scientific and first-person experiential perspectives. My methodological approach was strongly influenced by the notion of meditation and mindfulness awareness as methods for accessing phenomenological experience for research (Varela & Shear, 1999).

My own personal and professional experience from different positions shapes the motivation for implementing the research. I have my first-person experience of mindfulness practice, supported by attending retreats and teacher training. This informs my second-person role as a mindfulness teacher facilitating participants' first-person learning and development. Becoming a practitioner researcher added an additional, and different, second-person role in which I facilitated the data collection whilst teaching. Analysing data and positioning it within a wider practice and empirical knowledge took me to a third-person position. Switching between the use of third and first-person writing styles in this chapter and throughout the thesis reflects these positions and perspectives.

My practitioner knowledge of the WRM and its use in mindfulness-based therapeutic practice grew through personal study and reflection upon my own experience and through feedback from clients, training participants and colleagues (Drake & Heath, 2010). Practitioner researchers who research their own practice can contribute practice-based knowledge, and enhance and develop theory from practice (Jarvis, 1999). 'The experiential knowledge of practice […] is out of reach for other researchers. Only when practitioners have an intrinsic motivation to research and make their practice explicit can their embodied experiential knowledge reach an outside audience' (Groth et al., 2015, p.1).

Writing about my therapeutic work using the WRM (Rose, 2014) was a springboard to doctoral study. This thesis is a way to develop knowledge generated along the horizontal axis of practice and practitioner enquiry within the vertical axis of research and academic knowledge (Bernstein, 1999). My intention is to generate and disseminate knowledge in both arenas. Beyond my own doctoral development, the intended audience and impact is MBSR and MBP teachers, as well as other practitioners, and researchers interested in embodied and mindfulness-based approaches to stress and emotion regulation.

Given the exponential growth of MBPs and the associated development of MBP teachers, research and practice development about the teaching practice is timely (McCown et al., 2010; Crane et al., 2010). Britton (2016, p.93) proposed that 'practical methods to integrate science-based didactic material into the MBI curriculum' were needed. The 'practitioner literature would be strengthened by empirical studies of the mindfulness-based teaching process' (Crane et al., 2015, p.1104).

The focus of this research

My focus is the integration of the WRM with MBSR as both an intervention and an approach to mindful stress and emotion regulation. The overall aim is to conduct a qualitative evaluation in order to generate practically applicable knowledge about the combined practices and manner in which the WRM may augment the teaching of MBSR. The objectives are: to elicit and analyse embodied, experiential descriptions of learning the WRM within MBSR from present and past participants; to test the model in this context; and to illuminate the process and substance of learning. The main research question is: how does teaching the WRM complement the theory and practice of MBSR? Three further questions will structure the qualitative research. They are:

- How well do the regulated and dysregulated states and the notion of thresholds of tolerance, presented through the WRM, fit with lived experience?
- How does the WRM lead MBSR participants and graduates to gain new insights into their experiences of stress and patterns of reactivity?
- In what way does the WRM help participants to practise mindfulness-based self-regulation?

Thesis overview

Eight further chapters follow this introduction. Chapter two explores the theory and practice of MBSR. It begins with the rationale for a secular intervention setting mindfulness meditation within a mind-body, participatory health paradigm. An overview of the curriculum and the interactive and experiential teaching pedagogy highlights how meditation as the central learning vehicle is accompanied by exercises to facilitate insight and the application of mindfulness in daily life. The inclusion of the WRM is presented as one way of accomplishing the didactic teaching about stress within the curriculum. Areas of theoretical resonance and fit with teaching intentions provides the theoretical and practice/practical contexts for the study. The chapter finishes with an overview of Shapiro et al.'s (2006) theoretical model of the mechanisms of mindfulness and a section about the tension between the practice of MBSR and wider literature and debates about mindfulness.

Chapter three reviews relevant empirical literature and the process of learning and change derived from them. The first section focusses on the reasons why people undertake training and evidence that the aims of MBPs are realised in measurable ways. Mechanisms of change and practice issues identified in quantitative research are discussed. Theories of mindful emotion regulation drawn from varied research methodologies are reviewed. The second, larger part of the chapter provides a systematic synthesis and integrative review of 136 qualitative studies exploring participants' experiences and processes of change. Five meta-syntheses are reviewed and their findings integrated to reveal common themes in positive change. Purposive samples of studies investigating experiences and challenges during MBPs are reviewed, highlighting that when and how difficulties are encountered and supported can either thwart progression or become a vehicle for learning and change. The WRM is used as an explanatory framework for considering these findings strengthening the case for its application to and in MBSR.

Chapter four sets out the methodological framework and research design. The need for an embodied ontology and epistemology in order to consider the embodied self-awareness experienced through meditation were addressed through enactivism (Varela et al., 1999). The application of mindfulness-based, first-person phenomenological methodology (Varela & Shear, 1999), within the frame of the conceptual encounter method (de Rivera, 1981), provides a theoretical basis for integrating learning and data collection processes. Ethical issues connected with this are discussed. The overall research design, consisting of two distinct research phases, is summarised.

Chapter five provides an account of the methods used in the first phase of qualitative research, to explore the research questions in three MBSR courses. The overlap between the conceptual encounter research method and the process of teaching the WRM are described, including the process of gathering data through an interactive diagrammatic exercise and two question schedules. How ethical practice was managed with respect to the participant researchers' (PRs) engagement in the study and their needs as course participants is explained. The rationale for and implementation of a process of template analysis to analyse the PRs' experiences in relation to the research questions and practice context is presented (King, 2004). How embodied and diagrammatic phenomenological data was transformed into forms of presentation that retained their relationship to the features of the WRM is described.

Chapter six presents the results of phase one and discusses them in relation to the MBSR practice context. The chapter begins by describing PRs' initial resonance with the WRM and their engagement with the diagrammatic form to locate states and describe changes over time. Their rich embodied descriptions of their lived experiences related to the key concepts in the WRM are laid out. The chapter goes on to elucidate how PR's drew on the form and content of the model to make sense of stressful experiences and recount habitual patterns of reaction. How they applied their new awareness of different states to practise more mindful responses are elucidated. Important questions about MBSR teaching practice are raised from PRs' perspectives on learning and applying the WRM. The results are discussed in relation to MBSR practice, showing consistency with the purpose of didactic input about stress.

Chapter seven describes the methods used in phase two. It outlines the recruitment and induction of a group of research partners (RPs) to join me in a further investigation of the WRM in relation to ongoing practice following MBSR through the conceptual encounter method (de Rivera, 1981). The simultaneous processes of facilitated learning and data collection via question schedules, diaries and an exploratory focus group are explained. The implementation of formal and informal mindfulness as a first-person research method within data collection processes is set out. The chapter also provides an account of the choice and implementation of a structured process of thematic analysis (Braun & Clarke, 2013) informed by van Manen's (2011) notions of macro and micro phenomenological reflection.

The results of the thematic analysis are presented in chapter eight. This begins with the overarching theme that the WRM worked as a dynamic map for mindful exploration of stability and stress. Three themes articulate interrelated mindful reflection practices and activities

associated with using the WRM as a map. ‘Charting regulated and dysregulated stress and emotion’ describes how research partners used the model as a way of knowing and locating experiences in the moment and over time. How their interrogations of the model added nuanced detail to it is revealed. ‘Embodied application in mindfulness practice’ focusses on experiences during meditation and insights about the interplay between mindfulness and the patterns of reaction in the WRM that were accessed. ‘Orienting to and resourcing regulation and self-care’ captures the role of the WRM in providing a rationale for self-care and a map to inform the application of mindful awareness and to direct resources to support regulation and balance. These more interpretative results are used to understand the learning and development expressed in the more descriptive results from phase one. Finally, the overarching theme is used to identify how the WRM complements MBSR as an aid to teaching and learning mindfulness-based self-regulation through three functions: i) an embodied experiential method for teaching about stress; (ii) a heuristic for self-exploration and developing insight; and (iii) a rationale and guide for mindfulness-based self-regulation and self-care.

Chapter nine, discusses the findings of the literature reviews and two phases of qualitative research, and explores their relationship to existing knowledge. The qualitative quality and contributions of the research are considered. The chapter and the thesis ends with plans for dissemination and concluding comments.

Chapter two

Literature review context

Introduction

I will begin with my rationale for reviewing the literature explicitly from a practitioner perspective, to generate knowledge which is accessible and meaningful for practitioners as well as researchers interested in practice. I recognised differences and dissonance between the technical and theoretical texts that informed my practice as an MBSR teacher, and much of the theoretical and research literature in peer-reviewed journals. Research, on the whole, is not written for a practitioner readership and research structures can undermine practitioner knowledge. (Jarvis, 1999). Therefore, to generate knowledge that addresses practitioner concerns, practitioner researchers need to consider conceptual writing and insider documents, which may be less accessible to researchers (ibid.). Given the practice-based topic and context of this research, the inclusion of practice literature is crucial to set the practice context.

This thesis explores how the WRM complements the theory and practice of MBSR. My lines of enquiry are to explore the main ideas and practices in MBSR, and how they facilitate learning and change regarding the self-regulation of stress and emotion. I will also consider how the WRM fits in with these ideas and practices. I have drawn a distinction between the literature regarding Mindfulness-Based Programmes (MBPs: Crane et al., 2017) and the broader literature about mindfulness written from different perspectives. The tether points, for this and the following chapter, will therefore be the practice, theories and pedagogical processes of MBSR as the prototype MBP, and the one in which teaching about stress reactivity is integral to the curriculum. This chapter will focus on the theory and practice of MBSR. The next chapter will review the empirical literature, considering quantitative evidence followed by a fuller review of qualitative studies.

The theory and practice of MBSR

Through extensive reading of the writings of Kabat-Zinn, the founder of MBSR, and comparing it with the broader literature about mindfulness, I identified a number of interrelated themes that distinguish how mindfulness is conceptualised and applied within MBSR. These are: (i) it

is set within a secular mind-body paradigm; (ii) it includes a combination of meditation forms; and (iii) the M in MBSR reflects a broad, multifaceted definition of mindfulness.

The secular mind-body context

Kabat-Zinn's vision for MBSR was to make the insights and benefits of meditation and hatha yoga widely accessible as an approach to health (Kabat-Zinn, 2003). Core principles from Buddhist psychology concerning how the mind either creates suffering or supports wisdom and health were embedded into MBSR. Suffering and distress are seen to arise from attachment to fixed thoughts and wishes, and from resisting unwanted experiences. Wandering attention and internal narratives about how things 'should' be perpetuate these processes. Health and flourishing, on the other hand, come through attending to present-moment experience, positive qualities and wisdom, and competence in working with the mind and experience as it arises (Kabat-Zinn, 1985). Meditation practice is seen to enable the move from suffering towards flourishing. MBSR is not, however, a Buddhist training (Kabat-Zinn, 2003). It is an intentional re-contextualisation of theories and practices, brought from Buddhist and Yogic traditions into a secular framework and language (Kabat-Zinn, 2011). The initiative was part of a wider exchange, across eastern and western traditions, bringing together knowledge from science and contemplative practice, particularly by the Mind and Life Institute (Kabat-Zinn, 2010). Teaching meditation and attitudinal qualities independently of the religious framework in which they originated, and situating them within mind-body medicine, were key features of MBSR (Kabat-Zinn, 1985). A holistic view of the interrelationship between mind, body and living context was central to setting MBSR within integrative and participatory medicine, in which individuals play an active part in their health. (Kabat-Zinn, 1990).

Teaching a combination of meditation practices from the start

MBSR utilises concentration practices focussing on single objects of attention, such as the sensations of breathing, to develop steady attention. It also emphasises expanding the field of attention to observe the changing flow of mental and physical experience (Kabat-Zinn, 1982). The combining of these two forms of meditation in MBSR is different from how they are taught within the traditions from which each derive (Kabat Zinn, 2011). MBSR follows the established process of starting with concentration practices to stabilise attention and build body awareness, and then learning to expand attention to other aspects of experience, such as thoughts and feelings (See chapter 3; McCown et al., 2010). Using meditation as a method of gaining

insights into the mind and its habits and applying them in daily life was included. The rationale for this was pragmatic: 'training can be made more interesting and more accessible to large numbers of people within the mainstream of society if the wisdom dimension of mindfulness […] is included from the beginning' (Kabat-Zinn, 1996, p.2). Insight in MBSR relates to living everyday life with wisdom, balance and personal choice, rather than as an explicit spiritual pathway. Kabat-Zinn (1990) incorporated movement practices from hatha yoga and informal practices such as mindful eating and everyday activities to bring present-moment awareness into daily life. A defining, but often misunderstood, characteristic of MBSR is that a combination of different types of meditative practice are taught from the start.

The M in MBSR – a broad multifaceted definition of mindfulness

Blending focussing/concentration and observing/insight-raising practices led Kabat-Zinn to use 'mindfulness' as an umbrella term (Kabat-Zinn, 1985), to simultaneously hold meanings from different traditions (Kabat-Zinn, 2011). Working definitions of mindfulness, highlight both the activity of paying attention and the awareness that comes from it. For example: 'the awareness that emerges through paying attention on purpose, in the present moment, and non-judgementally to the unfolding of experience moment by moment' (Kabat-Zinn, 2003, p.145). This definition highlights the inseparability of awareness and the practice or act of becoming aware. Descriptive definitions of mindfulness like Kabat-Zinn's act as a 'procedural directive' for people learning to practise (Bodhi, 2011, p.27). Bishop et al.'s (2004) two-fold definition covers both attentional presence and attitudinal qualities, characterising mindfulness by the self-regulation of attention to the present moment and an orientation to experience characterised by curiosity, openness and acceptance.

Multifaceted definitions of mindfulness, along with a combination of meditation practices in a mind-body framework, distinguish MSBR from other frameworks for learning meditation. Goleman and Davidson (2017) described intensive trainings embedded in Buddhist lineages as paths that travel deeply into spiritual matters, but have narrow appeal. In contrast, they saw MBSR as having wider appeal and distributing meditation more broadly, whilst retaining aspects of the deeper path.

The rationale for mindfulness as a vehicle to cope with stress

Early prototypes of MBSR were outlined in research publications (Kabat-Zinn, 1982; Kabat-Zinn et al., 1985). However, it was in the book 'Full Catastrophe Living' (FCL) that Kabat-

Zinn (1990) set out, more fully, a rationale for mindful awareness as a basis for coping with stress, pain and illness. As this text is seminal in framing the MBSR curriculum and relates to both learner and teacher perspectives, I have reviewed it in depth here.

In the book title 'Full Catastrophe Living' Kabat Zinn (1990) expressed the nub of MBSR as a bold approach to engaging with, and experiencing more fully, all aspects of the human condition. This approach, he argued, is better for health and wellbeing than habitually fearing and avoiding difficult experiences. The usual non-mindful state of a wandering mind, organised around avoiding unpleasant experience, is not optimal for dealing with pain and difficulties and often exacerbates stress and suffering (Kabat-Zinn, 1985). Valuable information and experience are missed when the mind wanders unchecked. You need to be present to know anything and act with choice: 'It is the only time we have to perceive, to learn, to act, to change, to heal' (Kabat-Zinn, 2013, p.16). Seven attitudinal foundations for how best to engage with experience were presented: non-judging, patience, beginner's mind, trust, non-striving, acceptance and letting go. In the second edition of FCL (ibid.), the qualities of kindness, compassion, generosity, forbearance, empathic joy and equanimity were added, along with commitment and discipline. Awareness of the present moment affords the practitioner the opportunity to acknowledge and accept unpleasant experiences. Mindful attitudes are important to support the challenges of being present across a wide range of experience.

In FCL, Kabat-Zinn (1990) framed MBSR as a new paradigm for addressing health and illness. It includes two interrelated threads: notions of intrinsic wholeness associated with mind-body and social connectedness that supports health and healing, and the role of attitudes, perceptions and thought patterns in health, drawn from behavioural science.

A sense of wholeness and balance experienced through meditation and yoga are connected with a positive quality of aliveness which activate inner resources for integration and healing. Kabat-Zinn related this to a self-regulatory model based on complex systems theory (Schwartz, 1977). Early scientific findings about the impact of meditation on physiological regulatory mechanisms, such as 'the relaxation response', supported this approach (Benson & Klipper, 1975). Health is nourished when the flow of energy and information has a dynamic stability while disorder or disease grow through systemic disruption and dysregulation (Schwartz, 1977). In relation to stress, Kabat-Zinn joined this with McEwen's (1998) notion of allostasis as stability through change and proposed that mindful attention to bodily messages and a sense of connectedness can restore the balance of the body-mind systems that support health.

Kabat-Zinn (1990) drew on a wide range of evidence that beliefs, thoughts and feelings effect health experience. He linked learning through MBSR to the development of 'self-efficacy' (Bandura, 1977), and a 'sense of coherence' (Antonovsky, 1987). These concepts theorise how the ways in which people approach difficulties, the confidence they have in their ability to manage them, and their willingness to meet challenges directly influence their adaptability and resilience. Lazarus' (1984) appraisal theory was used to discuss the role of how stress is perceived and interpreted in determining its impact. Ideas were included from positive psychology formulating how positive attributions (Seligman & Csikszentmihalyi, 2000) and mindful self-compassion reduce the negative effects of stress (Gilbert, 2009; Neff, 2003). The paradigm presented by Kabat-Zinn drew on a range of sources and demonstrated a commitment to bringing theories together as a scientific and secular rationale for practising mindfulness.

The S in MBSR

Stress was included in the name of the programme due to its wide resonance and general application (Kabat-Zinn, 2011). Two chapters, 'Stuck in stress reactivity' and 'Responding to stress', articulate pivotal ideas about how mindfulness in a mind-body approach provide the practice and context for reducing stress (Kabat-Zinn, 1990 & 2013).

Understanding stress reactivity

Physiological information was presented to support mindfulness of stress. He began with the bodily, automatic nature of stress reactivity, which is reinforced by habits of avoidance or inhibition, trapping people in vicious cycles. Citing Cannon's (1932) work on homeostasis, he described the activation of flight and fight by the sympathetic nervous system and how mind-body interactions and mutual feedback through negative appraisals and inhibiting reactions gave rise to further stress-based internal feedback. Over time, this closed feedback system based on fighting or avoiding the reality of the experience, leads to chronic wear and tear on the body - allostatic overload (McEwen, 1998). This is illustrated as an unbroken cycle around and within a body. These ideas are presented to encourage people to engage with their experiences of stress with interest.

Responding to stress

The use of present-moment awareness, as a basis for chosen responses, is presented as an alternative to reacting automatically and called the Mindfulness-Mediated Stress Response

(MMSR: Kabat-Zinn, 2013) Mindful appraisal replaced automatic, negative appraisal and inhibition from the previous 'stuck in reactivity' diagram. Mindful presence and awareness of automatic reactions are seen to interrupt the fear-driven patterns that perpetuate stress. Maintaining stability in the face of stress, turning towards it rather than turning away, increase the possibility of recovering balance. Experiential connection with stress was linked with notions of exposure and increasing stress-tolerance (Kabat-Zinn, 2003). In his diagram of the MMSR, Kabat-Zinn (2013, p.337) positioned mindfulness as a steady platform from which mindful responses and the deployment of other coping strategies can be made.

MBSR draws on both the inherent salutary effects of mindfulness and the intentional use of mindful presence in self-regulation and self-care. The implication is that support for biological regulatory systems is an intrinsic benefit of mindfulness practice. Learning a new approach of appraisal and regulation, on the other hand, requires changes in attitudes to experience, and in how it is interpreted and responded to.

The MBSR curriculum

Until recently, detailed information about the curriculum was only accessible in teacher training manuals. An official curriculum guide was published for teacher training and development and as a reference for researchers (Santorelli et al., 2017). The curriculum is: 'a structured pathway to relieve suffering and increase wellbeing for a wide range of medical and social conditions, demands and stressors' (ibid., p.4). It is a generic programme for heterogeneous populations. The standard structure is 8 x 2½ hour sessions, with a full day of practice. Four elements combine to facilitate experiential learning and application: guided meditation and yoga practices, inquiry-based discussions, informal meditative practices in everyday life and pedagogical exercises. Mindful attitudes are embedded in practice guidance and explored in group discussions. The formal meditation practices are body scan, breathing meditation, hatha yoga, walking meditation and sitting practices, which begin by focussing on sounds or the breath, and widen into open monitoring. Participants receive recordings of guided meditations to practise between the classes. Guidance to bring meditative attention to everyday activities is given to facilitate a continuity of awareness in life (Kabat-Zinn, 2003). Experiential exploration of pleasant and unpleasant experiences is part of sessions 2, 3 and 4. Sessions 4 and 5 provide pivotal teaching to develop awareness of stress and the capacity to respond wisely to it. Session 4 draws upon experiences from previous sessions, especially engagement

with unpleasant experiences, to explore patterns of reactivity to stress. It includes a didactic presentation about stress physiology. Session 5 builds on this to show how stability of presence and acceptance can provide a platform for chosen responses. The later sessions continue to practise presence and new ways of relating and responding to difficult experiences and identifying nourishing experiences. The content of MBSR remains consistent with the shape of the original programme. Figure 2.1, below, illustrates my analysis of the core concepts, features of the curriculum and changes that may come out of participation that are evident in the main texts about MBSR from Kabat-Zinn's writings.

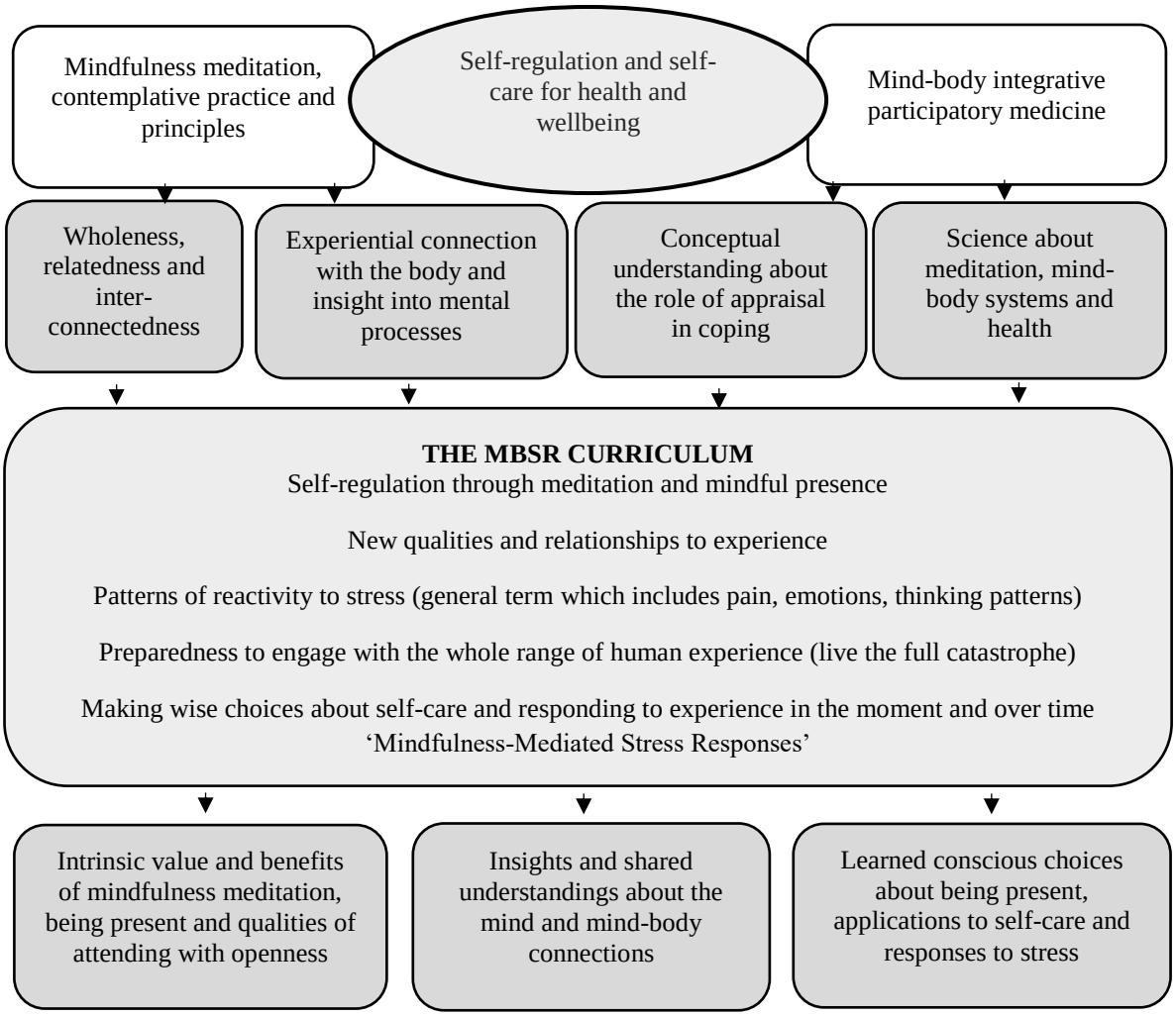

Figure 2.1 MBSR: Key concepts, curriculum and intended benefits

Mindfulness-Based Programmes

In response to the proliferation of mindfulness interventions and research interest in them, key figures involved in their design and development clarified their defining characteristics and

proposed the term Mindfulness-Based Programmes (MBPs: Crane et al., 2017). I have adopted their defining features as a key reference point. MBPs are:

> (i) informed by theories and practices that draw from a confluence of contemplative traditions, science, […] medicine, psychology and education; (ii) underpinned by a model of human experience, which addresses the causes of human distress and the pathways to relieving it; (iii) develop a new relationship with experience characterized by present-moment focus, decentering and an approach orientation; (iv) support the development of greater attentional, emotional and behavioural self-regulation, as well as positive qualities such as compassion, wisdom, and equanimity; And (v) engage the participant in a sustained intensive training in mindfulness meditation practice, in an experiential inquiry-based learning process and in exercises to develop insight and understanding (ibid. p.4).

Teaching – pedagogy

McCown et al. (2010) present five interrelated teaching intentions spanning the curriculum. 'Experiencing new possibilities' involves a loosening or disruption of habitual ways of operating and relating to the mind. 'Discovering embodiment' through shifting attention to, and building awareness of, emotion and embodiment provides the basis for a different way of being. 'Cultivating observation' involves becoming conscious of the ability to notice elements of experience. 'Moving towards acceptance' emerges from the expression of a mindful attitude and qualities of presence expressed and fostered by the teacher and group. 'Growing compassion' is the final related intention of teaching mindfulness.

Practice literature views relational interaction with the teacher and across the group as playing a central role (Santorelli, 2010) and important in providing the emotional safety for connection with and inquiry into the experience of suffering (McCown, 2010). Competent teachers impart the learning points through their own embodiment of mindfulness as well as their teaching methods (Crane et al., 2012). Exploratory dialogue should make up at least 40% of classes (Santorelli et al., 2017). The interactive discussions following meditations are called 'inquiry' and are seen as outward expressions of meditation practice (Santorelli, 2016), enabling the whole learning process to be mindfulness-based (Crane et al., 2010). Inquiry supports learning the attitudinal foundations of mindfulness (Woods, 2016) and can elucidate the details of

habitual reactions (Crane et al., 2015) and establish a wider inclination to explore experience (Segal et al., 2012). The structured dialogue moves between three layers (Crane, 2009). The first, instigated by questions such as 'what did you notice?' encourages observation of direct experiences of thoughts, feelings and physical sensations. The next widens to explore what it is like to notice phenomena such as mind wandering, drowsiness or irritation. Dialogue facilitates personal learning through recognising both universal and individual patterns of reaction (ibid.). The third layer links to wider contexts of learning and promotes insight, new ways of working with conditions and difficulties in life. Although central to the learning process, inquiry is not given due regard in the empirical or theoretical literature (McCown et al., 2010). A notable exception is a study by Crane et al. (2015), which applied conversation analysis to highlight the importance of interactions with the teacher, and across the group, to normalise experiences and make the issues relevant to all.

Whilst the articulated pedagogy of MBPs is explicitly experiential, the way in which it relates to experiential learning theories is undeveloped. In experiential learning theory (ELT: Kolb, 1984), experience, perception and behaviour are integrated in a continuous, holistic process, which fits well with MBP pedagogy. ELT views learning as arising through a cyclical process, involving different ways of either grasping or transforming experience. Getting or grasping things comes through both concrete experience and abstract conceptualisation. Reflective observation and active experimentation are two modes of transforming experience. The combination of guided practice, discussion and didactic teaching in MBPs provides opportunities for all the elements of the cycle, with a foundation in and repeated return to direct experience. Yeganah (2007) established an empirical correlation between measures of mindfulness and measures of experiential learning and proposed the concept of mindful experiential learning. This is a useful lens on experiential learning in MBPs. Grasping concepts presented by the teacher and the structured facilitation of reflective observation may complement direct experiences of meditation. ELT provides a bridge to join mindful awareness as both the learning and the way of learning with broader aspects of the intervention, including facilitated interactive learning, conceptualisation and reflection.

Didactic information about stress provides a contextual scaffold for MBSR participants to link mindfulness with improving how they cope (Santorelli, 2014). The rationale for teaching a cognitive behavioural model of depression in MBCT has been well articulated (Crane, 2013). Apart from Kabat-Zinn (1990 & 2013), the relationship between the teaching about stress and the rest of the MBSR curriculum is undeveloped in both the technical and empirical literature.

A few papers mention it in relation to adapting the programme for particular populations. For example, Stanley et al. (2011) briefly described teaching trauma resiliency in an MBP for military personnel. Whilst didactic teaching about stress is seen as an essential element of the curriculum of MBSR (Santorelli, 2014), what instructional material to use, and how to integrate it with the experiential pedagogy, is an important technical and theoretical issue.

Teaching the Workable Ranges Model in MBSR

I have taught the Workable Ranges Model (WRM) in MBSR courses for staff since 2011 (Rose, 2016). The WRM is informed by theories in which affect-regulation develops from relational safety and care-giving interaction (Schore, 2003; Siegel, 2007). I developed the WRM to expand and apply the autonomic arousal model used in sensorimotor psychotherapy for traumatic stress (Ogden et al., 2006) to working adults (Rose, 2014). Their model communicated two valuable concepts in an accessible diagrammatic form. These were: the polyvagal theory linking regulation through relational safety with stress physiology (Porges, 2011), and the notion of a window of tolerance of stress and emotion (Siegel, 1999).

In his seminal work, Porges (2011) augmented the established model of autonomic balance. For many years, the autonomic nervous system was understood to have two physiological processes operating in a complementary manner. This involved the activation of the sympathetic nervous system (SNS) into flight and fight reactions, the stress response, and the parasympathetic nervous system (PNS) balancing it with processes of rest, repair and recovery. Following many years of research, Porges (2011) proposed a more comprehensive model based on the function of two different strands of the vagal nerve of the PNS. He posited that one strand, the ventral vagus, which connects with physiological, sensory aspects of safe social engagement such as facial muscles, hearing and voice tone, accounts for the calming, down-regulatory effect. Feeling safe and experiencing moments of relational satisfaction and pleasure can calm stress, bringing a psychophysiological state of immobilisation without fear. But another, more primitive strand, the dorsal vagus, functions as a freeze-fear reaction, shutting down body systems to survive a threat to life: immobilisation with fear. Porges combined the social engagement system and the immobilising defence of the PNS with the mobilising fight and flight mechanisms controlled by the SNS, to make the polyvagal theory into a holistic and hierarchical model of stress. Stress reactivity may be foiled or regulated by social or self-engagement that creates a sense of safety or it expands through mobilisation or immobilisation according to the person and context. Porges (2004) described the body's assessment of safety

as ‘neuroception’ to distinguish it from conscious perception. Porges’ theory resonated with attachment and body psychotherapists like myself. Its key features matched models of regulation and dysregulation from attachment theory, where safety and security regulate affect, and threat generates activating or avoidant behaviour (Ainsworth, 1978; Main, 1995). Attachment-based reaction strategies involve either high emotional intensity and expression, or inhibition and dampening of affective arousal and behavioural withdrawal (Crittenden, 2005). This pattern matches the biological strategies described in the polyvagal theory.

Siegel (1999) coined the term ‘window of tolerance’ to refer to a psychophysical bandwidth in which energy, arousal and information processing change and remain coherent, and regulated, within changing thresholds of tolerance. It models regulated emotion as a zone between hyperarousal and hypoarousal that is optimal for presence, social engagement and balanced action (Schore, 2003). We feel and function best within a variable span of tolerance. When experience exceeds what is tolerable, the mind is pushed into either mental chaos or rigidity (Siegel, 1999). Bringing together attachment dynamics, interpersonal neurobiology and his own experience, Siegel (2007 & 2010) linked this window of tolerance with mindful, care-giving and therapeutic presence. A sense of presence and qualities of open receptivity to others and oneself are enhanced by and contingent upon psychophysiological regulation. Mental chaos or rigidity outside of the window of tolerance therefore compromise mindful presence. Chronic and extreme hyperarousal or hypoarousal outside of the window of tolerance induce dissociation (Ogden et al., 2006). Dissociation is an extreme psychophysical defence which splits off dangerous and overwhelming experience from conscious awareness so that the person loses their sense of presence (van der Kolk & McFarlane, 1994). This automatic defence that prevents conscious awareness and knowing, may be seen as the antithesis of mindfulness (Forner, 2018).

Sensorimotor psychotherapy uses a diagram of autonomic arousal model to depict three sections: the window of tolerance in the middle, hyperarousal reactions and habits at the top, and hypoarousal habits and reactions at the bottom (Ogden et al., 2006, p.27). These three arousal zones are equated with the polyvagal hierarchical stress responses. The window of tolerance is a ventral vagal, regulating, social engagement response. The hyperarousal zone involving flight and fight reactions, and hypoarousal as dorsal vagal, immobilisation responses, are two forms of dysregulation, which activate when things become too much (ibid., p.32). These are represented in the WRM as a general model of stress and emotion regulation, which can model mild, strong and traumatic reactions. Regulated states, and both activating and

inhibiting defences that are laid out in the autonomic arousal model, could be more widely applicable in a general stress model. The inclusion of hypoarousal enabled me to explicitly incorporate closing up, dulled affect, emotional exhaustion and burnout in a psychoeducational tool. These, often hidden, states were very familiar to me in practice, but were usually missing from the general stress lexicon (Rose, 2014).

The essential shape of the WRM, with regulation and integration in the middle and mobilisation and immobilisation above and below respectively, match the autonomic arousal model described above. However, in the WRM they refer to a broader spread of experience. This is particularly so with the area of low arousal, which includes ordinary, temporary flattened affect and cognitive blankness as well as more chronic emotional exhaustion and depletion. The WRM is a generic diagrammatic method for teaching stress regulation. It draws upon multiple meanings of workable, to refer to functioning, what feels right, manageable and 'works' for us, and where experience may be worked on therapeutically and mindfully. The word 'ranges' refers to a non-static, dynamic spectrum spanning higher and lower arousal and emotional states. Colour is used in the WRM diagram to complement the spatial layout to represent the tone of the states: the workable range in the middle is green, mobilisation/hyperarousal in red above it and immobilisation/hypoarousal in blue below. Two diagrams are given as handouts: one with descriptions of the different states and a regulated state, and the other depicting the narrowing of the workable range by dysregulation. The vertical axis of the diagram enables the three states and changing levels of arousal to be set out. The horizontal axis depicts time. It can be used to illustrate or discuss the detailed unfolding of experience or more general trends over time. See Figure 2.2, below and handouts in appendices A and B.

The formal teaching of the WRM, in Session 4, begins by introducing the notion that everyone has a dynamic workable range, where ups and downs of arousal and motivational pressure feel good or manageable. They fluctuate according to general energy levels, what we are doing and what is happening around us. Mindfulness practice is connected with safe self-engagement within this range (Siegel, 2007). Informal mindfulness, and check-ins with short practices, are suggested as ways to notice and savour balance, or notice, observe or respond to the different forms of imbalance. Individual differences in baseline states, thresholds and recovery from dysregulation (Davidson, 1998) are discussed, as are the expansion and contraction of the range throughout the day and over longer periods of time. Physical, emotional, cognitive and attentional changes when mobilised or immobilised are summarised. These are connected with lived experiences drawn from the group's or the teacher's experience to bring it alive. Lines

are drawn on the model to track experiential changes over time, and brought to life with current examples. A gentle wavy line within thresholds depicts a regulated state, with more pronounced ups and downs over the upper and lower thresholds depicting variable dysregulation. It is important to communicate that discomfort with threat reactions is normal because, by definition, they lie beyond current levels of tolerance. The model may be used to elicit reflections on preferences and aversions, patterns of reactivity and what participants find regulating. The detail and delivery can be adapted according to the context and group. See Rose et al. (2018) for a fuller exposition of the teaching of the WRM in MBSR.

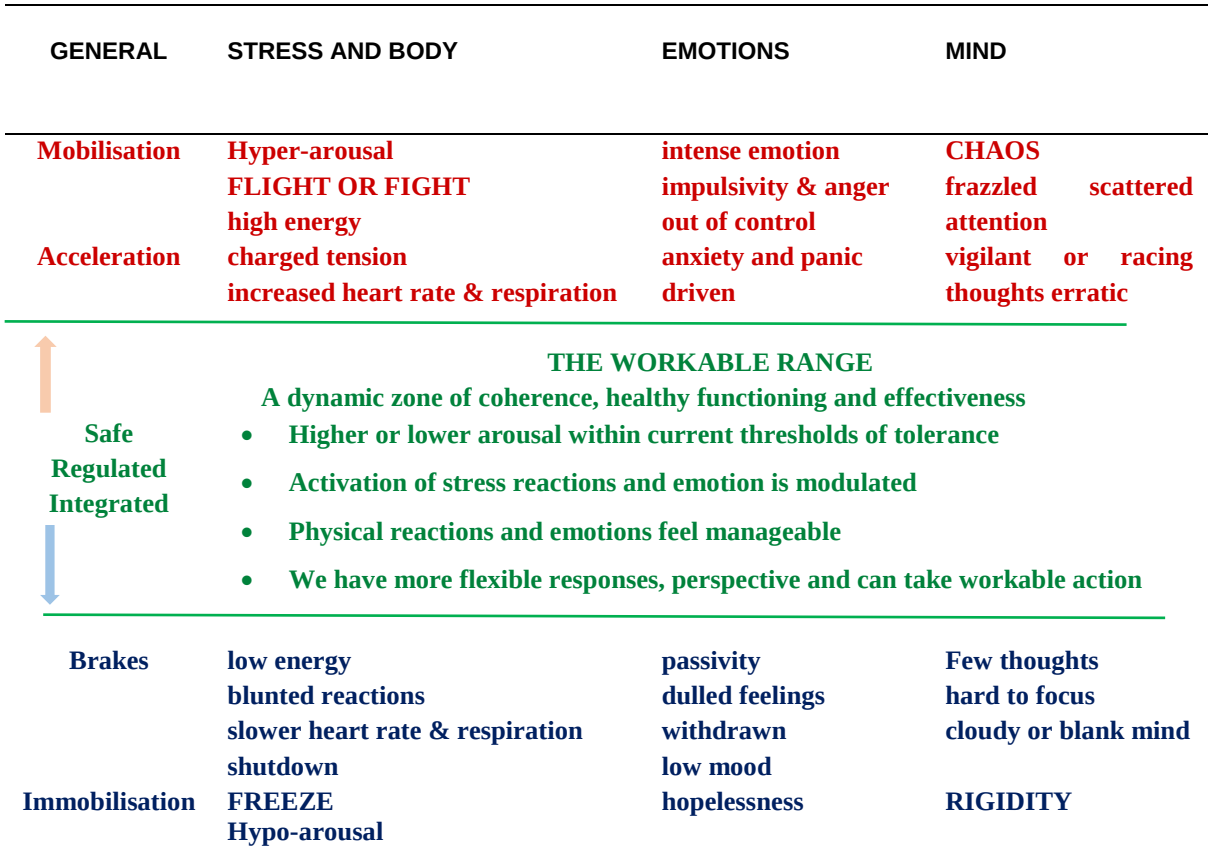

Figure 2.2. A handout depicting the Workable Ranges Model

The intentions in developing the WRM were to teach about positive balance and regulation, ordinary defensive reactions and dysregulated states and set them in relation to each other. Notions of integration in the WRM relate to biological systems theories of regulation and dysregulation (Schwartz, 1977), cited by Kabat-Zinn as informing MBSR (1990). The teaching of the WRM to support mindful connection with bodily feedback accords with systemic models of self-regulation (Shapiro & Schwartz, 2000).

A theoretical model of the mechanisms of mindfulness in MBPs

Shapiro et al. (2006) proposed a theoretical model of how mindfulness practice produces desired change. They identified three interrelated behavioural axioms of practice embodied in Kabat-Zinn's (1994, p.4) definition: 'Mindfulness means paying attention in a particular way, on purpose, in the present moment, and non-judgmentally.' They are: intention, attention and attitude. Intention refers to why people practise and their vision for change. Attention relates to the practice of attending to and observing internal and external phenomena, and attitude refers to qualities of receptiveness to experience. This model proposes a meta-mechanism called 'reperceiving'; the gaining of new perspectives on experience through interactions between intention, attention and attitude. Reperceiving is the ability to observe and reflect upon mental and psychological processes. It is similar to established psychological concepts such as meta-cognition in developmental psychology (Flavell, 1979), decentring in cognitive therapy (Safran & Segal, 1990) and reflective function in attachment-based therapy (Fonagy & Target, 1997). In Shapiro et al.'s (2006) model, fundamental shifts in perspective are seen to advance other mechanisms to produce positive outcomes. The four mechanisms they set out are: self-regulation and self-management; cognitive, emotional and behavioural flexibility; values clarification; and exposure. This model of the mechanisms of action in MBPs, made sense to me as a teacher and encompasses both meditation practice and interactive inquiry.

MBPs and wider debates about mindfulness

The rapid growth of MBPs prompted research and scholarship from the confluence of disciplines that informed them. Psychologists and health scientists apply mainly positivist assumptions to knowledge, seeking to define and isolate mindfulness as a measurable variable (Chiesa, 2013). Buddhist scholars work within different traditions and assumptions (de Zoysa, 2016). Whilst an in-depth analysis is beyond the scope of this thesis, I will discuss some critiques of MBPs from a practitioner perspective. Critiques of MBPs often focus on the de-contextualisation of meditation practices from explicit Buddhist ethical guidance and the combination of different types of mediation practices (Monteiro et al., 2015). Kabat-Zinn (2017) suggested that the view that MBPs do not support ethical concerns reflects common misunderstandings that mindfulness in MBPs refers exclusively to present-moment attention, when in fact they include practices to develop discernment and comprehension. Indeed, the development of observational and reflective skills is central to Shapiro et al.'s (2006) model of mechanisms of mindfulness discussed above. The development of ethical concerns and value

are implicit in MBPs, as they are in mainstream therapies (Crane et al., 2017). Values and ethics can come from psychological perspectives (Baer, 2015). Chiesa and Malinowski (2011) argued that mindfulness cannot refer both to focussing and open-monitoring meditative practices because these are separated in Buddhist teaching. Their supposition that MBPs only teach present-moment awareness extended to an assumption that participants do not learn about the nature of their problem, mistakenly stating that MBCT does not teach participants about the nature of depression. Purser (2015) also presumed that MBPs restrict participants' attention and thwart reflection on experiences over time in relation to their work contexts. This is not necessarily so.

I was struck by the considerable divergence between how MBPs are conceptualised in research and theoretical literature and how it is taught and practised. My practice-based perspective is that the main critiques of MBPs involve a de-contextualisation of the construct of mindfulness from the context of the whole curriculum. When mindfulness is extracted from wider course content and the relational and social contexts in which it occurs, the perspectives of MBPs become disconnected from actual practice.

Khoury et al. (2017) analysed tensions across definitions of mindfulness between Buddhist traditions and western scientific conceptualisations. They recognised embodiment as a shared feature, and embodied mind theory (Varela et al., 1991) as a meeting point for both perspectives. They proposed embodied mindfulness as a unifying concept. This framework combines non-verbal and verbal consciousness as embodied cognition that always emerges and is embedded in interpersonal and social contexts (Khoury, 2018). The construct of embodied mindfulness proposed brings experiential mindfulness and verbal reflection together in the present moment. I have shown earlier in this chapter that meditation and structured inquiry and exercises to develop insight intertwine in MBPs as vehicles for the development of awareness and new ways of coping. This perspective is important to this thesis because it is integral to the methodological approach presented in chapter four.

Chapter summary

In this review of practice and theoretical literature, I have brought the perspectives from practice to the fore. Kabat-Zinn combined various meditation practices and linked them with theories from mind-body medicine and psychology. Theories about stress appraisal and coping fed into the distinction between unbroken cycles of stress reactivity and the use of mindfulness

to take an active role in responding to stress. The pedagogy is largely experiential, built around meditation practice and interactive reflection. The curriculum includes teaching about stress reactivity to support engagement with its experience. This provides a contextual base for staying present during stressful experiences and finding ways to choose how to respond. Interactive inquiry and conceptual teaching about stress are rarely considered integral to the process of learning and change. The theories behind the WRM linking stress regulation with safety and relational presence were outlined and the method of teaching the WRM in MBSR was presented. Shapiro et al.'s (2006) three axioms of mindfulness – intention, attention and attitude – provide a theoretical model of the mechanisms of mindfulness practice. A practice-based reading of critiques of MBPs from other perspectives suggests that they may stem from misunderstandings of Kabat-Zinn's broad use of the term mindfulness and the de-contextualisation of mindfulness from the whole programme.

The design and context of MBPs involves a convergence and intermixing of streams of thinking and practice (Williams & Kabat-Zinn, 2011). The teaching practice facilitates a synergy of the components and continuity of approach, repeatedly orienting the participant towards their present-moment experience as a resource for living, reflection and response.

Chapter three

Empirical Literature Review

Introduction

This chapter will review the relevant empirical literature. Whilst the focus of this research is a pedagogical adaptation to Mindfulness-Based Stress Reduction (MBSR), I will also consider evidence about the wider group of Mindfulness-Based Programmes (MBPs) where appropriate, such as reviews that include both or studies that are particularly pertinent to this thesis. The chapter begins by looking at evidence about why people undertake mindfulness training. This is followed by an examination of the effects of MBSR on stress. I will then consider evidence on mechanisms of change and changes over the duration of courses. Theories about mindful stress and emotion regulation, based on empirical research, will also be considered. The final, longest section is an integrative review of the qualitative literature exploring participants' experiences and processes of change.

Quantitative research

Why people attend mindfulness courses

Shapiro (1992) established that the main reason people engaged in meditation was self-regulation, followed by self-exploration and self-liberation. Carmody et al. (2009) applied the same categories and found that MBSR participants' motivations followed the same ranking. Similarly, reducing emotional distress and regulating emotion was the most common reason given for practising mindfulness in Pepping et al.'s (2016) study. However, courses also attract participants who are curious and motivated by personal or professional development (Birtwell at al., 2018). Managing stress and dysregulating emotions appear to be the primary reasons why participants engage in MBSR.

Outcomes

The aim of this section is to answer the following questions. Are the aims of MBSR and MBPs realised in a measurable way? And how do they enable people to regulate stress and emotions?

The effects of MBPs on stress and psychological health

Empirical trials of MBPs have proliferated over the last 20 years, measuring self-reported effects on stress, mental and general health and wellbeing variables across clinical and non-clinical populations. Systematic reviews and meta-analyses have evaluated combined effects. De Vibe et al. (2012) performed meta-analyses on 26 RCTs of MBSR. They found that MBSR has a consistent moderate effect on mental health outcomes. Khoury et al. (2013) calculated the clinical efficacy of MBPs across varied physical and psychological health problems in 209 studies with >12,000 participants. MBPs were found to be moderately effective overall with large, clinically significant, effects on anxiety and depression. Gotink et al.'s (2015) meta-analysis of systematic reviews, comprising 115 RCTs, found that MBPs significantly improved depressive symptoms, anxiety, stress and quality of life. Khoury et al. (2015) found a large effect on stress, moderate effects on anxiety, depression, distress and quality of life and small effects on burnout in non-clinical participants. Meta-analyses show that the aims of MBSR are realised in a measurable way, through reductions in perceived stress and symptoms of anxiety and depression, across a range of clinical and non-clinical populations.

What measurable factors contribute to positive changes?

Self-report questionnaires to measure changes in mindfulness measure the dispositional orientation towards being mindful in everyday life (Baer, 2019). This is consistent with the aims of MBPs. The widely used, Five Facets of Mindfulness Questionnaire (FFMQ) is a compound measure of mindfulness skills (Baer et al., 2006). The facets are: observing; describing; acting with awareness; non-judging of inner experience; and non-reactivity to inner experience. Carmody et al. (2009) designed a study to test Shapiro et al.'s (2006) theoretical mechanisms of mindfulness model – presented in chapter two. They performed mediation analyses on pre-post data from a large mixed sample of MBSR participants. Measures included mindfulness, reperceiving and other proposed mechanisms: self-regulation, cognitive and emotional flexibility, values clarification, and exposure. Stress symptoms decreased significantly. Positive changes were significantly intercorrelated across all of the proposed mechanisms, but the evidence for mediation was weak. Their results did not support Shapiro et al.'s (2006) proposed sequence that decentring/reperceiving followed increased mindfulness. Rather, their results implied that the two constructs overlapped, and both improved during the course. One possible explanation is that interactive inquiry and psychoeducation may also increase decentring and relating more reflectively to experiences.

Gu et al. (2016) reviewed 20 studies that conducted mediation analyses to evaluate which mechanisms mediated the clinical effects of MBPs. They found moderate evidence for mindfulness, rumination and worry, and preliminary evidence for cognitive and emotional reactivity, self-compassion and psychological flexibility. Their meta-analyses found that increased mindfulness and reduced rumination and worry were significant mediators of outcomes. Developing participants' capacities to disconnect from thinking, and connect with direct experience, is fundamental to beneficial change. Keng et al. (2012) found that both mindfulness and self-compassion significantly mediated the effects of MBSR on fear of emotion, suggesting that both processes increased emotional tolerance. A two-arm RCT compared standard MBSR with one with the explicit acceptance instruction removed (Chin et al., 2019). The full MBSR group showed greater increases in non-judgement and reductions in stress. Increased mindfulness, reduced worry, increased acceptance, self-compassion and emotional tolerance may contribute to positive outcomes of mindfulness training.

A review of RCTs, with active controls, concluded that meditation decreased physiological markers of stress (Pascoe et al., 2017a). Pascoe et al. (2017b) compared the effects of yoga interventions and MBSR on physiological markers of stress. Both were associated with improved regulation of the sympathetic nervous system and hypothalamic-pituitary-adrenal system in various populations. Yoga is a little-regarded element of MBPs but is likely to play a significant role in physiological reductions in stress. Reive (2019) reviewed 67 studies to evaluate the biological changes following MBSR. Decreased cortisol levels and regulation of other factors that disrupt physiological equilibrium supported the notion that MBSR has a regulating effect by facilitating a return to allostasis. These findings suggest that a variety of elements in MBSR contribute to physiological regulation.

Goyal et al. (2014) reviewed the effects of meditation on psychological stress and found that, with the exception of mantra meditation, they all produced positive changes in stress, mood and quality of life. This supports the claim that meditation practice, in MBSR, is central to its benefits (Kabat-Zinn, 2011). However, reviews comparing MBSR with other forms of meditation training suggest a more complex picture. Eberth and Sedlmeier (2012) found that, whilst pure meditation training produced greater increases in mindfulness, MBSR was more effective in reducing stress. They suggested that non-specific components such as group support and didactic psychoeducation may also play a part in stress reduction.

MacCoon et al. (2012) proposed a health education programme (HEP) as an active control for MBSR. It was designed to match the wraparound elements of MBSR, such as movement and psychoeducation, but did not include meditation. In a comparative RCT, both HEP and MBSR produced improvements in facets of mindfulness (Goldberg et al., 2016). This suggests that curiosity to present-moment awareness, observing, describing and non-reactivity are developed through other exercises as well as meditation. Ong et al. (2014) adapted MBSR for chronic insomnia by adding information about sleep hygiene. Their RCT comparing standard MBSR with the adapted course found that the effects on sleep were significantly greater in the intervention with dedicated psychoeducation. Meditation skills are central to the effects of MBPs on stress and psychological health, but complementary learning may also be important. There is evidence that the didactic teaching about stress, focussed on in this research can contribute to positive effects.

Psychological changes over the duration of MBPs

Several studies have examined changes during courses. Baer et al. (2012) took weekly measures of mindfulness and perceived stress among 87 adults with chronic health conditions. Mindfulness increased after week two, whereas perceived stress only started to change significantly after week four. This could be due to the gradual development of mindfulness skills. As stress reduced after the session involving psychoeducation about stress, it may have normalised stress experiences and reduced negative reactions to them. Lacaille et al. (2015) evaluated daily mindful responses to stress in 142 participants. Mindful responding progressed during the course and predicted reductions in distress and improved wellbeing. Snippe et al. (2017) examined related changes in stress and emotional reactivity during MBSR in 71 non-clinical participants, with daily assessments of perceived stress and negative affect. Perceived stress and negative affect decreased in a linear fashion in relation to cumulative days of practice. Stress, mood and mindful responding skills progressed throughout MBPs. This evidence underscores the importance of teaching practices that support participants to persevere with meditation practice throughout MBPs.

Ietsugu et al. (2015) examined the trajectory of changes in rumination, anxiety and low mood throughout MBCT. They found a general linear trend of ‘gradually getting better’ through reduced rumination and worry. However, whilst rumination scores decreased session to session, changes in anxious worry suggested a different pattern, with a slight increase after session four and a more pronounced decrease after session five. The authors connected this to guidance to be present with difficult experiences given in the middle of the course. Whilst

engagement with discomfort might initially be dysregulating it could lead to increased tolerance and regulation of anxiety.

Daily or weekly changes suggest a cumulative process whereby increased mindfulness contributes to reductions in stress, rumination and emotional reactivity. Some studies show positive effects from the middle of the programme. This may be due to familiarity with mindfulness meditation and may be influenced by teaching participants to stay present with discomfort and the didactic input that supports it.

Summary of quantitative evidence

The main reason that people participate in MBPs is to improve their self-regulation (Carmody et al., 2009). MBPs are effective in reducing stress, anxiety and depression across a range of psychological measures and physiological changes. The evidence for how MBPs produce positive effects is through developing and applying broad mindfulness skills and attitudes. Psychoeducational elements may also be important to their efficacy. Positive changes are mostly cumulative and appear to follow the development of mindfulness skills. However, there is an indication that the teaching in the middle of the course can stimulate pronounced changes in participants who complete the course.

MBPs and stress and emotion regulation

Several reviews have proposed theoretical formulations of mindfulness and emotion regulation (Chambers et al., 2009; Chiesa et al., 2013; Farb et al., 2012; Teper et al., 2013; Garland et al., 2015; Guendelman et al., 2017). They consider evidence about mindfulness using different methodologies, including: brief inductions; cross-sectional studies; comparing novice and expert meditators; and longitudinal studies of MBPs. Key lines of enquiry, discussed below, are: how is mindfulness different from other forms of emotion regulation? And, is mindfulness a top-down or bottom-up emotion regulation strategy?

Whilst emotion regulation, in psychology, includes both intentional and automatic regulation, emotion regulation strategies mostly refer to conscious attempts to modify unwanted emotions (Gross, 2002). Within cognitive therapeutic models, regulation strategies focus on the reappraisal of stressful experiences towards more positive perspectives and strategies to control expression (Gross, 2002). Chambers et al. (2009) argued that mindful emotion regulation (MER) is different to cognitive reappraisal. They argued that, rather than changing emotion by

changing how it is thought about, MER involves deepening awareness of all emotions without attempting to reappraise or change them. This fits with guidance given during meditation in MBPs. However, in MBSR, it also provides the basis for choosing other strategies.

Top-down regulation with mindfulness involves cognitive processes and control such as decentring, affect labelling, meta-awareness and reappraisal, whereas bottom-up emotion regulation operates at a feeling level through sensory perception and interoceptive body awareness (Guendelman et al., 2017). Chiesa et al. (2013) found evidence for both strategies, with top-down mechanisms more evident in beginners such as participants in MBPs, whereas bottom-up mechanisms were more evident in expert meditators. In a review of neurobiological effects of MBSR, Reive (2019) proposed that, increased hippocampal volume supports both sensory awareness (bottom-up regulation) and functional connectivity for attention regulation (top-down regulation). These findings are echoed in Creswell et al.'s (2019) evaluation of how mindfulness training affects physical health. They proposed a 'stress-buffering model', in which mindfulness modulates threat-based alarm pathways and reduces the negative effects of stress through both top-down and bottom-up mechanisms.

Much of this literature drew on Farb et al.'s (2007) seminal study, where MBSR training highlighted the distinction, at a neurological level, between two forms of self-awareness, a narrative mode linking experiences over time and an experiencing mode focussing on the present moment. MBSR participants show increased experiential focus activation and a decoupling of the two modes, which are usually combined. MBPs, then, were seen to promote 'a non-conceptual sensory pathway as an alternative to conventional cognitive reappraisal strategies' (Farb et al., 2012, p.1).

However, cognitive reappraisal may also be important. Teper et al. (2013) proposed that present-moment awareness enhances executive control and emotion regulation through increasing the sensitivity to and acceptance of affective cues. This suggests a shift in how bodily cues for stress and emotion are thought about and evaluated, as well as how they are engaged with and experienced. MBPs train people to slow down their awareness of emotional experience, which extends the time course of appraisal (Farb et al., 2014). This, combined with greater interoceptive ability to notice physiological signs of stress, provides an arena for considered appraisal (Garland et al., 2011). Taking the notion of mindful reappraisal further, Garland et al. (2017) considered the integration of mindful awareness with narrative meaning making and proposed a 'mindfulness-to-meaning theory'. By changing how emotional

experiences are attended to, mindfulness can lead to more flexible and positive interpretations. Also by reducing aversion to unpleasant experience, practitioners of mindfulness can broaden their awareness and savour positive experience. The mindfulness-to-meaning perspective suggests that non-evaluative connection with experience reduces distortion in appraisals and creates space for more positive and meaningful perspectives. This combination of bottom-up and top-down actions is helpful when considering the range of activities in MBPs and the interplay between mindfulness meditation practice and wider, inquiry-based learning.

Whilst practices in MBPs may be set within established models of emotion regulation, several authors point out key differences in underlying assumptions. Suppositions within a cognitivist paradigm, of a separation between the thinking mind and feeling body, informing aims of changing cognitive content to change the body, are quite different from those that underlie MBPs (Chambers et al., 2009; Garland et al., 2015; Guendelman et al., 2017). These authors highlight philosophical and ontological issues regarding how stress arousal, emotion and verbal cognition are viewed in MBPs. They all referred to the integrated mind-body approach stemming from the work of Varela et al. (1991), which rejects the dualism between somatic and cognitive processes. Khoury et al. (2017) argued that an embodied conceptualisation of mindfulness encompassed the simultaneous emergence of both top-down intentional attentional regulation and bottom-up bodily connections. Mindful emotion regulation is best considered through an embodied lens through which top-down and bottom-up processes are formulated in a multi-dimensional and continuous way (Guendelman et al., 2017).

In differentiating how mindful stress and emotion regulation is different from other strategies, the role of non-conceptual awareness through attentional presence is emphasised in the literature. Whilst this is a distinguishing feature of mindfulness, it obscures the way in which it is accompanied by changes in appraisal. Kabat-Zinn's (2013) use of the term mindful appraisal when presenting the notion of mindful responding indicates an interaction between experiential and reflective awareness.

The focus on the brain in contemplative neuroscience omits both the wider body and the social and physical context (Porges, 2017). Polyvagal theory suggests that both the action of practising meditation and the body's neuroception of safety, in the physical and social context in which it is practised can activate the vagal brake and down-regulate stress circuits (ibid.). The environment, voice prosody and facial expressions are important in this bottom-up regulation. If, however, the body-mind interprets the practice context as threatening, defensive

reactions may be activated. Porges (ibid.) argued that a bodily sense of safety is a prerequisite for meditation to be a regulatory practice. A polyvagal perspective suggests that it is not only the combination of practices taught in MBPs that support emotion regulation, but also where and how they are taught. This supports the importance given in the practice literature to the teacher's embodiment of mindfulness and the group learning context.

Qualitative Studies of Mindfulness-Based Programmes

My aim here is to consider participants' perspectives on how MBPs reduce stress and facilitate emotion regulation. I am particularly interested in what they reveal about learning processes in relation to stress and emotion regulation, and the implications for teaching practice. The review will consider what is learned, the changes that are reported, difficulties and barriers to change, and how these all relate to the curriculum and pedagogical practice.

Methodology

Qualitative research can be difficult to find, and reviewers may need to search extensively through citations to find relevant studies (Thomas & Harden, 2008). For me, collecting qualitative literature on MBPs was a lengthy and organic process, which started before conducting this review and continued throughout the doctoral programme. As I began this review, searching through the American Mindfulness Research Association (AMRA) monthly bulletins had yielded 95 qualitative studies, including five reviews, covering 41 primary studies. In July 2018, I conducted systematic database searches. The search strategy was to find qualitative studies of MBPs. The first search was conducted through Ovid databases: Embase, AMED, Medline (R) and Psych Info. Search terms were 'MBSR', 'MBCT', 'mindfulness interventions' or 'programs' combined with 'qualitative' and variants of qualitative methods such as 'interviews' and 'thematic analysis'. This yielded 789 abstracts. Of the 100 abstracts that appeared to be qualitative, or mixed methods, 46 were added to my collection. Five were excluded following a full text review, as either not qualitative or not involving an MBP, leaving 41 new studies from this search. I also searched the CINAHL database, using the same terms, but no additional studies were found. I included doctoral dissertations because some were particularly relevant to this thesis, for example the study by Santorelli (1992), a leader in MBSR practice. Having scanned the citations of included studies, I closed the review on 30/08/2018. Email alerts were set up with databases and I checked the AMRA bulletins to identify studies that might add to the discussion. Overall, informal and database searches identified 136 studies

to review: 41 in the meta-syntheses and 95 others (see appendix C for flow diagram and full details of search terms). Most additional studies that I found did not meet the criteria or dates of a meta-synthesis. However, several did meet the criteria but were not featured. Piecemeal collecting identified 41 studies that did not come through in the database searches. The included studies are a comprehensive body of qualitative literature about MBPs published before July 2018. I will summarise this literature as a whole, before reviewing the meta-syntheses. I will then consider how the further 95 studies support or challenge them. Purposive samples of studies (Suri, 2011) will then be used to look in more detail at experiences during MBPs and what supports or hinders positive changes and learning processes. My review will be interpretative, identifying and considering key meanings and concepts (Walsh & Downe, 2005).

Overview of the qualitative studies on MBPs

The included studies are numbered 1–136, with the 41 studies included in a meta-syntheses listed first (see appendix D for reference list of included studies). Whilst they are only a small part of the overall empirical literature on MBPs, they represent a substantial body of knowledge, most of which 106(78%) were published between 2000 and 2018. They address a variety of questions about experiences, changes and suitability of MBPs for different populations and contexts. A range of different approaches is evident, from research underpinned by a qualitative paradigm to research using qualitative techniques within a more positivist paradigm (Braun & Clarke, 2013). Reflecting the origins and development of MBPs, 52(38%) were undertaken in the USA or Canada, 48(35%) in the UK, 21(15.5%) in other parts of Europe, 11(8%) in Australia or New Zealand and the remaining 4(3%) in other countries. The majority, 83(61%) were based on MBSR, with 41(30%) based on MBCT and 12(9%) on adaptations. Most, 99(73%) had high fidelity to the standard curricula, 21(15%) had medium fidelity (reduced in time), and 16(12%) had low fidelity (major reductions in or adaptations of content). Some interventions that embedded aspects of MBPs in clinical education did not meet my inclusion criteria but were included in a meta-synthesis.

Over half, 75(55%) involved clinical populations, of which 36(26.5%) were physical health, 32(23.5%) mental health and 7(5%) mixed conditions. Additionally, 61(45%) were of non-clinical populations of which most, 48(35.5%), addressed workplace populations. These were mainly in health and social care, with a few in educational settings. A small number, 13(9.5%), were of general non-clinical populations, students, pregnant women, or groups having similar

stressful experiences or specific needs. Of those that specified gender, many 37(27%) were all or mainly women. A few, 8(6%) had all or predominately male participants.

Interviews were the most common data collection method, with 93(68%) individual interviews and 27(20%) focus groups. Another 20(15%) used qualitative questionnaires, 11(8%) used diaries or journal entries, and diagrammatic data was collected in 2(1.5%) studies (some used more than one method). Most data came from convenience samples in the three months following completion, and a few took purposive samples from cohorts who had completed the course up to two years previously. A smaller number collected data during courses. Thematic analysis was the most widely used analytical method 56(41%); 18(13%) used grounded theory; 18(13%) content analysis; 27(20%) interpretative phenomenological analysis; 17(12.5%) framework and 9(7%) template analysis. One used narrative analysis and one was a case study. Seven did not state an analytical method and two reported unanalysed statements.

Review of qualitative meta-syntheses

Qualitative reviews use qualitative methodologies to review and synthesise results from qualitative studies. Unlike the aggregative approach of quantitative meta-analysis, the intention is interpretative, to integrate themes from different studies (Walsh & Downe, 2005). The approach is complicated by layers of interpretation from participants, the authors of primary studies and the authors of the syntheses (Barnett-Page & Thomas, 2009). Different epistemological assumptions will inevitably open up particular aspects of new knowledge and close down others (Suri, 2013). Reflecting the development of qualitative research, many qualitative reviewers have moved away from positivist concerns about objectivity and quality towards explicitly valuing relevance and conceptual richness (Dixon-Woods et al., 2007). Guidelines for conducting and reporting qualitative syntheses were collated by Tong et al. (2012), based on an analysis of seminal methodological papers. Their framework emphasised the importance of transparency and reporting all stages of the synthesis.

The five reviews that I found used a range of meta-synthesis methods to progress understanding about how MBPs are experienced and the processes of change. They were all written by British authors and published between 2012 and 2015. Common characteristics include database searches, reference chaining and quality appraisal. Malpass et al. (2012), Wyatt et al. (2014), Morgan et al. (2015) and Cairns and Murray (2015) used the Critical Appraisal Skills Programme tool (1999) to assess the quality of studies. Assessment of conceptual richness and

relevance (Dixon-Woods et al., 2007) was also used and was the sole method employed by Hunter (2015). They all focussed on peer-reviewed publications and excluded doctoral theses. All of them reported the stages they went through.

Malpass et al. (2012): A meta-ethnography of patient experiences

The authors aimed to form an overarching narrative of patients' accounts of mindfulness training. Fourteen studies were included, dating from 2001–2010. Meta-ethnography is a seven-stage interpretative approach developed by Noblit and Hare (1988) to generate new theory from the second-order constructs/themes in primary studies. Assuming that original papers use their own interpretative language, meta-ethnography is a translation across them. Themes were translated and combined into 24 new constructs. The synthesis was organised to build an overarching line of reasoning. This indicated three sequential phases related to stages of learning and change.

The first phase was characterised by exposure and inquiry into mental habits and how they can be maladaptive. Therapeutic processes involved in this phase were: letting go of striving, adjusting expectations, allowing change, and group processes which normalised and encouraged counter-intuitive processes. The second phase was learning new skills and persisting in enquiring into experience. Therapeutic processes were: dis-identifying from thoughts; becoming more comfortable with difficulty and curious about it; becoming more bodily focussed; and developing a broader perspective on experience. The third phase was a transformation of illness experience and the sense of self. Four benefits or outcomes were seen to develop during this phase: acceptance and kindness, embodiment and a sense of control over the body, and taking action with flexible responses. Overall, these phases were seen to lead to the development of an observing self. Features of these phases were well illustrated with examples from the primary studies. Although positioned temporally, they were seen to repeat as new challenges and opportunities for development arose. The authors concluded that the phases and therapeutic processes were seen across the different conditions and patients, with none of the key aspects more connected to either MBSR or MBCT. This review makes a significant contribution to identifying shared experiences of learning and change in MBPs across a broad range of health conditions.

Wyatt et al. (2014): A meta-synthesis of the experiences of mental health patients

The aim of this review was to synthesise the accounts of individuals with varying mental health difficulties. Inclusion criteria extended to any mindfulness-based intervention. Fifteen studies

were included, seven of which had also been included by Malpass et al. (2012). A thematic synthesis method was adopted (Thomas & Harden, 2008). They prioritised primary data from participants and only coded researchers' themes and statements where no supporting quotes were given. Content and meaning were coded into descriptive themes before they moved on to interpreting links and grouping analytical themes into larger constructs. Altogether, 23 descriptive themes were listed, using quotes from participants. Nine analytical themes were set in a visual framework, but the intent was not clear. Two themes: 'prior experiences and expectations' and 'use of mindfulness techniques', were positioned above seven processes, with 'struggles' on the side. The first line of processes was: 'normalising and supportive process of the group', 'relating differently to thoughts and feelings', and 'awareness of habits and reactions'. These were related to their mental health, enabling them to detect warning signs of anxiety or low mood, accept symptoms and feel less afraid of emotions. Group process and mindfulness led to acceptance and a sense of control and choice. Together, they led to changes in relationships with self and others. Struggles included practicalities, difficulty grasping the concepts of mindfulness and difficult experiences in the meditation practices.

Themes were seen to interact to facilitate changes in participants' relationships with themselves and their mental health problems. The themes support and extend those of the earlier review. Whilst Malpass et al. (2014) drew out the development of an observing self, this review spoke of mindfulness creating a shift towards a stronger 'sense of self'. This came from participants' reports of feeling more whole and comfortable in their bodies. These results were also similar across interventions and largely consistent across conditions. Practitioner implications were explored, particularly regarding the importance of preparedness to support people through the various difficulties that may arise during MBP and the value of the group in doing so.

Cairns and Murray (2015): How MBCT creates therapeutic change

This review synthesised seven qualitative studies of MBCT published between 2001 and 2010. Six were included in earlier meta-syntheses. All participants had recurrent depression, and some also had physical health problems. Noblit and Hare's (1988) meta-ethnography method was followed, using the entire results sections as data. A reciprocal translation approach to synthesis was taken, comparing the themes, metaphors and concepts before grouping them into combined themes. A higher-order concept: 'The MBCT Journey to Change', was identified, portraying how, regardless of individual differences, features of MBCT combine to facilitate positive change. Themes were numbered and presented in the text in a different order to their visual model of the journey to change without explanation. The five themes were: taking

control through understanding, awareness and acceptance; the impact of the group; taking skills into everyday life; feelings towards the self; and the role of expectations. Taking control through understanding and awareness included understanding triggers and warning signs and developing awareness of mind-body connections. The role of expectations was seen to influence other processes. Again, the impact of the group was important, through normalisation, reducing stigma and supporting motivation. Applying skills in life was highly valued. Changes in self-concepts, identity, and personal confidence developed from the other processes. The authors argued that therapeutic change through MBCT is best viewed as a journey involving all the themes. This meta-synthesis clearly shows its methodological steps and describes major themes and a higher-order concept. However, it lacks the depth and complexity of earlier meta-syntheses and is limited by not referring to them. Whilst it focusses on MBCT, the themes overlap with the earlier syntheses, providing further evidence for similar processes working across MBPs.

Morgan et al. (2015): Healthcare workers' experiences of mindfulness

This review evaluated healthcare workers' experiences of mindfulness training. None of the 14 studies included were part of earlier syntheses. Any mindfulness training was included, with only four studies involving full MBPs. Others incorporated mindfulness into clinician training to reduce stress and to develop role-based interpersonal skills. Meta-synthesis methods were applied, focussing on the narrative content to summarise themes. Narrative summaries were combined to create two key themes in an encapsulating narrative.

Their first theme was 'experiencing and overcoming challenges to mindfulness practice'. These challenges covered making time to practise, feeling guilty about self-care, and emotional barriers regarding facing strong emotions. Normalisation and linking with a work context facilitated working through barriers. Their second theme was moving 'beyond the barriers' and 'changing the relationship to experience' in both personal and interpersonal domains. These changes were experienced as empowering. They came from using mindfulness to acknowledge stress and calm their minds, creating awareness of their surroundings and appreciating the pleasant, stepping back from thoughts, becoming more open to difficult experience and responding flexibly. Being more present with others increased empathy, reduced interpersonal reactivity and changed how interpersonal difficulties were perceived, moving from 'fixing' to 'being with' patients with a sense of shared humanity.

These results resonate strongly with the themes in syntheses of patients' experiences. However, the way in which they were formulated overall highlights important process dimensions that were evident, but not stated, in the others. The authors conveyed a dynamic tension between the two themes, implying that how challenges and difficulties are encountered is fundamental to the process of change that comes from working through them. The degree to which participants benefitted varied according to their initial intentions and expectations which was seen to affect their ability to move past challenges to engage with mindfulness at a deeper level.

Hunter (2015): Impact of mindfulness on nurses and midwives

This review considered the personal and professional impact of MBPs on nurses and midwives. Five studies were included, one of which was also in Morgan et al. (2015). All the interventions were MBSR. A critical interpretative approach to synthesis was taken (Dixon-Woods et al., 2006). Both primary data and themes were analysed, coded into themes, and then combined into synthetic constructs to build larger meanings and explanations.

Hunter concluded that mindfulness training builds self-efficacy by enabling participants to gain 'control over their thoughts and emotions'. This had a stabilising effect which 'opened up quiet mental space and perspective'. Having mental space enabled participants to respond more flexibly, appreciate positives and resource their caring presence with patients. A sense of agency supported a proactive approach to work. Themes were presented as a process of practice during the programme that was taken on by participants and applied in their working contexts. This review echoes Morgan et al.'s (2015) formulation that changes in how thoughts and emotions are experienced improve personal coping and relationships with patients and work. This meta-synthesis is less detailed in the number of internal psychological processes illustrated. However, the notion that the creation of mental space to work with experiences is an important experiential feature in processes of change, is valuable.

Integration of meta-syntheses

Different methodological approaches to qualitative data about MBPs highlight different aspects of experience and change (Frank et al., 2019). A variety of approaches and methods were utilised in the included studies and in the meta-syntheses. However, the syntheses all describe progressions in attention skills, a sense of greater control and agency, shifts in perspective to more open and accepting relationships to thoughts and feelings, and self-compassion. Those who reviewed studies of patient populations found changes in how conditions were viewed.

All of the syntheses highlighted challenges and learning to face difficulties in a new way. Morgan et al. (2015) organised the process of change in relation to how challenges were experienced and overcome. Wyatt et al. (2014) highlighted the importance of supporting participants through the challenges. Applications of mindfulness in everyday life were valued by participants as was the support of the group. Meta-themes, from meta-syntheses of 41 studies of participants' experiences of MBPs, indicated a series of changes in skills, insights and attitudes that correspond with the aims of MBPs and how they are taught.

The meta-themes identified display an affinity with Shapiro et al.'s (2006) proposed model on mechanisms of mindfulness in MBPs, especially the role of intentions. Four out of the five syntheses identified the importance of motivations and expectations, which help maintain engagement but can be unrealistic (Wyatt et al., 2014). Shapiro et al.'s (2006) notion of gaining a fundamentally different perspective through reperceiving, not evident in the quantitative studies, came out strongly in the qualitative reviews. This extended from how experience was engaged with in the moment to a changed relationship with self and giving new meanings to illness. Self-compassion was seen both to contribute to and be an outcome of these changes in perspective. Self-control and self-regulation were highly valued and were connected with attentional skills, body-awareness, mindful qualities and understanding.

As a body of knowledge, these syntheses elucidate how the essential elements of MBPs, articulated by Crane et al. (2017, p.4), work together to produce positive changes. Self-regulation and positive qualities were developed through attentional control becoming a foundational skill for emotional and behavioural regulation. Of the factors characterising 'a new relationship with experience', learning to focus in the present moment and step back from yet stay engaged with thoughts and feelings, seemed easier to learn generally than to apply to difficult experiences. Where it is developed, it deepens the learning process and quality of change. Engagement in 'an experiential inquiry-based learning process and in exercises to develop insight and understanding' within a group are clearly important for participants. The development of a sense of control, agency and self-efficacy, which came through strongly in the syntheses, indicate that the re-contextualising of meditation within a framework of self-regulation works in the way intended by Kabat-Zinn (1990). They support Farb et al.'s (2014) analysis that MBPs provide a meta-strategy for emotion regulation, in which usual habits of reaction and elaboration are disrupted and options for alternative responses are learned.

The reviews provide evidence for individual variance through these processes, in terms of starting points and expectations as well as in the actual experience of the programme. Difficulties, or 'breaking points', can lead to breakthroughs in learning and change (Malpass et al., 2012). Further investigation about how difficulties arise, and are worked through or not, in MBPs would be valuable. Perspectives from people who dropped out or did not experience benefits could extend understanding and inform practice.

Results from studies with single-sex groups and different age groups are consistent with the meta-themes. There is overlap and connection between the meta-themes in reviews of different clinical and non-clinical groups. This supports the notion that MBPs are trans-therapeutic interventions that address trans-diagnostic mental processes (Greeson et al., 2014). Fixed mental and behavioural reactions, focussing on negative thoughts, avoidance of difficult experiences and narrow perspectives about the challenges of life are implicated in many forms of distress and psychological problems. From this theoretical perspective, MBPs influence those processes by facilitating a shift towards present-moment attention, open awareness, decentring, more flexible appraisals, and better emotional and behavioural regulation. This is strongly supported by the qualitative empirical evidence.

This body of qualitative empirical evidence elucidates broad themes of learning and change supported by interactive learning and the group. It highlights a crucial inter-relationship between learning mindfulness skills and qualities and their application to stress and health challenges. It supports the picture of a process of cumulative effects suggested by the quantitative evidence (Baer et al., 2012; Ietsugu et al., 2015), and amplifies the importance of meeting and working with difficulty in transformative change. Meta-syntheses are pluralistic research which, combined and analysed here, produce a comprehensive overview of the results of qualitative research on MBPs.

Review of additional qualitative studies

My aim here is to build on the review of the meta-syntheses by investigating the correspondence of the additional 95 studies, and further explore learning related to stress and emotion regulation. I decided not to formally assess and rate the quality of the additional studies but to assess their relevance and take account of quality factors in my analysis (Dixon-Woods et al., 2007).

Firstly, I evaluated how the results compared with those in the syntheses. All the studies that evaluated participants' experiences reported themes resembling those of the meta-syntheses. Nine addressed other questions and highlighted different features of MBPs. This literature further broadened the spread of contexts and conditions to which common thematic patterns of experience and change apply. Two studies, which investigated the role of intervention factors, further evidenced the results of the syntheses, that interactive factors are important. Cormack et al.'s (2018) study, of how the group format impacts upon learning processes, theorised the 'group as a vessel on a shared journey', in which the group provides containment and safety while navigating through the programme. Another study analysed data from participants, teachers and trainers and identified four themes exemplifying the teacher-participant relationship (van Aalderen et al., 2014). Themes included the teachers' 'embodiment' of mindfulness and modelling 'non-reactivity' to problems. 'Empowerment' captured how the experiential pedagogy placed participants in an active position during the process. These studies strengthen the argument made in this thesis that interactive pedagogy is important.

Purposive samples of studies

To explore learning and change related to stress and emotion regulation in greater depth, I selected studies that reported: experiences and changes during MBPs, stressful experiences, barriers and facilitators, and pedagogical factors.

Experiences over eight-week courses

Only eight of the 13 studies that collected data during MBPs reported their findings temporally. The main foci were experiences during meditation practice with little detail related to other aspects of MBPs. I extracted, collated and analysed the material to identify temporal patterns of experience.

Early weeks. Santorelli (1992) proposed that this stage is characterised by encountering body-based awareness. Differences in experiencing embodied awareness, as either calming and relaxing or tense and difficult to manage were evident. Cohen-Katz et al.'s (2001) nurses and Hopkins and Proeve's (2013) psychologists enjoyed slowing down and relaxing during this stage. Monshat's (2013) students found meditation calming, and one of Stelter's (2009) cases felt content during meditation from the start. Stelter's other two cases struggled when noticing increased tension and pain. Most of Kerr et al.'s (2011) six general health patients found exposure to mental and bodily states challenging during the early stages, with half citing this

as the most difficult part for them. Cebolla and Barrachina's (2009) mental health patients also had most difficulty at this point, which they related to not understanding the purpose of practices. Cormack et al. (2018) identified uncertainty and nervousness across the group.

Middle weeks. This stage was characterised by potentially transformational challenges that brought participants into closer contact with uncomfortable feelings and thoughts, whilst offering new experiences and skills (Santorelli, 1992). Increased awareness of strong and negative emotions during this period, as well as reluctance to engage with them, was reported (Monshat et al., 2013). Park et al.'s (2018) cancer patients found that the 'working with difficulty' meditation evoked intense distress and memories of their diagnosis. This was the peak period of difficulty for half of Kerr et al.'s (2011) group. One person felt like giving up, and another did abandon the programme, due to the intensity of distress during meditation practice. Accounts of enacting psychophysical regulation during practice as pivotal to learning were described. For example, one of Stelter's (2009) cases described staying present as tension associated with pain rose into panic before passing, followed by an easing of the pain. Another reported a 'eureka moment' during the guidance to be present with the manifestation of fear and discomfort during a practice. Increased mindful awareness of emotions and thought patterns during this phase was connected with a stronger desire to manage emotions (Bermudez et al., 2013) and increased acceptance, self-compassion and letting go (Cohen-Katz et al., 2001; Fraser, 2008; Stelter, 2009; Hopkins & Proeve, 2013). It also supported interpersonal changes, such as setting limits and boundaries (Fraser, 2008; Stelter, 2009). Cormack et al. (2018) described the middle stage as the time of most variability in the group. Apart from one reference to the working with difficulty exercise in MBCT, I found no differentiating features between MBSR and MBCT in relation to the middle weeks.

Final weeks. Progression through the middle weeks increased capacities for self-regulation. Santorelli's (1992) participants felt able to maintain calm in the thick of adversity and recover their equilibrium more quickly. Students became more accustomed to difficulties during meditation (Monshat et al., 2013). Across the sample of studies, participants reported feeling the benefits of meditation practice, and its applications in the later sessions. This extended to facing stressors in life (Fraser, 2008), and a stronger connection with happiness and pleasure (Santorelli, 1992). Cormack et al. (2018) articulated that 'knowing the ropes' was a turning point for the group. Kerr et al. (2011) observed commonalties across the group at this stage, in which participants' accounts became more coherent as their observing attitudes developed.

The small qualitative evidence from data gathered during MBPs provides important details to participants' progression through them. It highlights the pedagogical importance of supportive induction and holding participants through difficulty in the middle weeks. These stages may be viewed in relation to the WRM. The first stage involves either settling or unsettling psychophysical equilibrium. The middle stage often involves working across thresholds and building stress tolerance. Through experiences of recovering balance, capacities to tolerate difficult experiences are extended, resulting in an increased workable range and greater confidence in facing life's challenges.

Barriers and enablers to progression and change

The next sample comprised studies that captured the experiences of people who found it difficult, dropped out or did not improve. Difficulty understanding the purpose of practices was identified as a barrier (Cebolla & Barrachina, 2009; Martinez et al., 2015).

Two studies used mixed methods to identify relationships between quantitative and qualitative factors in responders, people with higher amounts (>50%) of symptom reduction, and non-responders, who had lower (<50%) symptomatic change. In Day et al.'s (2014) study of MBCT for headache pain, responding was defined narrowly, as an improvement in pain intensity and intrusion. People classed as non-responders made significant improvements in pain-related self-efficacy, a positive outcome according to the aim of MBPs. By matching statements in themes to responder or non-responder status, they found that responders reported greater changes in their thinking about pain and acceptance than non-responders. This study highlighted a relationship between pain reduction and participants' relationship to their pain. However, the unidimensional definition of responding limited the contribution of this study to understanding factors affecting different outcomes of MBPs.

Hjeltnes et al. (2018) used purposive sampling for their analysis of the differences between responders and non-responders to MBSR for social anxiety. They collected qualitative data from the seven participants with the most and the least measured change. Thematic analysis identified a global theme which captured two opposing pathways, in which responders 'discovered agency for change', while non-responders 'did not feel empowered by the programme'. Four sub-themes modelled the divergent trajectories. They were: forming an active commitment or ambivalence to learning mindfulness; engaging with others or avoiding contact with the group; using mindfulness practice to approach unpleasant experience or giving up in the face of difficulty; and using the course to break patterns or remaining stuck in

everyday life. A temporal model was produced, suggesting that stages of engagement and learning either fostered growth and change, or contributed to ambivalence and thwarted change. The model adds a new dimension to the themes identified by Morgan et al. (2015), and to experiences over the eight weeks, by proposing that positive or negative experiences of both the curriculum and learning context might explain different outcomes. Hjeltnes et al. (2018) suggested that varied experiences and critical moments might cohere for individuals in either helpful or unhelpful ways.

The analysis of data generated during MBPs and through comparing responders and non-responders sheds more light on individual trajectories through processes of change. The process of change may be steady and cumulative for some participants but may be dysregulating and too much for others. This has implications for MBP teaching practice regarding how best to provide safety and support for continued engagement and learning through the course. Porges' (2017) proposed a neurobiological explanatory framework for different experiences and reactions to meditation and contemplative training. Whether exposure to mind-body states and the relational context is felt to be safe or threatening will either support stability and openness to learning or activate defences that thwart learning and regulation. Kabat-Zinn's premise that experiences of mindfulness create wholeness and integration and activate healing and health (1990) may be contingent upon such experiences feeling safe.

In a quantitative review of the safety of MBPs, Wong et al. (2018) found no evidence of severe adverse effects. However, qualitative studies of experiences during meditation include the intensification of psychological problems (Lomas et al., 2014). Baer et al. (2019) found there was less risk of adverse effects in MBPs than in intensive meditation programmes and proposed that the structure and psychoeducational features of MBPs were protective factors. Reducing harm and supporting positive progression through MBPs is likely to involve a combination of participant, programme and practitioner factors (Baer et al., 2019). Participant factors appear to hinge, at least in part, upon embodied experience during meditation practice. From an attachment psychodynamic perspective, the capacity of individuals to feel at ease in their bodies derives from early experiences with caregivers. Music (2015) drew on this, and polyvagal theory, to explain why people who have inadequate care and support to establish an inner state of calm feel unsafe in their bodies and may react defensively to mindfulness. One study in my review proposed that how participants learn body awareness, and become able to draw upon it, will depend upon their established strategies for avoiding emotional experience (Worsford, 2013). This may apply particularly to people with histories of trauma (Ogden et al.,

2006). Stress regulation is the main reason why participants attend MBPs (Carmody et al., 2009). Many are likely to be, or recently have been, in states of stress dysregulation. They will inevitably experience this more fully during meditation, which may amplify stress arousal. Mindfulness of safe sensory experience and finding a sense of balance and ease during meditation practice, may need to be established before progressing on to choosing to turn awareness to difficulty. In WRM terms, participants may have to get into a workable range before working at or over thresholds of tolerance. Studies of mixed or negative experience highlight how understanding, and explicitly articulating and normalising, dysregulated experience as well as feelings of stability and balance might be an important aspect of teaching and meditation guidance.

Crane (2009) impressed on MBCT teachers the importance of making explicit links between experiences of meditation and depression. The practice under investigation in this thesis, of teaching the WRM and connecting it with the shape of stress reactions and experiences in meditation, could be valuable for MBSR pedagogy. In a qualitative study of the course I teach, which includes the WRM, Hugh-Jones et al. (2018) identified experiential resonance with early experiences of mindfulness, and intellectual resonance, where psychoeducational components made sense to them as the first step in a temporal model of positive change through MBSR.

Teaching and learning

Santorelli (1992) applied self-knowledge theory (Weinstein & Alschuler, 1985) to analyse the stages through which participants pass in order to develop self-awareness. This involved connecting patterns of experience in meditation to daily life, informing the links between skills and their application in stressful situations.

Several studies demonstrated how psychoeducation helped participants to connect mindfulness with specific difficulties or contexts. Learning about their condition, alongside mindfulness, helped cancer patients to develop self-compassion (L'Estrange et al., 2016). Integrating knowledge from bespoke psychoeducation helped participants with OCD to apply mindfulness to their symptoms (Sguazzin et al., 2017).

Two studies explored the psychoeducation about stress in MBSR (Kelly, 2015; Rose et al., 2018). A case-study based on my pilot project described how ten participants, who had been taught the WRM in MBSR, reflected upon experiences of balance and different forms of dysregulation. The study offered preliminary evidence that the WRM can provide a framework for participants to better understand their patterns of reactivity. Kelly's (2015) mixed-methods

study of a trauma-informed MBSR-based course for survivors of interpersonal trauma is relevant to this thesis. MBSR was theorised as a phase-one trauma intervention, where the establishment of safety is the primary goal (Herman, 1997). Teaching about the neurophysiology of trauma was included from the beginning, and the whole curriculum was adapted around trauma survival and recovery. This provided an explicit scaffold for containment, and the use of mindfulness to access feelings of safety to work with PTSD symptoms. The quantitative results of this study showed reductions in traumatic stress. The qualitative results echoed those in the meta-syntheses. The intervention offered MBSR to people with PTSD in a safe and effective way. The aim of the inclusion of the WRM is similar regarding general stress, but without such major adaptations across the curriculum.

In his phrase 'full catastrophe living' (1990), and in preliminary research (1982), Kabat-Zinn recognised the important role of emotional exposure in MBSR. He even formulated the way in which exposure, alongside attentional anchoring and observing unpleasant sensations, can decondition alarm reactivity (ibid.). Qualitative studies highlight the challenge of this, and the risk of being overwhelmed or of dis-engagement. If, as found by Pradhan et al. (2015), mindfulness can slow down and facilitate graded exposure and minimise flooding, to make trauma interventions more tolerable and effective, this can surely be applicable in MBPs, which provide opportunities for graded exposure if enough support for safety is provided.

Participants' desire for shorter practices, or for explanations about the purpose of meditations (Cebolla & Barrachina, 2009; Martinez et al., 2015), pose pedagogical challenges. MBP pedagogy purposefully guides participants to be open to experience, as it is, without striving for outcome. Longer practices provide opportunities for encountering and working with difficulty. Coming from the perspective of WRM teaching practice to meet these concerns, a practitioner should aim to help participants stay within their workable ranges and to engage with learning at the edges of their tolerance.

Summary of purposive selections of studies

Qualitative evidence enriches quantitative evidence that the middle weeks can both increase anxiety and produce step changes in insight (Ietsugu et al., 2015. The sample provided detail to support the evidence, in the meta-syntheses, that a participant's experiences of working with difficulty are central to positive changes, as set out theoretically and in MBP curricula. MBP teachers should be aware of the precariousness of holding participants through experiential challenges, especially at the beginning and in the middle of courses. Consideration of teaching

factors that support 'persistence in inquiring into experience', identified by Malpass et al. (2012) as crucial to transformational change, is important.

Interactive and group factors are important in sustaining participants through the programme and enabling them to achieve salutary effects (Hjeltnes et al., 2018). McCown et al. (2010) applied Porges' (2011) notion of safe social engagement as optimal for learning and change in theorising the important role of MBP teachers in creating such conditions for the group.

Psychoeducation may help participants to apply their experiences of mindfulness during the course to general stress, trauma and specific conditions. As it is set in the middle sessions to complement learning, to stay present with discomfort, it may play an important role in supporting learning at this point. This research about how psychoeducation using the WRM may complement learning in MBSR could add to empirical detail to this picture.

Summary and conclusion of literature reviews

Both quantitative and qualitative evidence supports the intervention model set out by Kabat-Zinn (1990), in which the skills and insights of a combination of meditation practices, yoga and conceptual understanding facilitate the learning of a broadly defined mindfulness, including both present-moment and observational awareness, that can be applied in daily life. Learning through linking experiences during meditation with problems in life, an objective of the interactive inquiry and psychoeducation, is evident in participants' accounts. By the end of the programme, many feel more optimistic and confident about their capacity to face the ups and downs of life, as suggested by Kabat-Zinn (ibid.). Rosch (2015) observed that MBSR works through a cocktail of ingredients. Whilst the didactic input about stress in MBSR is little regarded as an ingredient in the pedagogical mix, there is evidence to support its role in reducing stress reducing effects and increasing mindfulness (Goldberg et al., 2016).

The curriculum provides opportunities for accessing new states of mind and body through de-centring from thoughts and connecting with bodily sensations and experiences. A common pattern, evidenced in the empirical literature, is that the experience of present-moment awareness is stabilising and, combined with acceptance and self-compassion, provides a foundation for intentional self-regulation. During the middle weeks, psychoeducation about stress (MBSR) or depression (MBCT), and guidance about staying present with reactions, encourages the reduction of automatic amplification or inhibition of emotion, and provides a route to chosen attitudinal, cognitive or behavioural responses. The counter-intuitive activity

of connecting with difficult and unpleasant experiences, a hallmark of MBPs, may be challenging and unsettling, but is necessary for transformational change. In both the practice literature and the meta-syntheses, change was articulated as a new way of relating to experience. Morgan et al. (2015) found that some people use the skills and practices to strengthen previous capacities for relaxation and self-management, whilst others change more deeply by navigating through difficulties.

MBSR does reduce measures of stress and anxiety (Khoury et al., 2015). However, this review has shown that the learning of skills to self-regulate the impact of stress could equally support the use of 'regulation' as the R of MBSR. Empirically informed theories of mindful emotion regulation suggest that mindfulness skills learned in MBPs will, initially, facilitate top-down regulation and that bottom-up regulation, through establishing habitual mindfulness, takes longer. However, research on physiological changes suggests that both operate throughout the programme. Qualitative evidence suggests that bottom-up regulation may come through relational safety and support by the teacher and group as a facilitative learning environment as well as through meditation practice.

The literature has highlighted that, whilst for many experiences of mindfulness in an MBP are regulating, they can also be dysregulating (Kerr et al., 2011). This may be the case from the start, or particularly during the middle sessions, where instruction to focus on discomfort and difficult experience is given. The WRM can provide a useful analytical lens to consider this issue. The physical and relational context, meditation experience, group inquiry and conceptual learning may provide a therapeutic experience within, and along the edges of, participants' windows of tolerance, in which affect is tolerable and can worked with in a helpful way. MBPs may then develop participants' skills in emotion regulation through widening the range of experiences which they can engage with in an open and receptive way. Alternatively, both internal and external conditions and experiences during MBPs may exceed windows of tolerance, feel unmanageable and activate defences which stymie therapeutic change.

I have reconceptualised the processes of learning and change in MBPs, by bringing together the practice and theory of MBSR, quantitative research and theories of how mindfulness regulates stress and emotion, and the rich literature about participants' experiences. Three findings from the literature review are particularly relevant to framing the qualitative research. Firstly, I highlighted the, little recognised role of teaching about stress in the curriculum and in salutary effects. Secondly, I identified negotiation of experiences of dysregulation and

difficulty as a paradoxical mechanism, which either supports or restricts learning and change. And thirdly, I applied the WRM to provide a novel theoretical perspective on participants' experiences and progression through MBPs. This literature review has set the innovation under investigation within the theory, practice and empirical literature of MBSR and MBPs.

This research

The focus of this original research is the use of the WRM as the psychoeducation about stress reactivity within the curriculum of MBSR. It extends teaching about stress physiology to model regulation and mindfulness within two different patterns of dysregulation. The WRM extends the shape and features of Ogden et al.'s (2006) autonomic arousal model as a regulatory model of general stress reactivity (Rose, 2014). Kelly's (2015) trauma-informed adaptation of MBSR enabled participants with trauma histories to safely engage in MBSR. Teaching the WRM is proposed as a psychoeducational tool for developing an understanding of balance and stress reactivity in general populations to complement the aims of MBSR.

Chapter four

Methodological framework and research design

Introduction

The overall strategy of this research is to conduct an illuminative evaluation with the aim of revealing how the pedagogical innovation works in practice within Mindfulness-Based Stress Reduction (MBSR) (Parlett & Hamilton, 1976). The methodology of an illuminative evaluation must reflect the particular theory and practice of the innovation under study (Crotty, 1990). Establishing a suitable methodological framework for the research was a challenge and learning experience.

The chapter begins by considering the shortcomings of social constructionist and constructivist theories of knowledge and learning, in relation to considering the role accorded to the biological body and body-awareness in the learning under investigation. An enactivist, philosophical position is adopted to integrate these factors. The key features of this approach and their relevance to this research are presented. I go on to describe my view of learning in MBSR as embodied, situated, first-person phenomenological exploration. I then reason for a methodological style that blends MBSR practice and first-person methodology to address the research questions in a meaningful way. These methodological underpinnings inform my application of the conceptual encounter method (de Rivera, 1981) to frame the teaching of the Workable Ranges Model (WRM) and overall research design in two discrete phases, using participatory, practice-based methods of generating data. My roles as second-person practitioner researcher and third-person researcher are discussed within this framework. The implementation of methods and procedures for each phase will be presented in chapters five and seven, respectively.

Establishing a methodological framework

Two processes helped form my methodological approach. Firstly, I considered the ontological question of whether MBSR participants' awareness and learning about psychophysiological patterns, had an autonomous existence outside their minds and separate from their interpretation (Corbetta, 2003). I also explored the epistemological question regarding the kind

of knowledge I intended to generate, and how it can be known (ibid.). Following Crotty (1998), I explored the methods that might be appropriate for a practice-based, qualitative investigation and looked to justify the assumptions behind them. I was directed down alternative pathways: either positivist/realist ontology with objectivist epistemology, viewing psychosocial phenomenon as a separate reality which can be known and measured, or interpretivist, relativist ontology with constructivist epistemology, where reality is inseparable from human interpretation and knowledge is subjective and socially constructed according to social values (Corbetta, 2003). The research questions, along with my intention to generate knowledge through my active and interdependent roles with participants, led me down the interpretivist, constructivist path. However, I was dissatisfied with the focus on language and a deficiency in being able to account for the role of the biological body in experience that was conveyed in my teaching of the WRM and the body awareness developed through MBSR.

The WRM draws on neurophysiological models of affect regulation. I recognise and value knowledge about the patterns of physiological changes which have been observed through scientific methods and have been used to conceptualise stress and the regulatory role of relationships (Porges, 2007; Schore, 2003). My focus is the engagement with and use of such knowledge to develop self-awareness and self-regulation within Mindfulness-Based Programmes (MBPs). McCown et al. (2010) proposed a relational, social constructionist approach for teaching and learning mindfulness, in which learning is a co-creation, arising through the relationship between the teacher and all the participants. This accords with my stance as a psychotherapist. However, the language-based, interpretational focus of constructionism is incompatible with Porges' (2004) notion of neuroception, which informs my teaching of the WRM. Neuroception is an unconscious bodily detection and interpretation of safety and threat, which trigger physiological changes. Constructionism is also limited in framing the non-conceptual form of knowing, based on direct experience, introduced in MBPs as an alternative to knowing through thinking. For example, I can know of the sensations of breathing in and notice bodily tension, in my shoulders, and experience a release of tension, as I breathe out, without having words in my mind. Embodied self-awareness defined as, 'the ability to pay attention to ourselves, to feel our sensations, emotions and movements online, in the present moment without the mediating influence of thoughts' (Fogel, 2013, p.1), is a central feature of mindfulness training. I wanted to investigate the development of MBSR participants' embodied self-awareness in relation to the WRM. Therefore, I had to consider the ontology of the biological body and epistemological status of bodily awareness more fully. The limitations

of social constructionism and linguistic epistemology in relation to the embodied experience of health and ill-health have been recognised and discussed by qualitative psychological researchers (Cromby & Nightingale, 1999; Cromby, 2011; Todres, 2007). Li et al. (2010) expressed similar concerns about the limitations of constructivism with respect to learning.

These issues led to ontological questions regarding the nature of selfhood, and mind that experiences and knows feelings and thoughts, particularly in relation to body awareness and mindfulness practice. Cartesian dualism between mind and body has played a powerful role in the development and progression of approaches to forms of human knowing and the relative value given to different forms of knowledge. The act of separating the facility to have thoughts and ideas from the senses has been challenged, and even given the name 'Descartes' error' (Damasio, 1994). A number of parallel dichotomies stem from confining knowledge to verbal cognition. It sets apart the mind from the body, the inner from the outer world, the body from the environment, self from other, knower from known and mental cognition from action (Li et al., 2010). Dualist assumptions within constructivism mean that it has some shortcomings for researching processes of instruction and learning (ibid.). The emphasis within interpretivist/subjectivist paradigms is that the mind is of, and embedded in, the social world, and that reality and knowledge are constructed linguistically according to social discourses. This emphasis means that the role of the physical brain and body in learning and subjective experience is not addressed. Also, by focussing on cognitive knowledge and language, it does not consider intuitive or instinctive aspects of knowledge (ibid.).

Philosophical approaches, shaped by mind-body dualism, fail to address how the empirically known body/brain makes conscious, subjective experience, or how socially constructed consciousness and experience is shaped by the physical body and environment (Li et al., 2010). Levine (1983) described the problematic relationship between the material body and brain, and the mental or experienced as 'the explanatory gap'. Material knowledge, he argued, such as the chemistry and physics of heat, cannot explain the feeling of heat. Neither of the main paradigms closes the explanatory gap of how consciousness arises in a human mind. In both, the mind is separate from the body and the knower is separated from the known (Li et al., 2010). I progressed with a philosophical framework for psychophysiological regulation and embodied self-awareness in the mind/body approach of MBSR, which was the focus of my research questions, after a colleague in a mindfulness teachers' network suggested I read *The Embodied Mind* (Varela et al., 1991).

Enactivism: Living embodied and situated minds

Varela et al.'s (1991) seminal work focusses on how a body can be a mind. This was achieved through challenging the mind in the brain view of cognition, from both biological and experiential perspectives. Knowledge from dynamic systems-based biological science was integrated with insights into experiences from Buddhism and phenomenology. The authors were particularly influenced by Merleau-Ponty's (1962) notions of the unity of mind and body in perception. They investigated perception from the outside in using empirical neurobiology, and from the inside out using meditation as a phenomenological method.

Investigations of colour perception informed the development of the enactivist paradigm (Varela et al., 1991). Through research on biological processes, colour science and socially situated lived experience, they demonstrated that colour perception cannot be explained by any one aspect. Thus, it was proffered as a cognitive domain that is neither pre-given nor represented, but 'experienced' and 'enacted'. Enactivism was proposed as a holistic view of cognition and knowledge as embodied action in relation to the social and physical environment.

Enactivism comprises five key interrelated ideas about cognition as embodied meaning-making: autonomy, sense-making, emergence, embodiment and experience (De Jaegher & Di Paolo, 2008; Thompson, 2005). The first idea is that 'living beings are autonomous agents that actively generate and maintain themselves, and thereby enact or bring forth their own cognitive domains' (Thompson, 2005, p.1). This stemmed from the concept of autopoiesis, in which biological life is self-organising and self-producing with a minimal form of autonomy defining biological life (Maturana & Varela, 1980). Varela et al. (1991) extended Heidegger's notion of hermeneutic meaning from textual meaning to encompass a much broader range of meaning-making within the human body and across all forms of life (Thompson, 2005). Autopoiesis was viewed as bodily knowledge (Stewart, 2011). In enactivism, autopoiesis defines cognition as the 'sense-making' capacity of all life.

The second key idea of enactivism is that the nervous system is a closed network which functions to create sense and meaning. Autopoiesis of the components of the nervous system form networks that creates meaning from what is going on, rather than working as an input-output, information-processing system (Thompson, 2005). Di Paolo (2005) saw the function of autopoiesis as adaptivity; in which autonomous systems regulate themselves in relation to current conditions and interpret them as helpful or unhelpful. This important part of the

enactivist framework fits well with Porges' (2004) view of the neuroception of danger as bodily meaning-making that results in the generation of stress reactions.

The third key idea is that as bodily systems are situated in, and are materially and energetically open to the environment, cognition emerges as forms of know-how and action within the context (Thompson, 2005). The mind is inseparable from living, and cognition and knowledge emerge from ongoing interactions involving the brain, body and environment (Thompson, 2007). Enactive cognition is the generation of meaning arising from the relationship between organism and situation (Torrance, 2005). How we know how to perform everyday actions exemplifies enactive cognition. Knowing how to walk, for example, cannot be separated from the ground and the space within which it happens. The skills and qualities of mindful self-regulation that emerge through practice within the context of individual, physical and social conditions can be seen in this light.

The fourth key idea proposes that the function of cognition is to generate meaning to support the living of life, not just to process information as representations of the external world. The ontological implications of this are that our experience of being in the world, our thoughts, emotions and feelings, are bound up with bodily self-regulation in interaction with the environment. Enactivism integrates the brain and the rest of our bodily structures, dynamic context and processes in meaning-making capacities as forms of adaptivity (Di Paolo, 2005). This idea enabled me to consider psychophysiological changes, body awareness and verbal reflections about self-regulation and coping within the same paradigm.

The fifth key idea proposes that experience should be central to any understanding of the mind. A human's experiential awareness of their self and their world is integrated with their lived embodiment in the world. The enactive approach calls for cognitive and brain sciences and phenomenology to be pursued in complementary and mutually informing ways (Torrance, 2005). Whilst I am not conducting scientific research on bodily processes, the relationship between scientific explanations of stress reactions, lived experience and social meanings are integral to the questions addressed in this research.

These five key interrelated ideas, which are central to enactivism, go a considerable way towards answering questions about what minds are and how they relate to the world epistemologically and experientially (Torrance, 2005). The ontological self in enactivism is a physically embodied, sense-making organism which functions and makes sense, physically and

narratively, within a physical and social environment. In the enactive framework, cognition and knowledge are inseparable from the functions of living.

> Cognition is not the representation of a pre-given world by a pre-given mind but is rather the enactment of a world and a mind on the basis of a history of the variety of actions that a being in the world performs. (Varela et al., 1991, p.9)

> Knowledge is the result of an ongoing interpretation that emerges from our capacities of understanding. These capacities are rooted in the structures of our biological embodiment but are lived and experienced within a domain of consensual action and cultural history. (Ibid., p.149)

Of particular interest for this research is the enactivist approach to bodily experience. The 'mind-body-body-problem' concerns how a mind/body experiences or knows about body sensations and bodily sense-making (Hanna & Thompson, 2003). Building on the work of Husserl and Merleau-Ponty, Hanna and Thompson (ibid.) explored relationships between the lived body with an internal experience and point of view, and the body as objective matter. They concluded that neither a subjective mind nor a material body is metaphysically or explanatorily autonomous; they are, therefore, complementary aspects of a living and lived being (ibid.). Human knowledge, whether verbal or not, is an ongoing interpretation that emerges from our biologically based capacities of understanding. There is considerable overlap between Gendlin's (1997) notion of the felt sense of an experience and an enactivist understanding of embodied forms of knowing (embodiment.org.uk).

Enactivism provides a biological as well as a phenomenological framework for the study of emotion (Colombetti, 2014). It involves an extensive notion of the body as a living organism in which all of it, including the viscera, nervous and other regulatory systems, contribute to sense-making and layers of mental and emotional experience. This framework allows for an interconnectedness between the mind and body as theorised by Kabat-Zinn (1990), and between the nervous system's bodily interpretation of threat and safety (Porges, 2004) and the physical experiences of calm, balance, stress and emotion and the associated changes in thinking conveyed when teaching the WRM.

Kabat-Zinn (2003) dedicated his commentary on the development of mindfulness programmes to Varela and provided the foreword to the revised edition of *The Embodied Mind* (Varela et al., 2017). Thus, it is surprising that the embodied mind and enactivism have barely been mentioned in research about secular mindfulness interventions. This may be due to the

domination of cognitive psychological perspectives on mindfulness, which can reduce bodily sensations to cognitive events (Drummond, 2006). However, two recent papers have highlighted the value of the approach in bridging philosophical and theoretical positions about mindfulness. Khoury et al. (2017) proposed embodied mindfulness as a conceptual bridge linking commonalities in Buddhist and secular definitions of mindfulness, while Guendelman et al. (2017) cited it in order to address inadequacies in the theoretical expositions of mindful emotion regulation which disregards bodily aspects of emotion and its regulation. These two papers point to the timeliness of this approach, and the potential contribution that research from this perspective could make.

Critiques of mind/body dualism that led to the enactive view of cognition paralleled the concerns of some qualitative psychologists regarding the limitations of social constructionism in relation to the body and embodiment (Cromby, 2011; Todres, 2007). In their overview of new approaches to embodied, situated meaning-making in qualitative research, Willis and Cromby (2020) argued that such approaches still tend to disregard the biological body. Enactivism provides a rationale for biological, psychological and social constructivism. It is consistent with frameworks for qualitative health research influenced by the 'affective turn', in which emotion and feeling are not reduced either to biology or to language alone, but are constituted by both (Cromby, 2012). There is a strong resonance with Todres' (2007) articulation of an embodied research methodology. He drew upon phenomenology and existential philosophy, particularly the work of Gendlin, to propose a research methodology that includes both bodily and verbal embodied experience within a life-world.

Enactive, embodied, phenomenological methodology

In this section, I will account for my application of first-person methodology as a naturalistic, practice-based approach for this research. This is founded on the view of the development of mindful self-awareness in MBPs as embodied, situated, first-person investigations. This provides a rationale for my decision to employ practice-based phenomenological methods to test out the WRM in MBSR and evaluate learning experiences and processes.

Mindfulness practice as a phenomenological first-person methodology

Viewing MBSR as a first-person journey into the experience of biology, Kabat-Zinn (2011) linked it with the first-person methodologies (FPM) that grew out of enactivism and used meditation to access internal experiences and consciousness (Varela & Shear, 1999).

FPMs involve procedures, guided by a second person, that are used to access and record lived experiences of cognitive and mental events (ibid.). Varela et al. (1991) viewed meditation as a method for knowing and investigating human experience. It extends phenomenological enquiry by providing a method to access experience that would otherwise remain out of conscious awareness. For Varela et al. (ibid.), the natural/abstract habitual attitude, which Husserl proposed should be bracketed in phenomenological enquiry, was the usual mode of the mind when it is not mindful. As a practice which joins mind and body, and brings the practitioner closer to their ordinary experience, meditation changes verbal reflection from an abstract, disembodied activity into an experiential, embodied reflection (ibid.). Embodied reflection takes an enactive view of pre-reflective experiences, which can be felt, and brought into reflective awareness with a method such as meditation (Varela and Shear, 1999). From their perspective, verbal reflection is an enacted embodied experience and there is no 'abstract knower of an experience that is separate from the experience itself' (Varela et al., 1991, p.26). Reflection therefore extends from being on or about experience, to become 'a form of experience itself' that they called mindful open-ended reflection' (ibid., p.27).

FPMs were established as structured introspection practices designed to access and link pre-reflective bodily and reflective verbal aspects of experience (Petitmengin, 2009). The process of becoming aware involves 'closer contact with one's experience', rather than 'distancing or objectification' (Petitmengin, 2009, p.11). This is combined with observing and describing experience. As a research methodology, mindfulness-based, first-person introspection adopts the 'paradoxical orientation of intimate distance' involving both intimacy/connection and observing/distance with the foci of attention (Stanley, 2012, p.205). The combination of concentration practice to stabilise attention and a broader awareness of what is happening creates a subjective space in which thoughts, feelings and sensations can be distinguished, enabling embodied enquiry to be pursued (ibid.). Meditation and the structured inquiry that follows them in MBPs may be seen to function in this way. These first-person ways of knowing that stem from mindfulness meditation may be seen to underpin the shift in perspectives on the mind and experience identified by Shapiro et al. (2006) as a key mechanism in mindfulness training and evidenced in the qualitative empirical literature.

The self-knowledge developed in mindfulness training arises through first-person inquiry (Santorelli, 1992). Participants are taught to take what Stanley (2012, p.203) called a 'first-person stance', in which their knowledge develops 'through personal subjectivity' and through combining their roles as first-person investigator and participant. Phillipot and Segal (2009)

recognised the potential for MBPs to contribute first-person knowledge about the processes within them. The founders of MBPs have called for more mindfulness research using first-person methodology (Kabat-Zinn, 2011; Williams & Kabat-Zinn, 2011). It made sense theoretically and practically to utilise this approach in this practice-based mindfulness research.

Francesconi (2010) applied FPM to research about meditation training. He formulated it as a snapshot method in which participants' experiences of meditation practices were captured in interviews, which focussed on direct experiences. Michalak et al. (2012) argued that their research on embodiment and depression, informed by Varela et al.'s (1999) embodied mind, was a valuable perspective on mechanisms of action in Mindfulness-Based Cognitive Therapy (MBCT). Varela et al.'s (1991) notion of embodied reflection was used in one of the qualitative studies in my review. Worsford (2015) applied it to conceptualise the learning that takes place in MBCT. The combination of enactivist epistemology and FPM have not previously been used in published qualitative research on MBPs.

The researcher's role as second-person facilitator of first-person data

I will investigate the first-person embodied experiences and reflections of MBSR participants and graduates. My roles of mindfulness teacher and researcher, which combine as a practitioner researcher, can be set within this framework. An enactivist perspective on learning theory links the learner, teacher and context, and argues that living and learning are inseparable (Li et al., 2010, Begg, 2013). I saw the context of MBSR, and the interactions between myself as teacher and researcher, as intrinsic to the data about participants' learning and self-knowledge that may develop. De Jaegher and Di Paolo (2008) extended enactivism to sense-making in the social domain by including the interactive processes of social encounters in which sense-making occurs through participation. From this perspective, the practice settings of my research activities are shared action spaces in which participatory sense-making occurs through ongoing embodied interaction. This gives an embodied, enactive dimension to the relational, social constructionist notion of learning in MBPs as co-constructed between the teacher and group through living interactions proposed by McCown et al. (2010).

My competencies as a teacher are incorporated into my second-person role in generating the data and will inform my analysis. My own embodiment of mindfulness, which is central to teaching meditation and facilitating inquiry (Crane et al., 2012), will mean that I am closely involved with my research subjects' experiences and reflections. Such closeness can enrich

qualitative data (Toma, 2000). My ongoing mindfulness practice is central to my role 'as an instrument' in this research (Marshall & Rossman, 2014).

Naturalistic research

A naturalistic approach (Guba & Lincoln, 1982) befitted the practice-based questions and the research strategy of illuminative evaluation considering a pedagogical innovation within its context. This approach was taken in the conviction that investigations set in the practice would provide useful, context-specific data and shed most light on the innovation. A naturalistic approach in qualitative research extends beyond the setting and data collection techniques to a philosophical framework which encompasses real-world conditions and the interactions and mutual influences between the researcher and researched (ibid.). Enactivism opens up new ways of considering the mutual enactment of knowledge in situated real-world contexts (Haskell et al., 2002).

MBSR practice-based data collection

The objectives of this research were to elicit and analyse embodied, experiential descriptions of learning the WRM within MBSR from present and past participants, to test the model in context, to illuminate the process and substance of learning, and to generate a preliminary model of the combined practices. The research activities were designed to overlap with my way of teaching the WRM and with interactive exercises adapted for the MBSR curriculum as qualitative first-person methods. Data-collection methods were selected according to their suitability for capturing visual and verbal representations of first-person embodied experiences accessed within a mindfulness-based learning context in relation to the research questions. The conceptual encounter method (de Riviera, 1981), discussed below was chosen as a frame for the introduction and exploration of the WRM. Visual methods were utilised as ways of engaging with the spatial features of the WRM and capturing experiences. Aspects of the structured inquiry process in MBPs were employed to facilitate embodied reflections.

The teaching of the WRM as a conceptual encounter in MBSR

The presentation of the WRM, followed by explorations within the MBSR pedagogy, were set within the conceptual encounter research method (de Rivera, 1981). Conceptual encounter is a phenomenological method for exploring the structure of individual emotional experiences (ibid.). It grew of out of the Duquesne School, and took a holistic view of the patterns of interaction between an individual and their environment (McLeod, 2011). The aim of the

method is to map particular aspects of human experience (de Rivera, 1981). The approach to the articulation of structures that are implicit in experience is closely related to the phenomenology of Husserl and Merleau-Ponty (ibid.). The conceptual encounter method involves a process of activities based on interaction between the investigator and research partners. The researcher/investigator conducts preliminary investigations into a subject to form initial conceptualisations before introducing them to research partners, who discuss their own experience in relation to it. The investigator and research partners are seen as co-investigators who interact together to map the dynamics of an emotional phenomenon, such as anger (de Rivera, 2006). In this research, the WRM was investigated and developed, prior to the study, by me in interaction with my counselling clients, colleagues and training participants. The interactive stage of the conceptual encounter process mirrors how presentation of the WRM is usually followed by a reflective inquiry. My intention in the research was to get first-person accounts and feedback on the WRM as well as to illustrate how it is used by MBSR participants to make sense of and respond to their own experiences. In this way, the descriptive details of what participants notice in relation to the model will be set within the wider contextual frame of the MBSR pedagogical process.

The structured inquiry process in MBPs was utilised within the conceptual encounter. This inquiry process is designed to facilitate vertical interaction between the participant and the teacher about their first-person accounts, and horizontal interaction and the exploration of resonance, similarities and differences across the group (Crane et al., 2015). As this is an important method by which self-knowledge is enacted, I wanted to find ways to capture data from it. The intention of using the features of inquiry was to access first-person embodied accounts, as closely as possible, and to generate and record data about learning as it happened. My second-person role as practitioner researcher would follow those of the MBP teacher to elicit descriptions of direct experience, dialoguing about how these experiences were related to and linked with the principles of MBPs (Crane, 2009). Drawing on mindfulness practice and reflection as first-person methods could, in principle, be a way of developing the conceptual encounter method to access deeper details of experience than those that are available through dialogue alone.

Engaging with the WRM through visual methods

Research designed to facilitate embodied participatory sense-making may include creative and visual methods to facilitate first-person accounts within an interactive setting (Hummels & van

Dijk, 2015). Diagrammatic elicitation uses diagrams to capture data and can be effective to facilitate and capture non-verbal and emotional information (Copeland & Agosto, 2012; Umoquit et al., 2013). Corresponding to the diagrammatic form of the WRM, diagrammatic questions were used to connect with embodied experiences of stress and emotion as directly as possible, rather than focusing only on the language given to it (Cromby, 2012). This method of researcher-led diagrammatic elicitation was designed to facilitate access to and the expression of embodied and emotional experience in relation to the research questions.

Research strategy and design

As an illuminative evaluation, this research sets out to shed light on how the innovation of teaching the WRM in MBSR works in practice, rather than to assess outcomes (Sloan & Watson, 2001). There are usually three stages to an illuminative evaluation: firstly, observation of the processes of the innovation, followed by further enquiry and seeking to explain (Parlett & Hamilton, 1976).

Two separate research phases were designed to facilitate the evaluation and address the research questions. Phase one investigated the learning generated by teaching the WRM within MBSR. The data-collection activities were facilitated from my teacher role. The people who contributed data were called 'participant researchers' (PRs) to reflect their roles as both MBSR participants and first-person researchers into their own experiences. The conceptual encounter involved a presentation of the WRM and reflective exercises within the programme. Phase two was a first-person, mindfulness-based exploration with a group of people who had previously completed an MBSR course that included the WRM. During this phase, I was a practitioner researcher who used mindfulness teaching skills in the research methods with a group of 'research partners' (RPs), who joined me to investigate the research questions. This facilitated a further, deeper enquiry into the combination of practices. The two phases took place within different learning contexts. The participants were at different points in their development of mindfulness and first-person self-enquiry. This design therefore enabled me to analyse different types and depths of data to progress an illuminative evaluation, elucidate what had been learned and begin to explain how. Table 4.1 below sets out the overall research design, which will be discussed in more detail in the methods chapters for each phase.

Ethical considerations

An ethical approach is fundamental to all aspects of research with human subjects. Relational ethics involves honouring the dignity of the other, holding an awareness of the power of position, and taking responsibility for the impact one has on others, and is central to both psychotherapy and mindfulness teaching practice. This was extended into the research by recognising the interconnectedness and reciprocity between myself, the research and the participants when considering ethical issues (Lincoln, 1995). Using practitioner roles within practice-based research generates ethical issues about how to honour and stay in the practitioner role as appropriate for the practice concerned (Jarvis, 1999). I was helped in this by the overlapping requirements of the practitioner and researcher roles. When facilitating inquiry in MBPs, the teacher models curiosity and openness to the participants' experience, whatever it is, and encourages them to foster those qualities. Successful conceptual encounter research is dependent on the honesty of the encounter between the investigator's conceptualisation and the research partners' experiences, with the researcher being open to accounts that challenge their conceptualisation (de Rivera, 1981).

I consulted my mindfulness supervisor about the possible impact of my dual roles on the MBSR participants during phase one. We discussed the importance of prioritising their needs, as course participants, over my interest in generating research data.

Ensuring and evaluating quality

This research is fully qualitative, with an embodied constructivist epistemology. I found that Tracy's (2010) conceptualisation of quality for qualitative research across different methodologies provided valuable reference points. Her criteria are: '(a) worthy topic, (b) rich rigor, (c) sincerity, (d) credibility, (e) resonance, (f) significant contribution, (g) ethics, and (h) meaningful coherence' (p.837). With regard to credibility, for example, I viewed the two phases as ways to assess points of convergence and crystallisation, by bringing together different perspectives and multiple meanings, as opposed to using the more quantitative notion of triangulation. The notion of credibility in qualitative research as being a matter of 'how vivid and faithful the description of the phenomenon is', and 'how recognisable it is to readers' (Beck, 1993, p.264), accorded with Tracy's (2010) notions of authenticity and resonance, and guided my analysis and presentation of the results. Similarly, Todres' (2007) notion of aesthetic quality in embodied enquiry was useful when considering how the visual model and words

connected with it ‘worked’ for people, and to convey an embodied sense of the data in the results.

Summary of methodological framework and approach

Enactivist embodiment and first-person methodology informed my approach to this practice-based phenomenological research. This provided coherence, from the epistemological outside edge of the ‘research onion’ through the conceptual and methodological layers, and will inform the implementation and analyses (Saunders et al., 2009). The value accorded to forms of knowledge by the researcher should be explicit in the shaping of methodology (ibid.). My mindfulness-teacher, practice-based perspective oriented me towards valuing the embodied experience and mindfulness-based forms of knowing that underpin the adopted approach.

My research is situated in a context in which participants and graduates of MBSR cultivate new skills in accessing, observing and responding to their embodied experiences. An enactivist framework provides continuity between the direct experience and reflective forms of knowing generated through MBSR, without eschewing scientific knowledge of the body as exclusively reductive. It can join conceptual learning and meaning-making in the experiential pedagogy. The research investigates the interplay within a model of dynamic psychobiology combined with mindfulness practice and embodied self-inquiry. The research questions explore the interaction between two very different ways of knowing: ideas about patterns of affect-regulation and patterns of threat-based reactivity derived from third-person scientific theories and first-person subjective experience, taught and facilitated by myself as teacher in second-person position. Two phases were designed as qualitative embodied investigations, through participatory sense-making integrated data collection and pedagogical activities. Methods were selected and adapted to provide ways to explore the bodily sense of meanings beyond the usual verbal methods (Todres, 2007). The combined application of enactivism, first-person methodology and conceptual encounter, along with the embedding of data collection into pedagogical activities, are original features of this research.

Table 4.1 Overall research design – an illuminative evaluation of the inclusion of the WRM into MBSR

Phase of research	Research questions	Role of practitioner researcher	Sample /context	Methods Practice-based	Data collection	Analysis	Results	Discussion and conclusions	Combined analysis and conclusions
One A practice-based case study of the inclusion of the WRM into MBSR	In relation to learning WRM within MBSR	MBSR teacher and practitioner researcher	PARTICIPANT RESEARCHERS MBSR course participants x 27 mixed staff in higher education Within MBSR course Beginner first-person researchers	Conceptual encounter and reflective exercises in relevant parts of the programme	May 2015–October 2016 Within 3 MBSR courses Question schedules in sessions 4 and 7 Diagrams and written observations and reflections.	Thematic template analysis	Short written and visual descriptions What was learned and how it was used in the context of learning in MBSR	Within mindfulness-based programmes and related practice	Contribution to MBSR and MBP theory and practice
Two A mindfulness-based exploration of the WRM and MBSR	Integration and application of WRM and MBSR	Practitioner researcher and mindfulness teacher	RESEARCH PARTNERS 7 MBSR graduates More experienced first-person researchers	Conceptual encounter and reflective exercises in dedicated experiential workshops Mindfulness practice and structured inquiry as a first-person method	February 2017 In two group workshops. An introductory session, diary exercise over 1 week followed by a longer workshop. Short question schedule, brief diaries, recorded structured inquiry following guided meditation and recorded exploratory focus group.	Thematic Analysis Macro and Micro Reflection	Analytic themes	Within MBPs, related practice and applications within wider contexts	Demonstrates the value of mindfulness-based embodied methodology

Phase one: A practice-based case study of the inclusion of the Workable Ranges Model within Mindfulness-Based Stress Reduction

Chapter five

Phase-one methods

Introduction

This project was the first phase of a qualitative illuminative evaluation (Parlett & Hamilton, 1976) of my pedagogical innovation of teaching the Workable Ranges Model (WRM) within Mindfulness-Based Stress Reduction (MBSR) courses. The main research question was: how does teaching the WRM complement the theory and practice of MBSR? In keeping with the first phase of illuminative evaluation, the project aimed to observe and investigate what the teaching and learning processes were like, how they were experienced and what the most significant features of learning were (ibid.). An enactivist, embodied phenomenological epistemology informed the perspective on participation in MBSR as a first-person learning process mediated by the teacher (Varela & Shear, 1999).

In chapter four, I outlined the intentional overlap between MBSR practice and first-person methodology, and between the teaching of the WRM and the conceptual encounter method. I will now explain how the conceptual encounter method was implemented. As a phenomenological method, a conceptual encounter explores how well conceptualisations connect with a person's way of being-in-the-world, and uncover choices in their lives (de Rivera, 1981). This echoes the intentions for teaching about stress reactivity in MBSR. Within conceptual encounters, the value and utility of a structural description is whether it captures something important about the experience in question. It is a way of qualitatively testing the structural description by investigating whether people gain insight into their own experience when presented with it (Lindsay-Hartz et al., 1995). My research questions were shaped by this overlap between the conceptual encounter method and the aims of exploring lived experiences of stress in MBSR. They were: How well do the regulated and dysregulated states and the notion of thresholds of tolerance, presented through the WRM, fit with lived experience? How does the WRM lead MBSR participants and graduates to gain new insights into their experiences of stress and patterns of reactivity? In what way does the WRM help participants to practise mindfulness-based self-regulation?

The conceptual encounter method has two parts: the introduction of a conceptualisation of a common emotional experience, followed by a discussion or reflection in which participants relate it to their own experience (de Rivera, 2006). The presentation of the WRM was the first part and the reflections that took place immediately afterwards and over the following weeks, the second. Two bespoke question schedules were developed incorporating diagrammatic questions to capture responses and guide exploration in the class setting.

The practice intervention context

The eight-session intervention course within which the research was set was closely aligned with the standard MBSR curriculum. The Staff Counselling and Psychological Support Service at the University of Leeds - offers a rolling programme of the intervention, led by me (Rose, 2016). The inclusion of the WRM was my way of meeting the requirement to provide information about stress. Other adaptations to the standard curriculum, made for the workplace setting, included a slightly shorter sessions and no whole practice day. The course included the three-minute breathing-space taken from Mindfulness-Based Cognitive Therapy (Segal et al., 2012). Whilst this is not part of the MBSR curriculum, my experience in teacher training suggests that many teachers in the UK incorporate it into courses for stress. I completed training to teach Mindfulness-Based Programmes (MBPs) over a period of four years, before beginning to teach the programme in 2011. I have engaged in supervision and professional development in accordance with the good practice guidelines set out by the UK Network of Mindfulness-Based Teacher Training Organisations (2015).

Participant researchers

The sample were referred to as participant researchers (PRs). They were participants in a training, in which they were first-person researchers contributing data to the research. Purposeful sampling is a technique widely used in qualitative evaluation research to identify and select information-rich cases (Patton, 2002). In this case, the sample needed to come from participants undertaking the MBSR course with me. The recruitment built on the usual recruitment process. It is open to all members of staff at the University. An evaluation of the course identified a range of motivations for attending: from interest in mindfulness and wellbeing, to stress-related ill-health and mental health conditions (Hugh-Jones et al., 2018).

The sample size was influenced by the frame of evaluation: what would be useful, have credibility and be achievable in the available time and resources (Patton, 2002, p.244). The sample came from three courses each with 12 participants. Nine participants chose not to participate in the research. The total sample of 27 comprised ten people from summer 2015, nine from spring 2016 and eight from autumn 2016. Twenty were female and seven male. Fourteen had academic roles, eight had professional roles and five were administrators.

Data Collection Methods

Bespoke question schedule

Two bespoke question schedules were designed to support the reflective exercises and capture data. The first followed the presentation of the WRM in session four and the second was administered three weeks later, in session seven, as part of a review of learning. Although unusual in phenomenological qualitative research, this method was chosen because it enabled each individual to engage in a structured personal reflection on the WRM, whilst simultaneously generating data. The method fitted with the pedagogical context. Written meditation practice records and observations of pleasant and unpleasant experiences are established parts of MBSR (Santorelli et al., 2017). The initial four questions in the first question schedule and one in the second involved making adaptations to simplified diagrams of the WRM as researcher-led diagrammatic data elicitation (Umoquit et al., 2013). Mindful inquiry and experience-based, body-anchored interviews (Stelter, 2010) informed the wording of the questions. For example, questions about different states were open-ended, such as: ‘What did you notice?’, ‘What was that like for you?’, ‘What were you aware of in your body?’ Most questions were open-ended and invited descriptive answers. The questions about recognising the different states, in both schedules, included a rating scale, from ‘not at all’ to ‘often’, for PRs to assess and report how regularly they recognised feeling a certain way. This was done to facilitate access to the embodied feel of more or less often, and to support personal reflection and learning, rather than to quantify responses (Braun & Clarke, 2013).

The first schedule consisted of nine questions that focussed on responses to the model, an immediate application to how they felt at the time, questions about preferences, recognition of the different elements and their impact at work. The final questions asked what they made of the model overall and whether it added to their understanding of their experiences (see appendix E).

The second schedule contained six questions about recognition of, and responses to, the different states within the WRM, over the preceding three weeks. It included questions about what they had noticed in daily life, during formal and informal meditation practice. There was a question about what they had learned about their reactions. Finally, they were asked whether and how they might use the model along with other learning in the future (see appendix F).

Francesconi (2017) suggested that ways to reduce usual narrative habits, such as limiting the time allowed for answers, are an asset in first-person qualitative research and help people to focus on specific phenomenological experience. These structured question schedules, with limited space for answers, were designed to focus the PRs' exploration to the feel and shape of their experiences and to be practicable in the context.

Pilot for the data-collection methods

The use of the question schedule in MBSR was practised on and discussed with a colleague experienced in leading experiential training. It seemed that the first few diagrammatic questions would work best if done together as a group, with me reading the questions out and allowing time for responses. This was to encourage the PRs to go with their gut feelings, to support them with the unfamiliar activity and to encourage them to check their understanding of the questions. My thinking was that, they could then add further details and continue to work through the schedule at their own pace. Considering the needs of people with a more reflective learning style, I decided to offer the choice to take it away and return it the following session.

The combined data-collection methods were piloted with the first cohort for the research. The methods worked well and produced a good amount of relevant data. The form of the schedule did enable people to focus on the phenomenological details. Minor changes were made to the question schedules. Most importantly, the group discussion revealed interest in considering the least preferred state as well as the most preferred. The depiction of the least preferred state was therefore added to the question schedule.

Implementation of data-collection methods

The initial conceptual encounter and first data-collection point

I presented the WRM (as outlined in chapter two) verbally by using a flipchart to draw out the different zones and giving examples, particularly of a trajectory of changing experience in everyday life. The presentations lasted 15–20 minutes, including time for questions. In keeping

with MBP pedagogy, PRs were invited to reflect upon what resonated with their experience and to enquire about and develop their own awareness of the different states presented in the model, as well as the model as a whole. The first question schedule was introduced as a form of self-inquiry for them to reflect upon their responses to the model. I gave out the question schedule, encouraged questions and explicitly stated that there were no 'right answers'. As explained above, I led the first four questions and then the PRs could complete the rest in the fifteen minutes allocated in the session, or take them away to complete in their own time. The presentation and first question schedule formed the initial conceptual encounter.

In synchrony with home practice in MBSR, PRs were encouraged over the following weeks to notice their experiences of the different states. The breathing-space is used in MBPs as an informal practice to bring moments of mindfulness into everyday life at pre-planned times, several times a day, and as a way to apply mindfulness to engage with stressful experiences, as a conscious coping strategy (Segal et al., 2012). PRs were encouraged to notice whether they felt balanced, or were dysregulated in either a mobilised or immobilised way, when they used the breathing-space to check in with themselves at pre-planned times and to practise it if they noticed being out of the workable range at other times.

The second data-collection point using a second question schedule

Three weeks later, more data was collected using the second question schedule as a reflective exercise. This question schedule was designed to encourage participants to reflect upon the past few weeks and what they had noticed and learned about patterns of stress reactivity in relation to the WRM. As with the first schedule, a short time was allocated in class for PRs to complete the schedules, or they could take them away and return them the following week.

Critical reflection upon data-collection methods

This phase of the research was designed to embed data collection into the teaching and learning practice of MBSR as a naturalistic enquiry in a complementary way (Guba & Lincoln, 1982). Unforeseen events impacted upon attendance at one of the sessions where data was being collected. Two people missed the presentation but read the written material, heard my recap the following week, and completed the second schedule. Whilst I was present for most of the completion of the question schedules, and encouraged people to ask for clarification, there was a chance of misunderstanding the questions. Two people put their preferred state as out of the workable range. This suggested either that I had not adequately conveyed the conceptualisation of a threshold of tolerance, or that they had misunderstood the question. Either way, the

research method could have been improved by checking with the person. However, it was not appropriate to do so in the practice context.

Overall, the overlap between the data-generating exercises and PRs' genuine engagement with the WRM worked well.

Ensuring ethical research practice

Ethical approval for the research was granted by both the University of Derby Health and Social Care Research Ethics Committee, and local permission to conduct the research was given by University of Leeds Healthcare Research Ethics Committee. The pilot project was approved in spring 2015. Ethical approval for the rest of the research, including minor changes to the question schedules, was given in spring 2016. Copies of the application for ethical approval and letters of approval are provided in appendices G, H and I. I outlined the ethical principles in relation to my methodological approach in chapter three. I will now describe how they were applied in this project.

Informed consent

Participation in the research was optional and was not a condition of attending the course. In the first session participants were told that the research involved exercises in the fourth and seventh sessions that were a normal part of the course and given an information sheet in the (see appendix J). They could choose whether to do the exercises for their own reflection only, or to contribute their answers to the study as well. They were asked to return the consent form (see appendix K) the following week if they intended to participate. To prevent any feeling of coercion to contribute, I did not mention it again until after the research activities, when I reminded those that were participating of their choice to contribute their data and that they could withdraw it up to three weeks after the end of the course.

Confidentiality

Ensuring confidentiality regarding participants' identity and data was addressed in a number of ways. The research activities complied with the requirements of the Data Protection Act and were performed in accordance the policies of the University of Leeds and the University of Derby's Good Scientific Practice guidelines. All personal details and consent forms were kept separately from the completed question schedules. Participants were given identification numbers. Collated data and written results only used the numbers. As part of my professional

role, I had access to an encrypted dedicated server, to store confidential information. Hard copies of research materials were secured in a locked filing cabinet in my office.

Practice ethics

Mindfulness may access distressing experiences, for which participants may need additional support. The recruitment process informed participants of the opportunity to access additional support through the staff counselling service. Practice ethics regarding the requirement to incorporate research methods into the teaching process whilst maintaining integrity with the tenets of MBSR (discussed in chapter three) were particularly relevant in this project.

Data Analysis

The data corpus comprised sets of answers from two question schedules. Of the 27 PRs, 25 returned the first question schedule and 23 returned the second. Twenty-one returned both question schedules. Numbers varied due to the sessions attended.

The data contained accounts of the lived experience and impact of the states and how the WRM was regarded. To answer the research questions, I needed to identify and report their detailed embodied descriptions directly, as well as analysing and grouping the meanings of those descriptions in relation to the aims and learning through MBSR. To do this, I needed analytical methods that would enable me to extract and collate details whilst connecting with the way in which the data was collected in practice at two points in time. The analytic strategy was a cross-case analysis, of commonalities and spread of experiences, whilst enabling some within-case analysis to elucidate different experiences and processes (Ayres et al., 2003).

Template analysis

I chose to use template analysis as a qualitative data analysis method that is well suited to phenomenological research, as it enables the cross-case analysis of data pertaining to particular practice-based questions and concerns (Brooks et al., 2015). It is a form of thematic analysis that develops a template of themes, based on the research questions and approach as well as the data content, to code and analyse data (King, 2004). This usually involves an *a priori* template that is revised throughout the analytical process, allowing for a mixture of top-down and bottom-up analysis (ibid.). Template analysis organises codes hierarchically, enabling text to be analysed at varying degrees of specificity. I followed the process for undertaking template

analysis step by step (Brooks et al., 2015; King, 2004 & 2012). Techniques from matrix analysis (Miles & Huberman, 1994) were incorporated into the analytical process. This enabled me to make meaningful connections with the practice context as well as with individual experiences and learning processes (Nadin & Cassell, 2004).

An *a priori* template

In the pilot project, I developed a template of codes which enabled me to prioritise the research questions and responses and learning related to the conceptual encounter within the teaching innovation. This *a priori* template comprised hierarchical themes and sub-themes based on the research questions, the information gathered in the two question schedules and the sequence of their collection in relation to the MBSR curriculum. I applied this template to all the pilot project data.

Developing the template

The pilot project enabled me to develop the template in response to the data. The main change was to adjust the hierarchical order of the fourth theme: 'connection to MBSR practice' into two higher-order themes. I raised the position of the responses to each of the two states of dysregulation to two higher-order codes This was both a response to the richness of the data coded to those subthemes and because it made more sense of the data, in relation to the practice and conceptual encounter method. Experiences in, or linked with, meditation practices became a separate higher-order theme, with the range of formal meditation and informal practices as sub-themes. The template was revised for application across the whole data corpus. Themes 1–3 pertained to the initial responses and understanding, recognising patterns of balance and reactivity. Themes 4 and 5 related to the links with the wider context of MBSR and 6 to overall learning and application. The template was developed to collate and analyse both descriptive data, including structural descriptions of particular states, and hermeneutic phenomenological data regarding what the PRs made of and did with the model. The six main themes in the revised template were: (1) Engagement and resonance with the model; (2) Awareness, descriptions and effects of the different states with sub-themes for the different states and their impact on daily working life; (3) Preferences and patterns of reactivity; (4) Responses to mobilising and immobilising stress reactions; (5) Experiences in or links with meditation practices; (6) Learning and application. The full final coding template is available in appendix L. Although template analysis allows for further revision as the analysis develops (King, 2004), no further changes were made to the template.

The use of matrices during the analytical process

After transcribing the written data and scanning all the diagrams, I collated them onto matrices, retaining the identification numbers in rows and the questions in columns. Further matrices were used to gather all the data coded to each theme and sub-theme within the template. Data points were entered to as many codes as they pertained to (King, 2004). This enabled me to access all the visual and textual data from one person in the sequence of each question schedule, as well as extracting it under the codes within the template and look for patterns. In keeping with the conceptual encounter method (de Rivera, 1981), I foregrounded the phenomenological structure and details of experience from my PRs' first-person research. Adopting a phenomenological attitude in the analysis (Wertz, 2005) enabled me to become absorbed in the participants' words and visual expressions, temporarily suspending both personal judgements and concerns relating to the wider research questions.

Transforming first-person data into research results

During the analytical stage of writing and presenting the results, I brought the research questions to the fore. Writing up was a continuation of the analysis, in which I actively developed my understanding and interpretation of the data, in order to present a coherent account (King, 2004). As the themes were partially derived from the research questions, it made most sense to choose to structure the account around the main themes in the template (ibid.). I was wary of losing individuals in the descriptive units of the template, and mostly used direct quotes to express their voices (ibid.).

I saw that some meanings in the data were specifically linked to the process of the conceptual encounter. I had coded items across the whole data corpus relating the 'engagement and resonance with the model'. During the writing, it became clear that it was more meaningful, in relation to the research questions, to confine that theme to initial resonance and the first interactive diagrammatic questions, which I guided. The other items that had initially been coded to that theme were moved to the final code: learning and application.

I re-worked the rich data about the impact of the different states at work into four micro-themes. Later in the writing, I realised that some particular data, within themes of responses to both forms of dysregulation, highlighted the complexity of mindfully working with difficulty and the ambivalent feelings related to this, which has been identified in the literature reviews as an important aspect of the process of change in MBPs. Data were re-read to check for further items related to this issue.

I had to decide how to relay the PRs' diagrammatic representations in my written narrative. In visual approaches to research, diagrams may be related to text, to explain something about a problem or issue, or about a person, to convey cultural meanings or to act as a stimulus to discussion (Reavey & Johnson, 2008). In addition, I saw their production immediately after the presentation as evidencing the PRs' resonance with the visual form of the WRM, and the value of using it as a pedagogical method. As I engaged more with the direct use of, or reference to, the visual form of the WRM as enactments of meaning-making, I experimented with using it to convey an embodied feel of the results. In practice, this involved re-arranging matrices to represent the spatial features of the model and condensing data. The value of visual display when using matrices in analysis (Miles & Huberman, 1994) was apposite to completing and conveying the results. I found that presenting some results of the whole data set using the WRM layout could convey a more embodied feel than text. For example, the results of PRs' preferences and aversions worked much better in that way (see page 77).

I proceeded to perform what Todres and Galvin (2008) called 'embodied interpretation' for a more creative presentation of the results.

Overall, the analysis was a process of fragmentation followed by ordering and bringing together to create new meanings through the analysis of both visual and textual expressions in relation to the research questions.

Summary of phase-one methods

This chapter has presented an account of how phase one addressed the research questions within MBSR and where the conceptual encounter research method overlapped with pedagogical exercises. The rationale for a choice of data collection methods commensurate with the methodological framework of enaction and embodiment was evident. Data was gathered by means of qualitative question schedules which included diagrammatic questions. A systematic analytical method using template analysis was followed. An *a priori* set of themes was applied to a sample of data and developed to produce a final template for analysis. The extension of the analysis into the writing up and presentation of the results was summarised. The analysed data contained dynamic, phenomenological essences of the embodied, lived experiences of the states included in the WRM and the way of engaging with it in MBSR.

Chapter six

Phase-one results

Introduction

This chapter presents an analysis of data generated by participant researchers (PRs) within an eight-week Mindfulness-Based Stress Reduction (MBSR) course to investigate how the Workable Ranges Model (WRM) complements the aims and practice of MBSR. The WRM was presented in session four, where didactic information about stress is introduced to support learners to be more aware of unpleasant experiences and stress, and how they unfold in daily life (Santorelli et al., 2017). The results provided thick descriptive answers to the questions of the research. All the PRs were able to relate the conceptualisation of a workable regulated range, and mobilised and immobilised forms of dysregulation over higher or lower thresholds of tolerance, to their own lived experiences. Engaging with the WRM led to new insights into experiences of stress and emotional regulation and patterns of reactivity. PRs developed greater awareness of how the different states manifested and impacted upon their lives. The content and form of the model was adopted to describe and explore different aspects of experience. Specific connections with MBSR, included learning to be more present with pleasant and unpleasant experiences, noticing aversive reactions to unpleasant experiences and moving towards tolerance and acceptance of them. WRM-informed perspectives on their experiences contributed to the development of mindful responses and self-regulatory choices.

The main themes were: initial engagement and resonance; awareness of the features of regulated and dysregulated states and patterns of reactivity; ways of responding to dysregulated states; and perspectives on learning and applications of the WRM. The first-person data represent self-awareness and phenomenological knowledge, which I have set within the pedagogy of mindfulness-based programmes (MBPs). I have used the spatial form of the WRM to present some results to enable the reader to get a feel of, and have an embodied resonance with, the material (Todres, 2007). Numbers of responses are provided to support qualitative meanings and the evaluation of practice, rather than to imply measured values (Braun & Clarke, 2013). The order in which the results are presented broadly follows the analytical template and temporal sequence of the activities. Twenty-seven PRs from three cohorts provided data. Twenty-one attended both sessions where data were generated. Twenty-five people returned

the first schedule and 23 returned the second. Data relating to individuals will indicate their PR number in brackets.

Initial engagement and resonance

This theme illustrates PRs' engagement and resonance with the WRM immediately after it was presented. All 25 PRs who attended the session completed both the diagrammatic and written reflective exercises. They were invited to consider how the features of the WRM related to their own experience. The question schedule used an outline WRM diagram of a rectangle with the words 'out of range, mobilised, fired up' at the top in red, and 'out of range, immobilised, shut down' in blue, at the bottom (see appendix E).

Firstly, they depicted their sense of the width and position of their workable range, using two horizontal lines for their thresholds of tolerance across the diagram. This revealed variation both in the width and position of the workable range. The model and exercise enabled PRs to make immediate, intuitive self-assessments of the width of their own usual range and whether they had a greater tolerance for higher or lower arousal states. Next, PRs were asked to mark where they felt they were on the model at that moment. All were able to do so. Overall, 15(60%) positioned their current state at various points within their workable range. However, 10(40%) put themselves out of range; three above the top threshold and seven below the bottom threshold. The participants who positioned themselves as out of range were not evenly spread across the cohorts. One group had a quarter, one group a third and one had half out of range. In keeping with mindful inquiry, participants were then asked how they knew where to position themselves, and what informed their judgement. Everyone observed some direct experiences, sensations, thoughts or feelings (see Table 6.1).

Preferences

PRs in the pilot group (1–10), were asked to mark only their most preferred place, whilst the other two cohorts, PRs 11–27, also depicted where they least preferred to be (see Table 6.2).

Table 6.1: A visual depiction of PRs' current states and how they knew

Threat-based mobilisation – Hyperarousal					
↑		Working excessively to deadlines (5)		Shaky Stressed (21)	Mind racing. Tummy a bit off + headache (25)
↑	Functioning well, feeling good (1)	OK but tense (7)	Calm, focussed (12)		Functioning OK-busy – a little stressed – don't want to go higher (27)
The Workable Range	Happy and functioning (6)	Calm optimistic Content. No triggers to fear (2)	Tired after pressured day (11)	Present, mind not racing, comfortable, breathing is normal (13)	Head clear Comfortable. I could get more active or slow down (26)
↓	Session a decompression from extreme anxiety – tired (3)	Happy – tired (10) Calm, not stressed (14)	Calm, in control, normal breathing, relaxed (15)	Mind foggy, reluctant to do anything but could if necessary (19)	In WR after meditation and in relaxed atmosphere (20)
↓	I feel I'm burying my head in the sand, but really it's my mind and body wanting to shut down from stress (24)				Tired. Hard to think. Not wanting to do anything (22)
↓	Tired, low can't concentrate. Finding task difficult (4)	Low tired – unclear in head (9)	Tired. Low mood, lacking energy. Bit depressed and sad (17)	Nothing together – too much stress (18)	Tired, unfocussed, poor memory, sluggish, have been ill (23)
Threat-based immobilisation – Hypoarousal					

Numbers in brackets refer to the PR numbers

Table 6.2 PRs' preferences and aversions

	Most preferred	Least preferred
Mobilised	9. sitting on top of the threshold with an upwards arrow ⇧	11.12.13.14.15.17.19.21.22.23.24.25.26.27
Higher or on threshold	1.2.3.4.5.6.10.12.14.15.20.21.23.	0
Middle workable range	7.11.13.18.19.22.24.26.27.	0
Lower or on threshold	15.17.23.	0
Immobilised	25. just below the threshold	11.13.14.15.17.18.20.21.22.23

Corresponding with my presentation, that we feel better when regulated, most preferred their workable range. Whilst several people preferred the middle of their range, more indicated a preference for the higher part of it. This preference for higher energy related both to the affective feel and its impact on functioning: excited and enthusiastic (2); motivated (6 & 23); fired up (9 & 23); productive (6, 15, & 23). Preferences for the lower region seemed more related to the experience rather than the effect; calmer and relaxed (15) and comfortable (17). One person indicated a preference for being above the higher threshold (9) and one below the lower threshold (25). It was not clear why this was. One possibility is that they were indicating a strong preference for higher or lower arousal within the workable range or they may have meant that they had a tendency to be in such a state. Either way, their answers indicated a possible misunderstanding of the notion of a threshold of tolerance and alerted me to the importance of being clear when presenting the model and in any associated texts, about the differentiation between safe arousal that feels good and that which does not.

Aversion to both threat-based states was expressed, with slightly more people expressing dislike of mobilised stress than immobilised. This could reflect greater familiarity with high-arousal stress as well as its intensity: 'I hate too much noise and feel agitation on being pushed to go faster' (26). Dislike of immobilised states included: 'I don't like to feel down, low energy – it's difficult to do things' (20). One person associated their discomfort with flatter affective states with depression. 'I've suffered from depression a number of times and so fear dropping into the immobilised zone' (21).

Several PRs recognised risks associated with their desired states: 'can spill over to hyper-arousal, panic and anger' (3); and 'there's a fine line between the state I prefer to be in and chaos' (6). At the other side of the range, PR 17 said: 'the hypo end is more comfortable and feels more at home, until it gets really low into the mental anguish of depression.' Exploration of preferences revealed individual differences. Whilst the experience of mobilised stress was generally identified as disagreeable, comments about the risk or fear of dropping into immobilisation suggested an equally strong aversion to this state. A key insight for many was the proximity of optimal high energy to mobilised dysregulation.

Using the WRM to narrate experiences of stress

PRs were asked to describe a recent time of stress or destabilisation with marks and/or lines on the diagram. They readily described different aspects of stressful experiences in this way. Most

commonly they used wavy or zig-zag lines along the horizontal axis, representing time, to convey movement along and between states, as I had done in the presentation. Time periods ranged from part of a day to a year. Many depicted and described a specific stressful event or period of time, whilst others depicted a pattern, as it was experienced, without a context or narrative. PRs were able to connect with their embodied experience of stress and relay it through the embodied form of the WRM. Figure 6.1 is an example of this.

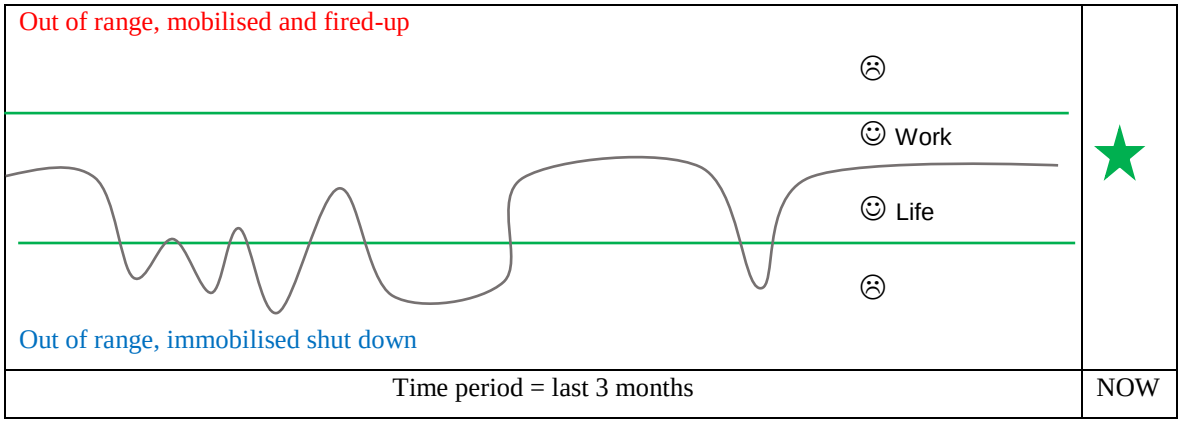

Figure 6.1. Copy of diagram by PR15 in session 4

Directly after being introduced to the conceptualisation and image of the WRM, PRs engaged in self-enquiry about their workable range, their current state, preferences and aversions, and applied the spatial form to temporal patterns of stressful experience. As well as connecting with core elements of the model, they immediately made links to external life contexts. Two people who had missed the presentation of the model were able to grasp the core concepts from diagrammatic and written handouts and went on to complete the second question schedule.

Becoming more aware of regulated and dysregulated states

This section presents PRs' descriptions of their experiences of the states in the WRM. Data came from both sessions four and seven.

The workable range - the green zone

Descriptions of experiences of the workable range included emotional, cognitive and behavioural factors. Those who mentioned physical aspects included regular heartbeat, normal breathing and sufficient energy. Emotional features were relaxation and calmness. More energetic features were feeling positive, optimistic, motivated and confident. Stiller qualities were feeling at ease, a sense of serenity and contentment. The cognitive elements concerned

focus and concentration, clear or effective thinking and the ability to hold things in mind. Within their ranges, PRs felt that things were manageable, they were proactive and confident and had the flexibility to speed up or slow down as needed.

Threat-based mobilisation – the red zone

In contrast to the workable range, the prevalence of descriptions of physical aspects of threat-based mobilisation suggested that PRs were very much in touch with the bodily affects. The emotional characteristics concerned increased intensity and loss of control. Cognitive features were of narrowed, intensely compelled or scattered attention. Behaviourally, PRs observed that whilst mobilisation may begin with a helpful, motivating boost of energy, with more energetic charge anxiety, anger and impatience with others is induced.

Threat-based immobilisation – the blue zone

Many people described physical features of this form of reactivity. Low energy, tiredness or exhaustion; feeling slow, heavy and achy. The emotional aspects were feeling flat, detached or numb, hopeless, apathetic and stuck. PRs described experiences of a blank, blurred or foggy mind and being unable to concentrate, think clearly or remember things. Some associated self-critical thoughts with this state, with one PR recognising negative judgements about low energy: 'my critical-self berates me for laziness/sluggishness' (3). Such negative judgements were not made about high-energy stress states. Generally, this state was described as affecting behaviour through withdrawal from activity and from others, feeling unmotivated and lacking in confidence.

In summary, PRs identified characteristics of the three states across different domains of experience. Whilst mobilising reactions were described in most detail, there were also rich descriptions of everyday experiences of immobilisation, suggesting resonance with this feature of the WRM. Likewise, whilst the concept of a workable range of balance and flexibility, within a higher and lower threshold of tolerance, was likely to be new to PRs, they were able to recognise its emotional, cognitive and behavioural features and the steady flexibility within it. Their comments indicated a recognition that this state was optimal for their wellbeing, how they related to others and how able and confident they felt. Words associated with mindfulness, such as 'present', 'interested' and 'patient' were associated with it. PRs developed first-person knowledge about stress reactivity and awareness of different layers of experience in line with

the curriculum of MBSR. Including an explicit exploration of regulated optimal states is an expansion of this part of the programme. Together, PRs' observations create a shared picture of the core phenomenological essences of the different states (see Table 6.3).

Table 6.3 PRs' descriptions of their experiences of different states within the WRM

	Physical	Emotional	Cognitive	Behavioural
Threat-based mobilisation Red Zone	Fast heart rate, Shallow rapid breathing Over-energised Charged Darting eyes Churning stomach Tension, rigid face Shaky, trembling, Restless	Unsettled Lack of control, Labile, intense emotions Stressed, rushed, Quick tempered, snappy, angry frustrated Anxious, agitated Panic	Intense, over-focussed Scattered, chaotic Mind buzzing, spinning or racing Obsessively running thoughts, agitated self-talk, winding myself up. Destructive, negative thoughts Personalise	Motivating but rushed, speaking too fast Can't listen Can't sit still Impatient Want to escape, feel trapped, want to run away Blow up
The Workable Range Green Zone	Regular heartbeat Normal breathing Plenty of energy	Calm vitality Relaxed, flowing, comfortable, at ease Content, happy, satisfied Positive, confident, motivated, optimistic Patient	Focussed and present Remember, hold things in mind Clear, coherent, rational, logical and balanced Effective, sound decisions, judgement and prioritisation	Balanced and able Manageable Confident More sociable Respond to work and family issues Self-regulation Flexibility
Threat-based immobilisation Blue Zone	Low energy Tired, exhausted, drowsy Heavy, slow Achy Body stopped – can't move	Flat, low Stuck, in a black hole Detached, numb Grumpy Hopeless, despair Apathy	Blank, can't think Blurred foggy mind, muddled Can't concentrate Negative thoughts Forgetful Self-criticism	Shut down Burned out Withdrawn Can't be bothered Lack of motivation Unconfident

Reflections on noticing

At both data-collection points, PRs were asked to reflect on how frequently they noticed the different states: often, occasionally or not at all. In session four, this was 'generally', whereas in session seven it related to 'the past three weeks'. These questions were designed to encourage awareness of the states in daily life and to notice both when things were going well and when they were not. Several people reflected on the scope for developing greater awareness: 'I don't recognise soon enough' (mobilisation) (22); and: 'I need to work on that' (noticing immobilisation) (18). Others had noticed more often: 'I have noticed [the workable range] more easily' (10); 'I was more aware of it happening than previously' (mobilisation) (19); and 'I do notice it now after the session' (immobilisation) (24). In session four, PR18 remarked: 'I don't realise, I don't even know', referring to the workable range, whereas by session seven, she had

noticed times when she felt balanced. This exercise functioned to support an orientation to being present and to noticing feeling balanced as well as feeling stressed.

Interestingly, across the sample, the frequency of noticing lower, immobilised states decreased slightly between sessions four and seven. Some comments suggested that this state had not happened, and that they had been more regulated during the past few weeks: 'I've not had freezing immobility recently' (1). Others commented on how difficult it was to be aware of it as it was happening: 'I couldn't think about it at the time' (5). And 'almost by definition, blue zone is when you don't feel, you stop noticing stuff – awareness is minimal' (11). Mobilisation was also seen to affect the capacity to observe: 'not able to notice it in a rational way – can only recognise it afterwards' (11). PRs noticed that the different states impacted upon mindful awareness. Several PRs connected more explicit and intentional mindfulness with their awareness of different states in everyday life. 'I notice being in the workable range when I try to be mindful' (14); and: 'in moments of mindfulness, I'm more aware of thoughts racing, tense body and sensations of agitation' (17).

Questions about how regularly different states of the WRM were noticed opened up a non-defensive exploration of the challenges of noticing the pleasant qualities of being balanced and regulated and the unpleasantness of dysregulation that echoed earlier parts of the MBSR curriculum. Links were made between mindfulness and noticing in daily life.

Fluctuating dysregulation

Many PRs described their lived experience of variable, fluctuating dysregulation. I identified three overlapping themes from their observations: increased speed and degree of movement between the two forms of stress reaction, an associated narrowing or loss of a workable range and feeling both wired and tired simultaneously.

The movement from one state to the other was described as 'a roller-coaster' (7) and: 'jumping between being fired up and immobilised' (13). The speed of change from a high-energy mobilised state to a low-energy immobilised state was observed to be: 'quicker than usual' (6). Narrowing of the workable range was captured by PR23 as 'mostly up or down, rarely in the workable range', and PR5 as 'a loss of balance – not enough calm time'. PR10's reflection related to a narrowing of the workable range over a longer period: 'Last year, I could feel the narrowing, as more problems occurred, I struggled to get out of the extremes.' Intense fluctuation was described by PR17 as: 'being two places at once, rigid and chaotic at the same

time/not really oscillating, but both simultaneously'. Adding rich descriptive detail, she called it, 'mobilised immobilisation', a state that was 'shut down, but with an agitation that is different to a hyper-agitation. It is more inward looking [...] an agitation that is withdrawing in nature rather than firing up.'

Self-regulation was more difficult during the instability of fluctuating dysregulation. PR6 observed that: 'during this period, I find it harder to bring myself back to the range' and PR14 noticed: 'more time is needed to recover and be able to function.' Reflecting on work-related stress, PR26 expressed an insight connecting the role of her habitual thresholds on the trajectory of dysregulation: 'because I get less tolerant of agitation [...] I fall into blue more easily.' PR19 observed the role that compelling thoughts can have in perpetuating dysregulation:

> I have huge crashes where I completely deflate, lose all my energy […] Then a thought will get stuck in my head that I can't let go of and I begin to feel more and more anxious […] and up I go again.

PRs observed the intensity of fluctuating dysregulation and how their capacity to stabilise was impaired by their habitual reactions to it. These insights demonstrate how intolerance of the embodied states of stress and the thoughts associated with them can perpetuate dysregulation. As well as providing valuable learning about first-hand experiences of dysregulation, the detail of these descriptions adds rich first-person data to this aspect of the WRM.

Contextualisation: The different states at work

In session four, PRs were asked to consider how the different states affected their daily functioning and work. This was to enable application of the model and mindfulness to the work context in which the course was delivered. Answers to these questions were rich and detailed. I identified four themes, based on observations of the workable range at work which contrasted with comments about the stress states. These were: 1) Able and managing, 2) Balanced, resourced and realistic, 3) Work engagement, and 4) Positive work-related relationships. Themes 1 and 2 concern individual competence and self-management, while 3 and 4 relate to the interpersonal context. These themes were used to organise the data and compare experiences of the different states. Table 6.4 summarises the impact of the different states on work functioning, engagement, relationships and the move from able and managing to unworkable stress and burnout. The richest data relates to effects on functioning and balance, indicating that this was particularly important to the PRs.

Table 6.4. Impact of the different states in the workplace

	Functioning	Engagement	Social impact	Balance	
Mobilisation Feeling fraught, too charged to work well	Anxious and impaired. Distracted and disorientated.	A motivating force leading to resentment, dissatisfaction and desire to run	Sensitive, snappy	Overcharged high stress, wasted energy	
The workable range Feeling well and working well	Able and managing	Positive work engagement and satisfaction	Positive social skills and communication	Balanced resourced and realistic	Unworkable Risk of Burnout
Immobilisation Feeling flat, no fuel to work well	Impaired, dazed and dull	Apathetic and disengaged, dissatisfied	Sensitive, vulnerable, withdrawn.	Under-resourced, running on empty	

PRs identified feeling able and managing well at work in their workable range. Both the quantity and quality of work was observed to be better, and PRs described themselves as being more productive, efficient and responsive: 'Productive, calm, manage multiple tasks, situations and pressures better' (15). And PR12 was: 'effective, able to tackle issues, be more creative and see the bigger picture.' These capacities contributed to a sense of manageability and the ability to tackle issues and cope.

A few people found that the increase in energy and arousal of threat-based mobilisation could temporarily fuel productivity: 'If I am in the lower end, of red, I'm actually more productive at work' (15). However, PR3 observed that 'adrenalin can improve productivity, but is short-lived, and scattered focus makes it hard to concentrate.' In general, PRs felt that they could function in this state, but less well. Many saw that uncontrolled energy, distraction and disorientation impaired their functioning. It had a 'negative impact on focus, concentration and productiveness' (17). Other examples included: flitting from task to task (12, 22, & 25), losing track of priorities (2, 10, & 19), not completing tasks (25), making mistakes (6 & 25), being unable to think straight (19), being more black and white or blinkered (20) and impaired decision-making (2). A rising sense of agitation, struggling to cope and finding work less manageable was conveyed. Several people drew a distinction between working on the threshold between the workable range and immobilisation and a more pronounced shut down. This was related to particular forms of functioning, such as the ability to: 'do simpler tasks' (22), or to 'stick at plodding stuff' (11). Most people commented on the negative impact of immobilisation on their productivity and efficiency. Low energy, dulled minds and reduced

concentration, making it ‘hard to get anything done’ (1), or meaning that they ‘spent a long time on tasks with low or no value’ (2).

A sense of feeling balanced, resourced and realistic, when in the workable range, was described: ‘Things get done in a reasonable balance of time and quality’ (2). It included: ‘doing things well enough, not perfectly’ (3), or ‘dealing with things sensibly in an ordered fashion’ (25). A sense of constraint or squeeze on personal resources and balance was connected with threat-based mobilisation. Being over-charged and wasting energy, for example: ‘Lots of energy goes into getting by and not losing it rather than actual work’ (4). Less control and more reactivity were observed: ‘I react differently to situations and too quickly’ (23). PR14 recognised a need ‘to allow enough time for recovery’, and PR19 said that it took ‘longer to switch off.’ The personal cost of mobilised functioning was highlighted by PR22: ‘work benefits - its home that doesn’t.’ And: ‘I push myself to be productive at work – and the impact is on productivity at home and leisure time’ (3). The energy needed to maintain work functioning had a negative knock-on effect on their home life. In immobilised states there was a sense of running on empty, without adequate fuel and that everything was hard work.

Positive work engagement and satisfaction were connected with being in the workable range: ‘motivated, I enjoy what I do’ (4). PR15 observed that ‘initially the faster pace and pressure’ (of mobilisation) motivated her. However, there were many observations that both threat states had a negative impact on work engagement. When mobilised, PRs observed that they could ‘feel resentful that I have too much to do’ (5), or ‘want to be anywhere but here’ (17). Most people connected lower, slower states with loss of motivation. In particular, two people highlighted that it reduced their willingness to do challenging or difficult work (2 & 26).

Positive social skills and communication were connected with a regulated workable state: ‘I engage with others more’ (23) and ‘I am able to bring out the best in others’ (4). A resilience to social stress was observed and being: ‘less vulnerable to external views’ (2). PRs were aware that a mobilised stress state reduced their emotional control and tolerance for colleagues: ‘I say things that I don’t mean’ (20); ‘I’m short fused and intolerant’ (15). There were many comments about finding interacting with work colleagues difficult in the low-energy blue state. They included a ‘loss of confidence in interacting with others’ (3), and withdrawing from contact (15, 13 & 26). PRs recognised being more vulnerable in this state, they: ‘take things personally’ (26); and ‘avoid conflict or potential criticism’ (2).

In summary, PRs found that, in their workable range, mental and physical energy could be directed towards and resource work functioning. They felt balanced and were more realistic. They could feel engaged and satisfied and were able to use their social skills to best effect. In contrast, work functioning was precarious and compromised in mobilised states. Mental and physical charge could initially be motivating and directed towards work functioning. However, it could very quickly become chaotic, impairing control, focus and flexibility. They tended to do too much, less effectively, and the drain on their energy could impact upon home life. It could lead to over-sensitivity to, and impatience with, others. In immobilised states, on the other hand, PRs felt too flat and dulled to work well. Mental and physical energy was depleted. They were less engaged, motivated or satisfied. Contact with colleagues was a strain, and many people withdrew. This data illustrates that exploration of the WRM was a good way of bringing greater awareness to psychophysical experiences of balance and stress at work. A process in which the cumulative effects of dysregulation built up to an unworkable mind-body state and a depletion of personal resources was implied by this data and was explicit in several individual diagrams and accounts (see example in Figure 6.2).

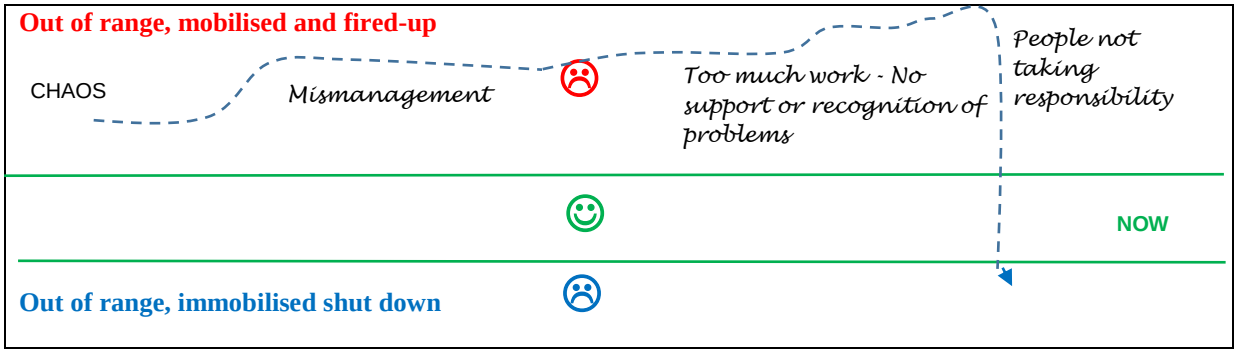

Figure 6.2. Copy of diagram by PR13 in session 4

PRs linked their common experiences of mobilised stress at work with the work context and culture. However, their own attachment to high-energy functioning, and their tendency not to notice or respond to depletion and immobilised stress states whilst at work, may contribute to such a pattern. This could also be connected to feeling more vulnerable when in a lower state.

Patterns and sequences of reaction elucidated

From the initial interactive exercise and through their reflections and diagrams three weeks later, PRs expressed trajectories and patterns of reaction. Overall, the most common pattern depicted, was of a rise into a peak of mobilised, threat-based high arousal followed by a drop, or crash into a low, immobilised state. Many versions of this pattern were expressed, from a

range of starting states across the whole diagram and relating to time periods ranging from a few minutes to several weeks. Some PRs set the pattern within the context of their lives. Several people expressed a pattern of rising into a mobilised stress state during the working day and switching, or collapsing into a flat, shut-down state in the evenings. PR24 depicted the pattern as unfolding over the week; getting more hyper as the week went on and collapsing at the weekend. A couple of people connected this pattern to a breakdown in their mental health: 'Once or twice a year I develop a deeper depression which is not confined to the evenings, a feeling of hopelessness and futility' (23). PR27 associated the drop with breakdown: 'at the start of my breakdown, my body stopped working and I physically could not take one more step.' PR4 saw the repeat of this pattern as being related to the manifestation of mobilised anxiety and immobilised depression. Figure 6.3 (a) below shows a few of the different ways in which the shape of the prevailing pattern of reactivity was described. Similar to the general descriptions of the three states within the WRM presented above, these descriptions combine to give a sense of the essence of those states enacted at work.

The spatial layout of the WRM seemed to help PRs engage with and express the form and feel of patterns of stress reactivity, as well as the more balanced, regulated range in between. Likewise, it enabled them to represent the relationship of one state to another and the touching or crossing of thresholds of tolerance. There were similarities and differences in how this was done. Common patterns were the use of waves and spikes to capture the embodied feel and energetic movement within and between the states. A patterning of the feel of the states was depicted most vividly by PR26 (see Figure 6.3 (b) below). Waves and spikes were also used to convey the unfolding and changing of experience over time.

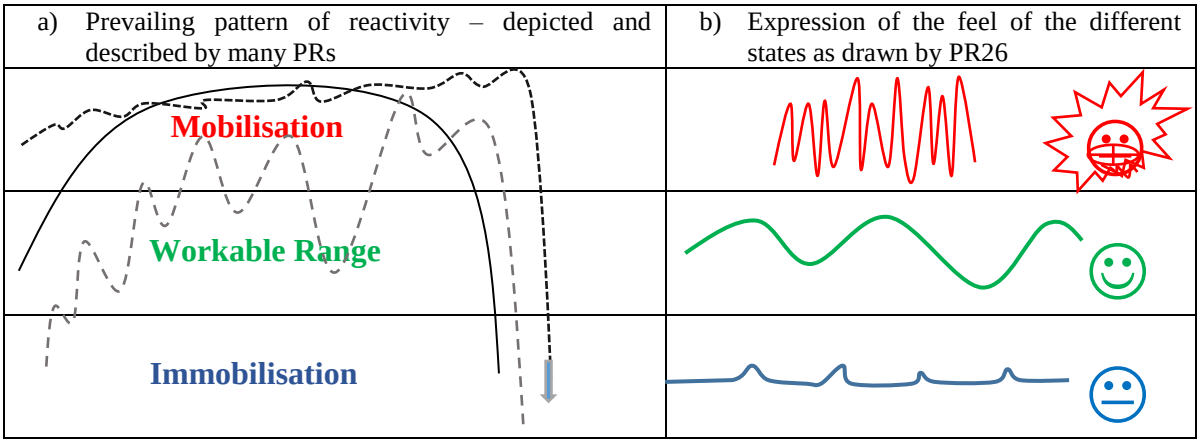

Figure 6.3. The embodied feel of the states and common pattern of reactivity

Some PRs linked their awareness of patterns of reaction with their preferences and aversions, or with contextual factors. The diagram below shows PR2's depiction of a period of stress. This PRs favourite place was at the top threshold. Being in the pilot group, their least preferred state had not been specified, though the diagram suggests a resistance to immobilisation.

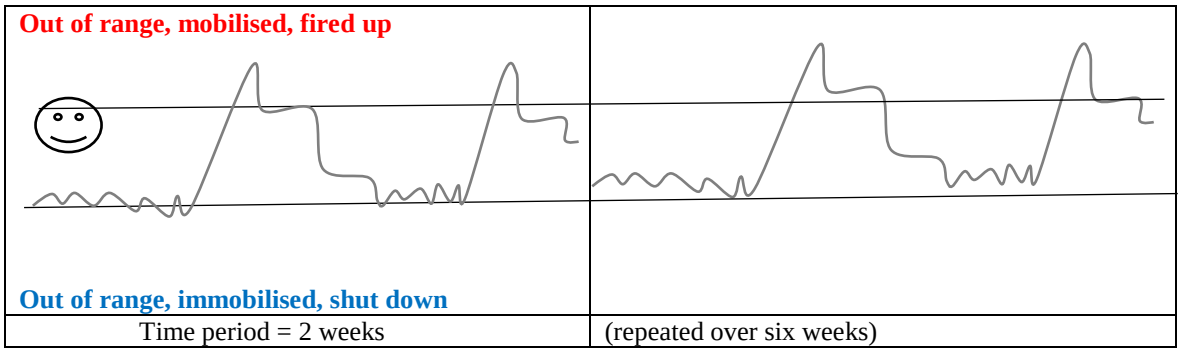

Figure 6.4. Copy of PR2's depiction of a stressful period

This diagram, along with comments about needing to stay in range at work, suggests that the possibility of dipping below the lower threshold at work led to galvanising into action. Here, we see how the diagrams both helped PRs to articulate patterns and could potentially inform further reflection and insight.

PRs used the WRM to reflect upon particular habitual sequences of reactions in which changes in regulated and dysregulated states generally unfolded if unchecked.

From reacting to responding

So far, the results have addressed the research questions by showing that the regulated and dysregulated states, along with the notion of thresholds of tolerance, presented in the WRM, resonated with PRs' lived experience. Also, engagement with the model led to new awareness and insights into their experiences of stress and patterns of reactivity. This section addresses the question of whether and how awareness and insights from the WRM helped MBSR participants to practise mindfulness-based self-regulation. In session seven, PRs were asked how, in the past three weeks, they had responded to stress states when they noticed them. This connected with their homework of doing the breathing-space practice as a regular check-in and during times of stress, as a way of stopping, noticing and being mindful in daily life.

Responding to threat-based mobilisation

Many PRs mentioned awareness, in the moment, of the signs of mobilisation as a first step in responding. Their accounts highlighted a blending of skills and attitudes. They started with recognition, being able to identify and name it; then acknowledgement, attributing an importance or meaning; and finally acceptance, being open to and willing to tolerate it. PRs found that recognising could itself be regulating: 'noticing it was helpful' (15) and 'it took the sting out of it' (2). PR5 recognised over-extending: 'acknowledged that I was trying to do too much.' Others attributed meanings derived from the WRM: 'recognised the risk of going too far up' (2). A change in meaning could change the relationship with the experience: 'acceptance, it is a normal response to threat' (1). This could include holding the value of balance in mind: 'recognised the need to stay grounded' (7). These gestures convey an implicit sense of self-compassion. A range of forms of stepping back from the stressor were also described: stepping back physically (3 & 21), or mentally (1, 18 & 27) to focus on the self (18) or just to take time (9 & 10).

Several people mentioned breathing as a response to mobilisation as a way to stay present and/or settle or calm down (3, 7, 9, 16, 20, 21, 24, 25, 26 & 27). For example, PR17 used 'breathing as an anchor to pull the mind back and also to breathe more fully and calmly.' PR7 slowed their breathing, which stemmed a rise in critical thoughts and enabled them to 'roll with the situation rather than fight it.' In focussing on breathing, PR3 'let go of the response and put the trigger into perspective.' Allowing a reaction to subside or pass could widen attention to 'look at the bigger picture' (12), or 'look at the situation differently' (18). Using breathing as intentional regulation followed an initial expression or release of emotional intensity for two people. PR25 'got even more stressed and cried', and then 'took a moment to breathe and centre myself', whilst PR22 'shouted', and then 'took deep breaths in and sighed things out.'

Several PRs identified the breathing-space practice as being an effective method of responding when mobilised. The practice involves stopping and noticing, stabilising attention on the direct experience of breathing and widening attention with acceptance of present experience. Comments included: 'It helps me to stop my chain reactions' (16) and 'I can recover some control' (5). Some PRs said that it enabled them to connect with the physical feeling of stress states (1, 5, 9, 10 & 25). PR1 described the regulatory aspects of a breathing-space: 'breathing in feels like an empowering stance and breathing out a letting go.' Many comments supported the steps set out in the breathing-space as intentional self-regulation, either to restore the

workable range or to move towards it. In paying attention to breathing, PRs were regulating their attention. PR1 visualised and drew 'lassoing attention.' PRs' experiences also provide evidence for an experience of down-regulation of threat arousal. Rather differently, PR26 found that yoga 'was respite from high stress' and PR22 observed that: 'stillness, sitting and lying is good – helps me feel grounded.'

A range of other actions and chosen responses were reported. These included: analysing the situation (6 &12) and re-assessing priorities (5). Others mentioned a shift in attitude towards themselves or others: 'kindly self-talk/reassurance' (26) and 'empathy with others' (3 & 6). Two PRs reported deciding to change activity (4 & 24), and others specified actions such as going 'for a walk' (4) or, 'to the gym' (10). One person highlighted the positive empowering experience of finding the space to respond: 'I chose to do that and was pleased I had the choice' (21). The WRM facilitated recognising and riding out the reaction. The stabilisation that came from doing so opened up an awareness of the full context, paving the way for PRs to find options and recover their equilibrium.

Responding to threat-based mobilisation involved using recognition to catch and slow the rise in arousal and reactivity. Strategies of response were organised around breathing to stabilise and calm the mind and body. This seemed to involve mindfully observing the discomfort, rather than being totally caught up and carried along by it. It also involved a sense of patience to ride it out and let it pass. Knowing and accepting it for what it was combined with steadying attentional awareness.

Responding to threat-based immobilisation

In contrast to responding to mobilised stress, answers about responding to immobilising reactions did not highlight recognition; rather, a few people noted that it was hard to recognise (5, 18, & 25). Also, PRs did not refer to breathing as an initial response. It was <u>how</u> this state was engaged in that distinguished responses to it. Acceptance and self-compassion in particular characterised a learned mindful response as an alternative to habitual resistance or negative judgement: 'didn't give myself a hard time – accepted I needed to rest' (3); and 'tried not to be harsh for feeling that way' (17). These comments denote a shift away from judgement and disapproval towards self-compassion. Gestures of experientially moving towards, acknowledging and accepting were complemented by comments about stepping back and 'separating from the feelings' (19). Others spoke of stepping back from the problem (16) or

stressful interaction (20 & 22). Drawing upon the insight taught in the course, that experience constantly changes, was mentioned as a mental resource (17, 19 & 27): 'I tried to think of it as a temporary feeling' (19). PR8 used a repetitive task 'like a mantra'. For PR19, 'recognising positive experiences' could be a way to return to the workable range (see Figure 6.5 below). Other chosen responses included various forms of self-care and self-compassion (3, 4, 17, 20, 22 & 26), such as getting more rest, sleep and exercise. PR26 reported 'consciously choosing an easier task' as a way of working with, rather than resisting, this reaction. PR3 referred to the restorative effects of yoga, and PR17 chose mindful walking. Interpersonal actions were also reported; assertiveness to halt a stressful interaction (22), for example. PR3 identified a need to set limits on how much she gave to work (3). Several people conveyed the value of moving or being active as a way to respond to the immobilised state (3, 10, 17, 22 & 26). It was felt to be 'better to be doing something, rather than staying stuck' (12). Whilst MBP participants are taught to develop their capacity to 'be' rather than 'do', here we see chosen 'doing' as a way of 'being with' immobilisation. Responding to immobilisation with formal meditation, PR22 observed that movement practice 'helped me to stay more alert, rather than shut down', and PR6 found 'meditation is helpful at getting rid of the fog.'

Responding to threat-based immobilisation was characterised by a shift in perspective, from ignoring or over-riding the heavy undertow, to appreciating it as having a meaning, importing a message to take care. The strategies adopted seemed to enable mental movement and choice, rather than a mind-body enforced freeze. Including low-energy flattened or blunted reactions in teaching about general stress reactivity, alongside the attentional skills and qualities of mindfulness, seemed to help people to accept, tolerate and work with them. Unexpectedly, several PRs found that, although it was less easy to notice initially, when they did, they were more inclined to meditate as a response than when fired up and restless.

Difficulties of moving from reaction through regulation to responding

Some people found it very difficult to learn to stay present with experience on or over the threshold of tolerance, as a gateway to responding. One person articulated how hard it was to find a response when mobilised:

> I was aware of it as it was happening, perhaps more so than previously. I tried to think of it as a passing situation, but it was difficult to see a way out of that

feeling. I was reluctant to meditate because I thought it would make my thoughts louder and I would have less to distract me from them. (19)

Whilst this PR was applying the MBSR teaching that difficult experience changes and passes, they also wanted a way not to feel it, rather than to mindfully connect with the experience. Awareness appears to have intensified the feeling. At that time, meditation and being present did not yet feel safe or familiar enough as a resource. This shows that recognition with fear can amplify discomfort and fear of experience. However, later on, the same PR also depicted mindful emotion regulation (see Figure 6.5 below). This highlights the precariousness of encountering difficulty in mindfulness training, which can either be a barrier to learning, or bring insight, increase tolerance and spur growth. Knowing and naming the reaction and articulating the difficulty of being with it could have played a part in this person's learning.

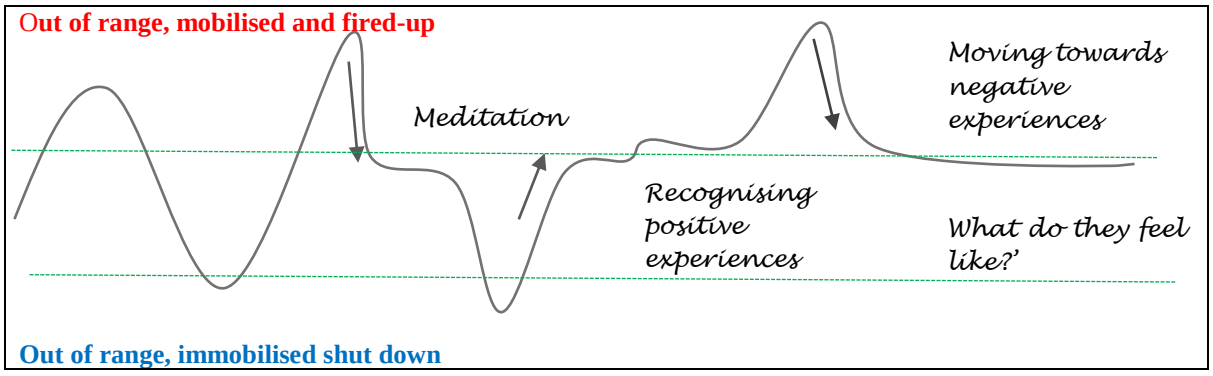

Figure 6.5. Copy of diagram by PR19 in session 7 – about responding to dysregulation

Perspectives on learning and applications of the WRM

This section presents PRs' perspectives on learning the WRM in response to the following questions: what have you learned? And, how might you use the WRM along with the practices and skills you have learned in the future? The model seemed to resonate with everyone. The value of both a healthy balance and unchecked stress reactivity conveyed in the WRM came across: 'the workable range represents a typical positive state. The wired-tired narrowing effect represents the worst consequences of stress' (1).

The visual and spatial aspects of the model played an important role in enabling people to grasp and retain the key information conveyed by the WRM. PR13 said: 'the model helps to visualise the ranges in an understandable format.' PRs spoke of the model in terms of findings their bearings or figuring out how they were by locating their position within the model. Having: 'emotional states put into categories – helps to visualise where you are' (7). The combination

of ‘a clear visual and vocabulary’ made the WRM, ‘a good, plain, easy to understand rubric for spotting your own reactions’ (3).

For some, the model led to a retrospective understanding of previous periods of stress, mental health and distress. The model ‘described my last year perfectly, I can look back and see a time of really going out of range, which affected my performance’ (10). The model helped PR4 to make sense of periods of mental ill-health, and treatment over many years: ‘nothing that anyone else has done has come close to helping me understand […] my emotional imbalance.’ Another person had previously thought that they may have bipolar disorder: ‘I couldn’t understand how I could go so quickly from charged to depressed, […]. I can see now that it was a wired/tired situation’ (19). PR27 said they could ‘now understand why and how my breakdown happened.’

Applying the model to work and social contexts was an important lesson for several people and demonstrates the versatility of the WRM. PRs reported insights into how they felt and functioned in their day-to-day lives. For some, this also extended to other people: ‘it fits with what I have learned about myself and what I have witnessed in friends and family’ (14). PR15 was ‘able to identify some of my team’s traits within the model and better understand their responses.’ PR26 applied it to a close relationship: ‘We have different workable ranges – I think both our ranges have narrowed in the past years and we have had much less overlap.’

The WRM provided an explanation and way of understanding both shared and personal stress patterns. For some, it had the effect of normalising experience: ‘Knowing that these feelings are biologically useful and predictable is useful’ (1); and ‘It has made me feel that this is normal and how the mind/body works’ (24). Several people reflected on specific learning about their own ranges; for example: ‘I have learnt about my working range. It is close to mobilised fired-up. Since realising, I have made the distinction between feeling stressed and my normal working habits’ (6). Others gained new understanding about their patterns of reactivity, and the impact they have: ‘I didn’t realise that I sometimes go into the red at work. It is helpful in labelling, analysing and managing a set of feelings and behaviours that is unproductive’ (2). The general layout or pattern enabled some people to understand how their experiences unfolded. ‘A useful tool to help recognise different states of mind and how they change over time’ (17) and ‘dysregulation is usually short-lived’ (12). Getting a greater understanding of her reactions helped PR 14 to be ‘much less judgemental’. Recognising that a preference for being busy led to more time ‘in the red’ than was healthy enabled PR9 to ‘feel more content to be in the blue range than before. I can feel OK about it without looking for activities to fill my

mind.' Coming to view immobilised dysregulation as part of a larger pattern of regulation, often following periods of mobilisation, seemed to support acceptance and greater tolerance.

The use of the model as a device to support self-regulation was described in a variety of ways. The workable range was seen as a 'benchmark' (8). Knowledge of the signs and symptoms of the threat-based states could be used as a warning, 'to identify risk/harm at top of range' (2). Through participating in the course, PR3 became able to 'spot more quickly when I am out of range and mindfulness techniques make it easier to move back in.' PR2 said: 'the model lets me back off and go down to a workable, effective range. It reduces self-blame and chaotic responses without removing drive and energy.'

Reflections on learning showed that the WRM had informed intentions to pursue mindful self-regulation following the course. PR1 intended to be 'more accepting of being out of range and pulling back into a workable range' (1), whilst PR4 wanted to 'keep track of things and look for the narrowing of the workable range.' PR11 planned to 'use the model as a means of being more self-aware and adjusting, using mindfulness techniques to reduce the peaks that come close to or stray into the red zone.' PR19 spoke of 'noticing where I am in my range and using the skills and practices to get back to a workable range.' Learning about the workable range as a regulated state that is optimal for wellbeing and functioning, was valuable for PRs. Whilst there was less said about it in session four than the threat-based states, it was clearly grasped and held onto, and informed the personal commitments to staying in range articulated above.

The comments of PR12 captured the view expressed by many that, along with the skills and practices of MSBR, the WRM made stressful experiences more understandable and manageable: 'It has made me realise that there is a pattern to my behaviour and that there are ways of addressing the highs and lows of stress.' PR17, however, was 'unsure of the utility of the model in informing a useful course of action […]', and wanted it to be more prescriptive. 'Where I struggle is knowing how we decompress the workable range, bring ourselves nearer to it, whether it be downwards from the hyper or upwards from the hypo?' How best to meet the desire for more specific guidance about self-regulation within the inquiry-based pedagogy will be discussed below.

Practice-based discussion and chapter conclusions

In this phase of the research, the aim was to illuminate how the inclusion of the WRM in MBSR worked as a complementary component of the curriculum. The role of such teaching is to

'provide a contextual framework whereby participants can begin to understand the relationship between mindfulness practice and their ability to learn to cope more effectively with stress' (Santorelli, 2014, p.11). This section will discuss the results in relation to MBSR practice and draw conclusions in relation to the research questions. The answers to the first questions are inter-related and will be discussed together. These questions were: 1) How well did the regulated and dysregulated states and notion of thresholds of tolerance, presented in the WRM, fit with PRs' lived experience? 2) What new awareness and insights did participants gain in relation to their experiences of stress and patterns of reactivity?

My presentation of the WRM offered PRs a conceptual framework for learning about and exploring stress and emotion regulation. As required by didactic material on stress in MBSR the WRM was presented in a way that brought it alive for participants and elicited exploration of direct experience (Santorelli, 2014). A brief visual and verbal presentation of the model provided a reference for investigation and learning in that session and over the following weeks. PRs immediately grasped all of the core elements of the WRM and used the diagram and concepts to relate to their own lived experiences.

Many specific insights into the three different states were evidenced. They included personal details across different aspects of experience. My motivation for developing and using the WRM was to teach about stress in a way that includes healthy balanced states and immobilising reactions that are not usually made explicit in presentations of stress. The concept of immobilisation resonated with PRs just as much as the more familiar mobilised and flight and fight reactions. This provides support for a widening from the specific freeze reaction of the autonomic arousal model used in trauma therapy (Ogden et al., 2006) to a broader category of immobilising reactions in everyday life (Rose, 2014).

Investigations into the lived experience of balance and instability developed the mindfulness skills of observing and describing experiences (Baer et al., 2006). Fuelling participants' interest and commitment to pay closer attention to the psychophysical effects of stress is an important objective of MBSR (Santorelli, 2014). Learning the WRM did this in a number of ways, particularly recognising distinctive attributes of the three states and differentiating between balanced arousal within the range, and threat-based mobilisation. PRs learned that too much unregulated threat-based mobilisation leads to cutting out and falling into threat-based immobilisation. Explorations of and reflections upon the features of fluctuating dysregulation were rich. PR10's description of simultaneously feeling charged up or wired, and shut down

and tired as ‘mobilised immobilisation’ added new first-person detail in relation to the WRM. This was a good example of how structuring the teaching process as a conceptual encounter worked and provided refinement to the conceptualisation of the WRM (de Rivera, 1981).

Reflections on the impact of the different states at work were abundant. Within their workable ranges, PRs felt capable and able to manage, balanced and realistic, positively engaged with work and work relationships. However, they noticed impairments to their competence and self-management, work engagement and interpersonal relationships when their thresholds of tolerance were crossed. Some PRs gave personal accounts of unchecked dysregulation leading to burnout. The WRM may resonate particularly well with participants on workplace mindfulness programmes. Several PRs recognised how chronic dysregulation had led to depression and breakdown. These were all examples of the unbroken cycles of stress reactivity described by Kabat-Zinn (1990). The range of experiences that PRs related to the WRM shows that it can provide continuity from the everyday through to burnout and common mental health conditions. This adds further evidence to the value of widening the categories that inform the WRM from traumatic to general stress (Rose, 2014).

The final research question concerned whether insights from the WRM helped participants to practise mindfulness-based self-regulation and to make choices. Increased familiarity with the form of the states enabled PRs to perceive them and see how mindful awareness and staying present with stress reactions as they arose could potentially reduce further threat-based reactivity and put them in a position to respond, as set out in the MBSR curriculum (Kabat-Zinn, 1990; Santorelli et al., 2017).

PRs used their self-awareness and mindfulness skills differently when responding to mobilised or immobilised dysregulation. Mindful responses to threat-based mobilisation were led by attentional skills, noticing the state, followed by engaging with breathing to support mind/body regulation. Attitudinal qualities of acceptance and self-compassion figured strongly in accounts of responding to threat-based immobilisation. Movement practice was useful in response to feeling stuck and to reinvigorate a sense of vitality. On the whole, negative judgements of immobilisation, implying the loss of something good, were replaced by less judgemental comments of self-compassion. These results suggest that the non-judgement and non-reactivity facets of mindfulness (Baer et al., 2006) were evident and applied differently to the different forms of dysregulation. The ability to restrain and not react applied particularly to the impulsivity of habitual mobilised stress reactions, whilst being less judgemental applied more

to immobilisation. Both reflect how teaching about stress alongside mindfulness in the middle of courses can help to soften aversion (McCown et al., 2010). The differential use of mindfulness skills for mobilisation and immobilisation demonstrate tailored self-regulation. Attentional and bodily regulation seemed to down-regulate and slow the energetic charge of mobilisation, providing a return to balance, safe immobilisation or relaxation (Porges, 2007). Intentionally putting the brakes on during threat-based mobilisation is an established regulatory approach in trauma treatment (Rothschild, 2003) that was intuitively enacted by my PRs. Intentional self-acceptance and care, as well as movement, brought flexibility and vitality to immobilisation, thus providing up-regulating body regulation, bringing the person back into range and vitality through safe mobilisation. A temporary loss of energy and competence may be viewed as weakness or failure and evoke shame across both workplaces and the wider culture (Rose, 2014). Some PRs demonstrated a shift in perspective from negative judgement to an acceptance of immobilisation and running out of energy as a sign of needing rest.

Many PRs' accounts of responding to the different forms of dysregulation provided unique illustrations of using the WRM to inform mindfulness-mediated stress responses (MMSR: Kabat-Zinn, 2013). Awareness of, interest in and safe engagement with the features of stressful experiences paved the way for more mindful and skilful responses. The sophistication and complexities of PRs' application of mindfulness skills and qualities accorded with Kabat-Zinn's account, showing that MMSRs are both very different from automatic modes of reacting, but can also reconnect people to established coping skills and can work alongside them (ibid.). PRs integrated their new knowledge about their reactions with previous knowledge about self-care and coping strategies. Their accounts demonstrated not only the application of different mindfulness-based skills and qualities, but also intuitive ways of developing embodied knowledge of what feels safe and regulating. The enactment of the MMSRs and emotion regulation was performed by PRs by integrating their awareness of stress reactivity through learning the WRM with developing mindfulness skills and qualities that are usually part of MBSR. PR3's comments about what they had learned captured this integration: 'I can spot more quickly when I am out of range and mindfulness techniques make it easier to move back in.' The explicit inclusion of and experiential engagement with the features of regulated states were seen to provide a 'benchmark' (8) that helped with this process.

Kabat-Zinn (1990, p.247) asserted that it is in the 'occurrences in life we find stressful that mindfulness most needs to be applied'. The PRs observed that it was harder to be mindful when in one of the stress states. They found it difficult to find attentional stability when mobilised,

or to be aware when immobilised. Likewise, employing mindfulness or other strategies to restore balance was more difficult during threat-based reactions, particularly when they were acute or were oscillating. Whilst this may resonate with mindfulness teachers, and anyone who has tried to practise, it is not explicitly spelled out in teaching themes. Using the WRM to explain that it is precisely at those times when our thresholds of tolerance are breached that steady awareness is most difficult, could perhaps support participants in normalising, understanding and continuing to engage with the process. Becoming aware of stressful experience as it happens is central to MBSR. How teachers theorise and support participants through the inevitable challenges while doing so is an important consideration.

One PR expressed a wish for explicit guidance about what to do in order to regulate the reactions revealed by the WRM. Mindfulness teachers are taught to resist the impulse to fix and solve problems raised by participants, and to use mindful inquiry skills to facilitate participants' exploration and to encourage them to find what was needed in the moment. In her participant observation of three MBSR courses, Rosch (2016) noted that teachers varied in how much explicit guidance they offered on stress regulation techniques, and that many techniques remained implicit. Because the theories behind the WRM emphasise the central role of feeling safe in regulation, my practice would be to share that with participants and then invite them to explore what sensory attentional anchors feel safe for them. This could be tuning into the feet resting on the floor, for instance, or an external visual anchor. The WRM may support engagement with difficult and uncomfortable states and can provide an explanation for why being present is so difficult, and how mindfulness can most helpfully be applied. Teachers have to hold a tension between instructive information and facilitating exploration. Connected with these issues is the risk that the WRM and mindfulness might be used by participants to justify and reinforce avoidance. The differentiation between restoring enough safety in order to stay present with difficulty closer to or within the workable range, from automatically escaping or blocking awareness in an attempt to avoid difficult experience, might help teachers and participants with this issue.

Overall, the use of the WRM within MBSR showed it to be a valuable and accessible psychoeducational tool. The PRs were able to apply the model to their lived experience with their minds and bodies and to various aspects of their lives. The WRM complemented MBSR in ways that were consistent with the purpose of didactic input about stress within the curriculum and the wider aims of the programme.

Phase two: A mindfulness-based, first-person exploration of the combination of the Workable Ranges Model and Mindfulness-Based Stress Reduction

Chapter seven

Phase-two methods

Introduction

The first phase addressed the research questions within the Mindfulness-Based Stress Reduction (MBSR) curriculum. The purpose of this phase was to broaden the evaluation beyond the confines of an MBSR course, but still within that practice approach. People who had completed the intervention, and were free to explore the model more fully, were recruited as research partners (RPs) and first-person researchers, in order to add to and develop the knowledge generated by the first phase. The objective was to analyse the experiences and insights generated from a dedicated mindfulness practice-based inquiry into the application of the Workable Ranges Model (WRM) to MBSR. Methods were selected to facilitate a mindfulness-based, first-person investigation into the WRM and illuminate its value within the MBSR approach to self-regulation.

The central research activities were conducted in a group format in keeping with MBSR. The intention was to facilitate a conceptual encounter that could go into more detail, through discussion and shared exploration (de Riviera, 1981). Drawing on the principles of first-person methodology introduced in chapter four, my RPs were coached to adopt a mindful orientation in order to encounter their lived experiences more directly (Stanley, 2012).

Focus-group interviews can be an effective method to access individuals' phenomenological experiences if they fit with the basis of the research (Bradbury-Jones et al., 2009). Phenomenological focus groups require methods for enriching data interactively (ibid.). In this research, it made theoretical and practical sense to bring together an enactive approach, in which sense-making is embodied and arises through social participation (De Jaegher & Di Paolo, 2008), where learning arises through experience-based dialogue (Crane et al., 2017). The facilitation of horizontal interaction and the exploration of similarities and differences across the group is integral to the leading of structured inquiry in MBPs (Crane et al., 2015).

Research Partners

I recruited a purposive sample from my list of course graduates and invited them to join me in a practice-based inquiry into the research questions as research partners (RPs). Together, we would explore questions about how the WRM complements the practice of MBSR. I was guided by Tang and Davis' (1995) criteria for determining the group size best suited to such research. These are: the number of questions asked, the allotted time for each question, and the format and duration of the group. Given the timeframes and the format for the group investigations, presented below, I set out to recruit six to ten people. The sample needed to be small enough to retain a focus on individual experiences, but large enough to plausibly demonstrate patterns across it (Braun & Clarke, 2013). Self-selection criteria were personal interest and continued engagement with mindfulness and the WRM. Having completed MBSR and continued to practise in some way, this sample could be considered more experienced first-person researchers than the phase-one sample.

One month before the first session, I emailed all 240 people on my MBSR graduate list. I outlined the opportunity to attend a workshop to explore the WRM and MBSR, and to contribute to my research. It specified a date by which to express interest (see appendix M). Thirty-three people responded and were sent the participant information sheet, with information about the research and invited them to consider whether they were interested in exploring the topic (see appendix N). They needed to be able to attend both activities to participate, and were given a list of possible dates and times. Sixteen people replied. I selected the times for which nine people had indicated availability, and had a good balance of men and women. If there had been more groups of adequate size and gender mix, I would have based the selection on a mixture of time passed since completing the course and work roles. Those not selected were thanked and advised that a follow-up session would also focus on the topic. The group reduced to eight due to one person no longer being available. Each of the eight completed a research partner consent form (see appendix O). One person had to withdraw at the last minute due to an injury. The final group of seven comprised four women and three men. Six held professional or managerial roles and one had a customer service role. This demographic was different from the sample for phase one, which included more academic staff. The time since they completed the course varied from three months to three years. Only one had been familiar with meditation prior to attending the course. All had continued to practise,

four of them weekly or more and three occasionally. Two had continued with informal practice only. Two of this sample had also participated in phase one (RP5 and RP7).

Table 7.1 Characteristics of research partners

Research Partner	Gender	Job category	Time since completing MBSR	Meditation experience before	Continued practice	Gender
1	F	Professional /Managerial (PM)	6 months	No	Occasionally	Informal only
2	F	Clerical	6 months	No	Occasionally	Mixed (formal and informal)
3	F	P/M	1¼ years	No	Occasionally	Mixed
4	F	P/M	2¼ years	No	Weekly or more	Mixed
5	M	P/M	3 months	No	Weekly or more	Mixed
6	M	P/M	3 years	No	Weekly or more	Mixed
7	M	P/M	1½ years	Yes	Weekly or more	Mixed

Recruitment of helper/assistant moderator

Focus group assistants can take on practical tasks to free the moderator to attend to the facilitation of the group (Krueger, 2014). I recruited a colleague to help with the running of the experiential workshop. She was asked to help set up the room and refreshments, operate and monitor the recording equipment, observe the group process and take notes.

Data Collection

Introductory session – induction and initial data gathering

During this hour-long session, I welcomed the RPs and introduced them to the research questions. They were told that the purpose was to explore the fit, application and integration of the WRM with the skills, practices and ideas of MBSR. It was framed as a shared exploration with three inter-related concerns: their learning, developing the WRM and developing training practice. I explained that, in this research, there were no right answers, only different experiences and points of view (Krueger, 2014).

To induct them into their role as first-person researchers, I gave a brief introduction to first-person methodology and mindfulness as a phenomenological method. An overview of the conceptual encounter was also offered. I explained that a presentation of the WRM would be followed by reflections and discussion during which they could relate it to their own

experiences. I went over the order of the research activities and informed them that a colleague would attend the second workshop to help with practicalities and that both the inquiry and group discussion would be audio recorded.

The conceptual encounter commenced with a brief presentation of the WRM by me, using a flipchart to draw out the model. This was followed by an interactive exercise in which RPs used a short question schedule with an outline WRM diagram to depict their workable range, where they were at that moment, their most preferred and least preferred states and described a recent stressful experience on the diagram and/or in words (see appendix P). They were invited to observe their experiences of balance and stress over the following week and offered three ways to record them. These were: a workable ranges tracking form, a one week and a single day diagrammatic diary sheet (see appendices Q and R).

The experiential workshop

All seven RPs returned the following week and handed in their diary sheets. They were given an overview of the two parts of the exploratory workshop, comprising a meditation practice and inquiry, followed by a wider group discussion after a break.

Part one: mindfulness practice and structured inquiry (45 minutes)

I guided a meditation practice that included aspects of the main meditations in MBSR: the body scan, breathing meditation, movement and sitting meditation. The usual layers of inquiry informed my questions and interactions with them, which were: what is noticed, how it is noticed and how they link with wider experience (Crane, 2009). In this instance, the focus was also on the research questions. The main questions were:

- What did you notice in the practice regarding your energy and feelings of stress or emotional balance/imbalance? Subsidiary questions such as these followed: Where in your body did you notice that? What was it like for you noticing it? How did you relate to that? Did it stay the same or change?
- What did you notice about the quality of your attention during the practice? Did that go along with any physical changes?
- Where would you say you were on the WRM during that practice?

After the inquiry period, I invited the RPs to have their comfort break in silence to enable them to stay close to their direct experience.

Part two: exploratory focus group (one hour)

The questions for the exploratory focus group drew on the principles of structured inquiry discussed above, along with first-person methods which aim to bring pre-reflective, embodied experience into words. For example, in explication interviews people are asked to bring past experiences to mind and engage with the felt experience, as embodied memory (Maurel, 2009). In experience-based, body-anchored interviews, the interviewer asks questions that orient the person to their felt-sense of the experience and encourages them to explore the resonance of words or images with the experience (Stelter, 2010).

The plan for the group was semi-structured, with four key topics:

a) Observations from the question schedule and diary sheets from the preceding week
b) Experiences in the preceding guided meditation
c) Experiences in formal and informal mindfulness practices
d) Views about the interplay between learning and practising mindfulness and their knowledge of the model.

I introduced the group discussion as a time when they could answer the questions and discuss their experiences with each other. They were encouraged to practise mindful listening, as well as speaking, and notice their own resonance with what was said. They were reminded of the recording equipment and to try to speak one at a time.

Ensuring ethical research practice

Ethical approval for this project was approved simultaneously with phase one. Most ways of ensuring ethical good practice were the same for both phases including confidentiality and data protection. Points specific to this project related to informed consent and debriefing. The time period for permission to withdraw data was specified as three weeks after the exploratory focus group. This was to allow time for reflection whilst enabling me to prepare the data for analysis. At the end of the activities, the RPs were informed verbally, and in a follow-up email, how they could access support and debriefing in relation to anything that arose through involvement in the research, should they wish.

Data Analysis

The data collection methods yielded five sets of data:

1) Short question schedules – diagrams and text
2) Brief self-tracking diaries – short textual entries and diagrams
3) Recorded 45-minute structured inquiry following guided meditations
4) Recorded one-hour exploratory focus-group discussion
5) The assistant moderator's notes and diagrams.

The diagrams were scanned and the written data from the diaries reproduced, retaining their contextual form. I transcribed the audio data verbatim, as it was spoken, including utterances, inserting breaks of silence and verbal gestures. I typed up the assistant moderator's notes and recorded the graphic signs she used to convey the hand-gestures that RPs made while talking about the WRM. All were included in the analysis.

I planned to generate themes inductively from the phenomenological data, regarding it as lived experience that had been enacted through participatory sense-making in a shared action space (De Jaegher & Di Paulo, 2007). Van Manen's (2011) notion of thematic reflection, where 'thematic analysis refers to the process of recovering structures of meanings that are embodied and dramatized in human experience represented in a text' was particularly pertinent (ibid., non-paginated webpage). He distinguishes between macro-thematic reflection as the practice of attending to the data as a whole, and micro-thematic reflection involving a more detailed line-by-line approach. I decided to use both forms of reflection in order to discern themes of meaning across the group, as well as from smaller abstracted sections and individual experience. Both kinds of reflection informed my following of Braun and Clarke's (2006 & 2013) structured thematic analysis.

Thematic analysis

Thematic analysis is a systematic framework for coding qualitative data and identifying patterns across it, in relation to research questions (ibid.). It has six analytical phases: i) initial familiarisation, ii) generating and revising codes, iii) identifying themes, iv) reviewing themes, v) defining and naming themes and vi) finalising the themes through writing. These analytical steps can be followed using a range of methodological approaches, leaving the researcher to bring their preferred epistemology to the analysis (Braun & Clarke, 2014).

Familiarisation

I started by collating and transcribing the data. I read and re-read the transcripts, looked at the diagrams and noted down initial observations and ideas about possible meanings. Following a period of macro-thematic reflection (van Manen, 2011) involving the whole data corpus, I decided to code the structured inquiry and focus-group discussion data separately to begin with, as they had a different quality. Data from the structured inquiry were closer to present-moment awareness of embodied states than the focus-group discussion that followed. Varela and Shear (1999, p.4) stated that first-person accounts of pre-reflective experience are 'a rich and largely unexplored source of information and data'. With this in mind, I wanted to analyse data that were specific to the structured inquiry. In conceptual encounter studies, the process of describing experiences overlaps with the analysis of their structure, thus merging data collection and analysis (Madill & Gough, 2008). The data corpus included both RPs' first-person data and their own analyses of that data, in relation to the research questions.

Generating and revising codes

I decided to conduct a complete coding (Braun & Clarke, 2013) across all the written data and to link in the diagrammatic data that related to it. This involved shifting from comprehension to considering what it could mean, and moving away from the position of teacher to that of researcher. Whilst notes from the initial macro-reflective reading related to my teacher perspective, my first coding of the data focussed on what Braun and Clarke (2013) call data-derived semantic codes. It seemed important to code the RPs' first-person experiences directly. I was aware of not wanting to impose my meaning on it. However, I also wanted to go beyond the explicit meaning, bring interpretation to the data and identify researcher-derived latent codes (ibid.). To be reflexive about this, I created a large sheet with the research questions and methodological approach, using post-its which I brought to the analysis. I considered this to be a backdrop that sat behind me as I went into the second coding. This coding focussed on the inquiry and group discussion data, with the brief descriptive diaries and diagrams temporarily set aside. In this way, I was oriented to viewing the data more in terms of what it showed about my RPs' learning processes. As I progressed with the second coding, I encountered an issue that I had to address. Whilst a lot of individual reflections stood alone and could be coded accordingly, I saw that larger portions of data spanned shared investigations, including interactions with me, which needed to be considered together in order to capture the shared sense-making. An account by Binder et al. (2012), of the thematic analysis of therapeutic processes from a hermeneutic phenomenological perspective, helped with this. Their approach

to giving meaning to experiential data by including the interpersonal context and process was applicable to my data. I applied Binder et al.'s (ibid.) practice of identifying and coding meaning patterns across larger sections of data to represent shared lines of inquiry. An example was a shared exploration of a question posed by one RP regarding what happens to your workable range during prolonged stress. This was coded as 'using the WRM as a frame for inquiry into stress and emotional regulation'. The identification of this and several other codes seemed to sit in between van Manen's (2011) macro-thematic and micro-thematic reflections. Codes were combined to include similar meanings and then reapplied to the data set. I ended this stage with tables with columns of codes and the relevant sections of text underneath, see example in appendix S.

Searching for themes

The next phase consisted of identifying and interpreting patterns across the codes through collating them into potential themes and pulling together all the data relevant to each candidate theme (Braun & Clarke, 2013). I did this for the inquiry and group discussion data separately using tables, with the codes at the top of each column and the data that related to them underneath. From time to time during this process, I took a step back and noted ideas for themes that stood out for me in a macro-thematic reflective way (van Manen, 2011). I made and cut out labels of the codes using different colours for the two data sets and laid them out on a large sheet. The candidate themes that I identified brought together the codes from micro-thematic line-by-line coding from both the inquiry and the exploratory group and ideas from my broader holistic reflection. Appendix T shows a photo of the codes laid out and the initial candidate themes identified.

Reviewing themes

The process of reviewing themes involved assessing how they worked at two levels: firstly, in relation to coded extracts of data, and secondly, across the entire data set (Braun & Clarke, 2013). It was useful to bring the research questions into focus here, and to resist the impulse to try to cover everything in the data. This phase included considering the relationships between themes, hierarchical or sequential, in order to generate a thematic model of three levels of theme in the analysis (ibid.). I worked with tables detailing the themes and the codes that pertained to them as well as going back over the tables of codes and relevant data, and used hand-drawn and SmartArt tools to develop a visual model to complete this phase.

Defining and naming themes

The analysis was developed further through writing definitions of the themes and picking out salient examples in preparation for ongoing analysis through writing up. This led to refinements to the names and layout of the thematic model. During the writing-up process, I was aware that the intention to theme direct experiences and the novelty of the topic meant that extracts from the data were mainly used descriptively (Braun & Clarke, 2013).

Summary and critical reflection on methods

This phase of the research was designed to complement the first phase, which was set within MBSR courses. Here, the research activities involved experiential workshops with graduates of the course, led by me. A group of seven RPs were recruited and inducted into the role of first-person researchers. Data were generated using question schedules, diaries and an experiential workshop in two parts: a structured inquiry following guided meditation and an exploratory focus-group discussion.

The practice-based data collection methods are a distinguishing feature of this research. In this phase, this was helped by my experience as an MBSR teacher of generating rich reflections from the inquiry process in MBSR. There was no pilot of the data collection methods for this phase. Had my RPs not fulfilled their roles so admirably, I would have had to rethink and reshape the design. The inquiry and group discussion data were particularly rich. The notes made by the assistant moderator regarding how my RPs expressed the spatial aspects of the WRM with their hands was an unexpected enrichment. The diary data seemed quite thin by comparison. However, the RPs' reflections on the process of keeping the diaries yielded important reflections and codes that contributed to themes. This was unexpected.

The data analysis, on the other hand, systematically followed Braun and Clarke's (2013) tried and tested thematic analysis process, step by step. My implementation of the analytical stages meet the quality criteria for thematic analysis up to this point in the process (Braun & Clarke, 2006). I have explained my approach. Data were transcribed fully and checked, and all were treated equally. Relevant extracts were collated under each code and then under each theme and checked back with the original data. Van Manen's (2011) differentiation between macro and micro-thematic reflection informed the phenomenological approach to and practice of the analysis. Attention to both individual embodied experiences and to processes of practice and learning shaped the analysis.

Chapter eight

Phase-two results

Introduction

This chapter presents the results from the second phase of an illuminative evaluation of how the Workable Ranges Model (WRM) complements Mindfulness-Based Stress Reduction (MBSR). A group of seven course graduates were recruited as research partners (RPs) to build upon the first phase of research, and to look further into the research questions in relation to ongoing practice. The mindfulness-based group activities, and the open questions within them, generated thick data concerning the application of the WRM to practising mindfulness, mindful self-monitoring and the self-regulation of stress. The themes represent particular forms of embodied reflective practice that yielded insights and applications. One overarching theme organised and gave meaning to the whole data set. This was that the WRM works as a dynamic map for the mindful exploration of stability and stress. This overarching theme spanned three themes which articulated interrelated mindful reflection practices, and activities associated with using the WRM as a map. They are: 1) Charting regulated and dysregulated stress and emotion, 2) Embodied application in mindfulness practice, and 3) Orienting to and resourcing regulation and self-care. These three themes are non-hierarchical and interrelated.

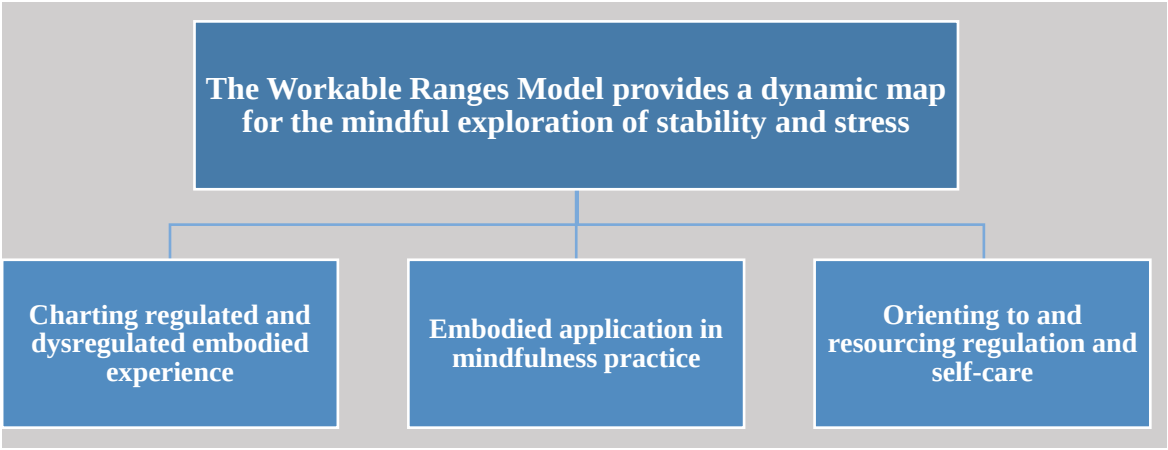

Figure 8.1 Results of a mindfulness-based inquiry into how the WRM and MBSR work together in ongoing practice.

The chapter then links these themes across both phases of research. Finally, the themes and key findings are combined to answer the research questions.

The Workable Ranges Model provides a dynamic map for the mindful exploration of stability and stress

This overarching theme represents the individual and shared use of the WRM as a map to make sense of both regulated and dysregulated experience, and to use that knowledge alongside mindfulness skills and attitudes. It brings together the value of the model as a tool for mindful inquiry within the MBSR approach. The themes presented below show how two features of the content and visual presentation of the WRM contributed to its accessibility and application. Firstly, the WRM maps how regulated and dysregulated states are organised in relation to each other, thus articulating the 'lie of the land'. Secondly, the WRM leaves space for individuals to explore their own experiences and to fill out and modify the map. These two features enable didactic information to be combined with mindful, experiential inquiry-based learning to generate insights and self-awareness and to inform self-regulation.

Charting regulated and dysregulated embodied experience

This theme explains how my RPs used the WRM heuristically as a tool to survey their embodied experiences as 'a form, or way of knowing' (RP5). The data organised in this theme show that the spatial form of the WRM was used to generate self-awareness, and shared understandings, about internal conditions and how they related to the external context. A variety of functions and applications relating to charting different experiences were evident across the whole data set. In the diaries, the visual/spatial representation of the model was used as an external resource to investigate experience and plot it on the model. In the structured inquiry and focus-group data, the model was used as an internal resource in which spatial and visual features, and knowledge of the different states, were connected with embodied experiences. The structure of the WRM enabled an orienting to and identification of psychophysiological experience. RPs linked their experiences with the WRM, using time and the relationship between states as plotting coordinates for the trajectories of different experiences. The research activities generated new forms of self-knowledge about patterns of reactivity and regulation.

One way of charting that was exemplified was positioning experience on the WRM in a similar way to putting marks on a map. The comments: 'I'd been out of range in the morning' (3) and 'I've been in the high end of the range this week' (2), illustrate this point. RPs also situated

their awareness of feeling balanced in everyday life. RP4, for example, observed 'I was in my workable range every day, for a part of it at least. To get that sense of perspective was good.' The WRM was a means of locating and labelling experience, and a method of bringing awareness both to moments of balance and of dysregulation.

Another charting action was observing the crossing of thresholds of tolerance. For example, RP1 observed 'the critical moment' when she crossed into a mobilised stress state while getting her children to school in the mornings, 'getting those two out the door, that's when I can head out of that workable range!' RP6 noticed 'movement into a non-regulated state when thoughts completely absorb me.' RPs delineated the experience of crossing a threshold of tolerance, a boundary beyond which experience changes from feeling balanced to feeling out of control. Tracking movement in the other direction, RP4 pinpointed the transition point from being 'fired up' by her daughter's driving to feeling balanced again. 'We get out of the car and start walking and there's a switch back into that workable range.'

The layout of the WRM provided a means to trace temporal sequences of experiences. Learning connected with this included: 'you can be out of range and then back in in ten minutes' (2), and 'more in the top in the morning and bottom in the evening' (4). The variability of experience was a revelation for RP3: 'the biggest learning point was that you can vary so much in a day'. Engagement with the changeability of experience, complements a theme in MBPs that lived experience constantly changes and is not fixed in the way that it can be in thoughts.

Some people linked their sense of location on the WRM with different external and internal contexts. Referring to a recent stressful period, RP2 stated 'my range was very narrow at home and quite wide at work'. RP4 echoed and developed this insight, 'at home I didn't have any control so that's where the narrowing was.' RP6 observed 'if I feel cold, I notice that I can feel out of range, I'm cold now and feel that I'm not right, it's kind of a shutting down feeling.' The reverse was equally possible in these two examples, having a narrow range at work and wider at home, or feeling emotionally hot and bothered when physically hot. What is important here is how the WRM was used for personal understanding.

RP1 noticed that preceding trajectories of balance or stress affected her reactions, 'what's happened the day before, […] depends on whether you stay in that range.' However, she also observed that her tolerance of or confidence about particular stressors had a bearing. 'When I felt I was stable, even that could change depending on whether it was something I felt able to tackle.' This observation integrated stress appraisal with position on the WRM.

Explorations of lower energy reactions led to differentiation between ordinary tiredness, as safe immobilisation near the lower threshold of the workable range, and dysregulated threat-based immobilisation states below it. 'It's not just tiredness, it's more of an inertia and switching off, […] a lethargy with increasing disinterest' (4). Here, PRs observed the subtle difference between comfortable tiredness and a defensive closing-in that is numbing and compromises engagement. Bringing these aspects of experience into focus is a strength of the WRM.

Another aspect of charting was situating habits of reactivity on the WRM. Similar to the PRs in phase one, RP1 explored the workable range as an optimal state and considered her habit of working at, or over, the upper threshold. 'Although I'm more comfortable and effective in the middle of the range, I tend to operate at the top end of it' (1). Familiar with the teaching in MBSR that wanting things to be other than how they are is a key factor in suffering, my RPs recognised their aversion to unpleasant experience. RP4 noticed 'physical racing' in her body during the meditation, and observed with humour that, for a moment, she found herself 'working really to (laughs) try and get rid of it!' RP7 tracked 'behaviours I do to avoid going out of range.' He realised that he habitually made choices to avoid aspects of his work that might be stressful and dysregulating.

RPs' research activity of monitoring changes in their experiences over a week were exercises in charting changing states. They functioned as prompts to notice changes. 'Whenever, I did go out of range I noticed and wrote it down' (RP5). Stopping and noticing and becoming mindful in day-to-day life is part of the curriculum of MBPs. RPs performed mindful self-monitoring using the WRM as a way of framing changes in their psychophysiology.

In addition to the model being used to identify and give meaning to experience, RPs also questioned how it fitted with and could be manipulated to explore particular aspects of stress experience. The first example of this was the identification and exploration of their workable range widening when they rose to challenges under pressure. 'You shift into a different gear, […] because you've got to keep going. You're widening your tolerance for it at that point – widening your range' (4). However, 'when it's over, that's the danger, cos then you collapse' (4). This account used the WRM to frame the experience of galvanising to meet a challenge as a temporary adaptation with an energetic cost that needs recovering from. The higher threshold of the workable range may be raised to allow for coherent functioning at a higher level of arousal, but this cannot be sustained. The use of the word 'danger' suggests a threat, or negative judgement, rather than an observation about needing to slow down and recover balance

afterwards. It implies greater tolerance of increased arousal during a stressful time than in the inevitable depletion of energy that may follow (see diagram 1 in Figure 8.2 below).

Another example of probing the WRM concerned the representation of a transition from mobilised to immobilised stress states. Referring to tracking his experience using the diagrammatic diary, RP7 struggled to represent transitions: 'In the high threshold I'd be hyper and then I would have a big come down and I'd be at the other end, but I didn't go through the workable range'. This echoes some phase-one observations, of a pattern of mobilised hyperarousal followed by a rapid descent into an immobilised state during fluctuating dysregulation. The fixed diagram, with a set space for the workable range did not fit with this lived experience. When presenting the WRM in the introductory session, I had drawn lines onto the workable range to depict narrowing as a result of fluctuating dysregulation. I usually show this as a gradual process to illustrate the progressive impact of unchecked stress reactivity. RPs' experiences suggest that it might also be helpful to depict the experience of a pinched, narrowed range in acute, as well as prolonged, dysregulation. The transition between mobilised and immobilised states can be felt as moving straight from one to the other. The width of the workable range can be adapted to enable the spatial dimensions to relate to the pinching constriction or loss of balance in the direct experience of fluctuating dysregulation (see diagram 2 in Figure 8.2 below).

An investigation initiated by RP3 into a prolonged period of stress was an example of using the model to explore the phenomenological details of lived experience. Her personal question was whether she had been out of range most of the time, or if her span of tolerance had expanded. 'I spent a lot of time out of range, and that became normal, it was my range. Was my workable range moving up […] or was I just permanently out of range?' In keeping with facilitating self-enquiry, I orientated her back to her own direct experience. She began by noting how different her experience during that period had been from how it was now that she was feeling better and more regulated. She commented: 'I had to strip away a lot of things to get back into range […] I can still very easily go out of range'. She decided that she had mostly been in a dysregulated state during that period and reflected: 'that was my mode of operating, right up there (signalling the mobilised state with her hand). It wasn't workable but it was my range!' RP4 commented: 'you just keep going, it feels really uncomfortable whilst you're there, but you become habituated to it' (4). RP3 agreed. I asked her whether, at some points, she might also have been in other states within the WRM. She replied, 'Yes, I was in the low zone as well […] emotionally and my mind was up at the top, out of range, and my body was saying,

"I'm really tired". So the body would be shutting down thinking, "I can't do this anymore", and the mind would be going on "no you must"!' (3). This insight suggests that the mind may be felt to operate in a mobilised, accelerating way whilst, simultaneously, the body could be experienced more as a brake, slowing everything down and expressing a need for rest. This investigation revealed lived details of contemporaneous mobilising and immobilising self-protective strategies, with little stability in between (see diagram 3 in Figure 8.2 below). This resonated with my experiences of working therapeutically with people experiencing emotional exhaustion or burnout. Figure 8.2 shows my depiction of the three discoveries these RPs had made about changes to their workable range, thus adding refinements to the WRM.

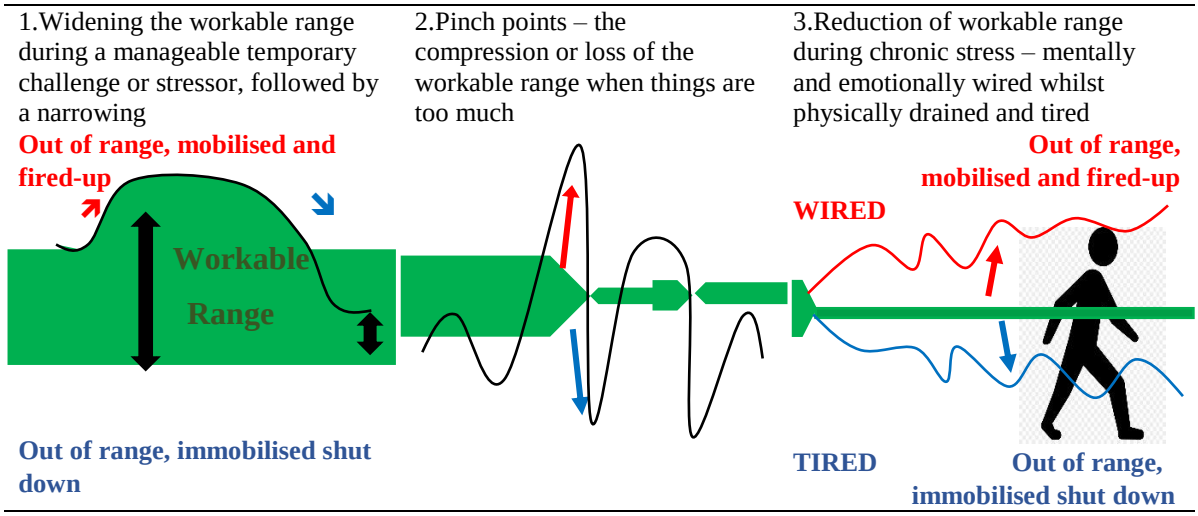

Figure 8.2 RPs' findings about changes to the workable range

Summary of charting regulated and dysregulated states

My RPs drew or visualised different aspects of their experiences onto the WRM. The two axes of the model, the vertical representing the three states in the WRM and the horizontal representing time, enabled a simultaneous exploration of how balanced or imbalanced they felt at any point in time, and how states changed and unfolded over time. As with a geographical map, when you are in one place on the WRM it is always in relation to other places. Like the PRs in phase one, my RPs in phase two adopted the spatial language and colour of the WRM to describe and explore their embodied experiences, describing for example, 'heading towards the red zone' (3). The embodied sense of the WRM was evident both in what RPs said and how they said it. The assistant moderator observed that RPs frequently used their hands, one above the other, to convey the workable range; moving them closer together or further apart to express

the changing width of the workable range, or to trace the experiential ups and downs of changes in bodily and emotional experience.

Embodied application in mindfulness practice

This theme captures key insights that arose through RPs' application of their embodied sense of the WRM to monitor and reflect on experiences of and about mindfulness during formal meditation. Data informing the theme came mainly from the structured inquiry after guided meditation. The theme elucidates an embodied reflective practice based on blending features from both MBSR and the WRM. RPs' adoption of the guidance in MBSR, to develop a commitment to being present across the whole spectrum of their experiences, is evident in this theme, as is their struggle and ambivalence about it at times. Likewise, we see expressions of a related key idea in MBSR that experience can be actively worked with. Some references to the WRM were implicit, but it was often explicitly referenced and brought to the foreground of discussion. Two themes portray inter-related developments in self-awareness through embodied application of the WRM in mindfulness practice. These were 'mindful presence and dynamic balance', and 'the interplay between mindfulness and reactivity'.

Mindful presence and dynamic balance

When reflecting on the guided meditation my RPs associated moments in which they had a sense of embodied mindful presence with both stability and flexibility of mind, with being in the centre of their workable range. Their phenomenological experiences were of being in a harmonious state with a sense of wholeness and immersion. 'Being present like that, felt natural […] there was just a flow, there was nothing to think of' (5). 'When I'm in it, I'm really there and I'm together, but also like I can get a perspective of myself like I was standing back and so get this sense of distance' (6). This clearly articulates the integration of both a fullness and lightness of being connected with present-moment sensory experience, whilst also being able to observe it unfolding. How attentional and emotional balance support non-reactive and non-striving mindful monitoring and having the mental space for exploration came through. 'It allowed me to notice all the unresolved things that have happened […] there's no urgency to go and resolve them […]. It feels as though I've got more space' (6). RP7 linked his observational capacity with having felt emotionally neutral at points in the practice:

> It allowed me to notice that, whilst my mind was wandering, it was testing out scenarios and possibilities […], but without going up there (signalling up with his hand). So just interested with a kind of openness and lightness, […] just noticing and observing.

Other mindful qualities, such as non-judgement and non-striving, were also part of this reflection, 'the noticing was not trying to get anywhere, so letting go of the "this has to be done", or judging "this would be terrible". So it's almost like, "well stuff is just happening"' (7). RPs embodied feelings of being firmly in their workable ranges during meditation were connected with a presence that was spacious, and supported curiosity and receptivity.

The interplay between mindfulness and reactivity

I identified two features within this theme: 'working mindfully with dysregulation', and 'the opening and closing of exploratory space with safety and threat'. Both themes evoked being situated at the edges of thresholds of tolerance and inhabiting the borderland between safety and threat.

Working mindfully with dysregulation

Having connected mindful presence with the middle of the workable range, RP5 described starting to feel wound up as deviating from that position. 'I noticed it when I started to move out of the middle.' When asked what that movement was, he said it was, 'Up! Towards the red.' Here we see how the WRM can be applied to bring together the embodied details of experiences involving a shift in both attention and arousal connected with the dysregulating effect of irritation. When asked what that was like, he replied: 'Well, it was where I was and I knew I was there!' Viewing his experience, as approaching the upper threshold of tolerance seemed to help him stay present with it, rather than be taken away from presence and into dysregulation. This account demonstrates how tracking an experience on the WRM with mindful awareness can enhance awareness and be stabilising.

Four RPs contributed accounts of how working mindfully with dysregulation during the meditation practice had a modulating effect. RP6 articulated a process of working with underlying emotions due to stress at work. He began by describing 'tightness […] in the breathing practice which made me a bit panicky, […] a sense of pressure which I then tried to work through.' He was aware of the intensity of the emotion and of holding it in. 'I felt it expanding and growing in my body like the emotion was in a cage, I didn't want to let it out.'

As he continued to be mindful of the energy and emotion in his body, he noticed beginning to feel more at ease, as 'at the same time my body was relaxing.' This dual awareness of discomfort and ease was followed by an insight and shift in perspective: 'It wasn't the whole of me.' RP6 demonstrated a move from, holding emotion in to holding it in awareness. This move seemed to represent a shift from a not-wanting/fearful stance to a more accepting and inwardly supportive stance to experience on the threshold of tolerance.

RP4 described the regulating effect of an intentional kindly connection with emotional experience. She had noticed an acute mobilised state, 'a real physical racing', at the start of the meditation practice. During the breathing meditation, she noted that: 'I was visualising my heart, wrapped and stroked, and it just calmed.' The quality of her caring presence had a calming effect on her physical and emotional arousal.

These two examples illustrate mindfully connecting with mobilised experiences around their threshold of tolerance. They mark shifts in both the quality of the relationship to the mobilisation and the felt sense of it, rather than an end to it. RP4 observed that: 'it's still there, but not like it was when I came in.' These examples demonstrate how RPs were able to transform experience with mindful presence that both increased their tolerance and down-regulated psychophysical reactions.

Both RP1 and RP3 experienced the physicality of underlying tiredness as 'collapsing' when guided to notice the connection between their bodies and the chair. RP1 also noticed that the experience changed. As she stayed with it through the listening meditation and came back to her breathing, 'I noticed sensations around my skin and like tingling in my feet and in my hands, despite the sense of a real drain in energy there was a calm feeling.' RP3 noticed that 'instead of thinking "ooh I feel really tired and that feels really bad" […], I just acknowledged it, "it's ok" and I'm much calmer.' Noticing this accepting connection with, rather than thinking about, her tiredness seems to have changed her experience of it. 'I'm now more comfortable with it (tiredness), if that makes sense.' These examples of staying present with feeling drained in meditation practice led to a transformation, either by an unsolicited bodily change, or through the intentional expression of self-kindness.

Accounts of working with the dysregulation combined attentional presence, observation and mindful attitudes. Details included: identifying and describing experiences, linking to a current life situation, a simultaneous awareness of an emerging sense of calm or ease alongside the reaction, and the expression of self-compassion. Mindful inquiry into experiences during

meditation with the WRM in the background captured and augmented an orientation towards the different forms of dysregulation and to the processes of mindfully working with them.

RP6 described how the relational context of shared practice can support mindfulness and emotion regulation. ‘In here, well I’m allowed or I allow myself, to be everything that I am […] That’s more accepting […] and being ok with uncomfortableness.’ His experience in the group seemed to have reduced the sense of threat and facilitated a deeper connection with and reflection upon emotional intensity.

The opening and closing of exploratory space with safety and threat

Through their exploration of challenge and difficulty during meditation, the RPs shed light on another aspect of the relationship between mindfulness and stress or emotional reactivity. Proximity to thresholds of tolerance and threat-based states were linked with receptivity to, or rejection of and withdrawal from, difficult experiences. In particular, they explored their feelings about the practice of ‘turning towards’ unpleasant experience to which they had been introduced in MBSR. ‘When I’m in a workable range, I feel like I’ve got this big area, space in which I’m OK to be curious, and I’m OK to look at things that are uncomfortable’ (5). They were struck by how much more difficult it was to do this with experiences that activated a threat/defensive reaction. ‘But as soon as I start getting into like the upper stages in the red, the space becomes (hesitates), well, I don’t want to be curious’ (5). When reflecting on his different reactions to my guidance during meditation to notice what was present, RP6 articulated how his openness to his felt experience closed up with threat arousal.

> When you say ‘get curious’, then I get curious, but […] when I’m in the other place, I can’t because, it’s too close, getting curious would feel threatening, I don’t want to go there, whereas when I’m in the range, I’m much more accepting and curious about those things.

These two examples refer to guarding against mobilising threat and intensity of emotion. Similar comments were made about immobilisation: ‘I can’t be fully with it, I’m not open to experience, and I’m closing down’ (6). By describing the lived experience of their minds and bodies organising in self-protection, RPs revealed how their edges of tolerance and mindful presence coincided. RPs gained a felt sense of the meaning of the term workable range: a state with enough regulation and safety to support mindful presence, exploration and ‘working with’ experiences. They also became experientially familiar with the idea of a threshold of tolerance and its impact on exploratory presence. During this inquiry, my RPs identified places at the

edges of tolerance that affected their willingness and ability to 'stay present' with experience as taught in MBSR. Insight into and familiarity with such shifts in state, may themselves lay the foundations and be a step towards the option of staying present.

The interplay between mindfulness and reactivity illustrated the regulating effects of mindfulness, when non-fearful openness to experience seemed to neutralise the reaction and a kindly, accepting attitude softened it. However, when RPs' experience was on the cusp of what they could tolerate, their sense of threat impeded their ability to apply mindfulness. Their engagement with and articulation of this challenge seemed useful and meaningful.

Summary of embodied application in mindfulness practice

My RPs described the feeling of being fully present, with a sense of wholeness and balance in meditation practice, as being in the centre of their workable range. Staying present with the discomfort of stressful emotion and tiredness, held it within awareness and within the workable range. Practiced and purposeful presence was used as a method for embodied reflections on how moves to, or over the edges of the workable range were also strains on mindful presence. RPs found that it was not always possible to move towards experience that was felt to be threatening. Overall, this theme illustrated how a growing capacity for mindfulness and mindful reflection, combined with knowledge of the WRM, was embodied and applied to mindful navigation at the edges and through the contours of dysregulation and to make sense of the conditions encountered.

Orienting to and resourcing regulation and self-care

This theme concerned the ways RPs insights and embodied know-how through integrating mindfulness with awareness of the states conveyed by the WRM were brought together to inform and enact intentional regulatory and self-care responses. Whilst each had personal routes and journeys to feeling better equipped to apply mindfulness and taking action to support self-regulation, several shared factors were evident. These were: a rationale for regulation, justification of regulation and self-care, embodied reading of the situation, stabilising and steering towards balance, enacting regulatory choices in daily life and a sense of competence and confidence in self-regulation.

Rationale for regulation

This section demonstrates how the insights gained through mapping experiences and habits of reactivity inclined RPs to adopt a WRM-informed regulatory approach to framing their mindfulness practice. This new approach was based on valuing regulation and a commitment to resourcing it, whilst holding onto an understanding that some dysregulation is unavoidable.

RP5 applied the WRM to make sense of the stress that led him to attend MBSR and what he had learned through the course. This was done both diagrammatically, shown in Figure 8.3 below and with the words that follow.

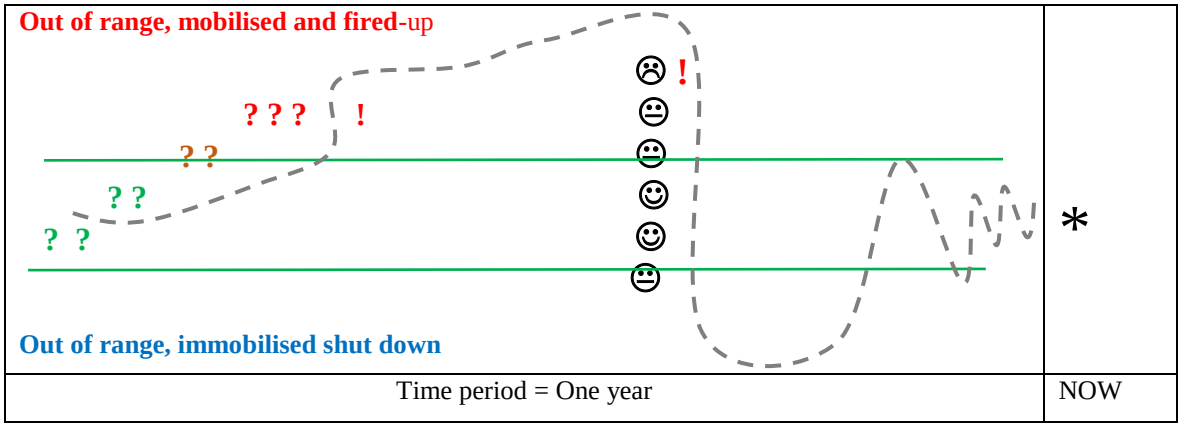

Figure 8.3 Copy of RP5's diagram from the introductory session

> I have attempted to show an ascent from a workable range into a long period (maybe 8 months) spent out of my workable range. I don't think I was aware that I was outside of my workable range, nor did I have any concept of workable ranges. I was simply aware that I was struggling with being stressed and was really worked up mentally and physically. Becoming aware that I was in this zone led to a slump and I felt a drop into an immobilised state, this felt more comfortable than being constantly fired up […]. The line then shows a move into a more manageable area/zone. Movement in this area or workable range sees fluctuation but less time is spent out of range.

When introduced to the WRM, RP5 had understood his stress state as one of chronic threat-based mobilisation. This awareness, combined with the guidance in MBSR, enabled him to stop fighting it and let go. Being able to articulate the drop to an immobilised, exhausted state seemed to help him to tolerate it. This supported his engagement with mindfulness skills and that enabled him to get back to a more workable state. As well as shaping his progression with mindful self-regulation, the WRM brought reflections on his personal history.

> Finding out about the model made me realise that my upbringing was, you know […] if there's a problem, don't moan, just get on with it, you don't stop, you put your head down and drive through it. Being introduced to the model made me think, but where do I like to be?

His awareness about the costs and consequences of unchecked dysregulation, perpetuated by habitually inhibiting and ignoring, fit with Kabat-Zinn's diagram of the stress reaction cycle (1990, p.247) used in MBSR. This insight opened up the possibility that burnout was not inevitable and that he could chart a course towards a more stable and satisfying way to live.

The combination of the WRM and learning mindfulness cohered for RP3 as an intention to intervene to modulate stress. 'I would like to experience less extreme reactions. To acknowledge being out of range is fine, but […] I want to feel more balanced.' RP6 also reflected on personal habits and conditioning to shape a desired direction of travel. This would involve recognising personal barriers in a stress regulation journey and seeing that change might involve traversing unfamiliar and feared experience.

> I'd like to be more relaxed, but I've lived most of my life in a hyper place, so it being the devil I know, I'm more comfortable with it. I resist being 'too' relaxed because I feel too vulnerable. Yet, it is a place I want to inhabit more.

His awareness that he was habitually mobilised was enriched by the insight that the low-arousal aspects of relaxation could feel threatening. This highlights the differentiation between safe immobilisation (relaxation), within the workable range, and unsafe immobilisation as a psychophysical defence. In my experience, discomfort with the lower states is a common element in maintaining cycles of stress reactivity (Rose, 2014). This level of insight could open the door to using mindfulness as a way to become more comfortable with states that have previously felt threatening, but may be important and valuable for regulation and restoration. These examples show how two RPs linked their internal habitual processes and dynamics with perpetuating patterns that they wanted to change.

Justification of regulation and self-care

The strengthening of intentions to regulate and care for themselves brought some RPs up against barriers in their social contexts, where they had to justify taking a regulatory approach. RP3 observed, 'I've felt quite a bit of guilt about the amount of time [I've spent] on this, this

week'. It had been hard to take the time, to meditate and do the tracking work, when her family asked what she was doing and why.

> I explained I was doing it for me. I know what my limitations are and what I need to do to get back into range, or to not take me out. But I need other people to respect those. That's a hard sell, as it's a different way of working.

RP5 seemed to speak for the group when he said: 'I don't think its self-indulgence, it's time worth spending.' Drawing on his own mapping of chronic stress and reviewing his own values (see above), he asserted, 'It is acceptable to say no! I'm a lot better at doing that now, cos I notice that I move to an area where I don't want to be, and which isn't good for me.' Mindful self-awareness and the WRM helped him to set personal limits in the service of a more sustainable workable range. Repositioning their wellbeing as important developed RPs' commitment to work through both internal and external barriers to guide themselves towards healthy balance. The WRM as a rationale for regulation and self-care may enable people to resist wider social and cultural pressures that create and reinforce cycles of psychophysical dysregulation.

Embodied reading of the situation

This theme articulates how my RPs blended their embodied sense of the WRM and mindfulness, to connect with and interpret their mind-body state, or in RP4's words 'switch on to what's going on.' A key element was reframing dysregulation as meaningful information, including the notion of stress as bodily meaning-making. 'I notice these way markers […]. My perception of whether I'm in range or not […] is linked to these indicators, it can be quite physical' (6). RP1 was 'more aware of going towards the lower limit.' RP2 likened reading where you are on the WRM to, 'when your stomach rumbles, you know you're hungry, you're sort of picking up the mental and emotional equivalent of it.' Interpreting these signals from the body could be 'an early warning system' (6), alerting one to changes that could be attended to. Increased familiarity with the bodily experience of stress was connected with valuing and trusting bodily experience. 'It has helped me get back in touch with my instincts, you know, listening to, and responding to what your body is telling you as well as your mind' (2). Similarly, RP7 reflected on the meaning of fear said, "If you feel scared, it's because part of you is trying to protect you […]. If I'm anxious about something, it's because part of me is saying: 'you need to deal with this"'.

My RPs re-evaluated the function and meaning of stress through gaining a sense of their bodies informing them of instability and danger. This is consistent with how I present symptoms of stress when I teach the WRM, drawing on Porges' (2004) notion of the body's neuroception of danger. Mindful body-awareness provides a bridge between bodily and linguistic sense-making. A new regard and respect for bodily experience conveyed in this theme represents a shift towards viewing the unpleasant, and often threatening, sensations of stress as meaningful and worth attending to. Greater acquaintance with stress reactions seemed to reduce negative judgements. 'Knowing that I'm not mad or bad, that actually, these are quite normal reactions (1).' Even immobilisation was viewed neutrally: 'it's not right or wrong, it's just low energy.' The WRM provided a map and reference points which informed RPs' assessment of what was happening, putting them in a better position to respond. Embodied reading of the situation, linking mindful awareness with the WRM, can provide valuable cues for self-regulation.

Stabilising and steering towards balance

A sense of competence with mindfulness equipped my RPs to feel better able to modulate stress. The skill of attention regulation appeared to be a central skill that underpinned others. Reflecting on changes since doing the MBSR course RP3 observed that 'the puppy (a metaphor for untrained attention used in meditation guidance) is more in control now. So that's a development.' Combining decentring from thoughts with awareness that experience is constantly changing helped RP2 to step back and resist negative elaborations of stress. 'I knew it would pass, whereas before I would do a lot of awfulising.' Also referring to a time before MBSR, RP6 recounted: 'I would have spiralled […] one thought would have led to another, and I would take some drastic action, like leave the room.' Attention regulation, stress tolerance and acceptance built up RPs' abilities to take an active role in regulating stress.

Mindful monitoring of changes in state, supported RPs self-regulation and tolerance. Echoing comments made during phase one, several people remarked that noticing mobilised stress arousal had a regulatory effect. 'Noticing really helped. I'm not sure it brought me straight back into the workable range, but it certainly sent me in that direction' (5). RP2 discovered that her actual experience was different from what she had predicted: 'my head was saying I should be feeling really wound up and stressed, and I was, but (pause), I was actually able to tolerate it better than I thought I could.' Mindful monitoring enabled her to revise her beliefs about her coping capacity. Similarly, RP7 found that monitoring had affected his stress tolerance: 'doing

the observation significantly increased my level of tolerance to things. Things that have happened this week would normally push me quite far. I think it helped me to stay in range.'

Experiences of balance in guided meditation, registered through structured inquiry, became internalised as inner touchstones, which were remembered and drawn upon as resources for regulation. Several RPs reflected on their experiences during breathing meditation in this way. RP4s anxiety had spontaneously calmed during breathing meditation. She described it as 'allowing' herself, 'to savour the full in-breath' (4). RP6 added, 'yes, when you get your breathing right, you get that sense of calmness.' Marking such changes transmuted them into a resource. 'When I'm having a stressful time, I'll do some breathing meditation' (6). Both formal and informal breathing meditation became reliable resources for regulation.

Developing a supportive inner voice and self-guidance was an element of mindful self-regulation that was expressed by all my RPs. They adopted a way of talking to themselves that reassured and supported them through moments of stress and strain. 'You have to say: "it's here, and it's going to change"' (2). Similarly, RP3 said to herself: 'you won't feel like that in three hours' time.' The embodied knowledge that breath awareness can be regulating was applied: 'saying to myself, "just take a breath"' (4). RP2 noted that 'there were times when I could have flipped, and instead, I took a deep breath and said to myself, "I'll get through this".' Reflecting on how she had become exhausted, RP1 said to herself: 'don't try to keep running […] just try to give, give yourself a bit more time.' These mindful responses imbued with self-compassion are examples of RPs being present with themselves as acts of intra-personal relational regulation. They exemplify how experiences of interpersonal regulation in guided practice may be taken on as self-care skills.

Enacting regulatory choices in daily life

New meanings and a rationale for regulation translated into wise self-regulatory actions, RP7 observed: 'I've drunk less, spent less, […] had the confidence to take a few sensible risks, and not taken risks that were not sensible. So it's been a much more level week than some, it's amazing the difference tracking it makes.'

RPs recounted stabilising their base and recovering their balance when they wobbled. Knowing that he had a challenge coming up, RP7 turned to meditation as proactive regulation. 'I did a good 40 minutes on Saturday. I knew I was going into a hard couple of days.' RP2 used meditation, along with other forms of self-care, to recover balance after a stressful experience.

‘I was in the high end all week and finally got somewhere to sit. I just stayed in, got a bath, did some meditation and it was just what my body needed.’

Regulatory choices were informed by time, place and context. This included assessing the functional match between states and context. ‘With the lower threshold, if you’re sitting fishing by a river then that’s all right, it’s contextual’ (7). When she acknowledged her reaction to a work stressor, RP1 asked herself: ‘Is it the best time for this?’ RP7 articulated a sense of empowerment by making the choice to move towards, as well as away from, activities that evoked stress and emotional reactions. ‘I can still do the thing that I probably should do, even if it may move me in one direction or another […]’. He could discern whether to face a challenge at that point or not. ‘It’s a choice […] I know what I’m doing!’ (7). This RP had previously observed a habit of avoiding activities that may be stressful. RP1 found that she could choose when to attend to the stressor, and when to set it aside. ‘I found this week that I can park it’ (1).

The following description by RP6, of regulating himself through an upsetting interaction with a colleague, demonstrates the integration of mindful tracking and mindful self-regulation. Different stages of the experience are marked on Figure 8.4, labelled as A to F.

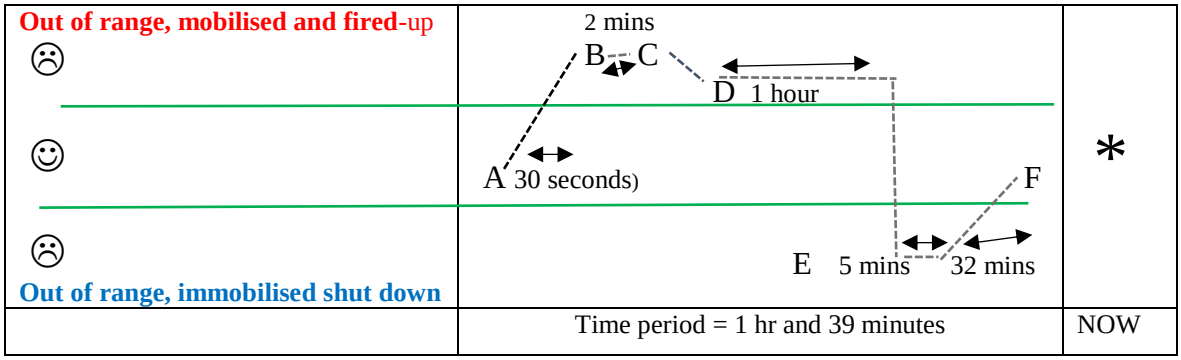

Figure 8.4 Copy of RP6’s diagram from the introductory session

(A) Intense disagreement with colleague at work, arguing/escalating anger, feeling embarrassed, heat in body, feeling of staunch obstinacy, anger. (B)–(C) sustained feeling of being stretched taut by the experience, notice physiological stress changes. (C) Notice I have been ‘caught’ and resolve/decide to down-regulate myself, i.e. ‘Letting go’ mind-set, releasing tension in my body, talking to myself. (D) I start to feel very tired by the whole incident. I feel weepy. When I give in to the tears, I quickly down-regulate, coming down from the ‘hyper-high’ is followed by a deep sense of hopelessness at the event. Thinking that I will probably have another run-in

> with this person in the future. Downward spiral – my mind seems to seek any evidence of doom and adds those to the general feeling of unhappiness/unease. (E)–(F) Then... I notice the flatness of energy, in my body, and bring self-compassion, talking to myself saying: 'you handled it pretty well', coaching myself, and I quickly up-regulate myself – returning to a more workable place than before the incident.

This example demonstrates how a WRM-informed, mindfulness-based insight can provide a pivot point between an automatic, reaction-based emotion regulation strategy and a mindfulness-based, chosen response. This RP intuitively used the terms up and down regulation to describe his regulatory intentions and the effects they had.

Sense of competence and confidence in self-regulation

Established mindfulness skills and qualities led to a sense of competence and confidence in self-regulation. This manifested both in being able to recognise when dysregulated, and in being able to respond and self-regulate. Self-awareness in daily life makes it possible to pick up dysregulation as it arises. 'Mindfulness helps me notice when I'm out of my workable range' (3). 'I notice my movement into a non-regulated state' (6). The following extract from RP2 shows trust that applying meditation to stay present through the wave of stress arousal would lead her back to balance. 'You know you've got this tool, so you know that if you go out of range […]. I'll do some meditation and I know that it will bring me down.' Deepening mindfulness skills, embodied self-awareness and the practice of monitoring in daily life came together to underpin a sense of capability to respond, regulate and steer towards balance. This brought awareness to moments of dysregulation and used them as the basis for responding. 'I feel as though I recognise it now (being at the lower threshold), and so have more of a chance of being able to respond' (4). RP2 made a similar observation: I've become much more aware of when I'm suffering from anxiety, because I'm more in touch with what's going on in my body. Now that I can listen to it, I can take steps to bring the anxiety down'. Embodied self-awareness increased RPs' confidence in being able to get through dysregulation and recover equilibrium. Trust in MBSR and WRM as reliable resources led to new regulatory-based approaches to life and widening the range of tolerance.

The combination of conceptual knowledge supplied by the WRM, along with the felt sense of balance in meditation, supported by attentional regulation and mindful attitudes, provided a rationale and capability for self-regulation and self-care. RP5, for example, talked about 'not

giving in to habitual patterns of spending too long out of a good range.' Later in the discussion, he added: 'whereas it was habitual to be outside the range, it's become habitual to be in it.' RP4 observed how a sense of capability to meet and manage stress experiences differently might not only be valuable in the moment, but also have a lasting effect through increasing stress tolerance. 'There's sort of responding rather than reacting, when somebody or something is sending you out of range, and a generic experience of perhaps widening the range.' The evidence from my RPs suggests that, over time, practising mindful self-monitoring and using the WRM alongside mindfulness can lead to greater skill in self-regulation across a wider range of states. In 'charting regulation and dysregulation', we saw RPs use the WRM to map how unmodulated reactivity reduced or collapsed the workable range. Here, we see how new skills and competence in mindful self-regulation and an increasing tolerance of dysregulation might be expressed as increasing the width of the workable range.

Summary of orienting to and resourcing regulation and self-care

Drawing on the WRM and experiences of tracking changing states led to a proclivity towards mindfulness-based self-regulation. Mindfulness skills, attitudes and concepts from MBSR were linked with the WRM, as a rationale for self-regulation and care. Some RPs had to justify a regulatory approach to others in their lives. RPs described becoming more inclined to read and make sense of their own reactions, and to understand them as their bodies' way of detecting threat and energy depletion. This enabled them to be more accepting and to express self-compassion. Being present in a receptive way was itself found to be regulating. Internalised experiences of calming down or restoring vitality were retained and used as resources to stabilise and steer themselves towards regulation and balance, and to make regulatory choices in daily life. A sense of trust in their bodies and experiences of restoring balance inclined my RPs to adopt a regulatory approach to framing their mindfulness practice. The WRM and MBSR-based practices worked together to shape and strengthen their resources for responding. As well as mapping trajectories of stress, the WRM can also map trajectories of balance and sustainability. Holding the whole model in mind seemed to allow RPs to slow down and tolerate the lower states, trusting that this would be better for them in the long run.

Summary of themes and conclusions drawn from phase two

The aim of this phase of the research was to address the research questions by illuminating how the combination of learning the WRM and MBSR applied to ongoing practice. The overarching theme was that the WRM complemented mindfulness skills and qualities by providing a dynamic map for the mindful exploration of stability and stress. The effectiveness of the model as a map relates to its ability to perform two functions. Firstly, it succinctly conveys a standard form of the relationship between experiences of balance and integration and two forms of dysregulation: mobilised stress states above and immobilised states below the workable range. Secondly, it allows for individuals to investigate their own individual habits and experiences in life and locate them on the model in order to make sense of them and to inform response strategies. Three themes illustrated how these factors worked together, enabling the RPs to engage and learn, both from their own experiences and through a shared language of meaning-making and application.

The theme, 'charting regulated and dysregulated states', stemmed from the various ways in which my RPs made use of the positioning of regulated states and the two forms of dysregulated states in relation to each other in order to locate their experiences. Connecting experiences of regulation and stress on the model led them to map changes during meditation practice, during the preceding week and over stressful periods in their lives. RPs drew upon their capacities for embodied self-awareness, along with their familiarity with the WRM, to explore their lived experiences of how the different states manifested in their lives. Their observations and reflections illuminated how learning through interaction with the model was enacted.

Reflections on experiences in guided meditation, through the lens of the WRM, were organised within the theme 'embodied application to mindfulness practice'. RPs connected mindfulness to the middle of the workable range, with some able to observe movement away from it. Interactive interplays between mindful presence and dysregulation were described. On the one hand, RPs found that bringing non-fearful mindful attentiveness to the energy of mobilised arousal, or the stagnancy of immobilisation, transformed the experience and engendered calm energy and equanimity. On the other hand, they found receptive and exploratory awareness very difficult to apply when their feelings seemed too much – they did not want to go there! The WRM provided a structure for my RPs to make connections between feeling safe and capacities for mindfulness. RPs' mindful inquiry about resisting or feeling overwhelmed by difficult experiences situated them on their thresholds of tolerance. They were staying present

on the cusp of distress or difficulty. In doing so, they may have discovered a stepping-stone in the progression of their stress tolerance. RPs' reflections revealed rich insights into the relationship between states on the WRM and practising mindfulness.

'Orienting to and resourcing regulation and self-care', brought together various ways in which the WRM provided a guide for regulation. It was used as a map to inform the application of mindful awareness and to direct resources and self-care towards supporting regulation and balance. A number of features fed into the establishment of this self-regulatory approach. These included a rationale for and justification of regulation and self-care. Embodied readings of their states and situation led RPs to discern how best to access a felt sense of safety in order to stabilise and steer themselves towards balance and make regulatory choices in daily life. Together, these factors led to a sense of competence and confidence in self-regulation.

Overall, the WRM worked as an interactive map supporting mindful inquiry to build self-knowledge that was applicable to practising mindfulness, both formally and informally, and to noticing, tolerating and responding to stress in accordance with MBSR. The three main themes represent interwoven aspects of RPs' learning experiences and the practice processes they undertook to achieve them.

In the next section, I will look at how the three themes interrelate and reflect processes of learning and change. Figure 8.5 below is a visual model of the analysis.

The findings of this group of first-person researchers suggest a sequential process whereby awareness of regulated and dysregulated states and habitual patterns over time can be applied to experiences during meditation, and where knowledge and mindfulness skills combine and develop the ability to enact mindful self-regulation. However, the results have also provided evidence that experiential encounters chart new details onto the WRM map, increasing familiarity and the possibility of receptive presence, which implies an iterative process. Experiences of mindful self-regulation also chart trajectories of regulation on the WRM. Whilst charting states and identifying regulatory strategies and choices could potentially be helpful without mindfulness practice and reflective inquiry, these results show how mutually enhancing and developmental they can be.

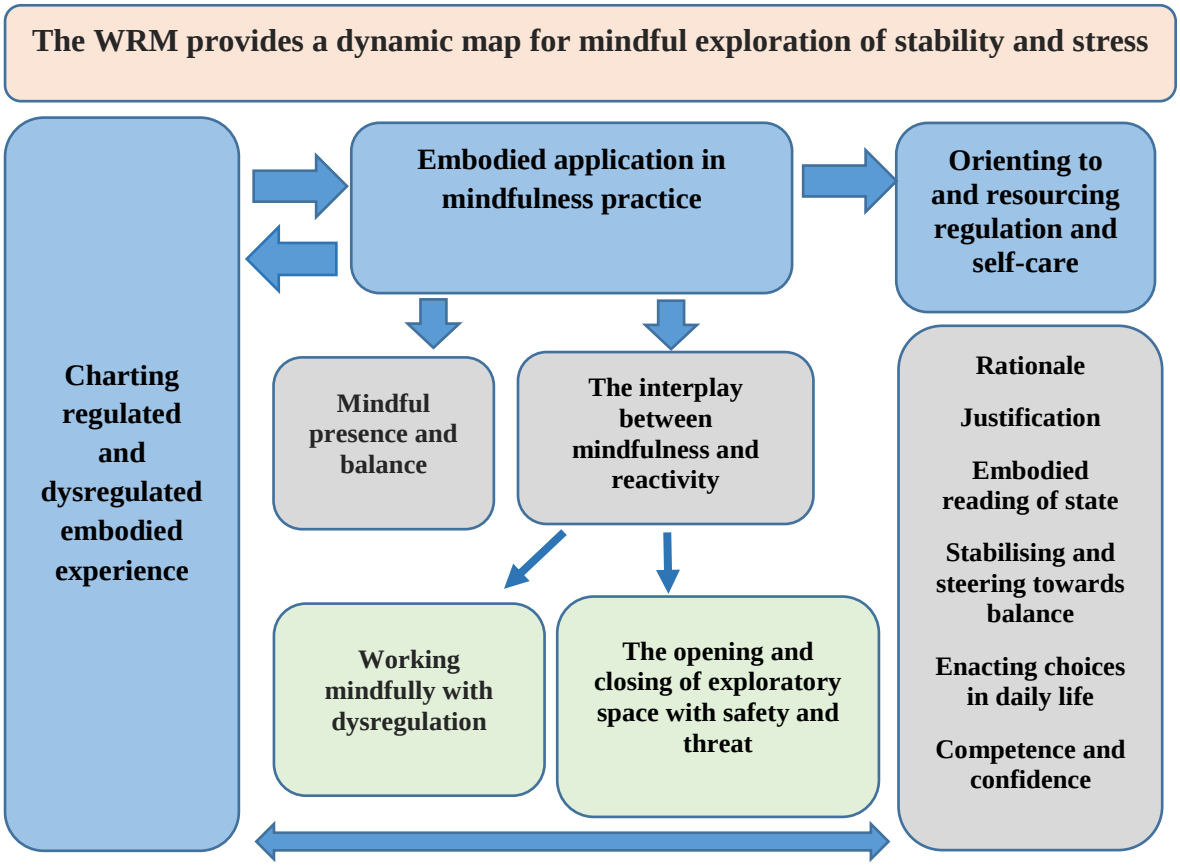

Figure 8.5 How the WRM and MBSR work together in ongoing practice

The processes and practices expressed in the themes show how conceptual and experiential knowledge of the WRM can combine with the skills and qualities developed in MBSR to frame and progress mindfulness-based self-regulation. The WRM teaches about stress dysregulation by placing dynamic, balanced, regulated states at the centre and two forms of dysregulation across higher and lower thresholds of tolerance. Attentional presence and embodied self-awareness through mindfulness practice and reflective inquiry facilitate experience-based links between mindfulness and regulation, and between engaging with difficult experiences and thresholds of tolerance. The WRM and mindfulness-based practice encourage and equip practitioners to establish and consolidate a sustainable workable range.

Linking the themes across both phases of research

While writing up my analysis of the phase-two results, I came to see that the themes could helpfully be applied to PRs' learning in phase one, which explored the research questions in relation to the pedagogy of MBSR. The questions asked of phase-one PRs were specific and detailed. The results generated though template analysis (King, 2004) were mostly descriptive, and presented in connection with the MBSR curriculum. Phase-two research activities were related to ongoing practice. The tasks and questions were open-ended and explored through group discussion. Themes were identified through thematic analysis (Braun and Clarke, 2013). Despite the different contexts and methods of data collection and analysis, there is congruity between the results of both phases of research. Both provided evidence for engagement with the content and form of the WRM, in order to learn about and describe habitual experiences and to make meaningful connections and insights related to MBSR. In both phases, the model became a reference point, or guide, for mindfulness-based self-regulation and self-care.

The overarching theme that the WRM provides a dynamic map for the mindful exploration of stability and stress, also applied to the phase-one results. In phase one, this was directed by my teaching, in keeping with the MBSR curriculum, with the PRs actively participating in explorations. In phase two, it was more of a collaboration, with RPs taking the lead in exploration as well as responding to my questions.

Much of the data from phase one involved PRs charting regulated and dysregulated states. Having been introduced to the concepts and layout of the WRM, they recognised and described particular features and discovered how the different states related to work functioning. They also identified personal preferences, patterns and trajectories. Key shared discoveries were the difference between motivating pressure arousal and mobilised stress that compromised functioning and the risk of prolonged mobilised stress leading to immobilisation with poor wellbeing and functioning. Both groups investigated experiences of oscillation between the two threat-states. One PR coined the phrase 'mobilised immobilisation' to express feeling both sides of the workable range simultaneously. Some PRs used the WRM to chart and make sense of trajectories of chronic stress and breakdown. There is a notable correspondence between PRs' descriptions and the findings of RPs, which develop them further and are depicted in Figure 8.2 above. These are just a few examples of how the spatial form of the WRM was used to name and situate experiences of the three states and the relationship between them. The

activity of mapping states meant that experiences were not examined in abstraction but as part of a wider ongoing flow and in relation to each other.

Although 'embodied application in mindfulness practice' related mainly to RPs' experiences during meditation, there were resemblances with the broader practices of mindful awareness, and references to formal and informal mindfulness by PRs in relation to MBSR practice. Whilst both groups traced changes in experiences in life and stated that being mindful enabled them to discern them more clearly, only the RPs got close to them as they unfolded during meditation. There were similarities in descriptions of presence being associated with the workable range and in the challenge or resistance to being present during the charge of mobilisation or dull dread of immobilisation. One PR observed that the nature of shutdown compromised awareness. The observations made through meditative practice provided higher resolution to the details of embodied experience of the threshold between the workable range and mobilising reactions. Across the two datasets, there was a shared sense that, if they could be mindfully present, it would have a regulatory effect. However, fears that attentional presence might add to dysregulation were also expressed in both phases. Both PRs and RPs had learned that the MBSR approach is to meet difficult experience with mindful presence. Both groups identified how difficult that was, at times, and used the notion of threshold of tolerance in the WRM to consider those challenges. The WRM provided both conceptual and experiential engagement with the practice of staying present with stressful experience, a core facet of MBSR. By doing so, it could support a progression in the use of mindfulness and an increase in tolerance of difficult experience, (see PR19's experiences on p.91-92). Marking and accepting the wish 'not to go there' (see p.118) could function as a step in that direction or inform wise choices about the level of exposure at that point (RP7, p.125). Meditation and wider reflective practices in MBSR could be seen as working in and on thresholds of tolerance.

PRs' answers to how they responded when they noticed feeling stressed, in either a mobilised or an immobilised way, expressed an orientation to resourcing regulation and self-care. The importance of work functioning to PRs, how it was best in the workable range and degenerated in both stress states, was observed. This, along with other benefits of being regulated, may have combined with learning mindfulness as a rationale for mindful self-regulation. PRs' responded differently to the two threat-based reactive states, recognition and breathing through mobilised experience, and accepting and allowing the experience of immobilisation. Normalisation and making sense of stress reactions contributed to PRs feeling able to manage them, as they did

for my RPs in phase two. A shift towards interpreting stress symptoms as meaningful, rather than something to be feared, was evident in both groups. They have a function and can tell us something if we listen.

Phase-two themes provide the shape for giving a broader meaning to the results of phase one. They also extend beyond the individual to thematise generic processes evident in the teaching and learning, content and processes, across both phases in relation to the research question.

Combined results and chapter conclusions

Here, I will consider the results of both phases of research in order to develop the understanding of how teaching the WRM complements MBSR and ongoing practice. I will begin with the three subsidiary questions. How well do the regulated and dysregulated states and the notion of thresholds of tolerance, presented through the WRM, fit with lived experience? How does the WRM lead MBSR participants and graduates to gain new insights into their experiences of stress and emotion regulation and patterns of reactivity? And: In what way does the WRM help participants to practise mindfulness-based self-regulation?

The WRM fitted with and shaped new meaning to lived experience

In both phases, the teaching of the WRM was framed as a conceptual encounter in which the WRM conceptualisation was offered to participants to explore how it fitted with their own experience. Combining the results from both phases strengthens the evidence from phase one that the WRM fits well with lived experience and provides a novel way of making sense of it. Both groups connected the model with their own experience through providing detailed descriptions of states and making links with experiences in daily working life. The many ways in which this was done provides evidence for the versatility of the WRM as a pedagogical device. Some of the findings of both PRs' and RPs' echoed those behind the model. For example, experiences during meditation like those that led Siegel (2007) to connect receptive mindful presence with regulated psychophysiology, were observed in both phases. Other findings provided new phenomenological details. For example, the differentiation between ordinary tiredness and stress-based immobilisation added to the richness of accounts of everyday immobilising reactions in phase one. Both provide evidence for the value of including low-energy dysregulation in a model of general stress and burnout, as well the more severe freeze reaction in traumatic stress from which they derive. The WRM enabled both PRs and

RPs to become aware of, and take into account, the changing patterns of a regulated and dysregulated lived experience in everyday life.

The WRM facilitated new insights into stress and emotion regulation

Results from both research phases illustrated the development of understanding, both of the phenomenological forms that stress and healthy balance take, and of how they unfold over time. Insights came from taking on the WRM map as a heuristic for self-exploration. In both groups, explorations of the geography of regulation, incorporating two forms of dysregulation, brought new forms of self-knowledge that linked with other aspects of learning MBSR, such as the physical and mental layers of experience and how they are constantly changing.

Many PRs became aware of a pattern in which unchecked mobilised dysregulation led to a sudden drop into immobilisation. Some of them were able to see a connection between preferring to be at the top of their workable range, where they were energised and productive, and the risk of crossing into chaos and anxiety. Initial negative judgements about lower-energy reactions seemed to soften through reframing them as part of a process of dysregulation, which may be necessary before returning to balance.

In phase two, mindful monitoring in day-to-day life and meditation practice and inquiry were the basis for self-exploration. The results elucidated both the kinds of insights that RPs had, and how they adopted and brought together the WRM and mindfulness-based self-inquiry for themselves. As well as using the WRM to make sense of their lived experiences, RPs interrogated the model as a way to explore their experiences of sudden changes and chronic stress. Their findings were both personal insights and first-person findings that added refinements to my understanding. The dynamic nature of the model conveys valuable psychoeducational information whilst leaving room for personal and shared exploration and the gaining of insight.

How the WRM provides reference points for mindfulness-based self-regulation

The answers to the earlier questions contribute to answering the final question: how did the WRM help participants to practise mindfulness-based self-regulation? By setting psychoeducational information in a visual form that connected with embodied lived

experiences, accompanied by ways of engaging with them that facilitated insights into habitual reactions and trajectories, the WRM became a useable reference map.

The map was used by both groups in what may be considered WRM-informed mindfulness-mediated stress responses (MMSRs: Kabat-Zinn, 2103)). In MMSRs, mindful awareness is positioned between automatic reactions and chosen responses. The WRM informed MMSRs in two ways. Firstly, the model gave new meaning to reactions and, secondly, it provided a regulatory orientation or direction to the chosen responses. Both groups had been taught to notice present-moment bodily sensations, feelings and thoughts through guided meditation. Both PRs and RPs applied their growing mindfulness skills to noticing and observing the three WRM states in everyday life.

On becoming aware of reactive states, in the moment, both PRs and RPs synthesised conceptual and embodied knowledge to recognise their position in relation to the WRM. Noticing early signs of dysregulation during meditation, RP5 observed, 'it was where I was, and I knew I was there!' Referring to informal awareness, PR7 said that the model 'helps you to visualise where you are.' Knowing where they were in relation to the WRM combined being present and giving meaning to their experiences. This informed choices to slow down mobilised reactions to be more compassionate about feeling low or stuck. A regulatory orientation led to earlier acknowledgement of dysregulation and internal and/or social actions to limit its development. Examples of chosen responses were not exclusively explicitly mindful. Rather, as suggested by Kabat-Zinn (2013), they were mediated by moments of mindfulness. Most importantly, they were choices rather than automatic reactions.

Chapter conclusions

The combined results from two phases of research show that the WRM complements MBSR by providing a dynamic map for the mindful exploration of stability and stress. The WRM taught MBSR participants and graduates about safe, functional, balanced states and two polar forms of stress reactivity through a diagrammatic form which resonated with their lived experiences. The spatial layout of the model enabled them to chart and track the unfolding of stress and regulation over time. Learning the WRM in the context of MBSR facilitated mindful, embodied investigations and the development of personal and shared insights. A regulatory approach was adopted, which utilised the WRM alongside mindfulness-based skills and qualities to self-regulate stress and emotional reactions.

The descriptive and interpretative results may be translated into broader meanings or practice functions from the perspective of teaching MBSR and an MBSR approach to the development of self-regulation competencies and personal resilience. The WRM acted as an aid to teaching and learning mindfulness-based self-regulation through three main functions: (i) an embodied experiential method for teaching about stress; (ii) a heuristic for self-exploration and developing insight; and (iii) a rationale and guide for mindfulness-based self-regulation and self-care.

Chapter nine

Discussion and conclusions

Introduction and chapter overview

My aim in this thesis was to develop practically applicable knowledge about the inclusion of the Workable Ranges Model (WRM) in the intervention Mindfulness-Based Stress Reduction (MBSR). The WRM is a psychoeducational tool that extends the features of the autonomic arousal model used in trauma therapy (Ogden et al., 2006) as a broad regulatory model that is applicable to all. A defining characteristic is that it presents stress and emotional dysregulation in relation to safe, regulated states that are optimal for wellbeing and functioning. The inclusion of immobilising reactions, and freeze, as well as the better known, and more commonly taught, flight and fight mobilised stress-response is an important feature of the WRM. The premise that both defensive reactions operate in relation to everyday experiences underpins the intention of using the model to enable people to understand and respond to patterns of dysregulation and to achieve greater psychophysiological balance. This research focused on how the WRM complements the theory and practice of MBSR.

In keeping with the practice-based context and concerns of the thesis, the discussion will be approached from a practice perspective. The first part of the chapter discusses the thesis findings, through the literature reviews and two phases of qualitative research, and explores their relationship to existing knowledge. This is followed by a reflection on the quality and strengths of the research, including its contributions to knowledge. The chapter ends with plans for dissemination and concluding comments.

Key findings from the literature reviews

A broad review of both practice and empirical literature was conducted, to begin to address the research aim and to set the context for the qualitative research. Chapter two set the practice context for the research. MBSR is based on a reframing of practices and theories from Buddhist and yoga traditions within a mind-body intervention, and is designed to teach people how to use mindfulness to cope better with stress (Kabat-Zinn, 2003). In this context, mindfulness is defined as ‘paying attention on purpose in the present moment’ (ibid., 2003 p.145).

Mindfulness is proffered as an alternative to habitual mind-wandering and rumination, which fuel mental and physical reactions that exacerbate the stressful experience. Participants are taught how to become present, and to be more open to and accepting of, their experiences as they actually are. Staying present during stressful experiences, in order to interrupt and respond to reactions, is encouraged as a new approach to self-regulation. Kabat-Zinn's framing of meditation and insight-generating practices as methods of self-regulation to cope better with stress are matched by the motivations of participants (Carmody et al., 2009). The pedagogy of Mindfulness-Based Programmes (MBPs) is experiential with meditation practice at the core (Crane et al., 2017). I proposed that, although unrecognised in the literature, abstract conceptualisation and grasping meanings, which are integral to experiential learning theory (Kolb, 1984) complement the meditation-based experiential learning in MBPs.

A thorough review of the qualitative literature established common elements in the processes of change for participants and homed in on key features through a closer examination of selected studies. I identified three themes in the literature that make an original contribution to knowledge about MBSR and set a contextual base for the discussion of the two empirical projects. They are: the role of didactic teaching about stress; how difficult experiences are negotiated is a paradoxical mechanism; and the WRM provides a novel perspective on participants' experiences and progression through MBPs.

The role of teaching about stress within MBSR

Kabat-Zinn (1990, p.247) stated that mindfulness is most needed during stressful reactions, 'and where its power to transform the quality of our lives can best be put to work'. Understanding what stress is, and how it manifests physically and mentally, is an integral part of MBSR teaching (ibid.). Didactic input about stress features in the standards of practice (Santorelli, 2014), and official curriculum guide (Santorelli et al., 2017). Instructive psychoeducation can develop mindfulness and contribute to stress reduction (Goldberg et al., 2016). The content of teaching about stress, and how it is best taught within experiential pedagogy, is an important practical and theoretical consideration. In focussing on this area of practice, and evaluating a particular approach to it, this thesis addressed a gap in knowledge.

The negotiation of stressful experiences may be a paradoxical mechanism

A core aspect of MBPs is the conviction that bringing neutral awareness to unpleasant and stressful experiences can create stability and choice. My analysis of the empirical literature

concluded that this core feature of MBPs appears to be a paradoxical mechanism which can either pave the way for salutary benefits or curtail them. My review highlighted that experiential difficulties are common and that new ways of relating to and tolerating difficult emotions, are important aspects of learning for participants. I cast new light on participants' mixed experiences of engaging with difficulty, and placed them in the context of the teaching and learning process. This led to an important pedagogical question about how teachers can support participants to gain the transformative benefits of working with difficulties, and walk the fine line between constructive challenge and feeling overwhelmed. This question oriented me to consider whether and how teaching the WRM might help MBSR participants to engage and work with their experiences of dysregulation.

A novel theoretical perspective on participants' progression through MBPs

I applied the WRM and a psychophysiological regulatory framework to theorise the variability of experiences of uncomfortable encounters during MBPs. Meditation experiences must feel safe at a sub-conscious bodily level in order to be regulating (Porges, 2017). If the mind/body interprets them as threatening it activates psychophysical defences. This may be due to not developing an inner sense of ease, through safe-regulating relationships, or to historical trauma (Music, 2015). It could also be a symptom of dysregulation associated with current life stressors exceeding participants' thresholds of tolerance, and/or of depletion caused by chronic stress which has narrowed their workable ranges. A regulation-based perspective on MBPs could alert teachers to contrasting experiences of mindfulness and help to explain them. Many participants will be able to access and consolidate a sense of quiet and balance, to provide a safe base for engaging with disturbance and discomfort. For others, embodied awareness will initially be dysregulating, and establishing any kind of stability will be a greater challenge. The elucidation of these factors brings a new way of understanding the experiential and behaviour-change processes that participants go through and whether they increase their self-regulation capacities or not. Analysing the literature through the lens of the WRM and stress regulation enabled me to formulate novel interpretations (Barnett-Page & Thomas, 2009).

These three findings situate my qualitative research in an area of both practical and theoretical importance and underline the need to consider what factors might support participants to engage with mindfulness in ways that increase their capacity for self-regulation. The content, role and value of didactic teaching in MBSR and the specific application of the WRM as an explicit regulatory framework are two of the gaps in knowledge that the thesis addresses.

Discussion of embodied phenomenological methodology

Enactivism, incorporating embodied mind ontology and epistemology was found to be a fitting theoretical approach for considering MBSR learning and data, including non-verbal bodily awareness as well as verbal reflection (Varela et al., 1991). It enabled me to consider both bodily and mental forms of sense-making within the same paradigm. Despite its theoretical and practical resonance with secular MBPs, presented in chapter four, an enactive framework had previously only been applied once in qualitative research about MBPs when Worsford (2015) used it to frame the development of body awareness.

Methods of data collection were selected which corresponded with my teaching of the WRM, enabling the research to be naturalistically set in practice. The conceptual encounter phenomenological method (de Rivera, 1981) for investigating emotional experiences, proved to be very effective in generating rich first-person data within the context of MBSR. This was due to the phenomenological attention to present-moment experience through mindfulness practice (Brown & Corden, 2009) and the inquiry-based learning framework (Crane et al., 2017). Two original contributions are made by this approach. Firstly, the conceptual encounter is an apposite framework for the didactic teaching about stress in MBSR. Secondly, people trained in mindfulness are able to provide thick embodied data about emotional phenomena through the conceptual encounter method. The data collection and teaching practice was developed through the application of diagrammatic elicitation, in order to access non-verbal emotional information (Umoquit et al., 2013). Not only did this result in embodied representations of experiences of stress and balance, but it also proved to be an effective method to extend the teaching of the WRM.

Limitations

The empirical results should be considered in the light of several methodological limitations concerning the samples and my impact as the sole practitioner-researcher. The combined themes presented in the previous chapter and discussed below articulate processes of engagement and learning. As employees in a higher educational setting, my PRs and RPs may have been particularly predisposed to learning and taking an interest in first-person research.

A quarter of the MBSR participants who could have participated in phase one chose not to do so, even though they all completed the interactive exercises on the question schedules. Their

data may have added different experiences and perspectives. Further iterations of phase one with other groups may reveal different learning needs which would require practice adaptations. Further research with different population groups and in different settings could develop the findings by evaluating how the themes identified and learning described here apply and might be extended to other groups and settings.

Time limitations linked to my work commitments allowed for only one group in phase two. A second group may have yielded a greater range of analytical themes. Whilst phase two took the thesis further and shaped the overall results, the illumination of pedagogical processes remains preliminary and is limited by the absence of MBP teachers' perspectives. Research to gain teachers' perspectives on the model and teaching processes would be valuable.

Despite my emphasis that there were no right answers, responses during both phases of the research may have been influenced by the desire to provide the best accounts and/or to please me. In research about emotions, participants may more readily express positive feelings of well-being than those viewed negatively, or which evoke shame (Cromby, 2015). However, this was not apparent in the spread of responses.

This research was inevitably influenced by my own biases and idiosyncrasies. My motivations for developing the model and my use of it as a lens to analyse the literature and in this discussion have been made explicit. I recognise that other perspectives might highlight different issues. Further research in which the teaching activities were led by other MBP teachers could substantiate and develop my findings. Likewise, research in which other researchers conducted data analysis could add different meanings and consolidate the trustworthiness of the findings.

Discussion of qualitative results

Two phases of qualitative research were conducted as an illuminative evaluation of the application of the WRM as a teaching resource in MBSR. The aim was to shed light on how innovation works in practice rather than to establish effects (Sloan & Watson, 2001). How the WRM complements MBSR was investigated through three further questions. These concerned how well the features of the model fit with lived experience, what insights are gained and how does it help participants to practise mindfulness-based self-regulation?

The questions were answered from both first-person and pedagogical perspectives. The over-arching theme was that the WRM complements MBSR by providing a dynamic map for the mindful exploration of stability and stress. Data from participant researchers (PRs) who learned the WRM during MBSR, and research partners (RPs), who had completed the course, showed that the WRM fits with and shapes new meaning to lived experience, facilitates new insights into stress and emotion regulation and patterns of reactivity and provides reference points for mindfulness-based self-regulation. The results provide rich examples of learning and elucidate findings about the teaching practice. In doing so, they have achieved the aim of discovering ways in which the WRM may supplement the teaching of MBSR. These were that the WRM acts as an aid to teaching and learning mindfulness-based self-regulation through three main functions: (i) an embodied experiential method for teaching about healthy balance and stress; (ii) a heuristic for self-exploration and developing insight; and (iii) a rationale and guide for mindfulness-based self-regulation. I will use these headings to discuss the results.

The WRM is an embodied, experiential method for teaching about healthy balance and stress that is well suited to MBSR

'A picture is worth a thousand words', (Dansereau & Simpson, 2009 p.104).

The two phases of research illuminated something of which I already had an experiential sense through teaching the WRM, but had not fully conceptualised. The merit of the model stems both from the content it conveys, and the visual, spatial form by which it is conveyed, and, importantly, the embodied connection between the two. A key finding that two functions contributed to the value of the model as an experiential learning device relate to this. One was the informational value of positioning regulation and two forms of dysregulation in relation to each other. The other was the space it left for filling and adapting, according to individual experiences. The pedagogical utility of the form of the WRM, illuminated by the first-person results, echoes Dansereau and Simpson's (2009) account of the communicative value of graphic representations. My presentation of the WRM functioned as an 'information map' conveying information about spatial hierarchy and relationship, through a holistic and schematic structure (ibid.). Outline diagrams on the question schedules and diaries were 'guide maps' that were adapted for purposes of 'self-exploration, planning, decision making, problem solving and assessment' (ibid., pp.105-106). Diagrams enable meanings to be grasped through combining visual and verbal information processing systems, thereby reducing the cognitive load and opening up exploratory and therapeutic learning (Boisvert & Ahmed, 2018). In

keeping with the approach of MBPs, teaching the WRM recruited both the experiential system using percepts, images and present-moment experience as well as the rational, cognitive system which is reliant upon concepts, memory and symbols (Pashko, 2016).

The themes 'initial engagement and resonance' and 'awareness of the features of regulated and dysregulated states', identified in phase one, illustrate that the concepts of the WRM can be grasped very quickly. Rich metaphorical qualities enable diagrams to convey many words (Larkin & Simon, 1987). The positioning of the states in the WRM connects with the felt sense or embodied knowledge of them (Todres, 2007). This links with the enactive, embodied philosophical approach taken in this thesis, where knowing occurs at biological and bodily levels as well as linguistically (Varela et al., 1991). Our capacities for complex conceptual representations relate to the nature and experiences of our physical bodies (Lakoff & Johnson, 1980). Johnson (1997) advanced the notion that embodied sensory and perceptual experiences create image schemas within the conceptual system. Terms used in teaching the WRM and in the qualitative descriptions appear to utilise many of the image schemas listed by Johnson (ibid., p.126). For example, experiences of being in or out of a workable range expressed the balance schema that is embedded in the embodied sense of having or losing balance. The vertical axes representing changes in levels of arousal resonated with the embodied feel of getting worked up with higher/hyper arousal, or of the body and mind slowing down with lower/hypo-arousal or shut down. In teaching the WRM, I intuitively drew different lines across the horizontal axis, from left to right, to convey temporal changes. How readily my PRs and RPs used various shapes of the timeline to express their changing states and trajectories over time, could relate to 'process' and 'path' schemas. Timelines across the WRM plotted and situated narrative temporally, concurring with Sheridan el al.'s (2011) finding that timelines can function like a music stave does in composition. Connections between the 'near-far', 'scale' and 'force' schemas were evident in descriptions of intensities of feeling, and awareness of the proximity to thresholds and threat. Thresholds between balance and threat connect with the 'centre-periphery' schema. Accounts of being in, or out of, range use the 'container' schema. Being in the middle of the range was linked by RPs, in phase two, with a sense of mental space and psychological containment. Embodied meanings associated with the colours for the states were adopted, fitting with everyday associations of red with fear, danger and anger, green with safety and balance, and blue with sadness and low mood. The ability of the WRM to connect with the immediacy of lived experience may be due to its evocation of image schemas which combine bodily and cognitive forms of knowing and the construction of

embodied meanings (Johnson, 1997). This makes it particularly well suited to the development of body-awareness within experiential pedagogy and accords with the theoretical framework of embodied mindfulness that was proposed for conceptualising MBPs by Khoury et al. (2017).

Only one study in my review of qualitative studies of MBPs referred to the use of metaphors for emotional experience. They introduced the terms 'elevator going up' and 'flipping my lid' which seemed to work as an embodied gauge that participants used to notice when their arousal went too high (Sharp & Jennings, 2016, p.213). Although valuable additions to pedagogy, their metaphors only express the increase in arousal and crossing of the threshold into mobilised dysregulation, and were not complemented by a metaphor for immobilisation. A good use of a diagrammatic metaphor for teaching meditation was evaluated by Burke and Hassett (2020). Their diagram for cycles of focus, wandering, recognition and return was easily grasped and utilised by learners, and proposed as a useful resource for teaching meditation. These reports endorse the value of diagrams and metaphors in teaching meditation and MBPs. Although not identified as such, their evocative power may be due to their connection with the spatial image schemas discussed above.

This thesis makes an original contribution to knowledge about the value and power of diagrams that connect with embodied experience, to facilitate mindful, embodied self-awareness. The enactive epistemology applied in the thesis theorises their merit.

The WRM is an embodied heuristic for mindful self-exploration and developing insight

'Traveller, there is no path, the path is made by walking' (Antonio Machado).

Mapping can be valuable in qualitative research, both as a process and as a product of sense-making (McGrath, 2020). Mindfully mapping healthy balance and stress using the WRM was both the process of facilitated first-person research by the PRs and RPs and the knowledge that was produced by it.

The mapping process

The charting of states using the WRM, evidenced in the results, is a unique method of developing self-awareness. It functioned in tandem with mindful-knowing through paying attention to direct experience and observing how it unfolds over time (Kabat-Zinn, 2003). The possibility of being present anywhere is expressed in the book title W*herever You Go, There*

You Are (Kabat-Zinn, 2009). The synergy between charting states and mindfulness created a new embodied practice, which enabled people to assess where they were in relation to balance and stress, and to articulate it in terms such as: 'I am here now' or 'I was there then'. Locating stressful experiences within the WRM enabled participants to become more aware of the changing flow of experiences and to how the different states might follow on from each other.

The connecting of lived experiences with the WRM consisted of embodied reflections that brought together non-verbal awareness and verbalisation as a rich way of knowing (Varela et al., 1991). My view of the first-person accounts generated by the research, as forms of embodied reflection accords with Pagis' (2009) qualitative results from practitioners of insight meditation. She coined the term 'embodied self-reflexivity' in order to differentiate internal conversations anchored in bodily sensations from solely discursive reflexivity. Like my participants, hers used mindfulness as a form of self-monitoring and their bodily sensations became indicators of psychological states and emotions. A key difference here was that the WRM gave people a particular form and set of words to name their states, and to develop and apply insights about them.

Learning the WRM within the context of mindful, embodied reflection enabled participants to gain an observing position from their bodily states and feelings. Engagement with emotional experience combined with self-distancing reduces unhelpful thinking about oneself, such as rumination, thereby facilitating adaptive self-reflection (Kross & Ayduk, 2011).

This thesis has shown that the WRM can be used to develop an individual and shared language for exploring emotional experiences. Affect labelling, especially naming stressful emotions is known to have a regulatory effect and plays a part in the success of talking therapies (Lieberman et al., 2007). From an embodied perspective, Wood et al. (2016) proposed that the function of finding words for stress and unpleasant emotion, is regulatory and complements the regulatory functions of bodily systems. Teaching the WRM also directs people to notice and name positive states of balance that easily go unnoticed. Broaden and build theory suggests that noticing and naming positive experiences, as both groups did, can both consolidate and strengthen them, which increases wellbeing (Frederickson, 2001). By enabling participants to find new words for when they were feeling balanced and when they had lost it, the WRM offered a new means of self-understanding (Rose, 2014).

The WRM served as a reference point or place keeper, streamlining communication between myself and the participants, and across the groups (Dansereau & Simpson, 2009). This function

provided a means of engaging with stress through shared meanings that normalised individual experiences whilst also encompassing differences. MBPs cultivate a view of thoughts and feelings as fluid rather than definite realities, which is well expressed by the key phrase and teaching point in Mindfulness-Based Cognitive Therapy (MBCT): 'thoughts are not facts' (Segal et al., 2012 pp.244-268). The dereification of thoughts and feelings and perceptions about the self is a fundamental dimension of mindfulness (Lutz et al., 2015). However, Wenger's (1999) notion of shared learning through reification and participation, is pertinent to the way in which the core elements of the WRM were adopted and blended with concepts about mindfulness. Reification, defined as 'the process of giving form to our experience by producing objects that congeal the experience into thingness' can open up exploration and learning as well as limiting it (ibid., p.58). The WRM is a reification of a dynamic conceptualisation of healthy balance and stress. This reification was taken on and used in personal applications and interactive exploration. In exploring the WRM within MBSR, the complementary learning and practice development processes of participation and reification were united (Wenger, 1999). Teaching the WRM within a culture of participatory exploration of experience could strengthen its metaphorical value and guard against it being rigidly reified or viewed as a definitive measure. RPs' exploratory play to explore acute fluctuating dysregulation, and their proposal that it needed to be depicted differently is a good example of learning through participation and healthy reification. Whether it is taught within MBSR or in other contexts the integration of mindfulness practices and inquiry is likely to be beneficial when teaching the WRM, to deepen self-awareness an ongoing exploration.

Within the wider mindfulness field, MBPs may wrongly be seen to only develop present-moment awareness and not insight into the nature of mind and problems (Chiesa & Malinowski, 2011). This thesis provides evidence of specific learning about the nature of regulated and dysregulated states, but also demonstrates the richness of insights that can be developed through inquiry-based exercises that are a feature of all MBPs (Crane et al., 2017).

Insights into regulated integrated states

Both PRs and RPs described an overlap between the workable range and feeling and working well, and being more mindful. They also described a loss of balance, presence and ability to function when beyond either their higher or lower thresholds of tolerance. Their accounts accord with the conceptualisation of a window of tolerance as a regulated and integrated state, in which we can be mindfully present more easily and function coherently or perform like music across a spectrum of speeds and intensities (Siegel, 2010 & 2015). Descriptions of lived

experiences of the workable range reflected Wallace and Shapiro's (2006) four-fold model of mental balance associated with mindfulness. Attentional, emotional and cognitive balance were all described and valued, and PRs felt more able to address their goals (ibid.).

Insights into two dynamically related forms of dysregulation

'In addition to the well-known fight and flight reactions,' participants learned that 'there is a third lesser-known reaction to threat: immobilisation' (Levine, 2010, p48.). With both forms of reaction in the picture, participants were able to map trajectories of experience and the relationships between them, such as spending too long in a heightened mobilised state inevitably leading to a depletion of energy and mental and physical shutdown. This was mapped as both a short-term reaction in daily life and a longer-term process leading to burnout.

Insights into fluctuating dysregulation were valued by participants and helped them to develop new concepts that could enhance the teaching of the WRM. For example, I used the term 'pinch points' to express the sense of moving straight from mobilisation to immobilisation, and temporarily losing any sense of balance. Having a stretched and strained range during a period of chronic stress, was distinguished from the more integrated regulated range afterwards. This may be understood as a 'faux window of tolerance', a defensive accommodation that is employed to manage chronic fluctuating dysregulation providing a feeling of being within the window of tolerance whilst being out of it physically (Kain & Terrell, 2018 p.105). Knowing that one was operating in this way could help with self-compassion and mindful self-care during very stressful times, and the preparedness to attend to recovery when practically possible. For example, diagrams 2 and 3 in Figure 8.2 (p.114) depict pinch points and the faux workable range.

Insights into mindfulness and working with difficult experiences

A key first-person finding from phase two, supported the conceptualisation that a level of safety and regulation is needed for difficult experiences to be worked with. RPs reported being more open, and better able to work with their habitual reactions and unpleasant experiences, within the range, than when either mobilised or immobilised. The working with difficulty practice in the MBCT curriculum, where attention is stabilised before inviting a difficult experience into awareness, may also work in this way (Segal et al., 2012). RPs explorations of the counterintuitive gesture of welcoming and working with difficult experience central to MBPs (Kabat-Zinn, 1990; Crane, 2009) were unique. There are qualitative accounts in the literature of MBP participants reporting: difficult experiences during meditation (Kerr et al., 2011),

reluctance to engage with difficult experience (Monshat et al., 2013), heightened distress associated with the working with difficulty practice in MBCT (Park et al., 2018) and recognising that it is harder to meditate when stressed (Mason & Hargreaves, 2001). My RPs applied the conceptualisation of the WRM, and particularly thresholds of tolerance, to give meaning to such experiences and to articulate the challenge of this important aspect of MBSR, thereby succeeding in staying engaged with it.

Insights related to the different states and work

PRs accounts of the different states at work, articulated how the workable range was optimal for sustainable work. They felt able, balanced and resourced and could engage positively with their work and others. Patterns were articulated in which work-stress and excessive mobilisation led to exhaustion and loss of work-engagement. Although beyond the scope of this research, the WRM could provide a framework for considering trajectories to burnout, characterised by emotional exhaustion, disengagement and loss of satisfaction (Maslach et al., 1996), and supporting its opposite, positive work engagement (Bakker et al., 2008). Further analysis of the data from this perspective could be fruitful.

The processes through which the WRM was used heuristically to explore embodied experience and develop insights blended this model with mindfulness as embodied reflections in the service of understanding and adaptation.

The WRM provides a rationale and guide for mindfulness-based self-regulation

'The map is not the territory but it sure helps you get around' (Levine, 2010, p.97).

The WRM map of healthy balance and stress was taken on board as a regulatory framework that provided a rationale and justification for self-regulation and a regulation-informed approach to applying mindfulness. In learning the model, participants recognised the importance and benefits of regulated energy and emotional experience for wellbeing and functioning, and that, although inevitable, dysregulation can be recognised and responded to. By tracking paths of experience, from healthy workable states across higher and lower thresholds, participants were able to apply mindfulness and other skills to orientate themselves back towards balance more quickly.

Mindfulness regulates stress and emotion, through interrelated and co-emergent top-down and bottom-up processes (Khoury et al., 2017; Guendelman et al., 2017). Top-down regulation occurs through intentional mental control and cognitive mechanisms, such as decentring, observation, affect-labelling and reappraisal, whereas bottom-up regulation is activated through embodied, sensory and interoceptive awareness that turns down fear-based reactions (Siegel, 2010; Guendelman et al., 2017).

The teaching and learning described in the results, complemented both top-down and bottom-up processes by providing a conceptualisation that encouraged curiosity, recognition, labelling and describing experience in a neutral way, whilst simultaneously fostering interoception and embodied self-awareness. Together, these provided the stable ground for further chosen top-down regulatory actions or mindfulness-mediated stress responses (MMSR: Kabat-Zinn, 2013). Learning the WRM appeared to bridge top-down and bottom-up regulatory processes. This finding could begin to explain the helpful role that didactic input about stress can have within MBP pedagogy, as suggested in the literature.

The WRM establishes an explicit regulatory framework for the development of self-regulation. Embodied engagement and reflection facilitated by teaching the WRM, as discussed above, laid the ground for the conception and adoption of a broad self-regulatory frame for MBSR for participants. Siegel (2010) theorised psychophysiological regulation in the form of coherent and flexible windows of tolerance (workable ranges in the WRM) as states in which top-down and bottom-up information and energy flows are integrated through relational safety and mindful presence. The polyvagal theory (Porges, 2007) provides an explanation of bottom-up regulation by mindfulness when it activates safety through neuroception. These models complement more established physiological models of systemic balance supported by mind-body feedback loops, such as homeostasis, where body systems work to keep the organism within limits (Cannon, 1932), and dynamic allostasis which theorises the adaptive purposes of regulation to maintain stability through change (McEwen, 1998). Whilst my participants did not learn about these theories in any detail, the main ideas, embodied resonance and helpful reification, led them to combine mindfulness and the WRM as organising principles for self-regulation. This was evident in the learning during phase one and the rationale and justification for mindfulness based-self-regulation themes in phase two. Linking a regulatory framework with MBSR accords with the theory of intentional systemic mindfulness (Shapiro & Schwarz, 2000), in which a biologically based systemic model of regulation provides a purpose to practising mindfulness. In intentional systemic mindfulness, the sense of purpose is seen to

grow solely from experiences of wholeness and integration through mindfulness, whereas, in this thesis, the regulatory purpose was formulated cognitively in conjunction with experiences.

The results provide preliminary evidence that, by explicitly proposing a broad affect-regulation framework, the WRM is widely applicable to stress, depression and anxiety, as well as work-related burnout. This is commensurate with positioning emotion regulation as an integrative framework for understanding and treating problems (Mennin & Fresco, 2010). Improving the self-regulation of stress and emotion is a trans-therapeutic mechanism of MBPs that is likely to be beneficial across a wide spectrum of psychological health and general health problems (Greeson et al., 2014).

The teaching and learning exemplified here, integrated cognitive meaning-making with developing receptive, present-moment awareness. Pedagogical processes that correspond to foundational behaviour-change theories of regulation, coping and resilience were evidenced. They illustrate how appraisal and judgement of a situation, and what is needed can complement the non-judgemental openness to experience that is central to mindfulness practice. This suggests that conceptualisation is an important facet of reperceiving, a proposed meta-mechanism of MBPs (Shapiro et al., 2006). My results illustrate the value of constructing coherent narratives that make sense of emotional experiences (Fonagy & Target, 1997), alongside the direct-experience and body-awareness emphasised in the literature.

Cognitive appraisal has been established as central to coping (Lazarus & Folkman, 1984). Bandura (1977) highlighted the role of a person's belief in their capacity to cope (self-efficacy) and formulated a self-regulation theory in which judgement is crucial for marshalling self-management behaviour (Bandura, 1991). Sense of coherence theory posits that the comprehensibility and meaningfulness of a stressful experience determines its manageability (Antonovksy, 1987). In this research, the theme 'embodied reading of the situation' reflected a coming together of neuroception (the bodily interpretation of safety or threat) and cognitive interpretation as enactive appraisal, involving a fluidity between arousal, experience and the evaluation of emotion (Colombetti, 2007). In mindfulness-to-meaning theory (Garland et al., 2017), giving benign, non-threatening meanings to experience from a mindful position may be an important factor in how mindfulness mediates emotion regulation. Mindful appraisal both provides a countervailing force to dysregulation and distress and creates upward spirals of wellbeing (Garland et al., 2010). The shifts made by PRs during phase one, from self-criticism or negative appraisal to self-compassion, and the adoption of a supportive inner voice by RPs

during phase two, fit with Garland et al.'s (2011) notion of positive reappraisal. By drawing participants' mindful attention to positive experiences in the workable range, the possibility of consolidating regulated states may be enhanced. Repeated experiences of regulation through mindfulness may build an inner resource of balance, 'a safe haven in which to restore ourselves and rest in a vital and dynamic harmony' (Kabat-Zinn, 2014, p.342). If named and identified as a landmark, as it is in the WRM, the recollection of the possibility of calmness within it may help people to navigate back to balance when they are unsettled, stressed or strained.

Participants in both research phases reported that the WRM gave them a way to make sense of their stressful experiences and this combined with mindfulness skills and qualities, increased their self-efficacy – the confidence in their ability to cope (Bandura, 1977). Self-regulation has been sequenced as a process involving the self-monitoring of behaviour, its causes and effects, judgements of one's behaviour related to personal standards and environmental circumstances and effective personal reactions (Bandura, 1991). My participants' experiences of mindfulness and engagement with the WRM produced a form of self-observation and self-monitoring that was rich in embodied self-awareness. Charting and tracking their experiences and behaviour in relation to the WRM performed a self-diagnostic function, recognising patterns in reactions and behaviour in relation to context, and produced insights that could set corrective actions into motion (ibid.). MBP participants are taught to suspend automatic judgements in order to connect with experience more directly. However, judgement is a central function in self-regulation, stemming from the active construction of new personal standards and values (Bandura, 1991). The quantity and richness of my data showed that linking the WRM with work functioning which they valued highly, was particularly meaningful for the employees in this research. According to Bandura (1991), self-reactive influences are mechanisms such as motivation, by which standards and rewards structure courses of action. The WRM provides a rationale and justification for self-regulation and for continued mindfulness practice which could be rewarded by more balance in daily life and the honouring of values.

Dobkin (2008) suggested that the development of a sense of coherence is an important process mechanism in MBSR. In providing resources for resilience, the combination of the WRM with MBSR enhanced the comprehensibility, and meaningfulness of stress and emotional dysregulation, which made it feel more manageable. Empirical literature has shown that MBSR can improve self-efficacy (Chang et al., 2004) and increase participants' sense of coherence (Ando et al., 2011; Foureur et al., 2013). This thesis adds a new dimension to the development of these capacities through MBSR by demonstrating how the addition of psychoeducation with

the WRM fosters intentional self-regulation. As a sense of coherence (Antonovksy, 1987) overlaps with the workable range where internal systems cohere to create a dynamic mixture of stability and flexibility, teaching it to MBSR participants explicitly orientates them towards states that underpin a positive orientation and capacity to engage and deal with stressors.

Conclusions from qualitative results

A WRM-based regulatory framework was adopted as a guide and gauge that enabled course participants and graduates to extend their self-awareness, discernment and regulatory capacities. The three functions of the WRM discussed here reflect a process in which the model was learned, explored and applied in conjunction with the MBSR approach. From an experiential learning perspective, the qualitative results demonstrate that didactic instruction using the WRM facilitates conceptualisation and reflection, which supports applications to self-regulation linked with concrete experience in meditation and everyday life (Kolb, 1984). Theorising embodied reflection as bridging conceptual and mindful, experiential learning may enable this aspect of MBPs to be more widely recognised and valued (Robbins, 2008).

The qualitative results develop the points raised by the literature review

Having shown that didactic teaching about stress is an important part of MBSR that potentially affects outcomes, this thesis has illuminated how the WRM complements and shapes the core learning and application. It provided participants with a framework for understanding the relationship between mindfulness and the ability to cope better with stress, as required by the curriculum (Santorelli, 2014).

Teaching the WRM in MBSR provides a regulatory perspective and practice to support the negotiation of the paradoxical mechanism of encountering distress and difficulty more fully. By conveying information about safe balance states, thresholds of tolerance and forms of dysregulation in an accessible way, teaching the WRM can create a shared regulatory framework. The results suggest that the WRM could enable MBSR participants to make sense of and work through the paradoxical mechanism of encountering uncomfortable mind-body states mindfully. Working with meditation requires an ‘intrepid willingness […] to explore the interior landscape of the mind and body’ (Kabat-Zinn, 2014, p.342). Having the WRM as a map might help. The WRM could provide a reference to support the titrating of exposure when developing MBSR skills (Payne et al., 2015). This would involve using mindfulness skills to gain or consolidate a sense of balance and safety as a resource from which to manage the degree

of discomfort or distress to which one is exposed, with the assurance that attention can move back to safety to regain regulation when needed. This approach differentiates between the form of paying attention to threat and safety cues in habitual experiential avoidance, and intentionally doing so as a means of coping (Derryberry & Reed, 2002).

I have argued that establishing a regulated workable range, at least temporarily, is crucial to the process of change and progression towards positive outcomes through MBSR. In doing so, I have positioned a regulated workable range as both a process mechanism of change and an outcome. This accords with Gendlin's (1961) view that good therapeutic change has to be understood as a process as well as an outcome. The building and strengthening of mindfulness-based self-regulation skills, including increased tolerance of uncomfortable experiences, may mean that practitioners are more often in their workable range and able to 'expand the regulatory boundaries of the window of tolerance' (Ogden, 2009, p.231). This way of conceptualising how the trans-therapeutic mechanism of the self-regulation of difficult dysregulated experiences (Greeson et al., 2014), may be realised in accordance with the aims of MBPs and their participants is an important contribution of the thesis.

Qualitative quality and strengths of the research

Tracy's (2010) criteria for evaluating quality in qualitative research were valuable reference points throughout the doctorate. Here I describe the means by which her eight universal hallmarks of qualitative quality were achieved.

A worthy topic

The merit and timeliness of the research topic began by being grounded in practice, concerning the potential value of the WRM to MBSR. This was strengthened by the literature reviews highlighting the lack of, and need for research focussed on the pedagogical value of didactic teaching about stress and the identification of theoretical links with the processes of change in MBPs discussed above.

Sincere

The motivations for the research and my role in it were transparent. I aimed to be reflexive about my dual roles of teacher and researcher in relation to participants and engaged in professional supervision as a dedicated reflective space throughout the whole research process.

Ethical

Ethical procedures for the research and the practice within which is was set, were adhered to at all times. This included honouring MBP teacher competencies and adherence to good practice guidelines. In phase one, for example, research and practice ethics converged regarding the attention given to recruitment, and to the data collection methods chosen, to ensure that the learning/therapeutic needs of MBSR participants were not compromised by participating in the research. Both sets of participants were offered support for any disquiet or distress generated during the research activities.

Richly rigorous

An abundance of detail and variety characterise this category of high-quality qualitative research (Tracy, 2010). This was evident in the content and process of the literature reviews, in establishing an appropriate methodological framework, and in the choice of a variety of data collection methods in two different practice contexts. Analytical procedures were scrutinised and followed. The presentation of the results was generous.

Credible

This refers to the plausibility and trustworthiness of the results, which is achieved through thick description, triangulation or crystallisation and multivocality (Tracy, 2010). Thick description, which provides in-depth illustrations and contextual meanings, is 'one of the most important means of achieving credibility in qualitative research (ibid., p. 843). Phase one revealed great specificity of description of the different states, which were complemented by their delineation in relation to mindfulness practice, and the elucidation of learning processes. The analytical themes of two separate phases of research were brought together and this crystallised the qualitative results and deepened the credibility of each, whilst representing partial dimensions and understandings of the practice investigated. The wide range of experiences and meanings expressed in the results enabled the participants' voices to speak for themselves. Within an enactivist-informed approach to research conducted in a particular practice and setting, the results represent dynamic snapshots of experiences that crystallised to provide credible, deep and rich answers to the research questions.

Resonant

Resonance refers to the ability of research to be related to, and identified with by others and implies the transferability or applicability of findings. As this research aimed to test the resonant qualities of the model, providing an embodied feel of the results informed my

approach to reporting them (Todres, 2007). Diagrammatic results complemented the verbal descriptions conveying embodied interpretations and aesthetic evocations of meaning. Galvin and Todres (2018, p.168) refer to the ability of research to touch the reader's own experiences as 'resonant validity'. This can only be judged by the reader. I look forward to discovering how the findings resonate with academics, MBP teachers and other practitioners.

Meaningfully coherent

I have followed through my intention of providing layered coherence in the research design (Saunders et al., 2009). The enactivist, embodied epistemology has been integrated with first-person phenomenological methods, as well as the practice context, and this was maintained through to the analysis and presentation of the results. It has enabled me to be sensitive to the practice context of the research and to bring a consistency and coherence to the practical and flexible use of a range of research methods (Holloway & Todres, 2003). The approach has been meaningfully interconnected with the results in this chapter. Such meaningful coherence reinforces the empirical claims of the thesis (ibid.).

Significant contributions

This indicator of excellence in qualitative research overlaps with the requirements of a doctoral thesis. The thesis extends knowledge in ways that have implications for theoretical understanding, the development of MBSR and related practice and as a potential prompt for further practice-based enquiry and research (Tracy, 2010).

This Doctor of Health and Social Care Practice thesis has taken an original practice approach and brought the theory and teaching practice to the fore. The research is practically significant by elucidating pedagogical practices that might augment MBSR. I have done so by demonstrating how the inclusion of the WRM in MBSR worked in practice, through thick descriptions of the phenomenological material generated by learning the WRM in MBSR, and further first-person investigations by graduates on the combined practices. The thesis can provide teachers of MBPs with a rich account, and examples of how the inclusion of the WRM in MBSR or related practices could be applied to frame and support participants to develop the self-regulation skills they seek to develop. In bringing to light rich experiences of learning and analysing how they may augment MBSR and related practice, the thesis has fulfilled my intention to accomplish practitioner-research which has combined knowledge from the horizontal axis of practice with academic knowledge (Bernstein, 1999).

The research has theoretical significance because it extends MBP pedagogical theory to include the role of conceptual learning. The identification of the encountering of difficult experiences in MBPs as a paradoxical mechanism is original, as is my analysis of the process of change in MBPs through the lens of the WRM and a regulatory framework.

This research also has methodological significance in demonstrating the relevance of enactivism as a theoretical approach to qualitative research on MBPs. Phillipot and Segal (2009) proposed that the first-person investigations embedded in MBPs could potentially contribute new knowledge about the processes within them. The use of the MBSR learning context as a first-person methodology in which the participants' development of self-knowledge through inquiry-based learning provided the research data and illuminated the learning under investigation is an original contribution.

Recommendations

Practice recommendations

To take the practice and practice-based research further, training for MBP teachers in the WRM is recommended, as a way of both engaging with and thinking about their own and their participants' experiences through MBPs. I commend the WRM to MBSR teachers as a tool for teaching participants about stress and healthy balance which complements the embodied experiential learning pedagogy. The WRM could be used in introductory workshops to mindfulness approaches to stress regulation. It might provide a rationale for committing to mindfulness training. It could also be taught to course graduates to enable them to deepen their understanding of stress regulation and the application of mindfulness to it. MBP teachers could consider providing participants with explanations that difficult experiences in meditation are usual and offer guidance to access a sense of safety through more comfortable sensory anchors, if something is too much in the moment. They would need to bear in mind differences in what feels safe. Whilst this may already be happening in practice, it is not yet evident in the pedagogy.

Recommendations for further research

This thesis provides grounds for further research on the utilisation of the WRM in MBPs with different populations, and with a more specific focus on its use in workplaces, as a tool to build sustainable functioning and reduce burnout. Extending the two phases of this research to include a third phase with teachers of MBPs, in order to gain further first-person

phenomenological accounts and to elicit teachers' reflections on the teaching innovation, would be valuable.

Dissemination

The accessibility of the WRM and its capacity to generate embodied reflexivity requires and allows me to consider a range of dissemination instruments. There is scope to publish a methodological paper, the review of qualitative literature and the qualitative results in academic journals. I would like to write a book as a practical guide to using the WRM in conjunction with mindfulness and to extend the learning evidenced here to a wider range of practitioners and people looking for ways to live in greater balance. In my work setting, the WRM is already being disseminated in training for individual staff members and for managers as part of organisational strategy to support positive mental health (Rose, 2016). This has led to a partnership with a training organisation that has been licensed to teach the WRM in other settings, after being trained by a colleague and myself. The progression of this and other partnerships could spread the reach of the WRM as a tool for teaching self-regulation. As the WRM works through its spatial form, it could be disseminated effectively through conference presentations, interactive workshops, webinars and practitioner master-classes.

Conclusion

This thesis has followed Parlett and Hamilton's (1976) stages of illuminative evaluation to investigate how the WRM complements MBSR as an intervention and approach to the self-regulation of stress. Beginning with 'observation and description' in phase one, 'enquiring further' and deeper in phase two and drawing on the results of both to 'seek to explain' the process of learning and change. The conclusion of this investigation is that WRM complements MBSR by facilitating learning about psychophysical states in an embodied experiential manner. Meditation-based and reflective practices to develop embodied self-awareness in MBSR deepen the value of the WRM as a psychoeducational tool. MBSR and the WRM have been shown to interrelate through embodied experiential learning and to be mutually enhancing. Further study to develop this initial research is warranted.

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Appendices

Appendix A: Workable Ranges Model handout

Staff Counselling and Psychological Support Service

WORKABLE RANGES OF STRESS AND EMOTION AND LESS WORKABLE STATES OUTSIDE OF IT

	STRESS	BODY	EMOTIONS	MIND
Mobilisation	hyper-arousal	high energy	intense emotion	CHAOS
	flight or fight	tension	impulsivity & anger out of control	frazzled scattered attention
	vigilance	increased heart rate & respiration	anxiety and panic	racing thoughts
Acceleration	charged	sleep disturbance	driven	erratically over-focussed

WORKABLE RANGE- a dynamic zone of healthy functioning and effectiveness

- Higher or lower arousal within a workable range
- Feelings and physical reactions go up and down are tolerable and can generally be considered
- The activation of stress reactions and emotion is modulated
- We can adapt our responses to fit the situation
- We can take perspective and focus on workable action

Brakes	passivity	low energy	grief sadness	hard to focus -
	blunted reactions	sluggish immobility	dulled feelings	absence of thoughts
	slow freeze	low heart rate & respiration sleep disturbance	withdrawn low mood hopelessness	cloudy or blank mind
Immobilisation	hypo-arousal	shut down	can't protest	RIGIDITY

Appendix B: Reduced workable range handout

Staff Counselling and Psychological Support Service

Reduced Workable Range - Unregulated –Tired and Wired

Workability	General	Physical	Emotions	Mind - Thinking	Behaviour
Unworkable Unhealthy Dysfunctional	Unregulated Out of control	Hyper-arousal SNS Fight and Flight Charged	Bursting out – rage Or overwhelmed Panic – Fear	Racing thoughts Frazzled – distracted	Impulsive Hyper-vigilant
Reduced Workable Range	Limited wellbeing and functioning	Little stability between tired and wired – health risks	Rollercoaster	Limited windows of focus and clarity or reflection	Unregulated little control – behavioural risks
Unworkable Unhealthy Dysfunctional	Unregulated Broken down Stuck	Low energy Ground to a holt Hypo-arousal PNS Freeze – Dorsal Vagal	Low mood/depression Numb – emotional deadness Dread	Closed to new information RIGID – negative thinking	Passive Avoidant

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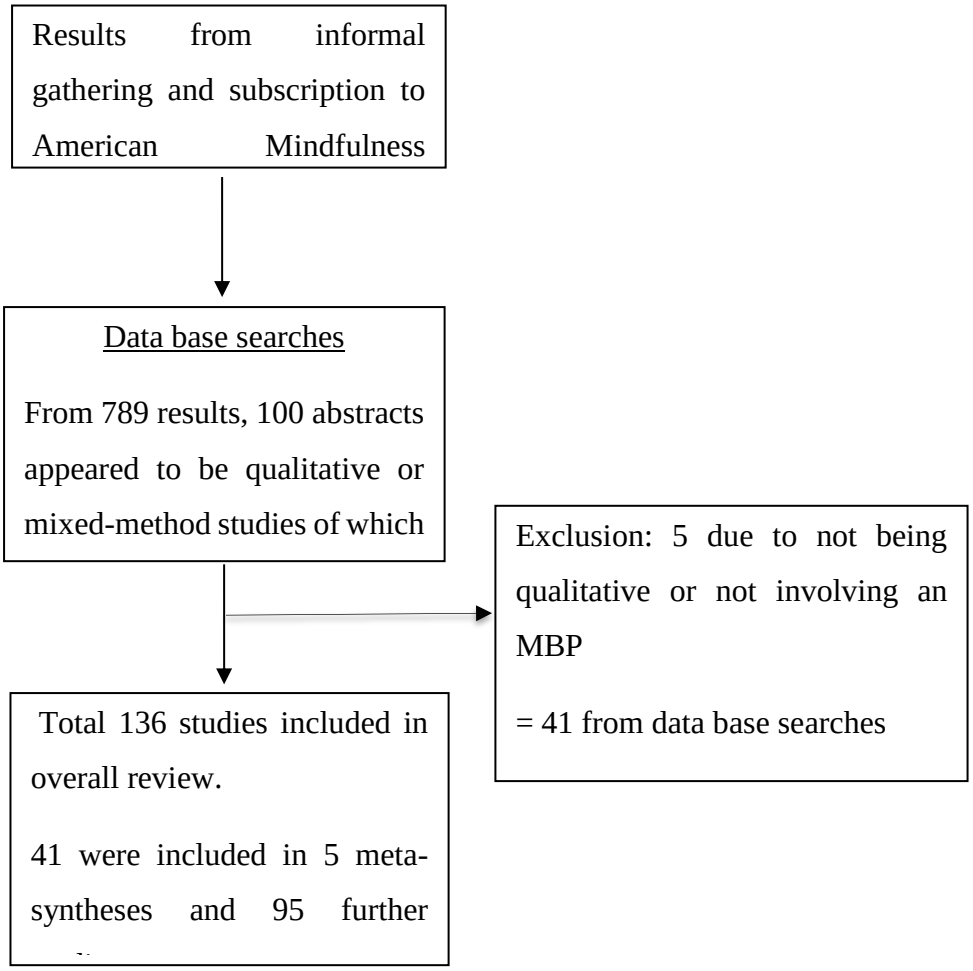
Appendix C: Search process for qualitative studies of MBPs

Data base search terms

Mindfulness Based Stress Reduction *OR* MBSR *OR* Mindfulness Based Cognitive Therapy *OR* MBCT *OR* Mindfulness intervention *OR* Mindfulness program *OR* Mindfulness training *AND* Qualitative *OR* Qualitative study *OR* Interviews *OR* focus groups *OR* Diary *OR* Phenomenology *OR* Thematic analysis *OR* Grounded theory *OR* Interpretative Phenomenological Analysis *OR* Content analysis *OR* Case study.



Appendix D: Reference list of qualitative studies included in review

Numbers 1- 41 are those included in the five qualitative meta-syntheses.

1	Mason, O. and Hargreaves, I. (2001). A qualitative study of mindfulness-based cognitive therapy for depression. *British journal of Medical psychology*, *74*(2), pp.197-212.
2	Young, L.E., Bruce, A., Turner, L. and Linden, W. (2001). Evaluation of mindfulness-based stress reduction intervention. *The Canadian nurse*, *97*(6), pp.23-26.
3	Beddoe, A.E. and Murphy, S.O. (2004). Does mindfulness decrease stress and foster empathy among nursing students? *Journal of Nursing Education*, *43*(7), pp.305-312.
4	Cohen-Katz, J., Wiley, S., Capuano, T., Baker, D.M., Deitrick, L. and Shapiro, S. (2005). The effects of mindfulness-based stress reduction on nurse stress and burnout: a qualitative and quantitative study, part III. *Holistic nursing practice*, *19*(2), pp.78-86.
5	Finucane, A. and Mercer, S.W. (2006). An exploratory mixed methods study of the acceptability and effectiveness of mindfulness-based cognitive therapy for patients with active depression and anxiety in primary care. *BMC psychiatry*, *6*(1), p.14.
6	Mackenzie, M.J., Carlson, L.E., Munoz, M. and Speca, M. (2007). A qualitative study of self-perceived effects of mindfulness-based stress reduction (MBSR) in a psychosocial oncology setting. *Stress and Health: Journal of the International Society for the Investigation of Stress*, *23*(1), pp.59-69.
7	Smith, A., Graham, L. and Senthinathan, S. (2007). Mindfulness-based cognitive therapy for recurring depression in older people: A qualitative study. *Aging and Mental Health*, *11*(3), pp.346-357.
8	York, M. (2007). A qualitative study into the experience of individuals involved in a mindfulness group within an acute inpatient mental health unit. *Journal of psychiatric and mental health nursing*, 14, 603–608.
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Appendix E: Phase one – Question Schedule One

Responses to the Workable Ranges Model

Question 1. On the diagram below where you would say your usual 'Workable Range' is? That is when you feel OK, 'together' and able to function well. Is it bang in the middle, a little higher or lower? Do you see it as being quite wide or narrow? Use two lines to depict your usual 'Workable Range'.	
Out of range, mobilised, fired up Out of range, immobilised, shut down	
Time period =	NOW
Question 2 (a). Where are you on the diagram above right now? Use a pen to mark the spot or spots where you are right now with *NOW in the column on the right. Question 2(b). How do you know? What in your direct experience is informing that knowledge? Please answer below	
Question 3 (a). Where do you most prefer to be? Please mark that on the diagram above with a ☺. Question 3 (b). Where do you least like to be? Please mark on the diagram above with a ☹. Please add comments below.	
Question 4. Think about a recent time when you felt stressed or destabilised emotionally. Can you describe with a mark, marks and/or a line on the diagram above what that was like? If you can please indicate the time period i.e. over today, this week, fortnight, month, few months or a year. Please add any comments you would like to add in the box below.	

Question 5. (a) Do you recognise when you are in the green zone, within a workable range of stress and emotion? Please circle one answer below. Not at all Occasionally Often
Question 5 (b) What it like for you? What are you aware of in your body and how do you feel when you are in a workable range?
Question 5(c) How does it affect your functioning and work?
Question 6. (a) Do you recognise when you are in the red zone – mobilised and fired up? Please circle one answer below. Not at all Occasionally Often
Question 6 (b) What it that like for you? What are you aware of in your body and how do you feel when you are like this?
Question 6 (c) How does it affect your functioning and work?
Question 7 (a) Do you recognise when you are in the blue zone – immobilised and shut down? Please circle one answer below. Not at all Occasionally Often
Question 7 (b) What it that like for you? What are you aware of in your body and how do you feel when you are like this?
Question 7 (c) How does it affect your functioning and work?

Question 8 (a) The wired and tired diagram shows a narrowing of the workable range and the oscillation between mobilised –fired up and immobilised shut down. Can you relate to that in your own experience? Please circle the one that most applies. Not really A little Very much so
Question 8 (b) Can you describe what that is like for you?
Question 9 (a) In general is the Workable Ranges Model one that makes sense to you in terms of your own experience?
Question 9 (b) Has the introduction to the Workable Ranges Model added to your understanding of your stress and emotional balance or explained some aspect of your own experience in a new way? Please say how.
Question 10 If you would like to add anything about your experience of stress and emotional balance/imbalance in relation to the fit with the Workable Ranges Model please do so below. Likewise if you have any comments in relation to the model not fitting with your experience please add them below.

Thank you for completing the question schedule and participating in this research project. Please feel free to take a copy of it for your own interest, or ask me for one.
Sally Rose

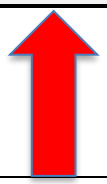
Appendix F: Phase one – Question Schedule two

R**esponses to mindfully monitoring yourself in relation to the Workable Ranges Model**.

Question 1(a) Have you been able to recognise times between sessions 4 and 7 when you were in a workable range? Please circle one answer below. Not at all Occasionally Often
Question 1 (b) How did you know?
Question 2 (a) Have you been able to recognise times when you were out of range in the red? Please circle one answer below. Not at all Occasionally Often
Question 2 (b) How did you know?
Question 2 (c) How did you respond to that?
Question 3 (a) Have you been able to recognise times when you were out of range in the blue? Please circle one answer below. Not at all Occasionally Often
Question 3 (b) How did you know?
Question 3 (c) How did you respond to that?
Question 4 (a) Can you describe anything that you've become aware of when you've practiced the breathing space that have informed your understanding of your patterns of stress and emotional reaction?
Question 4 (b) Can you describe anything that you've become aware of when doing any of the other meditation practices from the MBSR course. If so how has that informed your understanding of your patterns of stress and emotional reactions?

Question 5 (a) and (b) Please depict (a) and /or describe (b) what you have learned about your workable range and your own patterns of stress and emotional balance and imbalance, and the way they change over time? Please answer by using both or either diagrams below and the text box beneath them if you can, or in any way that suits you.

Out of range, mobilised, fired up



WORKABLE RANGE

Out of range, immobilised, shut down

Out of range, mobilised, fired up

Out of range, immobilised, shut down

Question 6. Do you think you might use the model along with the practices and skills you've learned on the course in the future? Please circle one answer below

Yes No

Please say how in the space below.

Thank you for completing the question schedule and participating in this research project. Please feel free to take a copy of it for your own interest, or ask me for one.

Sally Rose

Appendix G: Request or ethical approval

Request for ethical approval for research undertaken by staff, post-graduate research and post-graduate professional students

Please submit your completed form to the chair of your subject research ethics committee (SREC)

Your Name	Sally Rose
School / Faculty	School of Health
Subject Research Ethics Committee	College of Health and Social Care
Staff / Student ID	100338057
Unimail address	s.rose6@unimail.derby.ac.uk
Programme name / code	Doctor of Health and Social Care Practice Code B990 Independent Scholarship
Name of supervisor(s)	Professor D. Sheffield and Dr Martyn Harling

Title of proposed research study

A first-person practice-based enquiry into the development of embodied mindfulness-based stress regulation using the Workable Ranges model.

Background information

Has this research been funded by an external organisation (e.g. a research council or public sector body) or internally (such as the RLTF fund)? If yes, please provide details.	No
Have you submitted previous requests for ethical approval to the Committee that relate to this research project? If yes please provide details.	The pilot project for Part One of the study was submitted in March 15 and approved in April 15. Minor changes have been made: the name of the study, question 3b added to questionnaire 1, rewording of question 4b, new diagram for question 5 in questionnaire 2 and slight rewording of information sheet. Part Two is new and not been submitted for approval before.
Are other research partners involved in the proposed research? If yes please provide details.	No

Signatures	
The information supplied is, to the best of my knowledge and belief, accurate. I clearly understand my obligations and the rights of the participants. I agree to act at all times in accordance with University of Derby Policy and Code of Practice on Research Ethics: **http://www.derby.ac.uk/research/uod/ethics/**	
Signature of applicant	Sally Rose
Date of submission by applicant	19/02/2016
Signature of supervisor (if applicable)	David Sheffield
Date of signature by supervisor (if applicable)	

For Committee Use *Reference Number (Subject area initials/year/ID number)* ……..

Date received …….. Date considered ……
Committee decision …….. Signed ……

1. What is the aim of your study? What are the objectives for your study?

The aim of the study is to investigate the integration of the Workable Ranges conceptual model into Mindfulness Based Stress Reduction (MBSR).

The objectives are:

- Explore the fit, application and interaction of the Workable Ranges conceptual, visual model of stress regulation and the (MBSR) approach to stress.
- Elucidate descriptions of embodied lived experiences in relation to the empirically- based conceptual model and how they are integrated within MBSR.
- Collect diagrammatic and written data from exercises performed within MBSR courses (Part One) and diagrammatic written and spoken data from a bespoke workshop with MBSR graduates (Part Two).
- Analyse the data using theory-led template analysis and discuss it within the chosen epistemological and methodological approach.

2. Explain the rationale for this study (refer to relevant research literature in your response).
The context of the study

Mindfulness Based Stress Reduction (MBSR) has been established as an effective treatment for stress. Didactic teaching about stress physiology and stress reactivity is an important element of the MBSR curriculum. This has not, however, been developed in the research or practice literature. Knowledge gaps are: 1) research about the nature and role of didactic teaching of stress within MBSR and 2) accessible conceptualisations of stress that are epistemologically congruent with mindfulness meditation and relate to embodied lived experience. The rationale for the research is twofold: (i) the need to develop MBSR teaching practice in relation to stress (ii) to study the application of first-person experiences gained through mindfulness practice to conceptualisations of regulating stress in everyday life. The effectiveness of the intervention incorporating the model was evaluated and found to be effective in improving mental well-being(Hugh-Jones, 2016, presented for publication). Evaluation in this study will be illuminative, looking at how the content is integrated and the processes of application (Sloan and Watson, 2001). This qualitative research project is about the teaching and learning of stress regulation in MBSR using 'Workable Ranges', a conceptual diagrammatic psychoeducational tool developed by the researcher (Rose, 2014).

Key literature

The literature surveyed includes the embodied mind epistemological approach that is central to the research problems and approach. Although MBSR is often described as a mind-body intervention; theoretical analyses of what it is and how it works tend to come from a cognitivist perspective focusing on what can be known through thought. Conceptualisations of stress in stress-management interventions, including MBSR, have tended to fall within either cognitivist or biological/neurological approaches. However, the MBSR approach is more congruent with embodied mind epistemology, where embodied awareness through meditation extends what can be known through thinking (Kabat-Zinn, 2011). Embodied mind enactivist epistemology closes the dualist gap between mind and body and objectivist and subjectivist approaches between mind/body and objectivist/subjectivist approaches and recognizes the value of combining first-person phenomenological and third person neurobiological knowledge (Varela et al., 1992). From this perspective embodied cognition and knowledge arise from embodied action in the

world (Thompson, 2007). No known research about MBSR has been conducted explicitly within this approach. Mindfulness meditation is the key ingredient in MBSR interventions and is considered to be responsible for the beneficial outcomes (Khoury et al., 2013). However, MBSR is more effective than meditation alone in reducing stress. This suggests that other elements such as didactic teaching about stress and group discussions may also be important (Eberth and Sedlmeier, 2012). There is some evidence that appropriate didactic teaching within MBSR improves outcomes(Stanley et al., 2011). Didactic teaching, including stress physiology and stress reactivity, is seen as an essential element of the curriculum of MBSR to enable participants to apply mindfulness (Santorelli, 2014). Whilst the didactic content of Mindfulness Based Cognitive Therapy has been articulated (Crane, 2013), it is underdeveloped in MBSR. This study explores the application of a didactic model of stress regulation that is congruent with the MBSR approach.

3. Provide an outline of study design and methods.

Overview of study design

<table>
<tr><td>Ontology and epistemology</td><td colspan="4">Embodied Mind - Enactivism. Reality and knowledge are embodied and enacted within live bio-psycho-social contexts.</td></tr>
<tr><td>Methodology</td><td colspan="4">First Person Methodology – Practice based inquiry
Embodied phenomenology with mindfulness meditation as a way to access embodied self-awareness</td></tr>
<tr><td>Main research question</td><td colspan="4">How does the Workable Ranges model of stress regulation complement the practices and skills of MBSR?</td></tr>
<tr><td rowspan="2">Data collection Methods</td><td colspan="4">Conceptual Encounter regarding the Workable Ranges model and MBSR</td></tr>
<tr><td colspan="2">Questionnaires with diagrammatic elicitation</td><td>Diagrammatic diary</td><td>Mindfulness based first-person group inquiry workshop</td></tr>
<tr><td>Part One
Purposive sample of research partners from participants of 3 MBSR courses between May and November 2016 (expected n30)</td><td>Model presented in Session 4 of the 8-week course</td><td>Data collection in sessions 4 and 7.</td><td>N/A</td><td>N/A</td></tr>
<tr><td>Data analysis</td><td colspan="4">Theory-led thematic analysis using template analysis method
Include data (n10) from pilot study conducted in 2015 = total sample (<n40)</td></tr>
<tr><td>Part Two
Purposive sample of 6 research partners selected from MBSR</td><td colspan="2">Model presented and data collection in introductory workshop</td><td>Between introduction and exploratory</td><td>Verbal data recorded after meditation practices and in group discussion</td></tr>
</table>

graduate group (250)		group inquiry session		
Data analysis	Theory led thematic analysis using template analysis method Plus interpretative analysis /embodied reflexivity for the group discussion data			

Methodology

The researcher will investigate the embodied experiences and reflections of MBSR participants and graduates. First-person phenomenological methodology grew out of the embodied mind approach. It differs from other phenomenological approaches in setting out procedures for accessing non-verbal embodied experiences that overlap with those of mindfulness meditation (Shear and Varela, 1999). Rather than standing back from experience first-person research partners are trained to drop into their embodied experience of particular phenomena. This naturalistic research is set within MBSR courses and an experiential workshop with MBSR graduates. Participants in the MBSR courses and the bespoke workshop will be called 'research partners' in keeping with the methodology. There is a reciprocity regarding the interests of the samples as participants in the course or workshop and their role as first-person researchers into their experience.

Research questions

The main research question is: How does the Workable Ranges model of stress regulation complement the practices and skills of MBSR? Subsidiary questions are.

a) How do research partners respond to the Workable Ranges model in relation to their own experiences of stress and effects on their well-being and functioning?

b) What patterns of stress regulation/ dysregulation do partners describe in relation to the model?

c) How is the visual conceptual model used by partners within the context of MBSR and in their day-to-day life?

Data collection - Data collection methods have been selected to capture visual and verbal representations of first-person embodied experiences accessed via mindfulness meditation. Engagement with and responses to the Workable Ranges model will be elicited through an adaptation of the conceptual encounter method (de Rivera, 2006) using diagrams as a diagrammatic elicitation of experience (Umoquit et al., 2013), a qualitative questionnaire, a brief diary and recorded group discussions. The questionnaires, diaries and reflective group discussions with be transcribed and imported into Nvivo 10.

Part One – **The application of the Workable Ranges model within an MBSR course.**

A purposive sample will be drawn from participants of MBSR courses who can consent to contribute to the research within the parameters of the course. Data will be collected through two diagrammatic and written questionnaires integrated into activities in the course. This part of the study was piloted last year with one course (n10) to test the methods. Data from the pilot will be combined with new data. This study was piloted last year and yielded rich preliminary data in relation to the research questions. Participants in MBSR courses who chose to be research partners will be presented with and engage with the model

within the curriculum of the MBSR course. Data will be collected as part of activities associated with the themes; 'recognising patterns of stress reactivity' and 'building resilience'.

Part Two – A first-person group investigation into the Workable Ranges Model and mindful stress regulation.

This research is with MBSR graduates who are more experienced with mindfulness and can be more developed first-person research partners. A group of six will be selected (see below). They will attend an introductory session and an experiential workshop (Workshop outline and questions included in appendix 8 p14-15). In the introductory session they will complete a short diagrammatic questionnaire following a presentation of the Workable Ranges model. They will complete a simple diagrammatic diary over one week up to the experiential workshop. One week later they will attend the experiential workshop in two parts with a break in between. The first part will be guided MBSR meditations and mindful inquiry discussions. The second part will be a group investigation into the Workable Ranges drawing both on experiences in the previous practice session and in everyday life. Main questions for this group are listed in (appendix 8 p14-15) and will evolve within the session. The inquiry periods in the first part and the whole of the second part will be audio recorded.

Data Analysis - The diagrammatic and textual data will be imported into Nvivo 10 and analysed thematically mainly across-cases with some within-case analysis. A template analysis method (King, 2012) of theory-led themes (Hayes, 1997) developed in the pilot study will be applied to all the data. New themes or sub-themes evident in the data may be added. The two parts of the study will be analysed separately and will some elements combined (questionnaire 1 questions 1-4) and in relation to each other to enable triangulation. Nvivo 10 software will enable the researcher to analyse the diagrammatic and written data and display data in a range of forms. The interpretative and reflexive aspects of analysis of study two will draw on the researchers embodied reflexivity and partners may be consulted.

Training in the research methods

The researcher has completed two years of research training on the Doctor of Health and Social Care Practice programme. She is a trained and experienced psychotherapist and mindfulness teacher. Her own familiarity with mindfulness practice and with the nature of open enquiry into direct experience is essential for her role in facilitating first-person experiential self-awareness upon which the data will be based. She attended an advanced mindfulness teacher training retreat in January 2016 to refresh and deepen her skills with this methodology. She has attended part one of Nvivo 10 training.

4. If appropriate, please provide a detailed description of the study sample, covering selection, sample profile, recruitment and inclusion and exclusion criteria.

The purposive samples for both parts of the study will be staff members who self-referred to MBSR courses provided by the Staff Counselling and Psychological Support Service at the University of Leeds where the researcher works.

Study One - The application of the Workable Ranges Model within an MBSR course

Group sizes and timings of data collection are constrained by the existing schedule of MBSR courses and the number who attend the sessions in which data is collected. It is expected that 10 people from three different courses will participate in the study. Data from the pilot (n10) will be combined with new data. A total sample size, estimated n40, will enable patterns across participants to be analysed

After confirming their intention to attend the MBSR course participants will receive an email a week before with pre-course information and practical arrangements. The email for the courses included in the study will include the following words. '*There is an opportunity to take part in research project associated with this course. Further information will be given in the first session'.* Course participants will be given an information sheet about participating in the research (see appendix 1.p.1-2) and consent form (appendix 2 p.3). A total sample size estimated n40 (including 10 from the pilot study) will enable patterns across participants to be analysed. Two bespoke diagrammatic questionnaires, (appendices 3 and 4 p. 4-8) will be used in this study.

Study two - A first-person group investigation into the Workable Ranges Model and mindful stress regulation.

Six research partners will be selected from MBSR graduates who subscribe to the researchers' 'maintaining mindfulness programme' (250 people) and wish to attend. They will be contacted and invited to apply to participate (appendix 5 p. 9). Inclusion criteria are to have continued with mindfulness practice and be interested in further exploration of the model. They will then be sent an information sheet (appendix 6 p. 10-12) and encouraged to contact the researcher to ask questions or clarify what is involved. They will be asked to let the researcher know by a fixed date if they would like to participate and asked to complete the consent form (appendix 7 p.13). If more apply than required, the researcher will select a group to ensure variance across the following characteristics: time since completing the course, sex, role, and age. A workshop covering similar material will be offered to those not selected. A plan of the introductory session and experiential workshop is appended (appendix 8 p.14-15) which includes questions for the semi structured group discussions. The diagrammatic questionnaire (appendix 9 p.16) and the diagrammatic diary sheet (appendix 11 p.18-19) are also appended.

5. Are payments or rewards/incentives going to be made to the participants? Yes ☐ No ☒
If so, please give details.

6. Please indicate how you intend to address each of the following ethical considerations in your study. If you consider that they do not relate to your study please say so.
Guidance to completing this section of the form is provided at the end of the document.

a. Consent

Research participants/partners will be given an information sheet and consent form prior to the research activity. Part One partners will get the form in the first session of the MBSR course rather than at the point of registration. This underlines the message that participation in in the research is not a condition of attending the course. The data collection activity can be done with or without contributing data to the research. It will be part of the registration process for Part Two partners. They will also have the option not to proceed to the second session after the introduction session. Partners will be able to contact the researcher directly for further information or to discuss any concerns. Partners will be able to withdraw their data up to three weeks after completion before it is collated for analysis. Part Two partners will be consulted about any interpretation of their comments.
See appendices 1, 2, 5.6 & 7.

b. Deception

No deception is involved in this research. The aims and processes of the research will be transparent and integrated into the way the researcher/practitioner will interact with the participants

c. Debriefing

Staff participating with the research will be able to meet individually with the researcher or a different Staff Counsellor to discuss anything that has arisen through engagement with the research. The option of one to one follow-up is available for anyone who participates in the MBSR course (Part One). The researcher will add a sentence to her follow-up email to course participants that tells them about opportunities to maintain mindfulness. The wording on the email for study one participants will be, 'please feel free to contact me, or other members of the SCPSS at staffcounselling@leeds.ac.uk should you wish to discuss or explore anything that arose in the course/workshop or research activity within it'. Part Two participants/partners will be reminded verbally about the possibility of 1-1 support and in particular debriefing in relation to anything that has come up through involvement in the research activity. The wording on the follow up email for Part Two participants will be, 'please feel free to contact me, or other members of the SCPSS at staffcounselling@leeds.ac.uk should you wish to discuss or explore anything that arose in participating in this research.

d. Withdrawal from the investigation

Research partners in both studies will be able to withdraw their data up to three weeks after completion before it is collated for analysis.

e. Confidentiality

The research will comply with the requirements of the Data Protection Act in accordance the policies of the University of Leeds and the University of Derby's Good Scientific Practice guidelines**.** All personal details and consent forms will be kept separately from other data and linked by each partner's code number. Audio files and transcriptions and Nvivo 10 files will be stored securely. As part of her role the researcher has access to a password-protected server for confidential information. Hard copies of research materials will be secured in a locked filing cabinet in the researcher's office and destroyed once the doctoral award has been granted.

f. Protection of participants

Mindfulness meditation can trigger painful material and put people more fully in touch with difficult experiences. Engagement the conceptual model may increase awareness of stress levels and difficulties. All partners can access other practitioners in the staff counselling service who can signpost to other relevant support should it be needed. Mindfulness teaching is always 'invitational' and encourages participants to take care of themselves along the way. Recognising and resourcing psychophysical safety is a feature of the 'Workable Ranges' model being investigated with research partners. Guidance is given about working within a safe comfort zone and techniques for mitigating overwhelming experience.

g. Observation research Observational methods will not be used in this study

h. Giving advice

As a psychotherapist and mindfulness teacher the researcher is trained and vigilant about the importance of professional boundaries and their importance, especially in dual relationships, such as practitioner and researcher. Should a participant require any advice outside of the scope of the course or research the researcher would signpost them to the appropriate service (see f above).

i. Research undertaken in public places

The project does not involve research in a public place

j. Data protection

The research will comply with the requirements of the Data Protection Act in accordance the policies of the University of Leeds and the University of Derby's Good Scientific Practice guidelines**.**

k. Animal Rights The research does not involve animals

l. Environmental protection

The research is conducted within a service that adheres to an organisational green impact scheme

Are there other ethical implications that are additional to this list? Yes ☐ No ☒

7. Have / do you intend to request ethical approval from any other body/organisation? Yes ☒ No ☐

If 'Yes' – please give details: School of Health Care Research Ethics Committee University of Leeds.

8. Do you intend to publish your research? Yes x☐ No ☐.
If 'Yes', what are your publication plans?

The research will be written up in a Doctor of Practice thesis. It is anticipated that elements of the research will be published in practice and academic journals.

9. Have you secured access and appropriate approval for any resources that you may require? (e.g. psychometric scales, equipment, software, laboratory space). Yes ☒ No ☐.
If Yes, please provide details.

Approval to conduct the research as an extension of my role in the Staff Counselling and Psychological Support Service is included in this application (appendix 12 p20)

10. Have the activities associated with this research project been risk-assessed? Yes☒ No ☐

The activities associated with this research project been risk-assessed as low risk and within the researchers work role in keeping the Health and Safety policy and procedures of the University of Leeds.

Which of the following have you appended to this application?

☒ Experiential workshop structure and semi-structured questions - appendix 8 p.14-15	❑ Psychometric scales
☒ Self-completion questionnaires x 3. Part One = appendices 3 and 4 p.4-8. Part Two - appendix 9 p. 16 and a self-completion diagrammatic diary x 1 - appendix 11 p.18-19	❑ Interview questions
❑ Other debriefing material	☒Covering letter/email for participants in Study 2. Appendix 5 p.9

☒Information sheets about your research study Study 1 appendix 1 p.1-2 Study 2 appendix 6 p. 10-12	☒ Informed consent forms for participants x 2 Part One - appendix 2 p.3 Part Two - appendix 7 p.13
☒ Location consent form/letter Appendix 12 p.20.	❑ Other (please describe)

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Appendix H: Letter of ethical approval

Dr Paula J Crick
Dean

Kedleston Road, Derby
DE22 1GB, UK

Approved

Date 21/03/16

Name: Sally Rose

Dear Sally

Topic: A first-person practice-based enquiry into the development of embodied mindfulness-based stress regulation using the Workable Ranges model.

Thank you for submitting your application to the Health and Social Care Research Ethics Committee.

Your study has been approved by the committee and you are able to proceed. There is one recommendation for consideration as follows;

- It is recommended you consider an explanation of the term 'embodied' within the proposal, and associated documents, providing a supporting reference for this. This will help to clarify your use of the concept and strengthen further discussion in your continued studies. We recognise this is not an ethical consideration as such but felt it important to bring this to your attention.

If you do amend the proposal can you please send the amended documents to the REC Secretary, Jennifer Dean (J.Dean1@derby.ac.uk) and the Chair, Lorraine Henshaw (L.Henshaw@derby.ac.uk).

Other than the above, if any change to the study described in the application or to the supporting documentation is necessary you are required to make a resubmission to the College of Health and Social Care Research Ethics Committee.

We will also require an annual review of the progress of the study and notification of completion of the study for our records.

All the best.

Yours sincerely,

Lorraine Henshaw
Chair, Health and Social Care Research Ethics Committee

Appendix I: Local permission for the study from Leeds

Faculty of Medicine and Health

Research Office
University of Leeds
Worsley Building
Clarendon Way
Leeds LS2 9NL
United Kingdom

T +44 (0) 113 343
2274

UNIVERSITY OF LEEDS

14 April 2016

Sally Rose
Staff Counsellor
Manager
Staff Counselling and Psychological Support Service
12.20 EC Stoner Building
University of Leeds
LEEDS LS2 9JT

Dear Sally

Ref no: HREC15-051

Title: A first-person practice-based enquiry into the development of embodied mindfulness-based stress regulation using the Workable Ranges model

Thank you for submitting your documentation for the above project. It is noted that ethical approval is in place from the University of Derby. Following Deputy Chair's scrutiny on behalf of the School of Healthcare Research Ethics Committee (SHREC), I can confirm that local permission for the study to be delivered in the School of Healthcare, University of Leeds is granted based on the documentation received at the date of this letter and listed below:

Document	*Version*	*Date Submitted*
SRAmended-Generic-PG-and-staff-request-for-ethical-approval-for-research-Feb16	1.0	30/03/2016
Sally Rose final letter 210316	1.0	30/03/2016
SREthicalApprovalRequestAppendices1-12 (listed below): Appendix 1. Part One. PARTICIPANT INFORMATION SHEET Appendix 2. Part One. PARTICIPANT CONSENT FORM Appendix 3. Part One. Questionnaire One - Responses to the Workable Ranges model Appendix 4. Part One. Questionnaire Two: Responses to mindfully monitoring yourself in relation to the Workable Ranges model. Appendix 5. Part Two - Initial email to recruit research partners – invitation to apply to take part. Appendix 6. Part Two - PARTICIPANT INFORMATION SHEET Appendix 7. Part Two. PARTICIPANT CONSENT FORM Appendix 8 – Part 2 – Outline of experiential workshops Appendix 9. Part 2. Diagrammatic questionnaire Appendix 10 Letter of support from employer Appendix 11 WORKABLE RANGES TRACKING FORM Appendix 12 (Part 2) Workable Ranges Diary Sheets		30/03/2016

Please notify the committee if you intend to make any amendments to the original research as submitted at date of this approval. This includes recruitment methodology and all changes must be ethically approved prior to implementation. Please contact the Faculty Research Ethics Administrator for further information FMHUniEthics@leeds.ac.uk

Ethical approval does not infer you have the right of access to any member of staff or student or documents and the premises of the University of Leeds. Nor does it imply any right of access to the premises of any other organisation, including clinical areas. The SHREC takes no responsibility for you gaining access to staff, students and/or premises prior to, during or following your research activities.

Please note: You are expected to keep a record of all your approved documentation, as well as documents such as sample consent forms, and other documents relating to the study. This should be kept in your study file, and may be subject to an audit inspection. If your project is to be audited, you will be given at least 2 weeks notice.

It is our policy to remind everyone that it is your responsibility to comply with Health and Safety, Data Protection and any other legal and/or professional guidelines there may be.

Appendix J: Phase one – Participant Information Sheet

Date:

1. Study title

A first-person practice-based enquiry into the development of mindfulness-based stress regulation using the Workable Ranges Model**.**

Phase one: The application of the Workable Ranges Model within a Mindfulness-Based Stress Reduction (MBSR) course.

2. Invitation

You are being invited to be a participant/research partner in a research study. Before you decide it is important for you to understand why the research is being done, how it is being done and what this will involve. Please take time to read the following information carefully. Please ask me if there is anything that is not clear or if you would like more information.

3. What is the purpose of the study?

The purpose of the study is to capture and analyse experiences in relation to the Workable Ranges Model of stress taught within the context of learning mindfulness-based stress reduction.

4. Why you have been invited to participate

You are attending an MBSR course from which research partners will be drawn.

5. Do I have to take part?

It is up to you to decide whether or not to take part. Participation in the research is optional and not a condition of doing the course. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form and return it to me before session four of the course. If you do decide to take part you are free to withdraw at any time and do not have to give any reason as to why. Once the data has been collected, at the latest in session 8 on (insert date) you will have 3 weeks up to (insert date) to choose to withdraw your data. After that your anonymised data will be collated and analysed and you will no longer able to withdraw it.

6. What will the project involve, if I decide to participate?

The project is based on a presentation by the researcher and exercises in Session 4 and Session 7 of the course.

7. What will I have to do practically?

Attend the sessions, participate in the exercises and complete two short questionnaires, one in Session 4 and one in Session 7. You may prefer to complete them, in your own time, after the session and bring with you to the next session.

8. What are the possible disadvantages and risks of taking part?

There are no perceived risks in participating in the project.

9. What are the possible benefits of taking part?

The activities are part of the course and focus on the interplay between different ways of learning about stress and how to regulate it using mindfulness.

10. Will my taking part in this study be kept confidential?

Any information that is collected about you during the course and the research will not have your name on it. It will have a code that is kept separate from your name. It will be kept in accordance with the Staff Counselling and Psychological Support Service's confidentiality policy. All data will be stored, analysed and reported in compliance with the Data Protection legislation.

11. What will happen to the findings of the research study?

The findings of the research will be written up in a doctoral thesis as part of a Doctor of Health and Social Care Practice programme and may be published. All of the data will be anonymised. No identifiable information will be included in any report or publication.

12. Who has reviewed the study?

The Research Ethics Committees of the University of Derby and the University of Leeds have reviewed the study.

13. Contact for further information

Researcher: Sally Rose – Staff Counselling and Psychological Support Service

T: 0113 3433654 E: s.rose@leeds.ac.uk

Supervisory Team: Professor David Sheffield T 01335 344 368 E: d.sheffield@derby.ac.uk

Dr Martyn Harling E m.harling@derby.ac.uk

Both c/o -The University of Derby. Kedleston Road. Derby DE22 1GB

Telephone: 01332 590500

Thank you for considering taking part in this study. If you decide to participate, please retain a copy of this information sheet and the signed consent form.

Appendix K: Phase one - Participant Consent Form

Title of the Study: A first-person practice-based enquiry into the development of mindfulness-based stress regulation using the Workable Ranges Model**.**

Phase one: The application of the Workable Ranges Model within a Mindfulness-Based Stress Reduction (MBSR) course.

Name of Researcher: Sally Rose

Please initial box

1. I confirm that I have read and understand the information sheet dated […] for the above study and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time and to withdraw my data up to three weeks after the end of the course without having to give a reason. ☐

3. I agree to the use of diagrams and anonymised quotes from my questionnaires being used in publications ☐

4. I agree to take part in the above study ☐

Name of participant:

Date Signature

Name of researcher**:** Sally Rose

Date Signature

1 copy for participant; 1 copy for researcher

Appendix L: Phase one – Final coding template

Final coding template for analysis of question schedules

First level code	Second level codes	Subsidiary Level Codes
1. Engagement and resonance with model as a whole	1.1 Answering questions and giving details	1.1.a Diagrammatically 1.1.b Written
	1.2 Relating experience to diagram	1.2. a In the moment in class 1.2 b. Over time
	1.3 Using the diagram to story of own experience	
2. Awareness, descriptions and effects of the different states in the WRM	2.1 The workable range	2.1.1 Context • 2.1.1.a General • 2.1.1.b Work* • 2.1.1c Home 2.1.2 Layers of experience • 2.1.2.a Behaviour • 2.1.2.b Thoughts • 2.1.2.c Emotion • 2.1.2.d Physical 2.1.3 Impact • 2.1.3 a On awareness • 2.1.3 b On functioning
	2.2. Mobilisation / hyperarousal	2.2.1 Context • 2.2.1.a General • 2.2.1.b Work* • 2.2.1c Home 2.2.2 Layers of experience • 2.2.2.a Behaviour • 2.2.2.b Thoughts • 2.2.2.c Emotion • 2.2.2.d Physical 2.2.3 Impact • 2.2.3. a On awareness • 2.2.3. b On functioning
	2.3. Immobilisation / hypoarousal	2.3.1 Context • 2.3.1.a General • 2.3.1.b Work* • 2.3.1c Home 2.3.2 Layers of experience • 2.3.2.a Behaviour • 2.3.2.b Thoughts • 2.3.2.c Emotion • 2.3.2.d Physical 2.3.3 Impact • 2.3.3. a On awareness • 2.3.3. b On functioning
	2.4 Narrowed range /tired and wired	- - 2.4.3 Impact • 2.4.3. a On awareness • 2.4.3. b On functioning

3. Preferences and patterns of reactivity	3.1Preferences	3.1 a) most preferred 3.1 b) least preferred
	3.2 Patterns	3.2 a) of one state in relation to another 3.2 b) Crossing thresholds 3.2.c) Other
4. Responses to mobilising and immobilising stress reactions	4.1 Responses to mobilisation	4.1.1. Attention 4.1.2. Attitudes 4.1.3 Actions
	4.2 Responses to immobilisation	4.2.1. Attention 4.2.2. Attitudes 4.2.3 Actions
5. Experiences in or links with meditation practices	5.1 Formal meditations	5.1 Body scan 5.2 Breathing meditation 5.3 Walking and movement practices 5.4 Sitting meditation
	5.2 Informal practice and mindfulness	5.2. a The breathing space 5.2. b Everyday mindfulness
6. Learning and applications	6.1.Understanding	6.1.a Conceptual 6.1.b Experiential
	5.2. a Application	
	5.2.b Linking and integrating the model with MBSR learning	

Appendix M: Phase two - Email invitation to participate

Date:

Dear colleague,

Re: Opportunity to participate in research about mindfulness and the Workable Ranges Model.

I am conducting research about the interplay between learning about the Workable Ranges Model of stress and emotion regulation and learning and applying mindfulness in everyday life.

My study is called: A first-person practice-based enquiry into the development of mindfulness-based stress regulation using the Workable Ranges Model.

This part of the research will involve a small group experiential workshop with people who have completed the course and are interested in exploring the topic as first-person researchers. The idea is that you might find the sessions interesting and useful for yourself as well as contributing data for the study.

Participation in the research will involve attendance at an introductory session and a mindfulness practice and reflection workshop, parts of the workshop will be audio-recorded.

If you think you might be interested in participating in this research, please get in touch with me and I will send you further information.

Kind regards,

Sally

Sally Rose UKCP

Manager, Staff Counselling and Psychological Support Service

O113 34 33694

Email s.rose@leeds.ac.uk

Appendix N: Phase two – Participant Information Sheet

Date:

1. Study title

The study as a whole is called, 'a first-person practice-based enquiry into the development of mindfulness-based stress regulation using the Workable Ranges Model.

Phase two is a first-person group investigation into the Workable Ranges Model and mindful stress regulation.

2. Invitation

You are being invited to be a participant/research partner in a research study. Before you decide it is important for you to understand why the research is being done, how it is being done and what this will involve. Please take time to read the following information carefully. Please ask me if there is anything that is not clear or if you would like more information.

3. What is the purpose of the study?

The purpose of this qualitative study is to explore experiences of the interplay between learning about the Workable Ranges Model of stress and emotion regulation and practicing mindfulness and applying it in everyday life. The main research question is: How does the Workable Ranges Model of stress regulation complement the practices and skills of MBSR?

4. Why you have been invited to participate

Mindfulness practice and mindful awareness can be a first-person research method of knowing about experiences in a direct and embodied way. Six first-person research partners will be drawn from the group of staff who have completed an eight-week MBSR course at the University of Leeds. You are invited to participate as you have completed a mindfulness course with me that included the Workable Ranges Model and have remained on my 'Maintaining Mindfulness' list.

5. Who should apply to take part?

You should only volunteer to take part if you are interested in the subject and would like to explore it further for yourself. It is up to you to decide whether you would like to take part. If there are more people interested than needed for the research, I will select people to get a mix of time since completing the course, sex, and role. I will run another workshop for people who are not selected to contribute to the research.

If you do decide to offer take part, and are selected, you will be given this information sheet to keep and be asked to sign a consent form and return it to me before the introductory session. You will be able to withdraw at any time and do not have to give any reason as to why. You are not obliged to take part in the workshop, even if you attend the introductory session.

Once the data has been collected you will have 3 weeks up to (insert date) to choose to withdraw your data. After that date your anonymised data will be collated and analysed and you will no longer able to withdraw it.

6. What will the project involve, if I decide to participate?

It involves attending an introductory session, doing a little self-monitoring over one week and then attending an experiential workshop. In the introductory session you will be inducted into the role of first-person researcher, have the questions that the research is addressing explained and reminded of the Workable Ranges Model. Following presentation of the model there will be short diagrammatic exercise in the session and a diagrammatic record sheet/diary to take away to record changes in over the following week.

One week later there will be an experiential workshop in two parts. Part one will involve guided meditation and group inquiry as in the course but focussed on the patterns of the model. Part two will be a group discussion / reflection linked with the other exercises. The introductory session will be 1 hour and the experiential workshop 2 ½ hours with a 15-minute break in the middle. The inquiry period and the group discussion will be audio-recorded.

7. What will I have to do practically?

Attend both sessions and participate in the exercises.

8. What are the possible disadvantages and risks of taking part?

There are no perceived risks in participating in the project.

9. What are the possible benefits of taking part?

The benefits of taking part are increased self- awareness and engagement with the application of mindfulness and the Workable Ranges Model to stress in everyday working life.

10. Will my taking part in this study be kept confidential?

All information that is collected about you during the research will not have your name on it. It will have a code that is kept separate from your name and will be kept in accordance with the Staff Counselling and Psychological Support Service's confidentiality policy. All data will be stored, analysed and reported in compliance with the Data Protection legislation.

11. What will happen to the findings of the research study?

The findings of the research will be written up in a doctoral thesis as part of a Doctor of Health and Social Care Practice programme and may be published. All of the data will be anonymised. No identifiable information will be included in any report or publication.

12. Who has reviewed the study?

The Research Ethics Committees of the University of Derby and the University of Leeds have reviewed the study.

13. Contact for further information

Contact for further information

Researcher:

Sally Rose – Staff Counselling and Psychological Support Service

T: 0113 3433654 E: s.rose@leeds.ac.uk

Supervisory Team:

Professor David Sheffield T 01335 344 368 E: d.sheffield@derby.ac.uk

Dr Martyn Harling E: m.harling@derby.ac.uk

Both c/o

The University of Derby. Kedleston Road. Derby DE22 1GB

Telephone: 01332 590500

Appendix O: Phase two – Participant Consent Form

Title of the Study: A first-person practice-based enquiry into the development of mindfulness-based stress regulation using the Workable Ranges Model**.**

Phase two: A first-person group investigation into the Workable Ranges Model and mindful stress regulation.

Name of Researcher: Sally Rose

Please initial box

1. I confirm that I have read and understand the information sheet dated [.. .] for the above study and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time and to withdraw my data up to three weeks after the second workshop without having to give a reason. ☐

3 I understand that the periods of inquiry after meditations and the group discussion be audio-recorded taped and subsequently transcribed ☐

4 I agree to the use of diagrams and anonymised quotes being used in publications. ☐

5 I agree to take part in the above study ☐

Name of participant:

Date Signature

Name of researcher: Sally Rose

Date Signature

1 copy for participant; 1 copy for researcher

Appendix P: Phase two: Short Question Schedule

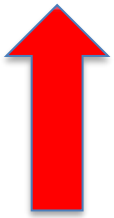
Question 1. On the diagram below where you would say your usual 'Workable Range' is? That is when you feel OK, 'together' and able to function well. Is it bang in the middle, a little higher or lower? Do you see it as being quite wide or narrow? Use two lines to depict your usual 'Workable Range'.		
Out of range, mobilised, fired up **Out of range, immobilised, shut down**		
Time period =		NOW
Question 2 (a). Where are you on the diagram above right now? Use a pen to mark the spot or spots where you are right now with * NOW in the column on the right. Question 2(b). How do you know? What in your direct experience is informing that knowledge? Please answer below		
Question 3 (a). Where do you most prefer to be? Please mark it on the diagram above with a ☺ Question 3 (b). Where do you least like to be? Please mark it on the diagram above with a ☹ Please add comments below.		
Question 4. Think about a recent time when you felt stressed or destabilised emotionally. Can you describe with a mark, marks and/or a line on the diagram above what that was like? If you can please indicate the time period i.e. over today, this week, fortnight, month, few months or a year. Please add any comments you would like to add in the box below.		

Appendix Q: Phase two – Workable Ranges Tracking Form

Use this form to record anything you notice over the next week as you track your stress and emotions a) when you do the breathing space/other practices or b) when you notice specific changes or that are dysregulated on edges of or out of range

Date / day / time	Practice	What I noticed – How it was
	E.g. Breathing meditation	E.g. felt in range – OK, but had a sense of rising tension as needed to finish a task before lunch time.

Appendix R: Phase two - Workable Ranges Diary Sheets

Whole week diary sheet							
WORKABLE RANGE	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
							
							
							

Single day diary sheet							
WORKABLE RANGE	time	time	time	time	time	time	time
							
							
							

Appendix S: Phase two - Example of coded data

Tracking reveals how things change – are different **Could be joined with revealing WR as sense of perspective**	**WRM Tracking awareness – opens the mind to reality and loosens fixed ideas**	**Thinking too much about it can be disorientating – less mindful lose regulation**	**Hard to stop and be mindful when mobilised**	**You can learn to notice Mindfulness plus the WRM**
RP3 you can vary so much during the day	RP3 This being a helpful focus was that you can vary so much during the day! And I might, maybe feel that at this point I'd been out of range in the morning and then it was forcing me to think ah well that was then, that was there, looking at the form that was there this is now, and you won't feel like that in 3 hours' time, you might you might not, but there was, you know, such a variation in and out of range and that was OK. the tracking made me helped me focus and what would have happened in the past is, maybe something would have happened, and I've have thought well that's it, I'm out of range and you know its non-recoverable –and so it was a really good discipline for me.	analysis paralysis, you know when you do so much of it that you can lose track of where you actually are sort of thing SR comments Can lose your way – disconnect from actual experience Getting caught in thought can mean you lose track of where you actually are.	When I'm fired up I don't feel I have time to stop and think ooh why don't I like this - I notice afterwards I catch myself saying something for instance and then (deep inhale) then I notice	RP5 became a lot easier to notice partly because there was the piece of orange paper there. (Everybody laughs). Just almost like I kept it – in doing it, it made me think about it and it (pause) it really helped.
RP2 Sometimes you can be out of the range and then back in in ten minutes – it was good to notice that				
RP6 I noticed this morning that I was up there and then I'm down there	RP2 my head was saying that I should be feeling really wound up and stressed – and I was stressed but (pause) I was able to tolerate it – better than I thought I could			RP5 I had a form or a way of knowing that I needed to capture it - and it really helped
RP4 talking about being more aware of the ups and downs – there was awareness of being more in the top range in the	RP6 actually I'm coping really well, no problem at all, but I feel it's like this thing (cold or illness) saying 'no you're not', so it's like this tension between whether I think I am or whether I really am operating out of range			
morning and then in the bottom range in the evening –	RP6 well I was thinking about happiness and was reflecting on that a bit and my interpretation was that I thought happiness was / would be found right in the middle – do you know what I mean but I found that happiness could be found in all the places			

Appendix T: Phase two – Layout of codes and candidate themes