Interpersonal mindfulness, empathy, and the potential role of early trauma in medical students: a mixed-methods investigation

Amy L. Spatz

MSc, London School of Economics, London 2003

BA, Mount Holyoke University, MA, USA, 1996

A thesis submitted in partial fulfilment

of the requirements for the Degree of

Doctor of Philosophy

University of East London

June 2024

Abstract

In medical students, who are prone to burnout, Mindfulness-Based Stress Reduction (MBSR) is not consistently beneficial. However, Interpersonal Mindfulness (IM) theoretically deepens insight, empathy, awareness, and self-compassion, despite a lack of research in this population.

In an initial randomised controlled comparison, a novel 5-week MBSR + IM course matched outcomes from MBSR related to empathy and social connectedness. However, stress only decreased following MBSR and not IM. The final study sample was 29 medical students (45% women, mean age 23.3 - sd 3.94) out of 60 completing the courses.

In Study Two, reducing the dyadic IM practice time resulted in matched improvements in mindfulness, self-compassion, and empathy with MBSR despite the IM group meditating significantly less at home. The design was the same as in Study One. The participants were 51 medical students (75% women, mean age 23.9 - sd 4.49) out of 78 completing the courses. Findings showed IM may have magnified the effects of MBSR in this sample, and further research is required.

Study three's Interpretative Phenomenological Analysis explored six medical students' experiences 6-8 months following IM. Differences related to 'Self-knowledge', 'Depth of Intrapersonal Mindfulness' and 'Interpersonal Awareness' converged across cohorts encountering either transformational experiences or limited benefits. Those who were beginning to understand the impact of past difficulties or traumas managed to practise mindfulness even when stressed, resulting in profound changes. Those who struggled to acknowledge legitimate reasons behind their own distress or early trauma experienced less mindful awareness, meditated little in the home environment, and found it impossible to meditate while stressed. Nevertheless, all participants reported gaining insight, suggesting IM

can improve access to mindful awareness in a concentrated manner, reducing the reliance upon solo meditation practice.

For some, IM may improve the efficiency and depth of a mindfulness practice, requiring less home meditation time to encounter transformational awareness and reperceiving. The depth of insight could depend upon openness to recognition of early childhood traumas or difficulties. Theoretical and practical implications are discussed.

***Keywords*: Medical students, interpersonal mindfulness, relational mindfulness, Mindfulness-Based Stress Reduction, empathy, self-compassion, trauma-informed, Interpretative Phenomenological Analysis, Identity Oriented Psychotrauma Therapy (IOPT)**

Dedications

This PhD is dedicated to my wise and lively son Aidan. I am so grateful for your spirit, tenacity, unwavering curiosity, infectious laugher and all that you bring through simply being yourself. You have taught me about what is meaningful and important in life more than any study ever could. May you always keep that spark of wonder and enthusiasm.

Acknowledgements

Christine Fessey and Professor Nigel Brown, together with Jo Brown, originally provided me with the space and flexible working schedule to run the mindfulness courses that formed the basis of this PhD. Without them and the medical student volunteers, this work would not have been possible. The students' faith in me and enthusiasm for our collective well-being kicked it all off. Similarly, the funding from the Excellence Studentship provided by UEL was a crucial contribution for which I am ever grateful.

James Walsh, my Director of Studies, has been steady as a rock in his support throughout. I have been blessed by his belief and essential input. Helen Murphy and Professor Cynthia Fu offered essential early advice. Later, my second supervisor, Irina Anderson, provided invaluable support and contributions.

Rosalie Dores, my mindfulness supervisor and teacher, contributed to the interpersonal course design and taught me so much. The groups she co-runs with colleagues Emma Donaldson-Felder and Malcolm Frow continue to provide opportunities for deepening my own interpersonal practice. During the COVID-19 pandemic, I met regularly online with Janice Lalu and Gill Macaskill - my PhD writing partners. My dear friends Katharine Suettinger and Rachel Starks-Greenwood provided essential long-distance cheer and warmth. Everyone's tips, hints, humour, and company have been deeply sustaining. Marion Van Der Deure kindly proofed a few chapters for me, and Peter Coogan helped with the formatting.

Everyone at the Brixton Buddhist Centre over the last few years provided hugs and friendly, sustaining smiles. There were many other trauma-group colleagues, MHC classmates, work acquaintances and neighbours who listened patiently to my challenges or were excited with me when I expressed more enthusiasm for this thesis than they knew what to do with! This process was a labour of love, and I couldn't be more grateful for the kindness and grace I received from too many people to mention specifically.

Table of Contents

List of Tables

Table of Figures

Definitions

Mindfulness

Mindfulness can be approached from various angles, most of which originate in ancient Buddhist approaches for working towards enlightenment. Buddhists consider spiritual and ritualistic elements of this path to be central components for freedom from the suffering inherent in and mixed up with the joys of human existence. Secular approaches evolved from this to offer the psychological benefits of meditation and mindfulness in daily life available to everyone, regardless of their religious background. Three conceptually overlapping approaches to teaching mindfulness in a secular manner are relevant for this thesis since they were combined to inform the design of the novel introduction to Interpersonal Mindfulness (IM) intervention. Mindfulness-Based Stress Reduction (MBSR) and IM are the main foci, although one element of Mindfulness-Based Cognitive Therapy (MBCT) is also included. The theoretical considerations for these types of mindfulness are discussed in Chapter 3, in the section on the conceptual framework (see Figure 1). Below, the basic definitions of each secular type of mindfulness are introduced.

Mindfulness-Based Stress Reduction

MBSR has been defined as a non-judgemental, present-centred practice of awareness in which the thoughts, feelings or sensations that arise in each moment are gently acknowledged without necessarily engaging or reacting (Kabat-Zinn, 1990). Mindful awareness skills for use in daily life are commonly built by practising mindful meditation (body scan or mindfulness of breath), mindful movement (Hatha yoga or Tai Chi), and other daily activities such as mindful eating, walking, showering and so on. There is an implicit sense of self-compassion built into the guided meditations, but Buddhist loving kindness meditations are not included in MBSR. There is also usually no overt mention of empathy. At the start of this thesis, standard 8-week MBSR courses did not include any interpersonal

mindfulness practice. Since then, the published course now suggests including one mindful listening and speaking exercise at the end of the 8-weeks (Santorelli et al., 2017), although little attention is paid to this in the literature.

Mindfulness-Based Cognitive Therapy

MBCT was designed in the UK by Segal et al. (2013) to combine elements of cognitive behavioural therapy with MBSR in order to support patients with recurring depression. These scholars were conscious of creating courses to support participants in noticing and responding effectively to signs of recurring depression because it is a condition which often resists treatment. The concept of decentring and distancing from distressing thoughts was at the forefront of the creators' minds. They combined several cognitive behavioural therapy-related exercises with the MBSR curriculum to create more cognitive awareness. One of the exercises to help participants begin to recognise their own thoughts and feelings, which seems a necessary step before decentring, is the 'walking down the street' exercise (Segal et al., 2013, p. 160). The walking down the street exercise can be useful for allowing participants to notice themselves (without judgment or imposition from someone else) how readily the mind can create either a negative or positive story about behaviour in others, and how bodily sensations can accompany this process. As such, this exercise was included in the 5-week adapted MBSR + IM course as a means of supporting decentring or reperceiving for students who may not be able to meditate as intensively as the original MBSR course advocates. Given that the approaches designed and evaluated in this thesis were mostly based on MBSR, despite the addition of one MBCT-based exercise, the courses are conceptually closer to MBSR and will be described as such throughout.

Reperceiving

Reperceiving, or **decentring, otherwise known as disidentification,** (K. Brown et al., 2015) is a key theoretical concept in mindfulness which allows participants to begin to

see that everything happening within the attentional field (emotions, wandering attention, thoughts, bodily sensations) does not define a person, but comes and goes in an impermanent manner. As Segal, Williams, and Teasdale (2013) described, decentring involves noticing emotions, bodily sensations and cognitions as separate from the core sense of self. It involves viewing the self as separate and unique from what the person is experiencing, thinking, feeling, or going through. Reperceiving can only develop as the ability to attend to the present moment increases (Shapiro et al., 2006). Yet, it is a quality beyond the capacity for moment-to-moment attentional awareness. It is perhaps an important aspect of how mindful awareness differs from unmindful awareness. A developing sense of non-judgemental self-compassion often accompanies reperceiving; at least once a person unlearns habits of blaming oneself and others, which can arise as a means of surviving in an often harsh and unforgiving world. Developing the capacity for such reperceiving may be a key skill, indicating a certain level of successful mindful awareness. Whether participants reduce stress and improve psychological functioning or wellbeing following mindfulness practices or not, may hinge on how deeply they were able to develop the skills of reperceiving (Shapiro et al., 2006).

Interpersonal Mindfulness

Interpersonal mindfulness (IM), otherwise known as relational mindfulness, is a method of bringing greater moment-to-moment awareness into interpersonal relations. It has been defined as an awareness of self and others, accompanied by the qualities of a non-judgemental and non-reactive presence (Pratscher et al., 2018). IM involves deliberately paying attention to how everything about an interaction lands with oneself while opening to notice more about what others appear to be feeling or how they are behaving. IM involves practising the qualities of an accepting and authentic relational presence. IM learning occurs mostly in pairs following meditation, whereas MBSR is primarily a solo practice involving

both meditation and mindful living. Nevertheless, many of the aims overlap and both MBSR and IM take place in group environments.

Furthermore, IM may be approached from various theoretical origins including Functional Analytic Psychotherapy (FAP; Tsai et al., 2012) or Insight Dialogue (ID; Kramer, 2007). Unspecified relational mindfulness approaches (Kok & Singer, 2017; Vich & Lukeš, 2018) have also been published. However, selecting and instituting a particular theoretical framework may be useful for developing focused approaches tailored to the local context (Craig et al., 2008). Systematically evaluating, integrating or building knowledge in an existing field may also become more straightforward when theoretical approaches are clarified (French et al., 2012) despite complex intervention design.

ID theory (Bartels-Velthuis et al., 2020; Kramer, 2007), based on secularised Buddhist principles, has informed the IM teaching investigated in this thesis, as the practice has a rigorous theoretical underpinning. Training is also more widely accessible following this tradition, although it is not currently as accessible as the world-famous MBSR. The ID framework will be further discussed in the conceptual framework section of Chapter 3. Eight-week in-person IM courses based on Gregory Kramer's Insight Dialogue guidelines (2007) are available in London, UK (*8-Week Relational Mindfulness Course*, 2008), and many online courses are also available for participation from anywhere (Kramer, 2024).

Emotional Contagion

Emotional contagion is a social phenomenon whereby one person essentially 'catches' an emotion from another. This is distinct from affective empathy, although not all scholars address the nuanced differences. Doing so may be beneficial for scholars interested in empathy.

Emotional contagion is prevalent in infants and young children who mirror and absorb their parents' moods or stress and relaxation responses before they are capable of

independently cognitively understanding the reality of a threat. This transference of emotional cues can be wordless and has been empirically observed. For example, Walters et al. (2017) directly observed the phenomenon under controlled experimental conditions. In that study, mothers were separated from their babies and exposed to a stressful or relaxing intervention. Following reunification, physiological markers indicating activation of the parasympathetic nervous system (the relax and digest mechanism) were observed in babies whose mothers also showed signs of relaxation. In babies whose mothers had been stressed, physiological markers consistent with activation of the sympathetic nervous system (stress response) were observed, matching the physiological states of their mothers. Even though the babies were not directly exposed to any of the conditions, being reunified with their mothers caused physiological signs which mirrored their mother's nervous system responses. This phenomenon of emotional contagion is thought to last into adulthood to varying degrees (Prochazkova & Kret, 2017) and is likely to be heightened under traumatic experiences (Sprang et al., 2023) for some individuals. Conversely, other individuals may close off to emotional reactions in others as an understandable means of self-protection (Broughton, 2021). Emotional contagion is potentially more common among those drawn to the caring professions and can be problematic, interfering with genuine, mutually helpful empathy and blocking empathic communicative responsiveness (Omdahl & O'Donnell, 1999).

The human tendency for inter-connectedness through sharing emotions with others may have had evolutionary benefits. Humans bonding in groups over joyous events or acting appropriately together when threats arise can result in cooperative efforts that serve to achieve common goals. Emotional contagion thus may be adaptive and positive under certain conditions, for example, during group celebrations, such as when the euphoria of winning a sports match spreads through dancing and cheering crowds. On the other hand, emotional contagion can be negative and over-burdensome, involving being taken over by the suffering

of another, or could be manipulated as a force of control to maintain the status quo. For example, spreading fear about outsiders or 'othering' through stereotyping and dismissal of differences (Joffe, 1999).

'Catching' the emotions of others without maintaining separate self-connection or considering ways to do inner work on this, can be detrimental to carers (Figley, 2013) related to over-identification or rumination following a stressful encounter (Neff, 2016, 2003b). For healthcare professionals faced with repeated distressing emotional states in their clients, it may feel at times impossible to regain calm or confident states of mind. This may be particularly true when there is inadequate support, time for recovery, and relaxation between working on triggering cases (British Psychological Society, 2020). Over-identification, or ruminating following a difficult encounter, as part of emotional contagion may also be unhelpful for a client who is suffering; the carer experiencing emotional contagion can become too preoccupied with their own emotions (Omdahl & O'Donnell, 1999) to remain present and non-judgementally empathic or compassionate (Neff, 2003a) for another.

Emotional contagion may also be more prevalent when present circumstances are similar to a person's previous traumas, which they may not be aware of (Freyd, 1996). As such, emotional contagion may be a component of early trauma (Broughton, 2021; Freyd, 1996) tied to re-traumatisation, secondary traumatic stress (Branson, 2019) or vicarious trauma (Figley, 2013). It is thus vitally important to differentiate between trauma-related emotional contagion and mutually beneficial or healthy empathy. It may be that sympathy is more related to emotional contagion, and differentiation between these concepts is important. Empathy and sympathy will be discussed as part of the literature review

Chapter 1: Introduction and Foundation of This Thesis

Medical students face complex challenges during their training, resulting in severe consequences for their mental health. Research suggests that more than half (55%) of medical students in the United Kingdom experience emotional exhaustion (Cecil et al., 2014). Similar worrying patterns occur in developing countries such as Brazil, where emotional exhaustion is estimated to affect 63% of medical students (Barbosa et al., 2013). In North America, trainees experience significantly higher levels of stress, burnout, and suicide than the general population (Dyrbye et al., 2006; Dyrbye & Shanafelt, 2016). Such statistics indicate that severe stressors are associated with medical education worldwide.

Psychological morbidity and mortality in medical students may be due to particularly stringent demands from training (Erschens et al., 2019), along with high levels of pre-existing susceptibility. Psychological vulnerability in medical students may be due to a high prevalence of pre-existing trauma (King et al., 2017) and related success-inducing yet dysfunctional coping mechanisms such as perfectionism (Seeliger & Harendza, 2017). Therefore, there is an ongoing need to provide supportive (Dobkin & Hutchinson, 2013) and effective wellbeing interventions.

Over the past 25 years, to encourage resilience, medical schools worldwide have introduced a variety of stress reduction techniques to their students (Seo et al., 2021), including mindfulness (Dobkin & Hutchinson, 2010; Hassed et al., 2009; Rosenzweig et al., 2003; Shapiro et al., 1998). According to Harrison (2019), 80% (30/38) of medical schools in the United Kingdom now provide some form of mindfulness activities. Some UK medical schools offer mindfulness courses outside the core curriculum as part of the counselling support provision for vulnerable students (Malpass et al., 2019). Select Universities in the USA (Dobkin & Hutchinson, 2013), Australia (Hassed et al., 2009), and the UK (Harrison, 2019) have integrated mindfulness into their core curriculum requirements. Students who

learn about mindfulness experientially and academically may also benefit personally while improving their ability to meaningfully refer eligible patients.

The General Medical Council (GMC) requires medical students in the UK to learn clinical communication skills to become effective doctors. Empathy is an essential communication competency associated with patient and practitioner benefits. For example, practitioner empathy has been found to improve patient and doctor concordance, improve patient treatment outcomes, and even protect health professionals who express it from burnout in a reflexive manner (Feinmann, 2002; Lamothe et al., 2014; Ong et al., 1995; Roter et al., 1997; Suchman, 1997). However, in a systematic review of the impact of educational interventions designed to improve student empathy, only two out of five communication skills training courses resulted in improvements in empathic concern (Everson et al., 2018).

Studies indicate that medical education may impact empathy levels differently across the world (Quince, Thiemann, et al., 2016). For example, the average empathy levels in American medical students appear to decrease throughout medical school (D. Chen et al., 2012; Neumann et al., 2012). However, a comprehensive quantitative investigation of empathy levels at the start and end of training in 15 UK medical schools concluded that despite costly compulsory communication skills and empathy training, average empathy levels remain unchanged throughout medical school rather than improving (Quince, Kinnersley et al., 2016). Since empathy optimises patient outcomes (Bellet & Maloney, 1991; Neumann et al., 2012), there is a mandate for effective empathy-inducing interventions that concurrently support medical student needs, such as those which amplify mindful present-moment awareness (K. Brown & Ryan, 2003). Cost-effective options will likely benefit multiple stakeholders, from student recipients to medical school budget holders and future patients.

Statement of Purpose

In the mindfulness literature, repeated claims have been made that mindfulness is effective for increasing empathy, but this only sometimes appears true for medical students. Although some studies indicate that mindfulness improves empathy in medical and healthcare students (Barbosa et al., 2013; Shapiro et al., 1998), other studies have reported a lack of significant improvement (Bond et al., 2013; de Vibe, 2014) or even a deterioration in empathy (D. Chen et al., 2012) following mindfulness-based interventions. Researchers regularly repeat the claim that MBSR improves empathy (Daya & Hearn, 2018) without critically examining the differences between interventions or the theoretical mechanisms (Hölzel, Lazar, et al., 2011) underpinning any potential changes (Everson et al., 2018). There may also be a tendency to draw conclusions about the effects of mindfulness on empathy in medical students from the literature related to the impact on qualified doctors following mindfulness interventions (Bazarko et al., 2013; Krasner et al., 2009; Martin-Asuero et al., 2014). This approach may not accurately account for the unique pressures facing trainees (Sekhar et al., 2021). Additionally, studies on qualified doctors indicate that empathy does not reliably improve following mindfulness training in that population either (Galantino et al., 2005; Beddoe & Murphy, 2004).

In addition, some studies claim that mindfulness improves empathy without comparing or controlling for the effects of *intra*personal mindfulness practices as separate from *inter*personal practices (Kramer et al., 2008). Intrapersonal practices are the types of exercises learned in a typical MBSR course. These involve meditations and momentary mindfulness exercises that are conducted on an individual level. Although MBSR includes group discussions, these do not usually encompass sharing out loud what a person experiences internally in real time. *Inter*personal practices are conducted in pairs or small groups and carry a shared meditative element beyond listening and speaking mindfully. This

usually involves almost meditating out loud to a silent listening partner and then swapping roles. There are a variety of ways to practise mindfulness interpersonally. Kramer's (2007) theoretical conceptualisation of interpersonal practice is the approach taken in this thesis (see Chapter 3).

Variations of interpersonal practices from an unspecified theoretical approach appear to have been included in the seminal Shapiro et al. (1998) and Krasner (2009) studies, during which empathy improved in healthcare students and medical professionals. It seems MBSR groups in which a supportive and open feeling develops may improve empathy more through sharing, safely exploring opening to vulnerability, and interconnectedness than the mindfulness practices themselves (Hölzel, Lazar, et al., 2011; Mezirow, 2000; Shapiro et al., 1998). Or, theoretically, interpersonal practices may improve and amplify the effects more effectively than meditation alone (Kramer, 2007).

Shortened (4-7 week) MBSR- or MBCT-based courses carry lower costs and involve feasible time commitments for busy students, and a 5-week course would fit into the curriculum for the present institution. Studies on shorter adapted MBSR courses have indicated promising outcomes related to stress and wellbeing in the general population (Jain et al., 2007) and for psychology or medical students (de Vibe et al., 2013; Solhaug et al., 2016; Warnecke et al., 2011). Health professionals have also shown improvements during 6-week interventions (Dobie et al., 2016; Gilmartin et al., 2017). Improvements in stress, mindfulness, and emotional exhaustion were also found in a sample of 16 general practitioners (GPs) following a 13 hour mindful communication training (Schroeder et al., 2018). However, the effect of short and longer courses on empathy in medical students is unclear (McConville et al., 2017). In addition, methodological flaws such as a lack of a control group (Warnecke et al., 2011) and small sample sizes or losses to follow-up (Jain et

al., 2007) indicate a need to conduct further research on the effects of shorter courses, both in general terms and related to the impact on empathy.

Interpersonal mindfulness (IM), also known as relational mindfulness (RM), aims to bring mindful awareness into the interpersonal communication sphere through carefully facilitated and theoretically informed mindful contemplations conducted in pairs or small groups (J. Cohen & Miller, 2009; Kramer et al., 2008). Peer-reviewed studies on IM are scarce (Falb & Pargament, 2012), and empathy has not been measured in studies that found other positive effects (J. Cohen & Miller, 2009; Vich et al., 2020). No known studies of interpersonal mindfulness have been conducted in medical students, and no known studies have compared the effects of a 5-week MBSR course with those of a 5-week IM course.

According to mindfulness theory (Brown et al., 2015), improvements in present-moment awareness and other wellbeing variables are generally linked to more time spent practising meditation at home. Many studies empirically confirm this link (Baer et al., 2008; Baer et al., 2012). However, there are exceptions. For example, research on chronically ill patients found that improvements in stress and depression were not directly associated with time spent practising mindful meditation (Dobkin & Zhao, 2011). Hölzel, Lazar et al. (2011) also found that the overall effect of group-based MBSR may be more transformative than practice levels alone. It seems the mindfulness literature primarily focuses on mental health and wellbeing, with only a fraction of studies considering the impact on empathy (McConville et al., 2017).

These and other issues in the literature on empathy, such as inconsistencies between studies using different definitions and measures (Lamothe et al., 2016), indicate that little is empirically understood about the relationship between mindfulness, stress and empathy. As such, there is a need to examine the following questions related to the effects of mindfulness

on wellbeing and empathy from a critical realist epistemological perspective involving both quantitative and qualitative methodology.

Research Questions

1. Are 5-week mindfulness-based interventions acceptable for UK medical students?
2. What intra- and interpersonal effects do five weeks of **MBSR** have on students?
3. What intra- and interpersonal effects do five weeks of **MBSR + IM** have on students?
4. What is the lived experience of medical students participating in five weeks of Interpersonal mindfulness?

Overview of the Methodology

Given the lack of consensus regarding whether empathy is correlated with mindfulness interventions in medical students, more research is needed on the effects of MBSR on empathy and what accounts for variations in the literature (Lamothe et al., 2016). Distinguishing carefully between the impact of intrapersonal and interpersonal mindfulness and comparing the two may clarify any different effects. There is also a need to create IM courses of realistic length and depth for busy medical students whilst deciphering more clearly the impact each element has on students' ability to manage their stress, increase their mindfulness levels, and empathise with others.

Three interrelated studies were designed to compare and evaluate two teaching methods over five weeks: MBSR-based mindfulness and MBSR plus Interpersonal Mindfulness (MBSR + IM). The related but separate studies aimed to compare and assess the effects of two primary methods for teaching mindfulness, MBSR-based mindfulness, compared with the same intervention plus IM. Despite known drawbacks to self-report methods, gathering data from standardised and validated questionnaires seems prudent to compare the efficacy of the two 5-week interventions. A final qualitative study will further inform the results of the first two studies to highlight unforeseen aspects that the

questionnaires cannot capture. The final qualitative study, using interpretative phenomenological analysis (IPA), stands alone rather than representing a particular mixed-methods approach, such as a sequential explanatory design. The three studies will be described in detail, including the results, in Chapters 4, 5, 6, and 7. Below is a brief overview.

1. Study One (see Chapter 4) acted as a pilot study to investigate the two interventions and to explore how the participants responded to the different formats. A randomised controlled comparison was designed and completed. Analysis was conducted and combined with reflection on the process to inform central changes to the more experimental MBSR + IM group.
2. Study Two (see Chapter 5) involved refining the teaching for the experimental group (MBSR + IM). A slightly larger sample was also recruited to increase the reliability of the results by repeatedly running the intervention over several cohorts. The randomised controlled comparison was repeated using the same design as in the pilot (Chapter 4) but with a few changes made to the intervention and methods based on student feedback and information gathered in the pilot.
3. Study 3 (see Chapters 6 and 7) built on the knowledge gained from the prior studies and focussed on qualitatively illuminating the lived experience of the students in the MBSR + IM group. This study focussed on understanding aspects of the students' experiences that were most salient and important to the participants using IPA methodology. This study aimed to investigate aspects of the experience that may not have been considered previously. Individual unstructured interviews were conducted 6-8 months after the MBSR + IM intervention beginning with one primary open-ended question at the start of an unstructured interview. The researcher thus aimed to discover the unique meanings each participant drew from their experiences of

learning and practising mindfulness while using existing theory and knowledge to highlight themes and bracket them during the analysis phase.

Theoretical Considerations

According to the prevailing mindfulness theory, solo or *intra*personal mindfulness *should* improve empathy. Over time, those who practise mindfulness meditation are thought to engage in a process whereby their intentions, attention, and attitudes shift. This process is known as reperceiving (Dobkin, 2008; Shapiro et al., 2006) or decentring (Segal et al., 2013). Reperceiving is similar to the cognitive-behavioural process of reframing but goes beyond working with thoughts to include the felt sense. There is a continuation of maturation or self-development through this process because it allows a person to understand that they are separate from whatever they are feeling and experiencing in each moment (Shapiro et al., 2006).

Developing mindful skills of a non-judgemental and supportive presence while observing the self through reperceiving ought to correlate with a growing capacity to engage in similar emotional work with others. Specifically, Carmody (2015, p. 68) claims that mindfulness allows regular practitioners to

1) Begin to discern between one's own thoughts, emotions, and physical sensations and how they can be interrelated.
2) Regulate their attention more effectively, leading to improved emotional regulation skills.
3) Develop a mindset organised around the concept of an 'observing self' as part of reperceiving (Shapiro et al., 2006) and understand emotions to be transitory through a process of disidentification.

Experienced mindfulness practitioners have reported deeply sensing and trusting that the next moment always begins afresh. There may be a consistent sense of stabilising trust in

emergent renewal and change, even while feeling emotional or physical pain (Shapiro et al., 2006). According to mindfulness theory, this is known as trusting in impermanence (Brown et al., 2015). Dedicated practitioners may become connected to a felt sense of the nature of impermanence through observing ever-shifting moods and states in the human mind and body in an accepting fashion through sustained gentle meditation and a resulting open, non-judgemental presence in daily life. Through regularly feeling and being in touch with one's own pleasant, neutral and unpleasant emotions over time, a developed sense of impermanence allows a mindfulness practitioner to sense, even in a moment of suffering, that no matter how difficult a given moment may be, it will not and cannot remain the same forever.

When engaging with a regular mindfulness practice, the combination of reperceiving and the reassurance of impermanence should theoretically facilitate allowing and observing emotional states as transitory. This should form a growing sense that emotions and thoughts are separate from the identity or sense of self (Dahl et al., 2015; Hölzel, Lazar, et al., 2011; Shireen et al., 2022). The identical process of allowing and acknowledging emotions should also be possible when observing and being present with the emotional states of another (Kramer, 2007), including while empathising and bringing mindfulness into the relational sphere. However, some participants may never meet an inner capacity to reperceive their experiences or resonate deeply with impermanence and disidentification. Additionally, the process of reperceiving may take longer when intrapersonal mindful approaches are used alone (Kramer, 2007).

Cognitive-behavioural-based change, combined with a greater sense of embodiment, is thought to help practitioners respond to even stressful or threatening stimuli more productively rather than reacting from a place of stress and fear, which may allow empathy to emerge. It could be more challenging to empathise whilst experiencing anxiety or stress, as

the stress response typically includes a narrowing of the attentional field due to the related stress hormone cascade (Skosnik et al., 2000). Much of the early research on the effects of mindfulness in medicine draws upon this theoretical link. However, exploration seems to have stopped there. Little research exists to *explain* the potential link between mindfulness, stress, and empathy, and even correlational data show discrepancies in the limited literature available (K. Brown et al., 2015, p. 317). It may also be possible for empathy to interrupt the stress hormone response when supported by an enduring mindfulness practice.

One of the undoubted issues in developing mindfulness theory is that a great deal of the literature relies upon data from self-report measures (Baer et al., 2006). There is some doubt whether the reliability and validity of such questionnaires are limited due to individual differences in abilities for self-perception and introspection (Robins et al., 2007). The advantages of self-report data, such as the ease of dissemination and capacity for comparing large groups or datasets, are generally thought to outweigh the drawbacks in mindfulness research (Bergomi et al., 2013). However, to complicate matters, there is a wide array of quantitative self-report measures in the field, seven of which were included in a review by Tomlinson et al. (2018). Crucially, critics point out that different measures of mindfulness do not always correlate with one another (Bergomi et al., 2013; Grossman, 2011; Hanley et al., 2016).

A similar issue is mirrored in the quantitative empathy literature, which relies on a reliable (Hojat et al., 2001) but potentially flawed set of self-report questionnaires. For example, the study of empathy in medicine relies overwhelmingly upon data gathered by the Jefferson Scale of Physician Empathy (JSPE; Hojat et al, 2003). This questionnaire was designed to measure cognitive empathy. However, upon reviewing the questionnaire items, it appears to measure *attitudes* towards the importance of an empathic approach and empathic knowledge (see Appendix D) rather than empathic capacity. While attitudes conducive to

empathic understanding are undoubtedly necessary, they may not accurately capture circumstances when a person wishes to empathise but feels unable to do so.

Furthermore, Ickes (Ickes, 2003) asserts that some individuals appear more difficult to empathise with than others. For example, during experiments when speakers used 'I' statements to explain their emotions clearly, more observable empathy developed in the listener (Ickes, 2003, p. 81). On the other hand, study participants who were generally competent at empathising encountered problems understanding the feelings of a less consistent person who expressed emotional ambivalence (Ickes, 2003, p. 107). It could be that empathic understanding is more cognitively and emotionally demanding to provide empathy for those less clear about their feelings. A lack of clarity and self-assurance about one's own feelings could be prevalent for those who are traumatised (Broughton, 2021). Very little literature on medical students and mindfulness or empathy appears to take the effects of trauma into account, neither on behalf of the person attempting to empathise nor on the receiver of empathy. However, some scholars are beginning to develop trauma-informed mindfulness approaches (Treleaven, 2018) or to study the prevalence of trauma in medical students (King et al., 2017).

Rationale and Significance

Rationale

Several studies have shown that Mindfulness-Based Stress Reduction (MBSR) improves empathy and stress in medical students and doctors (Bazarko et al., 2013; Krasner et al., 2009; Shapiro et al., 1998; Martin-Asuero et al., 2014). However, scholars regularly repeat the claim that eight weeks of MBSR improves empathy without critically examining exceptions or differences between interventions or qualitatively describing mechanisms underpinning such changes (Everson et al., 2018).

Medical school curricula often lack the time, resources, or space to incorporate 8-week mindfulness programmes. Yet the effects of 4-6-week mindfulness training courses are less well re-researched and occasionally confer less impressive results (Canby et al., 2015; Dobie et al., 2016; Manotas et al., 2014; Phang et al., 2015; Schwind et al., 2017; Zeidan et al., 2010). Therefore, there is a need to investigate methods for improving the outcomes of shorter courses while considering which educational elements (such as intra or inter-personal mindfulness) are the most useful.

The impact of MBSR interventions on empathy in healthcare professionals and medical students seems essentially unknown due to mixed results. Some studies have reported positive changes (Shapiro et al., 1998), while others have shown a lack of improvement in empathy following 8-week MBSR-based training (Beddoe & Murphy, 2004; Danilewitz et al., 2016; Galantino et al., 2005). Additionally, the peer review process may be somewhat biased towards positive results (Coronado-Montoya et al., 2016). For example, non-significant effects of mindfulness on empathy were excluded from one published, peer-reviewed study (de Vibe et al., 2013) despite the corresponding doctoral thesis showing that mindfulness did not improve empathy (de Vibe, 2014). Empathy is rarely investigated in studies on shortened or adapted MBSR courses (de Vibe, 2014; Lamothe et al., 2016). This indicates a need for further research to support or refute the claim that mindfulness improves empathy.

Interpersonal Mindfulness (IM), or Relational Mindfulness (RM), can bring mindful awareness into the interpersonal communication sphere through mindful contemplations conducted in pairs or small groups and underpinned by supportive guidelines (Kramer et al., 2008). Peer-reviewed studies on IM are scarce (Bartels-Velthuis et al., 2020; Falb & Pargament, 2012), and empathy has not been measured in studies that found other positive effects (J. Cohen & Miller, 2009; Vich et al., 2020). No known studies of interpersonal

mindfulness have been conducted in medical students, and no known studies have compared the effects of a 5-week MBSR course with those of a 5-week IM course. Furthermore, no known studies have qualitatively investigated or described the lived experience of interpersonal mindfulness in medical students.

Significance

A growing body of research has investigated the impact of 8 weeks of MBSR training (Kabat-Zinn, 1994) on the wellbeing, stress, and burnout in medical students and doctors (Grossman et al., 2004; Praissman, 2008; Aherne et al., 2016; Shapiro et al., 2005; McConville et al., 2017; Irving et al., 2009; Dobkin, 2008; Baer, Carmody, et al., 2012; Khoury et al., 2015; Lamothe et al., 2016; Rosenzweig et al., 2003). Of the studies that have supported an association between mindfulness and empathy in various populations (Everson et al., 2018; Martin-Asuero et al., 2014; McConville et al., 2017; Barbosa et al., 2013; Beddoe & Murphy, 2004; Dekeyser et al., 2008; Raab, 2014; Ridderinkhof et al., 2017), not all have been considered well-designed (Everson et al., 2018). Additionally, some studies have not shown any improvement in empathy following standard MBSR courses (Galantino et al., 2005; Beddoe & Murphy, 2004) or abridged courses (Danilewitz et al., 2016; de Vibe, 2014).

Investigations of brief MSBR interventions for medical students either do not show improvements in empathy (de Vibe, 2014; Lamothe et al., 2016), empathy measures were not reported (Jain et al., 2007), or the learning was entirely based on self-directed practice (Warnecke et al., 2011). An entirely self-directed approach is incomparable to MBSR-based in-person courses, due to missing the group element. In addition, there are no known investigations of the interplay between empathy and self-compassion in medical students. There are also no known shortened MBSR courses with theoretically distinct IM elements.

Researchers are only beginning to qualitatively investigate the experience of medical students following participation in mindfulness courses. At the start of this PhD, only one qualitative study by Solhaug et al. (2016) concentrated on the effects of mindfulness on medical students using IPA methodology. However, empathy was absent in the emerging themes. Malpass et al. (2019) have since completed a qualitative study on medical students and mindfulness using thematic analysis, and empathy was mentioned, but only briefly. Furthermore, that study did not examine students' lived experience of how mindfulness may or may not affect empathy. Jeffrey (2019) studied medical students' lived experiences of learning empathy but did not investigate the effects of mindfulness. Qualitative research on qualified healthcare professionals' experiences with mindfulness is more common.

Themes from qualitative research on mindfulness in healthcare professionals are available, although interpersonal experiences and empathy are rarely explored. Turner's (2013) doctoral thesis used IPA to investigate healthcare professionals' experiences learning mindfulness skills, and empathy was not a feature. A few studies have examined the effects of mindfulness in healthcare professionals using thematic analysis of interviews or written feedback without any comments about empathy (Dobie et al., 2016; van der Riet et al., 2015; Turner, 2013). Cohen-Katz et al. (2005) conducted a broad thematic analysis of interviews and written feedback from participants in an MBSR course. This study highlighted a perception of increased empathy following mindfulness training. However, the authors did not explore why this occurred and did not include any challenges or limitations. An IPA interviewing style and analysis might result in richer data, illuminating the how and why behind individuals' development of empathy and self-compassion through their experiences with mindfulness.

Role of the Researcher

I (AS) am the researcher, mindfulness teacher, and primary designer of the interventions, although several other key figures have supported this work. I am an experienced medical educator and lecturer, skilled in facilitating small group communication and health psychology sessions for medical and other healthcare students for over 15 years. I also hold a PGCert in medical education. I have known many students from teaching communication skills in my current medical school lectureship for the past decade. I also designed and taught sessions based on MBSR within the medical school for five years before the study began. I was previously trained to teach MBSR and hold a qualification in mindful coaching. I designed and adapted the MBSR and IM courses over the years preceding these studies, taking student feedback into account and adhering to the British Association of Mindfulness-Based Approaches UK Good Practice Guidelines (BAMBA, 2016) for mindfulness teachers. However, I had yet to gain experience teaching IM before this study.

I completed an 8-week IM course as part of my mindful coaching training. Additionally, in the preceding year, before running the IM groups and during the interventions, I regularly attended meetings to practise IM with other coaches and instructors. This sense of deepening and developing my own IM practice underpinned my facilitation, as did the supervision.

I sought mindfulness teaching supervision throughout the running of the courses and regularly met with a qualified interpersonal mindfulness supervisor. The mindfulness teaching supervisor (Rosalie Dores) holds an MSc in mindfulness from Bangor University, is qualified and registered to supervise IM, and provided essential guidance on the design of the sessions. According to the BAMBA UK Good Practice Guidelines (BAMBA, 2016), supervision has always been a crucial aspect of professional mindfulness teaching, particularly for new facilitators. These UK guidelines are similar to the US guidelines (*Good*

Practice Guidelines for Teaching MBSR, 2020). As recommended, my teaching supervisor and I met and reflected on the sessions each week during the interventions. Meetings were conducted over Skype. Supervision supported my facilitation of MBSR, one MBCT exercise (walking down the street), and IM.

Organisation of the Dissertation

This overview of the thesis (Chapter 1) is followed by a more fulsome literature review (Chapter 2) and a description of the conceptual framework (Chapter 3) used to design the interventions. There is considerable overlap within the first two Chapters. The subsequent sections (Chapters 4 and 5) present the details and results of the two quantitative studies, including a summary of the relevant literature, methodology, analysis, results, and specific discussion points. Chapter 6 presents the relevant qualitative literature and the methodology for the qualitative study. Chapter 7 contains the results of the qualitative research. Chapter 8 presents an overall discussion and conclusion.

Chapter 2: Literature Review

Medical students face significant psychological challenges during training and suffer from stress, burnout, and suicide at a higher rate than their counterparts in other disciplines throughout the world (Blacker et al., 2019; Dyrbye et al., 2006; Dyrbye & Shanafelt, 2016; Leahy et al., 2010). There is also concern that medical students may begin medical training with underlying susceptibility to mental health issues due to past trauma (King et al., 2017). This may interact with the challenging environment in ways that interfere with wellbeing and lead to unfortunate consequences such as high levels of burnout. For example, in Brazil, emotional exhaustion is estimated to affect 63% of medical students (Barbosa et al., 2013). In the UK, over half (55%) of medical students may experience emotional exhaustion (Cecil et al., 2014).

This is not a problem contained in universities; burnout worsens in the professional sphere rather than resolving after graduation (Boudreau et al., 2006; Dyrbye & Shanafelt, 2016; Goehring et al., 2005; Seo et al., 2021). The impact on the NHS and the society it serves is evident in the alarming increase in staff attrition. In 2010, 83% of UK doctors continued postgraduate training past their second year (F2). By 2018, this dropped to 38% (Rimmer, 2019). Reasons cited include burnout and a lack of appreciation or satisfaction at work within challenging contexts (Wilson-Scholin, 2020).

Improving the mental health and wellbeing of medical students is essential not only for reducing the risks of attrition, burnout, and suicide in the University years and beyond but also for safeguarding and protecting patients. Unhealthy coping patterns, such as high levels of alcohol dependence, may develop as part of the mainstream medical culture (Jackson et al., 2016). Dysfunctional habits beginning in medical school tend to linger in doctors' professional lives until they crash (Schernhammer & Colditz, 2004). Doctors on the verge of burnout, whether using various forms of 'self-medication' or not, risk hurting the patients

they are responsible for treating (Passalacqua & Segrin, 2012) due to high levels of medical errors (Brown et al., 2009). In sum, it would be helpful to develop effective interventions for teaching healthy coping mechanisms while preserving mental health, resilience, and wellbeing at the start of education and before trainees face a high level of clinical responsibility.

Despite numerous challenges, developing an empathic approach towards patients and colleagues is a crucial component of medical professionalism. As such, empathy is widely considered a vital aspect of medical communication training (Derksen et al., 2013). Scholars have hypothesised that due to a combination of pre-existing vulnerabilities (King et al., 2017) and the rigorous demands of medical education (Erschens et al., 2019), medical students in the UK may struggle to maintain or develop their empathic communication skills (Quince, Kinnersley, et al., 2016). Concerningly, in the USA, empathy levels are thought to decrease throughout medical education (D. Chen et al., 2012). In short, the various challenges in this population affect self- and other-oriented caring and compassionate behaviour, which can lead to breakdowns in wellbeing and empathic capacity. Therefore, there is a need to develop effective and efficient interventions that can improve both wellness and empathy in this population.

Attempting to correct the situation, medical schools worldwide have been introducing mindfulness or mind-body wellbeing courses into their curricula as required elements (Hassed et al., 2009), elective courses (Bond et al., 2013; A. Chen et al., 2016) or extracurricular options (de Vibe et al., 2013). However, medical training curricula are packed with crucial information (Von Fragstein et al., 2008), taking up considerable hours each week and requiring extra study in the evenings and on weekends. This restricts student leisure time. Students also typically travel to hospital placements in the UK (particularly in the later years of the curriculum) while separated from friends and support networks for most of the

academic year. Even when funding is available, there is seldom space for gold-standard 8-week Mindfulness-Based Stress Reduction (MBSR) courses in addition to the General Medical Council (GMC) required communication skills sessions (Von Fragstein et al., 2008). Furthermore, seven or eight week MBSR courses do not consistently increase empathy and wellbeing in this population (de Vibe, 2014; Lamothe et al., 2016), and evaluations of existing shorter have not measured the effects on empathy (Jain et al., 2007). Required mindfulness courses carry numerous issues, such as vocal minority naysayers who can influence others' experiences (Stewart-Brown et al., 2018) and may not be the answer. Therefore, there is a need for further research and evaluation involving volunteers.

This literature review will first discuss how prominent Western scholars have defined mindfulness. It will then examine research investigating mindfulness interventions' impact on the wellbeing of medical students. Several limitations that characterise this research will also be highlighted. Following that, the existing research on mindfulness as a method for improving empathy in medical students will be discussed, including crucial limitations. Despite a lack of research investigating the impact of Interpersonal Mindfulness (IM), the literature review will end by arguing that adapted MBSR courses with added IM may be an efficient method for protecting and promoting present-moment awareness while improving empathy in this population. This forms the basis for the present series of studies.

Mindfulness

From a Western, secular point of view, mindful awareness may be considered a non-judgemental, present-centred practice of kindly awareness in which each thought, feeling, or sensation that arises in the attentional field is gently acknowledged without necessarily engaging or reacting (Kabat-Zinn, 1994). The term mindfulness does not always mean the same thing in every context. For example, mindfulness has been used as a synonym for simple awareness (Burgoon et al., 2000). Developed from spiritual approaches over 2500

years old, Buddhist forms of mindfulness can be practised as part of the eight-fold path to enlightenment outlined by the Buddha and his followers (Kramer, 2007; Shonin et al., 2015). Definitions of mindfulness have evolved from a combination of Buddhist knowledge and modern psychology. For this thesis, secular definitions and aims will inform the research. This is because secular approaches tend to be more palatable for students from a variety of religious and spiritual backgrounds. This choice in no way diminishes the importance or utility of Buddhist approaches, which are deeply useful for those who also appreciate the spiritual element.

Psychologists frequently comment that the meaning of mindfulness is nuanced, and the inner sense of it is difficult to define objectively (Block-Lerner et al., 2007; Brown & Ryan, 2003; Dahl et al., 2015; Shireen et al., 2022). Jon Kabat-Zinn (1990, 1994, 2003, 2014, 2016; 2008), one of the most notable and influential mindfulness teachers and scholars in the Western world, defines mindfulness as "the awareness that emerges through paying attention on purpose, in the present moment, and non-judgementally to things as they are" (Kabat-Zinn, 1994, p. 47). He further notes that mindfulness encourages "an affectionate, compassionate quality within the attending, a sense of openhearted, friendly presence and interest." (Kabat-Zinn, 2003, p. 145). However, the inner experience requires further clarification.

Brown and Ryan (2003, p. 822) describe mindfulness as "the state of being attentive to and aware of what is taking place in the present." Segal, Williams, and Teasdale (2002, p. 322) propose that during mindful practices, "the focus of a person's attention is opened to admit whatever enters experience, while at the same time, a stance of kindly curiosity allows the person to investigate whatever appears, without falling prey to automatic judgments or reactivity." This is opposite to a state of existence in automatic pilot mode, which involves reacting to external stimuli without consideration for the influence of inner assumptions.

While reacting automatically, long-held habits, which may not always be rooted in factual aspects of the present, frequently take over. A mindful method of attending more gently to the present, as introduced through participation in effective interventions, provides the opportunity to develop an enduring and supportive meditation practice. This is widely considered beneficial to wellbeing, particularly in lay populations (Bazarko et al., 2013; Bewick et al., 2015; K. Brown & Ryan, 2003; NICE, 2022; Yamada & Victor, 2012).

From a research perspective, mindfulness can refer to both a process (mindful practice) and an outcome (mindful awareness). Mindfulness can be quantitatively researched in a positivist manner as both a trait (dispositional mindfulness) or a state (shorter-term and momentary experience) (Tomlinson et al., 2018). In this thesis, mindfulness refers to the multidimensional qualities deliberately fostered by a meditation practice that cultivates an easeful and non-judgemental present-moment awareness supportive of wellbeing (Carmody & Baer, 2008; Kabat-Zinn, 1990).

Mindfulness is most commonly measured and evaluated from a positivist epistemological standpoint (Baer et al., 2006; K. Brown et al., 2015). However, critical or constructivist (Pfadenhauer & Knoblauch, 2018) researchers have also recently begun investigating the impact of mindfulness by utilising qualitative methodology (Bihari & Mullan, 2014; Cohen-Katz et al., 2005; Malpass et al., 2019; Solhaug et al., 2016; Turner, 2013). Such literature will be reviewed in Chapter 5 of the present thesis, in association with the third study, which employs a qualitative methodology based upon a critical social realist perspective. The remainder of this review will focus on literature that follows the quantitative epistemological standpoint, as this informs the design for Studies One and Two, which are presented in Chapters 3 and 4.

Mindfulness-Based Interventions and Medical Students

Mindfulness-Based Stress Reduction (MBSR) is practised primarily on an individual or *intra*personal basis. Jon Kabat-Zinn (1990) designed the original MBSR course in the 1970s in Amherst, Massachusetts, USA. MBSR provided an opportunity for learners to make the most out of their meditation experience and bring mindful principles into their daily lives. A series of supportive meditation-related skills are learned primarily experientially during a standardised, 8-week course. Learning with a group of peers led by a trained practitioner and facilitator is essential to this approach. Kabat-Zinn based MBSR on Buddhist practices, but the programme is secular and focuses on embodied behavioural outcomes rather than spiritual teachings.

Popular MBSR courses run worldwide, following standardised guidelines (Santorelli et al., 2017). The aim is to build learners' mindful awareness skills gradually, beginning with a body scan meditation to improve somatic awareness, moving on to mindful movement (usually yoga or tai chi), and finishing off with sitting meditations that tend to focus more on the breath, sounds, and cognitions. The focus is on supporting students to develop daily meditation and informal mindfulness-inducing habits, fostering the beneficial state of gentle present-moment awareness on a more consistent basis. This reduces common autopilot reactions and allows the nervous system to relax more regularly or deliberately rather than remaining almost constantly in a harmful fight-or-flight mode. Such activation can be involved in burnout (Erschens et al., 2019).

Originally, Kabat-Zinn (1990) designed MBSR for chronic pain patients to help them learn to live with or reduce debilitating physical symptoms by limiting the impact of mind-body stress. The 8-week MBSR course allowed this vulnerable population to gradually build formal meditative and informal mindful lifestyle practices to gently increase present-moment

awareness. The standard course has been extensively researched in medical contexts and adapted for clinical or non-clinical audiences (Irving et al., 2009; Lamothe et al., 2016).

For patients (Alsubaie et al., 2017) and medical doctors (Beach et al., 2013; Beckman et al., 2012), research indicates positive effects stemming from developing a regular mindfulness habit following group-based interventions. The embodiment of mindful qualities has been shown to decrease stress (Shapiro et al., 2006) and improve functioning for both physical and mental health (Irving et al., 2009) as well as self-compassion (Raab, 2014). Clinical efficacy for practising healthcare professionals has also improved following mindfulness training (Grepmair et al., 2007). This may be due to associated improvements in communication (Burgoon et al., 2000), working memory, and the ability to focus attention (van Vugt & Jha, 2011). However, developing mindful awareness may be more challenging for medical students.

Mindfulness teaching in the general population has increased over the past decade, in line with its gain in popularity and the associated media exposure. Scholars estimate that more than 1,000 specially trained teachers provide MBSR courses in over 700 contexts in over 30 countries (Treleaven, 2018). Medical schools have somewhat mirrored the widespread societal interest in mindfulness, and scholars have conducted systematic reviews and meta-analyses (Daya & Hearn, 2018; Seo et al., 2021; Sekhar et al., 2021). However, few quality RCTs have been conducted on medical students, and there is some doubt about the efficacy of mindfulness in this population (Sekhar et al., 2021). Furthermore, there are many conceptual and methodological differences between existing studies, which make it challenging to draw clear parallels between them. What follows is a review of evidence about the potential effects of mindfulness on medical students, including some of the difficulties in the literature, particularly regarding inconsistencies in methodological and conceptual approaches.

Daya and Hearn (2018) systematically reviewed mindfulness interventions and their effects on medical student wellbeing. However, several methodological differences between the 12 studies included make it challenging to meaningfully compare them. For example, three of the studies in the review were conducted on healthcare students, which may limit their applicability to medical students (de Vibe et al., 2013; Jain et al., 2007; Shapiro et al., 1998). The outcomes of these studies were also mixed.

Shapiro et al. (1998) found that their standard 8-week MBSR intervention on medical and healthcare students in the USA reduced depression and improved empathy compared to a matched wait-list control group, but these impressive results have not been fully replicated. De Vibe et al. (2013) conducted an RCT comparing a 7-week abridged form of MBSR with an inactive control group. The authors found that mental distress, subjective wellbeing, and mindfulness improved for women in their study (n = 118) but not for men (n = 26). Overall, there was no significant improvement in stress or burnout for the sample, nor empathy (de Vibe et al., 2014).

According to prevailing mindfulness theory (K. Brown et al., 2015) and research based on data from lay members of the population, improvements in present-moment awareness and other variables following mindfulness interventions are typically linked to a greater amount of time spent meditating in between sessions (Baer et al., 2012). Indeed, students who regularly attended sessions and practised mindfulness in their own time during the de Vibe et al. (2013) trial experienced greater benefits than those who did not. However, the participants reported practising only an average of 19.5 min per week (de Vibe et al., 2013). Conversely, the recommended practice for a standard 8-week MBSR course is much higher at 270 minutes per week (45+ min, 6 days per week; Santorelli et al., 2017).

Time spent meditating outside of sessions is reported inconsistently, painting a confusing picture regarding the empirical importance of mindful practice. Phang et al. (2015),

Hassed et al. (2009), Warnecke et al. (2011), and Jain et al. (2007) all report a tendency for healthcare students to struggle with developing a consistent practice. In the Phang et al. (2015) study, Malaysian medical students reported practising for an unspecified amount of time only three days per week, during the 5-week intervention. This intervention nevertheless resulted in a significant reduction of perceived stress and depression compared with the control group. This may be more than the mean (19.5 min per week) reported by Norwegian psychology and medical students in the de Vibe et al. (2013) study, where more limited effects were noted. However, it is difficult to directly compare without data pertaining to the amount of minutes. There also may be important cultural differences between the studies in Malaysia and Norway, which are clearly also different than for students in the UK.

The majority (90%) of the Hassed et al. (2009) cohort reported practising mindfulness at least once a week throughout the semester. First year Australian medical students in that study attended mandatory mindfulness sessions integrated within the curriculum. This coincided with a significant reduction in depression in that cohort. However, there was no control group for comparison. For Warnecke et al. (2011), participants practised approximately 30% of days in the 8-week period of their self-directed audio-only (no-live sessions) RCT intervention. That cohort reduced stress but not depression compared with the control group. For Jain et al. (2007), the participants practised mindfulness for an average of 5.27 hours over the four week RCT of an adapted MBSR intervention. Their study also showed inconclusive results across several measures despite seemingly higher practice levels than the de Vibe et al. (2013) intervention. In sum, the effect of practice levels is difficult to determine when studies employ different methodologies, over different time-periods and use different measurements. Nevertheless, the overall impression is that medical students practise less than is recommended (Santorelli et al., 2017) and less than in lay populations (Baer, Carmody, et al., 2012).

In addition to difficulties interpreting minimum necessary practice levels, other methodological and conceptual differences between studies make it difficult to form clear conclusions about the effects of mindfulness interventions on medical students. For example, the length of such interventions and the theoretical approaches vary greatly. Furthermore, some interventions are broader, introducing various mind-body stress reduction methods (Bond et al., 2013; A. Chen et al., 2016). Others follow a standard 8-week MBSR approach (Barbosa et al., 2013; Shapiro et al., 1998) or take an abridged MBSR approach using interventions lasting 4-7 weeks (de Vibe et al., 2013; Jain et al., 2007; Phang et al., 2015). Some interventions also schedule sessions for less time (Danilewitz et al., 2016; de Vibe et al., 2013).

On occasion, stress has been known to increase following interventions that include mindfulness-based techniques. Two of the eight non-RCT studies in the review mentioned above by Daya and Hearn (2018) involved 11-week mind-body interventions introducing visualisation, meditation, and yoga, among other approaches (Bond et al., 2013; A. Chen et al., 2016). Stress either did not significantly improve (Bond et al., 2013) or worsened along with empathy (A. Chen et al., 2016). The authors explained that this could be due to unfortunate timing since the post-intervention questionnaires were disseminated close to exams. The lack of improvement may also be connected to low levels of practice developing and building throughout the course, although this is not reported. Other unknown factors may have also affected the medical students' experience since there were no control groups for comparison.

Interventions focused on developing mindfulness appear to be more effective than those introducing multiple approaches to mind-body awareness (Daya & Hearn, 2018). After all, MBSR or abridged MBSR interventions have resulted in marginally improved results (Danilewitz et al., 2016; Shapiro et al., 1998). However, several studies (Barbosa et al., 2013;

de Vibe, 2013) report that perceived stress and/or burnout did not significantly improve. As such, while adapted MBSR interventions appear to be more useful in this population than general introductions to a variety of mind-body relaxation methods (Bond et al., 2013; Chen et al., 2016), it is difficult to form clear conclusions about the best approach for medical students.

Putting the above mixed results into context, psychological resilience interventions in this population also carry mixed results. For example, Seo et al. (2021) reviewed general wellbeing interventions in medical students and junior doctors from 1982 to 2019. The authors presented six studies on interventions designed to improve wellbeing in medical students, none of which followed a standard or adapted MBSR programme. Some mindfulness was included in two of these studies, one by Brennan et al. (2016), which improved perceived stress and resilience, and another by Holtzworth-Munroe et al. (1985 as cited in Seo et al., 2021), which also conferred improvements in anxiety and stress in their small sample of 20 students. Three of the other resilience studies in the Seo et al. (2021) review that did not include any mindfulness indicated significantly *worse* outcomes. Bird et al. (2017), Chaukos (2018), and Dyrbye (2017) found that burnout deepened after their non-mindfulness-based interventions (although other measures improved in some cases). Nevertheless, students reported that they appreciated discussing experiences openly with peers. A sense of sharing in a supportive community while validating concerns and difficulties was also seen as helpful. Qualitative comments indicated that some participants felt resilience training should be mandatory in medical schools, while others perceived such training as unnecessary or even counterproductive. Mindfulness interventions may be more effective than general resilience training in medical students, although this remains unproven.

Mixing populations within studies makes it difficult to decipher how medical students respond to mindfulness (de Vibe et al, 2013; Shapiro et al, 1998). Sekhar et al. (2021)

conducted an impartial Cochrane meta-analysis of the effects of mindfulness meditation interventions on medical students and junior doctors. The authors concluded that there were no clinically relevant outcomes following mindfulness interventions for medical students, particularly related to anxiety and depression. Forming this interpretation, the reviewers identified seven quality RCTs between 2010 and 2020 conducted on medical students and three conducted on Junior doctors. This indicates a paucity of quality studies in both populations, particularly compared to reviews of resilience interventions in qualified professionals. For example, a Cochrane review by Kunzler et al. (2020) identified 30 quality RCTs investigating the impact of mindfulness interventions in healthcare professionals. The low number of high-quality RCTs in the Sekhar et al. (2021) review is at least partly due to some RCTs being excluded because they did not focus exclusively on medical students and junior doctors. The successful Jain et al. (2007) and Shapiro et al. (1998) studies were excluded because they included other healthcare students. It is possible that the extent to which the Sekhar et al. (2021) results can be extrapolated to medical students may also be limited due to a lack of quality research focusing on them.

Furthermore, all seven RCTs involving medical students in the Sekhar et al. (2021) review were conducted in diverse cultural contexts. The studies took place in Brazil (Damião Neto et al., 2020), Canada (Danilewitz et al., 2016), the USA (Erogul et al., 2014; Yang et al., 2018), Asia (Phang et al., 2015; Paholpak et al., 2012), and the Netherlands (van Dijk et al., 2015). However, none were conducted in the UK. The authors further commented that there appear to be high risks of bias in the mindfulness literature on medical students.

Despite inconsistent results and methodological or conceptual differences, there is some indication that interventions may improve if medical students' unique needs are rigorously considered (Daya & Hearn, 2018; Sekhar et al., 2021). More carefully designed RCTs conducted on homogenous samples, using theoretically informed and bespoke

mindfulness interventions, are required. Before additional quality RCT evidence can be gathered, feasibility studies must be conducted to design and evaluate more effective interventions.

Abridged Interventions

Standard 8-week MBSR courses are time intensive with 2.5-hour group meetings per week and 45 min or more of daily home practice, plus an all-day retreat. Such courses are also expensive, typically costing between £250 and £350 per person in London, UK. Publicly funded medical schools in the UK, therefore, rarely have adequate resources or space in their curriculum. Shorter, abridged mindfulness courses lasting 4-5 weeks (Jain et al., 2007; Phang et al., 2015) may be more realistic for both institutions and participants.

Jain et al. (2007) found that both their 4-week mindfulness intervention and comparison relaxation course, decreased distress compared with an inactive control group. The similarities in results for both interventions in a sample of 79 medical and healthcare students suggest mindfulness and relaxation exercises provide similar short-term effects. However, the mindfulness intervention included loving-kindness meditations, which are not included in standard MBSR and, as such, are not directly conceptually comparable to the de Vibe et al. (2013) 7-week intervention and Shapiro et al. (1998) interventions. Furthermore, the relaxation group in the Jain et al. (2007) study appears to have involved practices that are experientially similar to the body scan in MBSR. Therefore, it is difficult to determine which components of the interventions were most influential. Additionally, without any follow-up, it is impossible to ascertain if there were different impacts in the long term, as mindfulness theory would suggest (K. Brown & Ryan, 2003).

A similar pattern regarding inconsistent methodological approaches and outcomes is present in a study of a longer mindfulness intervention evaluated by Barbosa et al. (2013). That study reported significant improvements in empathy and other domains in a mixed

population of healthcare students following a standard 8-week MBSR intervention. However, with a small sample of 13 students in the intervention group and 15 in a non-randomised control group, the results cannot be extrapolated. Furthermore, the improvements in empathy on the JSPE scale were not maintained at the 3-week follow-up.

Additionally, the utility medical students gain from standard 8-week MBSR courses may differ substantially from other populations. Medical students may not exactly fit the model upon which MBSR was founded because of the key differences between themselves and chronic pain patients or other lay populations. The differences are likely connected to the capacity and motivation for practising mindfulness as discussed above, and to the related situational constraints (Pereira & Barbosa, 2013).

Patients with debilitating symptoms may experience greater motivation to engage in self-directed home practice than most highly functioning medical students, particularly if they believe that meditation has some potential to reduce their suffering. The unrelentingly high pressure that medical students typically face (An et al., 2012; Cherkil et al., 2013; Leahy et al., 2010), including a full study load and competition with fellow students, may reduce their capacity to meditate in their own time (Pereira & Barbosa, 2013). Medical students face significant pressure from written and oral exams (Hill et al., 2018), reducing opportunities for recreation or socialising, which may seem more important to younger participants than mindful meditation. Understandably, home-based mindfulness can seem like a chore combined with other competing demands (Solhaug et al., 2016). Practising meditation regularly may also be challenging for people with unresolved trauma (Treleaven, 2018), and medical students may have higher levels of Adverse Childhood Events (ACEs) than other populations (King et al., 2017).

Closely related to the motivation and commitment required for spending significant time meditating daily, medical students may have a reduced capacity to meaningfully change

their external circumstances compared to lay practitioners. Once mindful awareness develops, it could be possible for lay MBSR participants to change dysfunctional aspects of their lives. This may be related to reducing stress. For example, someone who finds a long commute challenging could move closer to their work environment or change employment to be closer to home. However, medical students have less agency. They often travel long distances or live away from home during clinical education placements (McNaught & Rhoding, 2022) without a possibility to modify any of these circumstances. During their final year, medical students in the UK may switch placements every 5 or 6 weeks, never studying with the same people and living away from their existing support networks for most of the year. These students face relentless pressure, with little power to alter important aspects of their external environment if they wish to graduate (Erschens et al., 2019; Hill et al., 2018).

Because of the unique circumstances medical students encounter, mindfulness courses adapted to the specific needs of this population should ideally provide time for sessions during regular working hours (Micklitz et al., 2021) and as an optional course for credit towards graduation. Interventions should also be as efficient as possible, given the tendency for medical students to practise less in their own time than other populations (Erogul et al., 2014), the inherent externally imposed pressures they face (Hill et al., 2018), and the potential underlying vulnerability (King et al., 2017).

Empathy

Background

To understand the development of empathy training in medical schools, it is useful to briefly consider the context within which the field of clinical communication and empathy training evolved. Communication training is usually separate from mindfulness training and is required in the UK by the General Medical Council (GMC). Following a review of the

general context of empathy training in medical schools, literature on the effects of mindfulness on empathy will be reviewed.

During the final three decades of the 20th century, medical schools in the UK began introducing formal communication skills training to reduce medical errors on the recommendation of the GMC, and a similar pattern emerged in the USA (J. Brown, 2008). The GMC centrally monitors and certifies all UK medical schools and thus has the power to strip them of their licences if they do not meet the requirements. As such, the GMC has been an important driver of change. Significant shifts have been made over the past 30 years to move medical care from a largely paternalistic system to a more person-centred one, although this process is ongoing (Eklund et al., 2019). Nevertheless, individual medical schools have been permitted to determine their own clinical communication curricula (Brown, 2008), and the amount of communication (and empathy) teaching varies greatly between institutions (Von Fragstein et al., 2008).

Several disastrous system failures in various UK hospitals have increased the attention on education in communication and empathy. For example, the Bristol Heart Scandal involved 29 unnecessary paediatric deaths following heart surgery (Fox, 2001). Failures in communication (and empathic perspective-taking) were identified as important elements (Smith, 1998). The resulting communication reforms met some resistance, but the tide was changing. The fallout in the public and the destruction of trust from this scandal increased the imperative for more research and teaching in clinical and communication skills to build rapport with patients who were worried about similar things happening to them or their loved ones (Smith, 1998). Over time, communication skills, of which empathy is an important part, were deemed similarly important to technical skills, and proficiency in empathic communication became a requirement for graduation. The resolution of the Bristol

Heart Scandal also marked the end of an era in which doctors were largely left to self-regulate.

Due to the influence of Carl Rogers' (1959, 1962) person-centred approach to psychotherapy, research on empathy had already increased in the psychological field by the time communication and behavioural or mindfulness interventions in medicine emerged. This change, along with additional medical scandals and various political events, eventually influenced medical education (J. Brown, 2008). Training for doctors became less about apprenticeship and more about practising and developing skills in the classroom and at the bedside under clinical supervision. When the Bristol Heart Scandal was discovered in 1995 (Pawade, 2003), ideal standards of empathy were not necessarily met, and educational approaches, such as developing communication skills and empathy in role-plays with actors, were beginning (Richards, 1990). Medical culture took time to integrate person-centred care and empathy into the necessary requisites of professional skills and the associated practical assessments. This is still an ongoing process (Wong et al., 2020). The case of Harold Shipman in 2000 (Wikipedia, 2022) and the hundreds of murders he committed and covered up cemented further attention to regulation reforms and communication training to prevent similar disasters. Another aim of increasing communication training was to enable doctors to regain the public's trust, which had been understandably shaken.

Empathy is now widely considered an essential communication skill, both in relation to improving patient outcomes and as a protective element for those who display it. The benefits of an empathic approach are vast, including increased trust from patients (Derksen et al., 2013) and greater cooperation between colleagues, resulting in fewer errors (C. P. West et al., 2006). Increased concordance with medical recommendations has been observed in patients treated by empathic doctors (Vermeire et al., 2001), which may also improve patient outcomes (Hojat et al., 2011). This, in turn, could improve job satisfaction, particularly when

included within a compassionate approach for organisations wishing to protect and retain staff (Cedfeldt et al., 2010). Conversely, reduced empathy is correlated with problematic interpersonal approaches such as aggressive behaviours such as bullying and sexual offending (Ang & Goh, 2010; Jolliffe & Farrington, 2011; Salmon, 2003).

Furthermore, for those who practise it, empathy may act as a protection against stress in a reflexive manner. For example, higher self-reported levels of emotional concern (as measured by the Interpersonal Reactivity Index (IRI; Davis, 1980) have been correlated with lower levels of burnout in one study of medical students (von Harscher et al., 2018). However, there is a lack of consensus on this, and some scholars have found an inverse relationship between burnout and empathy in healthcare professionals (Wilkinson et al., 2017).

Despite decades of research and educational development, medical students' self-reported empathy levels on validated questionnaires do not appear to improve with typical medical school education, even when communication skills training is provided (Quince, Kinnersley et al., 2016). Empathy levels have even decreased in the USA during medical school training (D. Chen et al., 2012), where communication sessions are not always included in the curriculum until residency. Everson et al. (2018) also failed to identify any studies in their review that increased empathic concern (Davis, 1980) following standard empathy training that does not incorporate mindfulness. The data from large-scale studies (Quince, Kinnersley, et al., 2016; Quince, Thiemann, et al., 2016), including medical schools with different communication skill training approaches, may hide pockets of excellent communication skill practice and must be interpreted cautiously. However, mindfulness-based interventions could be more effective than those based solely on role-plays (Winter et al., 2020).

In the following sections, empathy will be defined, the validated measures used to quantify improvements in empathy will be highlighted, and the literature on the potential relationship between mindfulness and empathy will be reviewed.

What is Empathy?

Two different aspects of the empathic experience, affective and cognitive empathy, have informed research for decades (Winter et al., 2020). Affective empathy is also known as *feeling empathy* (Cox et al., 2012; Davis, 1980; van Berkhout & Malouff, 2015). This involves times when one connects with and knows or understands the emotions of another. This can occur more readily, perhaps, when someone has experienced something similar to another. It may also be more possible for those who engage in trauma work (British Psychological Society, 2020) or who are seeking to practise non-dualistic views acknowledging that humans have more in common than what separates them (Shireen et al., 2022). Affective empathy is often communicated through nonverbal signals and may involve experiencing coinciding (albeit less intense) emotional responses as the other.

Affective empathy is distinct from emotional contagion (see definition section), over-identification (Arik et al., 2012; Broughton, 2021), and sympathy (Bennett, 2017; Mathiasen, 2006; Nightingale et al., 1991). A practitioner who engages in affective empathy experiences a sense of emotions like the other yet can discern that the feeling primarily resides in the other person and not themselves. Such a distinction is not present during emotional contagion, where a person may find it takes a long time to recover from an emotional encounter with someone else due to carrying the feelings as if they were their own (Herrando & Constantinides, 2021). In affective empathy, the emotions of the other are sensed as the other person experiences them, which reduces judgements and can lead to more effective care and better clinical outcomes (Mercer & Reynolds, 2002; Stepien & Baernstein, 2006).

A sympathetic response may conversely be considered conditional upon a person being perceived as innocent or worthy (Bennett, 2017). Ickes (2003), a psychologist who studied empathy through observational and experimental means, defined sympathy as: "emotional participation; apprehending the other's feelings and participating in them, as when one friend rejoices in another's good fortune or is saddened by another's loss (Ickes, 2003, p. 63)." As such, sympathy is likely to be inequitable in a professional capacity and may also confer pity, which could be less helpful than understanding. Yet, in the literature, emotional contagion, sympathy, and affective empathy are not always clearly delineated (Nummenmaa et al., 2008). It can clearly be difficult to interpret research findings using murky conceptual bases and unclear definitions (Yamada & Victor, 2012).

Cognitive empathy (Cox et al., 2012; Davis, 1980) is known as *thinking empathy* or perspective-taking and may require a conscious process of deliberately considering the situation of another from their point of view instead of judging it from one's own standpoint. This enables consideration and verbal reflection about how the person appears to feel or what they seem to be experiencing. This is possible even when the other's experience is far removed from one's own and can occur without liking or approving of a person's behaviour. Cognitive empathy is often less spontaneous and less emotive, perhaps requiring considerable thought and practice, as it may not be a regular occurrence in everyday social interactions (Ickes, 2003). Both cognitive and affective aspects of empathy may coexist and strengthen one another. Ickes' (2003) definition of empathy incorporates both affective and cognitive elements. He saw empathy as "emotional intuition; apprehending or intuiting the other person's feelings by imaginatively adopting the other's perspective (Ickes, 2003, p. 63)."

Clinical empathy is particularly relevant in the healthcare context within which medical students learn. This includes elements of cognitive and affective empathy combined with a sense of communication and subsequent action (empathic behaviour). Mercer and

Reynolds have defined clinical empathy (2002) as an ability to a) "understand the patient's situation, perspective, and feelings (and their attached meanings); b) to communicate that understanding and check its accuracy; and c) to act on that understanding with the patient in a helpful (therapeutic) way (Mercer & Reynolds, p. S11)."

Measuring Empathy

There are some conceptual inconsistencies in the quantitative measurement of medical students' empathy. Researchers who developed the validated Jefferson Scale of Physician Empathy (JSPE) and the version adapted for students (JSPE-S) focussed on cognitive empathy. The authors used their own definition, which differs significantly from the above. In the development of their widely used scale, Hojat et al. (2001) asked American physicians to cross out or edit relevant items on their scale, based on empathy being "an uncritical understanding of the patient's experiences, emotions and feelings" as opposed to sympathy, which was defined as "feeling with the patient, or feeling similar emotions that the patient feels (Hojat et al., 2001, p. 355)." Hojat's (2001) definition of sympathy, particularly 'feeling similar emotions that the patient feels (p. 355)', could be problematic because it is remarkably similar to the definition of affective empathy stated above and does not specify important distinctive elements of sympathy such as subjective approval. Furthermore, at face value, the final JSPE scale appears to measure a propensity towards positive attitudes about empathy instead of a tendency to experience or communicate it (Hojat et al., 2001). (See Appendix D for a brief face validity analysis of the JSPE-S).

The IRI (Davis, 1980) acknowledges both affective and cognitive empathy as well as over-identification and a fantasy element. The IRI is a statistically validated scale that focuses on four different elements of empathy: perspective-taking (cognitive empathy), emotional concern (affective empathy), personal distress (over-identification and emotional contagion), and fantasy identification (indicating a propensity to empathise or identify with characters in

movies or books). Improvements over time on the IRI have been correlated with the JSPE (Hojat et al., 2005), although the study presenting those results was conducted by the author who designed the JSPE. Much of the literature on empathy in medical students has focussed on the JSPE (Fields et al., 2011), and it may be useful to consider using the emotional concern and perspective-taking components of the IRI in medical education.

Evans et al. (1993) considered the effectiveness of their communication skills training on empathy using the IRI and two observational rubrics, the Accurate Empathy Scale (AES) and the History-taking Rating Scale (HRS). Their intervention involved didactic teaching and group practice (but not mindfulness). No improvement was seen on the AES or IRI, whereas the HRS alone indicated significant improvements. The AES although based on psychotherapeutic approaches, is a specific and objective rating of empathy, which has also been validated. It relies upon nine stages of empathic communication and is scored by a trained observer who agrees or disagrees with items indicating greater or lesser developments in empathic understanding. One example of the statements includes: the professional 'accurately responds to all of the client's more readily discernible feelings.' The HRS, on the other hand, relies upon more *subjective* judgements from the observer, such as 'the student expressed understanding of what the patient is feeling and communicating.' Given that in the Evans et al. (1993) study, only the more subjective HRS scale indicated improvement following communication training, rater bias or limitations to observer accuracy may have been present. A lack of improvements following communication skills intervention in medical training is mimicked in other literature (Quince, Kinnersley et al., 2016). Furthermore, a review by Everson et al. (2018) failed to identify any studies that showed an increase in healthcare students' empathic concern (on the IRI) after taking part in a standard empathy education programme (without mindfulness).

In sum, while the JSPE has been widely used in studies investigating empathy in medical contexts (Hojat & LaNoue, 2014), both with students and other health professionals, it may not adequately cover the affective aspects of empathy, which are as conceptually important as the cognitive elements (Cox et al., 2012). Although the IRI is more specific in terms of covering four different potentially useful components of empathy and has been correlated with specific observational measures (Evans et al., 1993), it is not specific to medicine. For the quantitative studies in this thesis, it may be useful to employ both scales because opportunities are not available to observe the students behaving or communicating in an empathic fashion.

What is the Relationship Between Empathy, Stress, and Mindfulness?

One of the justifications for introducing mindfulness in medicine has been that not only will stress levels improve, but empathy should also improve in line with it (Barbosa et al., 2013; A. Chen et al., 2016; Dyrbye et al., 2006; Lee et al., 2001). The relationship between mindfulness, stress, and empathy in medicine has widely been conceived as a direct, sequential, and linear one. Many researchers believe mindfulness unlocks the capacity for natural empathy because high-stress levels suppress or block empathy, which would otherwise arise naturally in students who have been selected for this quality (A. Chen et al., 2016). However, there may be some important limitations to this conceptualisation.

Five studies on mindfulness could be located that included medical students (Barbosa et al., 2013; Bond et al., 2013; A. Chen et al., 2016; Danilewitz et al., 2016; Shapiro et al., 1998). Of these five, only two studies showed any improvement in empathy following standard 8-week MBSR interventions (Barbosa et al., 2013; Shapiro et al., 1998), and these studies were conducted on mixed populations of healthcare students rather than solely medical students. Four of these studies used the potentially problematic JSPE (Barbosa et al., 2013; de Vibe, 2014). Notably, the two studies improving empathy following MBSR

indicated that participants engaged with unspecified informal mindful communication (Barbosa et al., 2013) and 'experiential mindful listening exercises' (Shapiro et al., 1998). Therefore, it may be that intrapersonal mindfulness was not solely responsible for these increases in empathy, and interpersonal experiences could account for greater impact than routinely recognised.

Few studies have shown correlations between intrapersonal mindfulness, empathy, and stress in medical students (A. Chen et al., 2016; Pereira & Barbosa, 2013), and even in those cases, no clear causal mechanisms are indicated. Methodological and conceptual problems are also evident in some studies while other studies disconfirm any link. Firstly, Chen et al. (2016) found that empathy decreased when stress increased, despite participation in their 11-week mind-body medicine course. The course ended immediately before exams, which may partially explain the spike in stress. It also could be that intrapersonal practice alone is simply not effective as a protection against the high pressures medical students report worldwide (Pereira & Barbosa, 2013), particularly if they do not practise enough in their own time (de Vibe et al., 2013). Furthermore, the Chen et al. (2016) intervention introduced mindfulness only briefly alongside other relaxation and visualisation exercises, including didactic teaching about the mind-body connection. This means that it is quite far removed from experiential, practice-based MBSR objectives (Crane et al., 2017). Chen et al. (2016) nevertheless claim that worsening stress levels correlating with decreasing empathy levels are evidence of a relationship between empathy and stress without accounting for other potential confounding factors. While other studies have indicated positive correlations between mindfulness, stress, and empathy (Shapiro et al., 1998), none of these results indicate a reduction in stress is the main cause of an increase in empathy.

Of the 19 RCTs and matched control group comparison studies included in a meta-analysis of mindfulness interventions in medical students (McConville et al., 2017), only one

study measured empathy using a validated questionnaire (Shapiro et al., 1998). Shapiro et al. (1998) recorded improvements in empathy and psychological distress, spirituality, depression, and anxiety (Shapiro, 1998) following the standard MBSR. However, as mentioned above, the intervention in this study included not only intrapersonal mindfulness (MBSR) but also an unspecified form of 'experiential exercises designed to cultivate mindful listening skills and empathy' (p. 586). Notably, the results from that study have not been successfully duplicated. The mindful listening exercises may be a form of interpersonal mindfulness or could be more similar to the exercises currently included in standard MBSR courses (Santorelli et al., 2017). There is no specific information reported about the conceptual or theoretical design of interpersonal elements in this case. In addition, Shapiro et al. (1998) did not use the JSPE or IRI to measure empathy and used the Empathy Construct Rating Scale (ECRS) instead. This measure consists of 100 items. To replicate the use of this scale would be too time-consuming for busy medical student participants.

Another study in the McConville (2017, p. 41) meta-analysis, which the authors classified as measuring empathy in that publication, was a non-RCT comparison between a group of psychology students who practised mindfulness for ten minutes 2x per week at the start of class and a group that did not practise any mindfulness (Yamada & Victor, 2012). In this study, students reported improving their listening skills and having a better attitude towards others. Those participants also increased their scores on two mindfulness scales (FMI and MAAS). However, they did not complete any validated empathy questionnaire, only an unvalidated set of questions devised by the authors. As such, it is difficult to compare with other studies.

These methodological inconsistencies indicate the considerable differences between studies investigating the relationship between mindfulness and empathy in medical students. Furthermore, recent reviews exclude empathy in the outcomes reported (Daya & Hearn,

2018; Sekhar et al., 2021). There is clearly some cause for concern that scholars may be over-emphasising the claim that mindfulness improves empathy in medical students based on positive results from a negligible number of unreproducible studies (Shapiro et al., 1998) or research conducted in other populations (Barbosa et al., 2013; Beckman et al., 2012; Krasner et al., 2009). Crucially this claim does not reflect reality in that not all mindfulness studies investigating the development of empathy in medical students report improvements.

The MBSR de Vibe et al. (2013) RCT for medical and psychology students also measured empathy. However, empathy results were only reported in the corresponding PhD thesis (de Vibe, 2014). The MBSR-based intervention in that study included 'mindful communication' exercises similar to those reported by Barbosa et al. (2013) and Shapiro et al. (1998). Unlike those studies, de Vibe (2014) did *not* find improvements in empathy (as measured by the JSPE). Furthermore, the de Vibe et al. (2013) study, despite a large sample and an intervention consisting of seven weekly 1.5 hour meetings plus a six hour retreat, resulted in only mild improvements in mental distress and subjective wellbeing. These results were significant only for women and not for men. As previously highlighted, the authors offer a possible explanation: the students in the de Vibe (2013) intervention group reported undertaking very low levels of formal practice outside of the sessions. The average time spent meditating was only 1.5 times per week, lasting 13 min per session for an average of 19.5 min per week. This is low compared with the standard MBSR suggestion of practising daily for 45 min to 1.5 hr, or between 270 and 540 min per week.

Given the review of the above evidence, the effect of intrapersonal mindfulness on empathy in medical students is under-researched, and there are considerable methodological inconsistencies among the studies that do examine it. Based on existing evidence, it would be inaccurate to claim that intrapersonal mindfulness consistently increases empathy in medical students.

Interpersonal Mindfulness

Mindful communication may accompany multiple different perspectives and is a general term that includes a fluid and active process involving non-judgementally acknowledging and sensitively considering multiple points of view and emotions (Langer, 1989 as cited by Burgoon et al., 2000). The most recent revision of the standard 8-week MBSR course (Santorelli et al., 2017) includes mindful listening and speaking, which may begin to encourage general interpersonal mindful awareness. However, communication improvements from MBSR may rely heavily upon developing a deep and enduring personal meditative practice, which, as discussed previously, medical students tend to struggle with (de Vibe et al., 2013; Phang et al., 2015). A more specific and theoretically developed means of describing and practising mindful communication may be more effective.

Interpersonal Mindfulness (IM) (Bartels-Velthuis et al., 2020), or relational mindfulness (Bentley et al., 2018), is a method of improving mindful communication while deliberately practising authentic, present moment and compassionate personal insight. IM has been investigated from two different cohesive theoretical standpoints: Insight Dialogue (ID) based on Buddhist principles (Kramer, 2007) and Functional Analytic Psychotherapy (FAP) incorporating behaviour-oriented therapeutic methods of relating (Tsai et al., 2012). Many aims of MBSR and IM from both perspectives seem to overlap, although there are some notable differences.

Pratscher et al. (2018) took the FAP perspective and defined IM as involving awareness of self and others, accompanied by the qualities of a non-judgemental and nonreactive presence. Although this sounds appealing, focusing overly on external behaviour, masking or pretending may occur, which could increase cognitive load or stress. The non-reactive element of the Pratscher et al. (2018) approach does not include guidelines for meeting, experiencing, allowing and soothing whatever arises internally. On the other hand,

inner experience is explicitly included in the theoretically informed guidelines in Kramer's (2007) approach.

Kramer (2007) first created an 8-week Insight Dialogue (ID) course. The ID course is rooted in Buddhist philosophy and formed the basis of a subsequent secular Interpersonal Mindfulness Programme (Bartels-Velthuis et al., 2020). This was the result of a collaboration between the University of Massachusetts, where MBSR was founded, and the Metta Programme governing ID (Kramer et al., 2008). The course was designed for non-Buddhist populations, focusing on skills and experiences rather than spiritual elements. IM aimed to translate *intra*personal meditation and mindfulness techniques for the *inter*personal sphere as a means of deepening the quality of authentic, mindful presence while communicating. Only one empirical study about IM is available in the published literature (Bartels-Velthuis et al., 2020). However, there is a rich theoretical underpinning, and the programme shows potential for improving empathy beyond intrapersonal methods.

> [Kramer's (2007) IM] expands on the work started in MBSR by deepening insight into what heals and what harms through guided interpersonal mindfulness practice in pairs, small groups or during plenary exchange. It presents a methodical way supported by clear guidelines and contemplations, directly cultivating mindful presence, empathy, and compassion in the interpersonal domain. As empathy fatigue depends on interpersonal experience and skills, the IM [programme] might lead to improvement beyond conventional Mindfulness-Based Programmes (MBPs) (Bartels-Velthuis et al., 2020, p. 2630).

What are the Effects of Kramer's (2007) IM?

Peer-reviewed literature available on ID-based IM courses is scarce, and no studies with medical students based on the ID guidelines by Kramer (2007) have been found. However, Bartels-Velthuis et al. (2020) conducted a pilot RCT of a 9-week, 2.5 hour per-

week IM course for healthcare professionals. The intensive intervention improved empathy, as measured by the Empathy Quotient (EQ; Lawrence et al., 2004), and self-compassion, as measured by the Self-Compassion Scale (SCS; Neff, 2003b), but not mindfulness, as measured by the 39-item version of the Five Facets of Mindfulness Questionnaire (FFMQ; Baer et al., 2008). Two subscales of the FFMQ, including non-reactivity to inner experience and isolation, however, indicated significant improvements. Stress levels, as measured by the Perceived Stress Scale (PSS; S. Cohen et al., 1983), also did not improve compared to a control group.

The conceptual and theoretical framework is clear in the Bartels-Velthuis et al. (2020) study. It shows promise in terms of setting out Kramer's (2007) guidelines for effective IM, building up a deep interpersonal practice, one gentle step at a time (see Chapter 3 for more details). Critiquing this study from a methodological standpoint, five participants reported mild adverse reactions, which are not listed. The authors also did not provide information about what the control group entailed (waitlist or active). Furthermore, the sample was small (n = 47), and most of the participants were female (82%). Most participants also worked in mental health rather than medicine, making comparisons to medical students, who likely know less about psychology, problematic.

Bartels-Velthuis et al. (2020) argue that perhaps limited wellbeing-related benefits from their IM intervention are a result of a ceiling effect from several participants who were long-term meditators and had all previously practised either MBSR or MBCT over 8 weeks. Considering this claim, it is useful to compare this to other research specifying the impact of meditation time on mindful awareness. The participants in a study by Baer et al. (2008) who reported meditating at least once or twice a week reached a slightly higher level of self-reported mindfulness (FFMQ = 150.02; n = 213) than the participants in the IMP group in the Bartels-Velthuis et al. (2020) study (FFMQ = 142; n = 25). Bartels-Velthuis et al. (2020) did

not report details related to home practice, session engagement, nor how these variables interacted with the results. However, they stated that the amount of time spent meditating at home was not correlated with the differences in their chosen measures.

An alternative explanation for the limited improvements may be due to a substantial portion of the sample having previously participated in the original ID programme. ID relies upon the same skills as IM with Buddhist spiritual elements included, which may be preferable to some participants. Therefore, Bartels-Velthuis et al. (2020) participants may have reacted differently to IM than newcomers would, regardless of the extent of their personal meditation experience. Improvements in empathy, despite no improvements in stress found in that study, are also unusual. This casts further doubt on previous reports that reductions in stress are the main mechanisms that increase empathy (J. Chen et al., 2015). It would be useful to carefully consider the effect of home meditation practice on all results following IM in future research and more consistently in the mindfulness literature in general.

What are the Effects of Other IM Approaches?

In designing a relevant IM-based course and the associated evaluation of its impact on medical students, useful information may be gathered from the few studies conducted using unspecified IM approaches (J. Cohen & Miller, 2009) or based upon Functional Analytic Psychotherapy (FAP) (Tsai et al., 2012). FAP appears structurally different from the IM approach designed by Kramer (2007), although the goals appear to be similar. The effects of unspecified approaches to IM will be considered first of all.

Cohen and Miller (2009) provided six weeks of Interpersonal Mindfulness Training (IMT) for 28 graduate psychology students without specifying a particular theoretical underpinning. There was no control or comparison group and the practices differed slightly from MBSR and IM. The course included journaling on contemplation topics such as ‘my relationship with distraction, integrating mindfulness into my life’ and ‘body awareness’. The

body scan was not used, and a physically interpersonal mindful mirror exercise was introduced. This involved one participant silently moving another participant around the room using hand gestures or light touch, hand to hand. They also included other interpersonal awareness exercises, such as 'man in the middle', which involves each participant trying to listen for 30 seconds while two people talk on either side. The authors also report guiding participants to gradually build a tolerance for longer seated meditations throughout the intervention.

The mean scores on several self-report measures improved for Cohen and Miller's (2009) 21-person final sample. Significant improvements were observed for intrapersonal variables, including mindful awareness as measured by the Mindful Attention Awareness Scale (MAAS; K. Brown & Ryan, 2003) and emotional intelligence as measured by the Self-Report of Emotional Intelligence (SREIT; Schutte et al., 1998 as cited by J. Cohen & Miller, 2009). Mental wellbeing also improved while decreasing perceived stress (PSS; S. Cohen et al., 1983). Even interpersonal variables, such as social connectedness, as measured by the Social Connectedness Scale-Revised (SCS-R; Lee et al., 2001), improved. However, there were several limitations to this study. First, the intervention was not compared with any other standard intervention or a wait-list control group. The intervention was also not described in sufficient detail to replicate it, and empathy and self-compassion were not measured. The participants were psychology students who received course credit for completing the intervention. In addition to experiencing the Hawthorne or other anticipatory effects, (McCambridge et al., 2014) they may have been studying other aspects of psychological awareness and connection within a community of practice, leading to greater improvements in mental health. Medical students are not necessarily discussing mental health in such a focused or in-depth manner within their course. Medical students also study more independently, given the reliance upon education in small groups or pairs on clinical

placements and diminishing lectures and group work towards the end of their programme. The differences between the contexts affecting these populations make direct comparisons problematic.

Scholars have investigated the immediate effects of a one-time interpersonal mindfulness intervention following the FAP (Tsai et al., 2012) tradition. Bowen et al. (2012) and Kohlenberg et al. (2015) both conducted experimental RCTs comparing the immediate effects of an hour-long interpersonal FAP intervention with intrapersonal mindful meditation (MM) and a control group. The pilot experiment (Bowen et al., 2012) resulted in no significant immediate effects of brief FAP or MM interventions on mindful awareness, intimacy, and social connectedness. However, the authors noted a significant reduction in experiential avoidance in the interpersonal group compared with the control group. Kohlenberg et al. (2015) conducted an RCT of brief FAP and MM interventions in a larger study of 114 undergraduate students. Mindful awareness (measured by the MAAS) improved for all three groups, including the control group, which involved watching a 50-minute nature video. The only significant difference found between the control group and the FAP group was related to social connectedness, which was significantly higher following the FAP intervention than the intrapersonal meditation and control groups. However, more than 50% of respondents dropped out of the follow-up, indicating that there may have been unknown factors influencing the results.

Kok and Singer (2017) conducted a large-scale RCT to investigate a 9-month IM intervention in a population of lay adults based on unspecified theoretical origins. The participants were carefully screened to ensure that no one had previously practised mindfulness or received treatment for any mental or physical conditions within the previous two years. The intervention involved three months of intrapersonal mindfulness training, followed by three months of affective training and separate perspective-taking training.

Affective training, as described in the study, shared components with the contemplations used for beginning IM practice. Both approaches encourage embodied awareness while in the presence of another person. The participants in the Kok and Springer (2017) study took turns in dyads, meditating aloud about their bodily experience while the other person listened supportively online. In addition to describing feelings and body sensations as in IM, those participants were instructed to focus on experiences related to gratitude. That is an area where those practices and IM differ. Following Kramer's (2007) IM guidelines, experiences with gratitude or loving-kindness may arise naturally through providing essential space for personal differences, authenticity, and autonomy.

Kok and Springer's (2017) perspective-taking intervention involved members of the dyad taking turns to describe experiences and perspectives from different inner parts of the self, such as the 'judging mother', which may be an adapted form of Dialogical Self Therapy (Hermans, 2008). This intervention thus also departs from pure mindfulness theory and differs from IM based on ID (Kramer, 2007). Nevertheless, the Kok and Springer (2017) interventions significantly improved social connectedness. However, empathy, stress, and mindfulness were not reported. The mixture of conceptual frameworks makes it difficult to compare such interventions with other IM interventions. Furthermore, as discussed previously, lay samples face different challenges than medical students, limiting the generalisability of those results for this population.

Given that there are very few studies conducted on IM, and no studies could be identified in medical students, there appears to be a gap in the literature. The positive results from exploring the effects of IM on empathy in healthcare workers (Bertels-Verthuis et al., 2020) indicate that IM may be more theoretically and educationally suited to improving empathy and mindfulness than intrapersonal mindfulness approaches alone. Theoretical explanations (Kramer et al., 2008) also support the idea that IM may strengthen intrapersonal

and interpersonal awareness, which may be important for empathic understanding. It may be that a combination of intrapersonal and interpersonal mindfulness practises would be useful for busy medical students facing immense pressures and that the introduction of this approach. Designing a bespoke shortened course that fits the independent study component period within a hectic programme could also begin to address the inconsistent effects of existing mindfulness interventions (Sekhar et al., 2021).

Mindfulness, Social Psychological Variables, and Empathy

It is well known in the social health psychology literature that a lack of social support predisposes individuals to greater levels of stress along with psychological or physical problems (Uchino, 2006). Social support (or lack thereof) appears to influence the manner in which individuals are buffered against (or vulnerable to) stressors (Neumann et al., 2012; Park et al., 2015). Empathising whilst experiencing such anxiety or stress due to a constellation of factors, is considered difficult (A. Chen et al., 2016), perhaps partly because the stress response tends to narrow the attentional field (Skosnik et al., 2000) and inhibits the function of the mirror neurons required to perceive subtleties and understand others (Neumann et al., 2009). However, empathy has also been positively correlated with social support in the wider social-psychological literature (Steffen & Masters, 2005). A lack of empathy may be associated with greater stress and decreased social support.

Empathic communication approaches are theorised to not only be affected by mindfulness but also affect mindfulness levels reflexively (Burgoon et al., 2000). Over time, perhaps an empathic, present-centred communication approach could continue to increase or improve mindfulness levels. Positive social connections may be experienced as a present-moment-orienting reward when they occur. However, research has not previously focused on empathy or the quality of social connections improving mindfulness levels. Furthermore, due

to a lack of changes seen in social connectedness after a short mindfulness course (J. Cohen & Miller, 2009; Neff & Germer, 2013), it is difficult to draw firm conclusions.

An RCT by Lengacher et al. (2009) compared MBSR with treatment as normal for breast cancer survivors. Among other measures, they collected information on social support. However, there was not a significantly different change in social support following the intervention. Empathy and social connectedness were not measured. Baseline social support levels were not reported, nor were there any correlations with practice levels. That paper also did not indicate whether social support affected mindfulness levels. Perhaps the literature on social connectedness will offer a theoretical basis for any connection between these variables.

Kohut (1984, as cited by Lee et al., 2001) described a need for belonging, as a central human need to prevent the pain of isolation or loneliness. Lee (2001) argues that the level of balance between this need and other key psychological needs is formed throughout childhood as part of the relationship with primary caregivers. The degree of harmonious belonging with initial caregivers appears to make a difference in terms of whether an individual develops a healthy sense of interconnectedness or whether an inability to connect perpetuates dysfunctional interpersonal behaviours and distress (Lee et al., 2001). This echoes Rogers' person-centred theories related to the harm caused by parental conditional regard (Rogers, 1962).

A universal need for belonging has been identified and broken down into three main components by Lee and Robbins (1995). These include companionship, affiliation, and connectedness. A sense of alarmed aloneness (Peyton, 2017) is thought to develop within people who perceive themselves as not belonging. The related suffering may cause self-occupation, which interferes with understanding others. The concept of how a sense of belonging develops or a longing for this becomes dysfunctional is partially based on attachment theory (Holmes, 2014). Attachment theory posits that without positive, nurturing,

safe and predictable early parental connections, a sense of secure belonging cannot be fully formed. This rupture is thought to undermine interpersonal skill development, including empathy, and renders individuals sensitive, reactive, and limited in social situations (Lee & Robbins, 1995). Social connection is theoretically distinct but is also related to perceived social support and loneliness (Lee et al., 2001). Social connectedness has also been found to correlate with self-esteem and dysfunctional interpersonal behaviours (Lee et al., 2001). Thus, it may be that social connectedness could mediate the relationship between mindfulness and empathy.

At least one study on *intra*personal mindfulness based on mindful self-compassion resulted in no change in social connectedness following an 8-week course in the general population (Neff & Germer, 2013). A study following a 6-week course that included some basic interpersonal mindfulness exercises also did not show a change in social connectedness (J. Cohen & Miller, 2009). Bowen et al. (2012) conducted a short-term experiment to compare interpersonal mindfulness with intrapersonal mindfulness. As before, no effect on social connectedness was found in that study either. However, correlations between social connectedness, empathy, and mindfulness have not been investigated, and it may be that social connectedness is a relatively stable trait.

Even basic demographic variables such as Nationality and Socioeconomic status have rarely been reported in mindfulness research (García-Campayo et al., 2015; Ludwig & Kabat-Zinn, 2008). However, these individual differences and characteristics could alter how mindfulness is perceived or practised, resulting in different effects on empathy. Some studies claim to 'control for' socio-economic status (Galla et al., 2012), but these social variables do not appear to be widely researched. The founding father of MBSR, Jon Kabat-Zinn, recommended further research on social factors (Ludwig & Kabat-Zinn, 2008). Nevertheless,

little has changed. More work to understand the social factors mediating any relationship between mindfulness and empathy is required.

Summary

Mindfulness interventions have demonstrated some promising effects in medical students, but there is not enough quality RCT evidence supporting a consistently beneficial effect on mental health (Sekhar et al., 2021). Potential reasons for this include a lack of adequate home practice (de Vibe et al., 2013; Erogul et al., 2014; Phang et al., 2015), which may render the gold standard 8-week MBSR courses less effective in medical students than in other populations (Schell et al., 2019). Numerous methodological and conceptual shortcomings in the existing literature indicate that the available evidence has a high risk of bias. More research is required from a critical realist epistemological approach, using both quantitative and qualitative methods to begin to address these limitations (Sekhar et al., 2021).

Although scholars claim that empathy improves following mindfulness interventions (Daya & Hearn, 2018), this is often not the case (Bond et al., 2013; A. Chen et al., 2016; Everson et al., 2018; de Vibe, 2014). Empathy is rarely investigated in studies of short courses, which may be more appropriate for medical students (Jain et al., 2007; Phang et al., 2015) due to the breadth and depth of pressures they face (Pereira & Barbosa, 2013). Additionally, interpersonal practices have not been evaluated separately from the effects of intrapersonal practices in studies that demonstrated positive changes in empathy or correlated to improvements in stress or wellbeing (Bartels-Velthuis et al., 2020; Shapiro et al., 1998).

In conclusion, further research is required to consider the effects of specific conceptual approaches to mindfulness and to separately evaluate and compare the effects of intrapersonal practises (MBSR) to interpersonal exercises (IM). Pilot studies are required to develop and investigate novel interventions of a realistic length before quality RCTs can be

designed. The studies that follow will begin to investigate the effects of intra- and interpersonal mindfulness practice. IM may be of value as a means of improving the efficacy of shortened MBSR-based interventions. The three studies in this thesis are the first known specific investigations of IM in medical students. Improving mindfulness and empathy more consistently or efficiently via IM could prove beneficial for enhancing present-moment awareness and fostering support for oneself and others.

Chapter 3: Conceptual Framework

The central aim of this thesis centres on comparing and exploring the effects of overlapping intrapersonal and interpersonal modes of developing mindful awareness in 5-week interventions designed for use with medical students. The main reason for exploring the influence of mindful awareness from both approaches is to improve the possibility for student practitioners to be present and aware in each moment while authentically understanding themselves and empathising with others.

In this thesis, intrapersonal mindfulness is primarily approached through the tradition of Mindfulness-Based Stress Reduction (MBSR). However, a 'walking down the street' exercise from Mindfulness-Based Cognitive Therapy (MBCT) will also be included. The inclusion of this element is for potentially deepening the utility of the shorter 5-week period given limitations following previous adapted MBSR interventions (Jain et al., 2007; de Vibe et al., 2013). Kramer's (2007) model will be used for the secular Interpersonal Mindfulness (IM) elements of the present course. Each of these concepts and elements which inform the design of the mindfulness interventions in this thesis are defined and described below.

What is the MBSR Approach?

In MBSR, both in terms of the standard 8-week course (Santorelli et al., 2017) and adapted or abridged courses (Danilewitz et al., 2016; de Vibe et al., 2013; Jain et al., 2007), a facilitator will lead formal meditation practices live in the session. These are punctuated by engaging exercises designed to increase awareness, building up both formal and informal mindfulness skills over time. Embodying the principles of mindful awareness, instructors practice meditation and informal mindfulness regularly themselves and adhere to UK Good Practice Guidelines (BAMBA, 2016), which are similar to the US guidelines practised Internationally (*Good Practice Guidelines for Teaching MBSR*, 2020). The result is that teachers facilitate participants to experience for themselves what is happening while they

become more mindful. Teachers guide learners to expand present-moment awareness through group discussions involving mindful inquiry after the meditations, which allows participants to build self-compassion and reduce judgments (Segal et al., 2013, p. 250).

Participants in both standard and abridged courses are provided with audio recordings of guided meditations similar to those introduced in the sessions, for use at home. Mindfulness teachers encourage and support participants to incorporate daily practice into their routines and to engage with this on a long-term basis beyond the duration of the course. Traditional MBSR models encourage daily home practice consisting of 45 minutes of body scan, 30 minutes of mindful movement, or, by the end of the course, 30 minutes of mindful sitting meditation, which, together with informal mindfulness practices, amounts to approximately 315 minutes of practice per week (Erogul et al., 2014). Unfortunately, perhaps due to the stringent demands of their degrees (Pereira & Barbosa, 2013), medical students rarely meet the recommended threshold in studies which attempt to measure home practice (de Vibe et al., 2013; Erogul et al., 2014; Phang et al., 2015). As such, for the present study, the recorded practices recommended for the present participants were shorter in length, although a regular (daily) practice was gently encouraged.

During formal facilitated mindfulness meditations in class, the teacher guides participants through mindful meditations and activities as well as providing opportunities to discuss the experiences together in pairs or on a plenary basis as a means of developing a sense of acceptance and non-judgemental self-compassion towards one's own meditative challenges. Beginning with the body scan in the first week, the first meditation focuses on corporal sensations, which is a new experience for many participants. Feeling the toes, the inner and outer parts of the legs and all the way through the body in a stepwise fashion is not something that many people in Western culture are accustomed to. This can be deeply relaxing, at times, but can also be somewhat enervating or challenging, particularly for

beginners (Segal et al., 2002) and can even be distressing, especially for those with high levels of pain or trauma (Lindahl, 2017). As such, students are encouraged to adapt these practices to their own needs and to focus on the areas of the body or the experience they choose, not necessarily the instructions provided.

Informal mindfulness exercises are gradually introduced around formal meditations, aiming to transfer mindful qualities into daily life. Informal mindfulness activities typically relate to eating, cooking, walking, showering and so on, aiming to bring greater awareness and non-judgementalism to one's daily experience. This involves practising focusing and re-focusing the attention on the chosen experience in the present moment. An implicit sense of self-compassion is built into the guided meditations and informal mindfulness practices, fostering a non-judgemental quality. There is not usually an overt mention of empathy.

Buddhist loving-kindness meditations are not part of the standard 8-week MBSR curriculum. At the start of this thesis, MBSR also did not include any interpersonal mindfulness practice and was not included in the MBSR aspect of the course in this thesis. However, it is useful to note that the most recently published curriculum guide now briefly incorporates mindful listening and speaking in a very general sense at the end of the course, encouraging self-connection based on meditation principles while interacting with others (Santorelli et al., 2017).

What is the MBCT Approach?

MBCT was designed in the UK by Zindel Segal, Mark Williams and John Teasdale (Segal et al., 2002, 2013). This method combined elements of cognitive behavioural therapy with MBSR to support patients with recurring depression. The authors were conscious of creating mindfulness courses to facilitate participants to notice and respond effectively to signs of recurring depression since it is a condition which often resists treatment. The concept

of decentring and distancing from distressing thoughts was at the forefront of the creators' minds.

Decentring or reperceiving (Shapiro, 2009), otherwise known as disidentification (K. Brown et al., 2015), is a key theoretical concept in mindfulness of all types. As mentioned previously, learning this through repeated mindful meditation practice allows participants to begin to see that everything happening within the attentional field (emotions, wandering attention, thoughts, bodily sensations) are events that come and go as part of being human. Decentring involves noticing emotions, bodily sensations and cognitions as separate from the core sense of self (Bihari & Mullan, 2014; Segal et al., 2013). This capacity is thought to develop as the ability to attend to the present moment improves (Shapiro et al., 2006) through sustained meditation practice (Shonin et al., 2015).

Decentring is an important aspect of how mindful awareness differs from unmindful awareness. Mindful awareness is thought to be accompanied by a sense of self-compassion and is typically non-judgemental in nature. This may be a key concept for differentiating participants who are able to reduce stress following mindfulness practices as compared to those who do not, as it fosters an objective and non-attached point of view towards outcomes. Measuring or capturing this process is problematic, however (Brown et al., 2015).

One of the MBCT exercises to help participants begin to recognise automatic thoughts and feelings as separate from themselves, which may be a necessary step before developing a stable decentring quality to mindful awareness, is the 'walking down the street' exercise (Segal et al., 2013, p. 160). This exercise facilitates participants to notice how readily the mind can create assumptions, and how bodily sensations and emotions can accompany this process. This exercise is useful for recognising the unconscious nature of thoughts, and how they can affect the appraisal of events in the present moment which may not be factual (Bihari & Mullan, 2014). Due to its potential efficacy in deepening the effects of mindful

awareness, particularly in relating to others, this exercise was included in the current 5-week MBSR course. Given the course is mostly based on MBSR, with the addition of one MBCT-based exercise, the course is conceptually closer to MBSR and will be referred to as such throughout.

What is the IM Approach in This Thesis?

Kramer's (2007) carefully constructed theoretical framework for Interpersonal Mindfulness (IM) is based on Buddhist approaches (see Table 1), which underpin his initial Insight Dialogue (ID) course that, in turn, informs the secular IM approach. Understanding the theory behind the development of IM guidelines is useful for understanding how and why it can work.

Table 1

Summary of the Four Noble Truths of Buddhism

1. **Suffering exists** and is an unavoidable part of what it means to be human, whether we are aware of it or not.
2. **Suffering is caused by hunger (ego).** At the base of all human suffering is craving, striving, and seeking pleasant experiences while attempting to avoid unpleasant ones. This is a mostly internal process which also interacts with external events and affects everyone regardless of the level of privilege. Because it is shared, there is no need to judge it, it just is this way.
3. **Liberation from suffering is possible.** The cessation of suffering lies in learning to be present with and non-judgementally observe one's own feelings, behaviour, mind and self in all states of being while learning to release egoistic hunger.
4. **The path to enlightenment leads to the cessation of suffering.** Engaging with the Buddha's noble 8-fold path involves learning and living the Buddhist ideals of Right View, Right Intention, Right Speech, Right Action, Right Livelihood, Right Effort, Right Mindfulness, and Right Concentration. These approaches are supported by daily meditation, Buddhist teachings, and spiritual friendships within a Buddhist community.

Note. Adapted from Shonin et al. (2015)

Kramer's Four Interpersonal Truths

When developing his guidelines, Kramer (2007) translated Buddhist teachings on the four noble truths (see Table 1) into four interpersonal truths. These are summarised below.

1. Interpersonal suffering (Kramer, 2007, p. 21): The mind understandably seeks, grasps and holds onto ideas, desires, and expectations in relation to other people. This causes suffering because it is at odds with the inherently uncontrollable and changing nature of human interactions and relationships.

2. Interpersonal hunger (Kramer, 2007, p. 31) involves clinging to interpersonal likes and dislikes (cravings and aversions in an ego state), which creates tension and therefore greater pain and suffering. Kramer (2007) describes four main ways in which humans engage in interpersonal hunger based on Buddhist teachings:

A. Children have no choice but to form a sense of the self in reaction to ego states in early caregivers. This creates craving and aversion, which heightens interpersonal conflict later on in life as well. This happens unconsciously and is a remarkably common experience (p. 35).

B. Humans hunger for interpersonal pleasure and to avoid interpersonal pain (p. 38).

C. Humans hunger to be truly alive and to avoid interpersonal insignificance by feeling seen as a worthy person deserving of respectful and nurturing treatment (p. 41).

D. Humans also hunger to retreat from the pain of life and to avoid being judged as imperfect or unworthy during vulnerable moments (Kramer, 2007, p.45).

3. Cessation of interpersonal suffering (Kramer, 2007, p. 54): through practising mindfulness regularly while working to observe and support the self in noticing and being present with the hunger and pain described above, ideally in connection with a kindly community of others on a similar path, any human may begin to gradually cease the toxic striving for interpersonal pleasure or to escape interpersonal pain, scrutiny and judgment. In what at first appears to be

a paradox, when the emotional and physical aspects of our suffering-filled experience are embraced and allowed (rather than avoided), while supported by self-compassion, a growing sense of equanimity, freedom and peace emerges. An experiential trust in impermanence translates to a sense that calm and pleasant moments increase in frequency and length while tensions, dissatisfactions and yearnings begin to decrease gradually, although all emotions are felt and accepted equally. In allowing the emotions to be as they are, accepted to the best of a person's ability, their hold on the psyche and the associated tension of avoidance reduces.

4. Engaging with the 8-fold path to enlightenment (Kramer, 2007, p. 76): The eight instructions on the Buddhist path to enlightenment are Right View, Right Intention, Right Speech, Right Action, Right Livelihood, Right Effort, Right Mindfulness and Right Concentration. Kramer (2007) recommends engaging with this through both intra and interpersonal mindful practices. Following this path, whether from a Buddhist or secular point of view, may cause survival-based illusions (Broughton, 2021) to be observed and diminished. An integrated intra- and interpersonal practice can bring greater clarity and authenticity to the relational sphere, as well as decrease the stress and suffering which is associated with pretending, striving, craving, or avoiding. According to Kramer (2007), the awareness from IM approaches can hasten progress and soften the landing of realisations about approaching mindfulness while authentically fostering deep self and other-oriented compassion. Kramer also believes that purely intrapersonal meditation leads to the same point regarding the gradual cessation of suffering, although perhaps at a less efficient pace. This may be due to the way in which it can be deeply self-connecting and supportive to witness open vulnerability or share one's suffering with a non-judgemental other. Together, it may be possible to support more mindful awareness than separately. Gradually letting go of personal judgments about emotional responses in the self and others may accelerate the aims shared by all mindfulness-based approaches to stress. Self-compassion and empathic capacity

improve from sharing similar experiences with others as a means of recognising elements of common humanity (Neff, 2003b, 2016). This may occur while moving away from an egotistically protective view of the self (Shonin et al., 2015) towards a non-dualistic realisation that humans share more than what separates them (Shireen et al., 2022).

Kramer's IM Guidelines

Kramer (2007) created guidelines for mindful listening and speaking as part of an IM practice based on his translation of the Buddha's Four Noble Truths into interpersonal truths. The following guidelines are introduced gradually throughout an IM course. Supported by personal meditation, practising these guidelines in pairs and discussing the experience in supportive groups, helps to build capacity for authentic presence in both a personal and an interpersonal context, which is theorised to decrease stress and increase self-compassion and empathy. As discussed in the literature review, while empirical research is scarce, results from an initial pilot study in healthcare professionals show promise (Bartels-Velthuis et al., 2020). The IM guidelines are as follows:

1. *Pause* - Mindfulness of the body and the breath which is very similar to the MBSR body scan and/or breathing meditations. Arrive in the present moment. Pay attention to the senses and anchor in what is solid and real. Feel the connection between oneself and the ground – the feet and the seat on the chair.
2. *Relax/allow* - Gradually begin to first of all notice, and then begin to release a sense of internal striving to be different or to change one's experience from how it is in the present moment. See if anything held in the body can be released (stomach, shoulders etc). If some areas cannot be released, gently notice and kindly allow it to be there without fighting or denying. Perhaps it is possible to witness the natural tendency to want things to be different than they are and bring a kind and gentle attitude to this.

3. *Open* - Bring awareness to what is externally observable through the five senses while remaining gently in contact with internal sensations, thoughts and feelings. Mindfully notice what is happening in the environment and with other people while remaining connected or returning to sensations, thoughts and feelings arising within.
4. *Trust emergence* (or attune to emergence) - Supported by the pause, relax and open guidelines, tune in to whatever arises and subsides internally. Practice being aware of the impermanent nature of one's own human experience. Begin to trust what presents itself inside as worthy and notice what comes may not be what was expected or rehearsed. Trust everything is happening for valid reasons, even if the causes or conditions aren't readily apparent. Pause, feel and check; maybe something different is possible.
5. *Listen deeply* - Listen with all of the senses to the other person while also listening internally to one's own experience and reactions, as non-judgementally as possible. Pause and recognise when judgements arise and name them. Listen with compassion for the understandable human struggles of the other person, resting in the knowledge that silent witnessing is all that is required. No solutions, no advice, no information is offered. Notice the urge to tell or share something, connect within to whatever arises, and return gently to witnessing what happens in the other while in contact with oneself.
6. *Speak the truth*—Pause often, connect to what is emerging and share the truths that are available and ready to be spoken without necessarily sharing all that arises. Grow in a capacity to discern what to share based on what is skilful and available. Experiment with sharing something true and gradually increase tolerance for small doses of vulnerability. Touch into the pause frequently for self-oriented support.

The above IM guidelines, based on ID (Kramer, 2007), thus support an interpersonally based practice leading to impermanence and reperceiving which mirrors the

intrapersonal aims of other meditative approaches such as MBSR and MBCT. When introduced in a supportive group, these guidelines allow participants to build relational mindful awareness and reduce judgments of themselves and others in a gentle and respectful manner that is reflexive and reciprocal.

Significant daily home practice of 30-minute body scans, sitting meditation, or mindful movement is recommended during IM courses. Similarly to MBSR, participants in the standard 8-week IM course sign an agreement to ensure they are willing to make time for this and commit to the course from the beginning. Eight-week IM courses, which include a separate retreat day, are available in London, UK (*8-Week Relational Mindfulness Course*, 2008). However, as previously discussed, similar deep time commitments for developing a meditative practice have proven untenable for medical students (de Vibe et al., 2013; Erogul et al., 2014; Phang et al., 2015). The associated high costs may also be prohibitive. As such it may be more helpful to provide bespoke, short courses to introduce the skills and practices.

The Relevance of IM to This Thesis

Participants in 8-week IM courses (Bartels-Velthuis et al., 2020) based on Kramer's (2007) guidelines and as described above usually enter a mediative state at the beginning of each session through guided meditations similar to MBSR and based on Kramer's (2007) theoretically coherent interpersonal guidelines. The sessions build on each other, and are designed to develop qualities of an open, accepting and authentic presence which can be translated into daily life (Bartels-Velthuis et al., 2020). Following meditation, participants are invited to mindfully check in with the larger group before splitting into pairs or threes, where they take turns contemplating related topics together. At times, this contemplative period involves almost meditating out loud to one another about what each person is noticing in the present moment.

Although abridged to fit the shorter format, the IM exercises in pairs in this thesis follow a similarly structured approach whereby one person is the listener, and another is the speaker for approximately five minutes at a time. The separate roles allow each person to bring mindful awareness to what they experience as they speak or as they listen, both in terms of what they observe in the other and sense internally. Contemplation topics are offered to guide the inquiries. In IM (Bartels-Velthuis et al., 2020) these gently increase awareness and acceptance of the shared aspects of human suffering from a self-directed perspective and without interference or comment from the other. The listener is present but silently witnesses and non-verbally supports rather than providing advice, rescuing, or joining with the speaker. This self-directed discovery may reduce resistance and inner struggles with self-judgment, fostering deeply transformational and self-directed change for both parties, who can observe themselves both as a speaker and a listener to gain deeper self-awareness than may be possible while meditating alone.

Following separate sharing, participants relax the roles and are invited to mindfully share in a conversational manner or reflect upon the experience of what it was like to practise together. This involves conversationally naming what they noticed, reminded by the facilitator that both uncomfortable and pleasant experiences are to be expected, and both may be mindfully and compassionately discussed. This experience offers insights into the ways in which each person may be pulled out of the present moment by the conditioning of their mind, and also builds compassion due to the sense of connection over these human tendencies. Groups organically and authentically learn that more connects humans than separates us. The group comes back together, where insights from the practice are shared across the group (if desired), and any challenges are normalised, validated, and supported. Additional intrapersonal meditations and interpersonal contemplations may also be offered. Kramer (2007) builds up to quite challenging contemplations about sensitive topics such as

old age, sickness and death. However more basic ones were adapted from MBSR and IM concepts for the introductory course in this thesis relating to naming bodily sensations or noticing body and mind reactions during pleasant and unpleasant experiences.

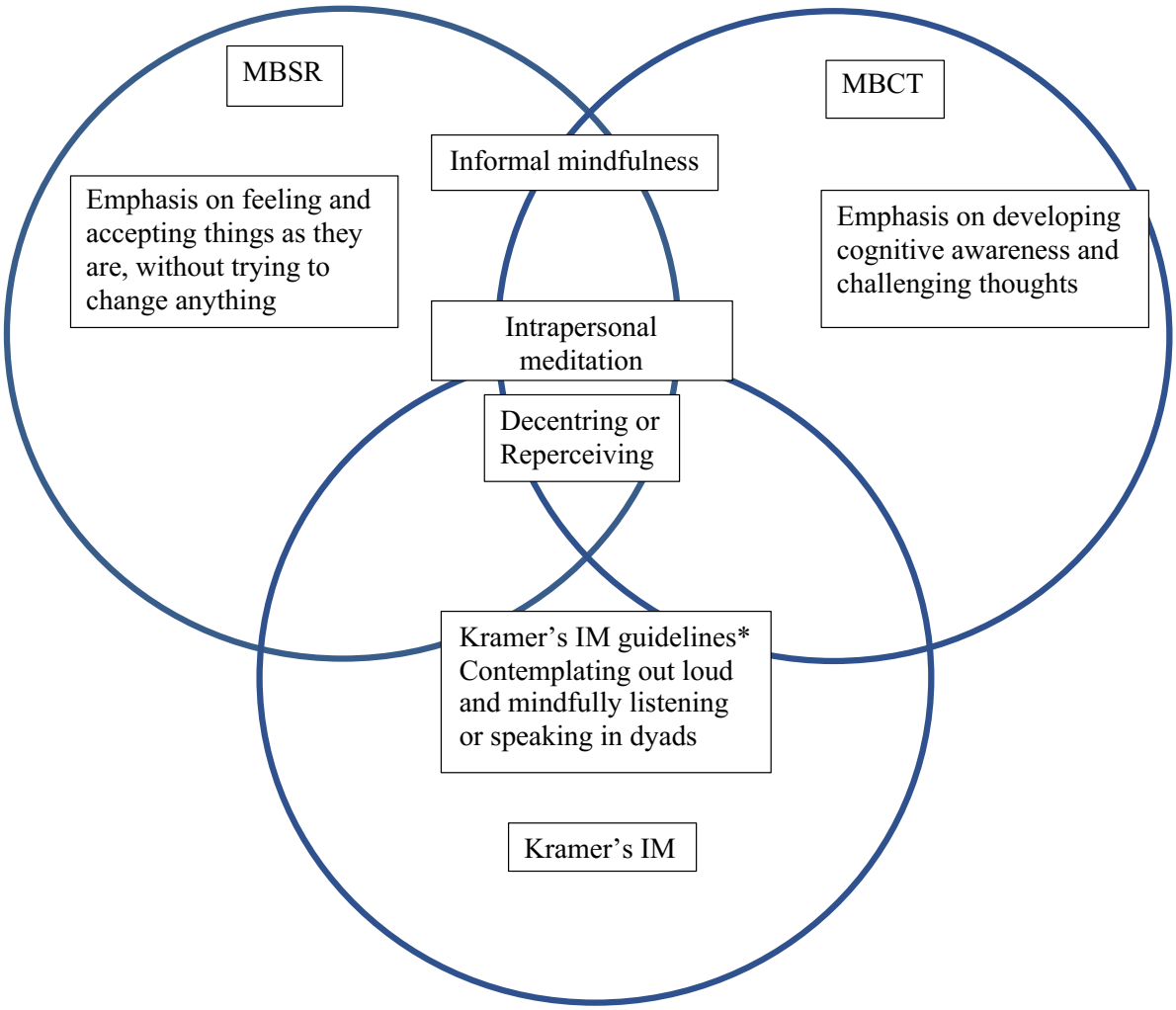
The Interventions

This thesis compares two 5-week interventions with only one conceptual difference – the presence (or absence) of IM. Two courses, one with only MBSR and one with MBSR + IM, were designed to fit into an independent study period during which students can choose between multiple elective courses termed Student Selected Components (SSCs) and to compare interpersonal to intrapersonal approaches and variables. MBSR and MBCT are the two intrapersonal mindfulness approaches utilised in this thesis. These conceptual approaches overlap with IM and are presented in Figure 1.

The standard intervention draws upon MBSR with the addition of one MBCT exercise (the walking down the street exercise as described above). The more experimental MBSR + IM intervention is the same, with some added IM elements. The 5-week interventions were first piloted and evaluated in Study One (Chapter 4) before being further developed and compared in Study Two (Chapter 5). Both interventions will be described in Chapters 4 and 5 in more detail along with the methods chosen to compare and evaluate them. Finally, the qualitative literature is reviewed in Chapter 6, followed by an investigation of the lived experience of the more experimental MBSR + IM group in Chapter 7.

Figure 1

Visual Representation of Three Approaches to Mindfulness



Note. *Kramer's (2007) guidelines bring mindful awareness into the relational sphere and are practised in dyads. These guidelines are pause, relax (allow), open, trust emergence, listen deeply, and speak the truth.

Summary

What follows is a summary of the information reviewed in the literature connected to the information covered in the conceptual framework. The most important aspects of the empirical and theoretical basis, including the main gaps in the literature that are relevant to this thesis, are highlighted below.

Mindfulness is a non-judgemental way to develop a sense of easeful present moment awareness. While meditating or practising informally, the practitioner gently acknowledges each thought, feeling, or sensation that arises without necessarily engaging or reacting outwardly (Kabat-Zinn, 1994). The inner experience of mindfulness has been more difficult to define and describe and there are many differing perspectives presented in the literature (Block-Lerner et al., 2007; K. Brown & Ryan, 2003; Dahl et al., 2015; Lomas et al., 2015; Shireen et al., 2022). Most of the evidence gathered has been from an intrapersonal standpoint, using positivist epistemological approaches, including validated quantitative self-report measures. Scholars have published a few qualitative studies on intrapersonal mindfulness in medical students (Malpass et al., 2019; Solhaug et al., 2016). These begin to illuminate the experience of being a medical student trying to practise mindfulness while facing immense educational pressures, including emotional challenges when dealing with patients' potentially life-limiting or severe quality of life-threatening illnesses or injuries on a daily basis (Pereira & Barbosa, 2013). A recent Cochrane review (Sekhar et al., 2021) calls for more rigorously designed research from both positivist (quantitative) and critical realist (qualitative) perspectives to accommodate the unique aspects of this population.

Healthcare students participating in MBSR interventions focusing on mostly intrapersonal aspects and lasting eight weeks (Santorelli et al., 2017) have reported improvements in self-reported wellbeing (Shapiro et al., 1998). However, average burnout scores have not always improved (Barbosa et al., 2013) and methodological and conceptual

problems limit the reliability and generalisability of the results. A small number of studies evaluating short, adapted MBSR courses in healthcare students have also shown mixed results (de Vibe, 2014; de Vibe et al., 2013; Jain et al., 2007). Additionally, Sekhar and colleagues' (2021) Cochrane review has concluded that the impact of intrapersonal mindfulness on the wellbeing and mental health of medical students remains unconfirmed, at least in part, due to the low number of rigorously designed RCTs. Authors of studies with mixed results in medical students note that the amount of home practice these participants typically engage in is far below the recommended levels for standard 8-week MBSR participants (de Vibe et al., 2013; Phang et al., 2015). This may be due to the particular past and present challenges this population faces (King et al., 2017; Pereira & Barbosa, 2013) and may in part, begin to explain less impressive results in this population than for patient populations (Schell et al., 2019) who may be motivated by disabling conditions while having more time to practise as well as greater agency to alter the conditions in their lives.

Empathy is crucial to patient care and yet does not improve throughout medical school in the UK (Quince, Kinnersley et al., 2016), despite mandatory communication skill training, the amount of which somewhat varies between institutions (Von Fragstein et al., 2008). Empathy is thought to decline during medical school in the US (Chen et al., 2012), although there are inconsistencies in the field regarding how to define, measure and study empathy (Davis, 1980; Hojat et al., 2001; Ickes, 1993, 2003; Ickes et al., 2000; van Berkhout & Malouff, 2015).

While researchers have found that a standard 8-week MBSR intervention improves empathy in some medical students (Bazarko et al., 2013; Malpass et al., 2019; Martin-Asuero et al., 2014; Shapiro et al., 1998, 2011; Barbosa et al., 2013), other investigations show a lack of improvement in empathy following MBSR mindfulness training (Bond et al., 2013; Danilewitz et al., 2016; de Vibe, 2014; Galantino et al., 2005; Beddoe & Murphy, 2004) and

empathy and stress levels have worsened following hybrid mind-body awareness interventions (A. Chen et al., 2016). Furthermore, basic mindful communication exercises may be a previously unrecognised causal factor for some studies indicating improved empathy scores on standardised questionnaires (Barbosa et al., 2013; Shapiro et al., 1998). Not only are results inconsistent when it comes to any effects of mindfulness on empathy, but there is also little information about what might account for wide variations. In addition, standard courses lasting 8-weeks are costly and time intensive (Rosenzweig et al., 2003; Slonim et al., 2015; Solhaug et al., 2016) which is incompatible with medical education in many UK institutions.

Interpersonal Mindfulness (IM), otherwise known as relational mindfulness, is a method of bringing mindful awareness into the relational sphere. In health professionals, 8-weeks of IM improved empathy as compared to a control group (Bartels-Velthuis et al., 2020) but not as compared to intrapersonal practices, and only in a very small (n = 22) sample of participants who had already practised both MBSR and ID. IM entails a meditative-like practice in pairs while deliberately paying attention to both what oneself and others appear to be feeling, thinking, or experiencing. This is thought to lead to insights that foster qualities of an open, accepting and authentic presence (Kramer et al., 2008; Pratscher et al., 2018), which is theoretically linked to both self-compassion and empathy. Peer-reviewed studies on IM are scarce, whether informed by either Kramer's (2007) model (Bartels-Velthuis et al., 2020) or Functional Analytical Psychotherapy (FAP) (Bowen et al., 2012; Falb & Pargament, 2012; Kohlenberg et al., 2015). Furthermore, no effects on empathy have been investigated following FAP interventions (J. Cohen & Miller, 2009; Vich et al., 2020). No known studies of interpersonal mindfulness have been conducted in medical students following either a quantitative or qualitative epistemology. No known studies have compared the effects of an MBSR course to an IM course.

Conceptually speaking, the IM method introduced by Kramer (2007) involves clear guidelines with a theoretically sound approach for gradually building interpersonal mindful awareness. The potential for IM to improve empathy is both theoretically viable and has been empirically demonstrated in healthcare professionals (Bartels-Velthuis et al., 2020) but not in medical students. Comparing the effects of MBSR and IM may help to illuminate reasons for mixed results in medical students following previous mindfulness interventions.

Two novel interventions have been designed and will be compared for their effects. For the more standard intrapersonal intervention, an MBSR approach is combined with one MBCT exercise to provide experiential learning synonymous with week 5 in an 8-week MBSR programme (Proctor & Wilson, 2017). The 'walking down the street' exercise is likely to accomplish in a short period what one session dedicated to working with thoughts (Santorelli et al., 2017) in the usual MBSR program would. For the experimental intervention in this thesis, IM exercises are added to the intrapersonal intervention. This allows for isolating the effects of IM. In a randomised comparison of this nature, differences between the two groups may be more likely due to the differences between intra and interpersonal mindfulness practices, as everything else will be the same.

The following three studies have been developed to pilot (Chapter 4), test and evaluate (Chapter 5) both 5-week interventions, and the final study will investigate the lived experience of medical students who participated in the IM intervention (Chapter 6 for qualitative literature review and methodology and Chapter 7 for the results). The methodological and procedural approaches for each study will be presented in the corresponding Chapters. The qualitative Interpretative Phenomenological Analysis (IPA) study stands alone rather than representing a particular mixed-methods approach. The aim of the IPA study is to widen the opportunity for participants to share aspects of their experience which could not be predicted by the researcher ahead of time.

Chapter 4: A Pilot Randomised Controlled Comparison of Mindfulness-Based Stress Reduction and Interpersonal Mindfulness

In medical students, empathy is considered a core communication skill for several reasons. Empathy contributes not only to mental health benefits for patients but has also been associated with physical health improvements (Derksen et al., 2013). Developing an empathic practice may also benefit the wellbeing of the healthcare professionals who develop this skill (Hojat et al., 2011; von Harscher et al., 2018). Additional reasons for the importance of empathy are discussed in the literature review (Chapter 2).

Despite the importance, attitudes towards empathy are thought to remain stable throughout medical school in the UK rather than improving (Quince, Kinnersley, et al., 2016). In the USA, student attitudes towards empathy appear to decline throughout training (D. Chen et al., 2012). Although some studies have found a link between mindfulness and empathy following mindfulness training (Barbosa et al., 2013; Shapiro et al., 1998), other studies result in no improvement following various interventions (Bond et al., 2013; de Vibe, 2014; Everson et al., 2018; McConville et al., 2017) or even worsening empathy (A. Chen et al., 2016).

In a bid to maximise wellbeing and empathy, medical schools have begun providing mindfulness courses in a variety of formats (Daya & Hearn, 2018; Erogul et al., 2014; Hassed et al., 2009). Mindfulness-Based Stress Reduction (MBSR) is popular around the world and consists of an 8-week course that was first designed and evaluated by Jon Kabat-Zinn for chronic pain patients in the late 1970s. Courses based on MBSR aim to build learners' skills in meditation gradually, beginning with greater bodily awareness through bodily awareness meditations, moving on to mindful movement (usually yoga or tai chi) and finishing off with sitting meditations that focus more on the breath. There is an implicit sense of self-

compassion built into the guided meditations, and empathy is not normally mentioned nor deliberately practised.

The general effects of eight weeks of MBSR training on the wellbeing of medical students and doctors have been widely investigated (Aherne et al., 2016; Baer, Carmody, et al., 2012; Dobkin, 2008; Grosseman et al., 2014; Irving et al., 2009; Khoury et al., 2015; Lamothe et al., 2016; McConville et al., 2017; Praissman, 2008; Shapiro et al., 2005; Rosenzweig et al., 2003). However, conceptual inconsistencies and problems with methodology cast doubt on the accuracy of positive results (Stanley, 2012; Van Dam et al., 2018). Furthermore, a recent Cochrane review has determined that the effects of mindfulness on medical students' mental health are inconclusive, and more research is required (Sekhar et al., 2021). Some studies have indicated that mindfulness improves empathy but failed to discriminate between *intra*personal mindfulness practices associated with MBSR and the *inter*personal practices utilised in IM. For example, variations of mindful communication practices appear to have been included in the Shapiro et al. (1998) trial in medical students and the Krasner et al. (2009) trial in doctors.

Interpersonal Mindfulness (IM) is a method of bringing greater mindful awareness into interpersonal interactions. It has been defined as involving mindful awareness of self and others, accompanied by qualities of a non-judgemental and nonreactive presence (Pratscher et al., 2018). The process of IM involves practising in dyads, deliberately paying attention to inner emotions, sensations and reactions while relating to another, and thus gaining insights about oneself while learning about what others are going through. Theoretically, this practice fosters an open, accepting, and authentic presence and increases empathy in an authentic manner. Studies clearly including elements of IM are scarce (Bowen et al., 2012; Falb & Pargament, 2012; Kohlenberg et al., 2015), and empathy has not been reported in three studies which found additional positive effects from IM-related exercises from the Functional

Analytic Psychology (FAP) tradition (Schroeder et al., 2018; J. Cohen & Miller, 2009; Bowen et al., 2012). In addition, very few studies on the effects of mindfulness could be found that investigated psychosocial variables such as social connectedness (Neff & Germer, 2013; Kohlenberg et al., 2015), which may be related to self-compassion and empathy (Pavlovich & Krahnke, 2012).

In a study by Bartels-Velthuis et al. (2020), eight weeks of IM following the Kramer (2007) model improved empathy in health professionals as compared to a control group. Relatedly, it may be that IM could have a more consistent effect on empathy in medical students than MBSR alone. No known studies have been conducted on IM in medical students, and there are few peer-reviewed studies on IM in any population, with most of the information available being from a theoretical rather than empirical standpoint (Kramer et al., 2008). The theoretical reasons behind the potential for increased impact of IM on empathy and wellbeing in medical students were discussed in the conceptual framework located in Chapter 3.

Private 8-week MBSR and IM interventions may be too costly and time-consuming for medical students who face significant pressures (Pereira & Barbosa, 2013). While incorporating such programmes into medical school would be preferable, curricula may be too packed with crucial medical material to provide the space for eight weekly mindfulness meetings. Shorter mindfulness training courses may be more feasible and cost-effective. However, these are less researched, have been conducted in different cultural contexts (Phang et al., 2015) or are associated with less impressive results (Canby et al., 2015; Dobie et al., 2016; Manotas et al., 2014; Schwind et al., 2017; Zeidan et al., 2010). Published investigations of shorter mindfulness interventions either do not show improvements in empathy (de Vibe, 2014; Lamothe et al., 2016), empathy measures are not reported (Jain et

al., 2007; Phang et al., 2015), or the learning is based on independent, self-directed practice (Warnecke et al., 2011), which may be unrealistic for busy medical students.

An adapted five-week MBSR course has improved the wellbeing of medical students, albeit in Malaysia (Phang et al., 2015). This shows some promise, however, the effects of shorter mindfulness courses on empathy have yet to be documented, and no adapted UK-based 5-week MBSR interventions have been published. There is, therefore, a need to design and evaluate shorter and less time-consuming interventions for busy medical students who face a high risk of burnout (Erschens et al., 2019).

Shapiro (2006) calls for studies that closely examine various active, theoretically informed elements in mindfulness-based interventions to compare their efficacy. Rounsaville and Carroll's (2001) 3-stage model of developing and evaluating interventions further suggests that feasibility and pilot trials must evaluate promising interventions before conducting RCTs. As such, comparative pilot research is likely to increase understanding of the effects of specific conceptual approaches to mindfulness, such as MBSR and IM, while furthering understanding of how mindfulness and empathy are related in medical students.

To conclude the rationale for the present study, higher levels of empathy have also been observed in women than men (Quince, Thiemann, et al., 2016). Although intrapersonal mindfulness interventions have shown some promise, particularly in female healthcare students (de Vibe et al., 2013), there is a paucity of solid evidence concentrating exclusively on medical student populations to support a consistently reliable effect (Sekhar et al., 2021). Empathy is also rarely investigated following MBSR-based courses (de Vibe et al., 2013; de Vibe, 2014), and even then, mainly by using the Jefferson Scale of Physician Empathy scale (Hojat et al., 2003), which, as discussed in the literature review, may be limited in scope (also see Appendix D).

The current study is, therefore, designed to address several key issues. Firstly, it will compare the effects of an MBSR intervention with an IM intervention among medical students. Secondly, both interventions will be adapted to cover essential components in five weeks rather than the traditional eight. As noted previously, this timeframe fits into a pre-set elective component, within an over-burdened medical curriculum. Thirdly, this study will measure several outcome variables, some classified as 'intrapersonal' (mindfulness, stress, and self-compassion) and others considered 'interpersonal' (empathy, social connectedness, and interpersonal behaviour).

The objective is to assess whether the two adapted interventions exert their effects equally or differently across the range of outcome measures as potentially related to empathy. Two measures of empathy will be included: The JSPE-S (Hojat et al., 2001) is regularly used in medical education to measure empathic attitudes but may carry some important limitations (see Appendix D), and the IRI (Davis, 1980), which measures cognitive and affective empathy but has been rarely used in mindfulness studies in healthcare contexts. Since there is some evidence in the literature to suggest the presence of gender differences in empathy levels (Quince, Thiemann, et al., 2016). The current study provides an opportunity to determine if the intervention affects male and female medical students' empathy differently. This study will be treated as a 'pilot' assessing the sufficiency of the design and the acceptability of the actual interventions for participants. The effects of interpersonal mindfulness training are under-researched, and this is the first known study following Kramer's (2007) guidelines in medical students.

Aims

1. The main aim of this study was to test the feasibility and acceptability of two different 5-week mindfulness intervention courses (MBSR and MBSR+IM) among medical students.

2. The second aim was to assess the effects of each intervention on both intrapersonal variables (mindfulness, stress, and self-compassion) and interpersonal variables (empathy, social connectedness, and interpersonal behaviour).

Research Questions

1. Are 5-week mindfulness-based interventions acceptable for UK medical students?
2. What intra- and interpersonal effects do five weeks of **MBSR** have on students?
3. What intra- and interpersonal effects do five weeks of **MBSR + IM** have on students?
4. Do the interventions affect empathy in men and women differently? How do the empathy results compare to UK norms reported in the literature (Quince, Thiemann et al., 2016)?

Hypotheses

1. The MBSR and IM groups will result in significant improvement in mindfulness, self-compassion, and stress (intrapersonal variables). There will be no difference between the groups on these measures.
2. Both groups will confer improvement in empathy, social connectedness, and interpersonal behaviour (interpersonal variables). Significantly greater improvements in interpersonal variables will be seen following the MBSR + IM group compared to the MBSR group.
3. The literature suggests that empathy levels are lower in men than in women in the UK (Quince, Thiemann et al., 2016). As empathy levels are rarely investigated in studies of mindfulness in medical students included in reviews (Daya & Hearn, 2018; Everson et al., 2018; Lamothe et al., 2016; Luberto et al., 2018), and rarely improve (Shapiro et al., 1998) when they are measured (Bond et al., 2013; A. Chen et al., 2016; Danilewitz et al., 2016; de Vibe, 2014), it is difficult to predict what differences there may be. The data will be explored to determine if men's and women's empathy is affected in a similar manner or if there are gender differences.

This study involved running a single-blinded randomised controlled comparison between two groups, referred to as MBSR and MBSR +IM, to evaluate the feasibility and acceptability of an experimental mindfulness intervention incorporating some elements of IM as compared to a more standard intervention. For ease of reporting, the standard intervention will be referred to as MBSR, as this approach forms the majority of the intrapersonal mindfulness aspects of the intervention. The more experimental intervention will be referred to as MBSR + IM. Both interventions lasted 5 weeks. Both interventions also included an MBCT exercise entitled 'walking down the street' (Segal et al., 2013), which may help to maximise the effects (see the conceptual framework in Chapter 3). The interventions will be described in further detail below.

Method

Participants

Recruitment

Student volunteers came from either the undergraduate (5 or 6-year) program or the graduate (4-year) program of medicine at a London, UK medical school. Students were able to participate in this intervention for credit as a final-year elective course, known as the Student Selected Component (SSC). Participants were recruited in one of four ways.

1. The mindfulness elective option was described in both the final and third-year SSC handbooks, along with the descriptions of all the other electives students could choose from.
2. The principal investigator spoke briefly about the mindfulness elective and associated research in a lecture introducing the elective options.
3. A student who volunteered to help with the research side of the project placed information about the course on private student Facebook groups for third year and final-year students. The course was clearly billed as an introduction to mindfulness

and not a therapeutic course for those hoping to address specific mental health issues (as described above). There was no way to monitor what was further discussed between students, although the volunteer was cautioned against promising or expecting much from an introductory and experimental approach.

4. If the groups were short on numbers closer to the start, an additional email was sent to all medical students in all years, offering the chance to participate for their own personal and professional development.

Screening

The shorter, more introductory nature of this course, as well as the more experimental nature of the IM group, meant that it would not be ethical to include acutely vulnerable students. Student volunteers who were interested in participating were thus screened, and any student disclosing acute depression, anxiety or distress was excluded and gently counselled to pursue more suitable options. The screening began by asking 'what drew you to mindfulness?' and once they had answered this question (via email), they were asked, 'Are you experiencing any distress at the moment – anxiety, depression or any physically distressing symptoms?' Students were also asked if they had any current diagnoses from the GP and to specify which year group they were in, as well as when they wished to participate (Tuesday evenings or Wednesday afternoons).

Once students were screened and joined the course, all were encouraged to let the teacher know if they started to feel distressed in any way so that they could be supported more specifically during the sessions or referred to mental health services as necessary. All participating students were also encouraged to opt out of exercises if they felt they might be too challenging or to withdraw if needed.

Research Design

The Interventions

Final-year students participating for course credit had a dedicated five-week period to focus on practising mindfulness and completing an essay-based assessment. The interventions were designed to match this period. Third-year students were fitting the sessions and meditation practice around their regular studies but had three weeks at the end of the year to devote to writing their essays. All students taking the course for credit were assessed on a 3,000-word essay comprised of a personal reflection leading to a related literature review. The mindfulness teacher offered optional extra sessions with to discuss topics, reflections, literature reviews, and approaches to writing. Everything apart from the assessment deadlines was the same for both year groups. The participants from any year of the MBBS program who joined for their own personal and professional development did not complete the assessment and did not receive course credit.

The design of the MBSR intervention and the assessment has been evolving since its introduction in the present medical school in 2012, beginning with a 3-week, then 4-week, and finally 5-week format. The session formats were edited and improved following feedback and focus groups with student participants in the years preceding this study, and basic information on the feasibility and acceptability of these early versions was gathered, evaluated, and presented in cooperation with students in international medical education conferences (Spatz, 2015; Spatz et al., 2014).

The standard intervention for the present study was based mostly upon MBSR techniques and learning objectives, with the addition of one MBCT ‘walking down the street’ exercise, which is theorised to support students in developing a state of self-awareness or reperceiving, also otherwise known as decentring (see the conceptual framework in Chapter

3). The more experimental intervention was the same as the first intervention, with additional IM exercises added. A summary of the course content is provided below.

Both of the 5-week interventions comprised of weekly 2-hour meetings plus recommended daily home practice. Both groups received the same course-book materials based purely on intrapersonal mindfulness, having been blinded to their allocation to the interventions. The ground rules for both groups were the same. Participation in all exercises and group discussions was optional; students were encouraged to attend to their own needs during the sessions, such as taking water or toilet breaks when needed. Students were also offered the chance to opt out of any exercises they wished as per the guidelines of transformational education theory (Mezirow, 2000).

The MBSR intervention involved *intra*-personal meditation and informal mindfulness practices interspersed with unstructured discussions in pairs followed by group inquiry. Inquiry is a facilitated sharing and learning approach that encourages the students to bring additional awareness to their experiences through noticing and discussing thoughts and sensations in pairs and the main group (Segal et al., 2013). With permission, the tutor listens to what a student shares and inquires further about the experience to allow for deeper awareness to develop. The course content involved the following mindfulness techniques, which are mostly informed by MBSR. These are summarised below.

- Body scan meditations in the MBSR tradition
- Informal meditations, e.g., mindful eating in the MBSR tradition
- Mindful yoga and walking in the MBSR tradition, although other-oriented awareness was included following self-awareness (‘become aware that others are walking around the space with you and notice what comes up – shyness, enthusiasm, warmth, a desire to look or to avert the gaze. Allow whatever arises to be noticed without necessarily

needing to change anything. Any self or other-oriented judgements that come up could be named – ah, judging – followed by returning to your direct experience in the body')

- Sitting meditation involving mindful breathing, awareness of sounds and thoughts as in the MBSR tradition
- One MBCT ('walking down the street') exercise to introduce some cognitive awareness around common assumptions and thoughts (as described in Chapter 3)
- Discussions (inquiry) with peers in pairs or groups

The MBSR + IM intervention followed the same MBSR program as the first part of each session. Instead of the unstructured paired discussion times, the MBSR + IM group practised mindfully listening and speaking through exercises that were based on Kramer's (2007) guidelines. These are pause, relax (allow), open, listen deeply, trust emergence, and speak the truth. The guidelines foster self-awareness in connection with others when practised in dyads (see Chapter 3).

For the MBSR + IM group, relational practice began right from the first session. An embodiment exercise replaced the mindful walking exercise. The aim of this was to begin to introduce the guidelines in a gradual manner while developing personal awareness. This mindful embodiment involved silent, mindful movement in pairs while participants mirrored one another. Each person took turns being a non-verbal leader or follower, and pairs were asked to silently navigate the room together while developing a sense of kindly awareness for what they were experiencing as well as what they thought the other person might be experiencing. Being silent was meant to increase mindful awareness of non-verbal communication and reduce any pressure of describing inner experiences in the first session. This was conceptually similar to mindful walking, although it was happening in pairs. The teacher provided guidance and invited the participants to pause often.

In the second session of the MBSR + IM group, participants participated in mindful listening and speaking in pairs. The participants were invited to take turns being the speaker and the listener for 3-5 minutes at a time. The listener was encouraged to remain silent and allow the other person to speak as much or as little as they wished. Eye contact was encouraged, and the participants were instructed to practise kindly present moment awareness of their own experience and the other person's body language and speech. Kramer's (2007) guidelines were introduced one or two at a time each week, and the ones from previous weeks were gently restated as is typical in IM or ID sessions (Bartels-Velthuis et al., 2020). After each dyad-based IM exercise, students freely discussed what they experienced in the IM exercise. Finally, pairs were invited to share something about their own experience within the group, as the usual inquiry method (Segal et al., 2013, p. 250) advocates.

The content of the IM exercises began simply with noticing what was happening in the company of another person and involved almost meditating aloud about some of the body sensations, thoughts, and emotions they were experiencing. The instructions and discussion of the guidelines included signposting that there was no need to share everything about one's own inner experience and that exploring what it's like to frequently pause in silence is also beneficial. The IM exercises gently increased in complexity over the 5 weeks. Mindful listening exercises about pleasant experiences were designed for the third week and unpleasant experiences in the fourth week. participants progressed to contemplating the topic and prevalence of 'change' for the final session, including any mixed feelings about the group ending. The topics for the sessions each week are as follows, and while both groups experienced the first aspect, only the IM group engaged with the second aspect.

1. Mindfulness of the body for both groups *(the IM group practised the mindful pause guideline plus the silent mindful mirror exercise)*

2. Mindful movement for both groups *(the IM group practised the relax/allow guideline during the first dyad while noticing some of what is felt in the present moment out loud)*
3. Mindfulness of the breath and awareness during 'pleasant' events for both groups *(the IM group practised the open and listen deeply guidelines during the second dyad about sharing pleasant events)*
4. Awareness during 'unpleasant' events for both groups *(the IM group practised the trust emergence guideline during the third dyad about sharing unpleasant events)*
5. Integration and ongoing practice for both groups *(the IM group practised the speak the truth guideline during the 4th dyad was contemplating change and the end of the course)*

In addition to attending weekly meetings for 5-weeks, participants in both groups were invited to practise mindfulness in their own time six days per week by accessing recorded guided mindfulness meditations on their smartphones through an app which was intended to measure practice time automatically. The practices during the sessions were recorded and provided through the app to use at home. Unfortunately, the app was faulty and did not reliably provide access to the meditations for the students to practise with at home, nor was it recording the time spent meditating. The problems were particularly evident on Android phones. As a result, the app was abandoned in week 2, and all of the students were provided with recordings on MP3 files consisting of the instructor leading mindful meditations in class.

Sessions were held on Tuesday evenings or Wednesday afternoons. Tuesday evening sessions were held to open the opportunity for those who engaged in sports or clubs on Wednesday afternoons, which is a tradition for the University. On Tuesday evenings, the MBSR group met from 5:15-7:15 pm, and the IM group met from 7:30-9:30 pm. On Wednesday afternoons, the MBSR group met from 1-3 pm, and the IM group met from 3:15-

5:15 pm. Comparison groups were held on the same evening or afternoon so to control for whatever was affecting each group externally at the time. The group in January / February was closer to exam time, which began in April for the final-year students. This format was repeated twice: once in November 2016 and once in January-February 2017. A total of four different iterations of both courses were run alongside one another over this time, with between 6-8 students attending in each group.

Measures and Variables

The following variables were chosen due to their potential connection to empathy or wellbeing and mindfulness in students without a mental health diagnosis. Intrapersonal and interpersonal dependent variables were chosen as related to the research questions. Validated questionnaires were used to investigate the impact of both groups and compare them to one another. Using validated questionnaires also permits comparison to established norms, which exist for both empathy scales (Quince, Thiemann, et al., 2016). Two measures of empathy were employed due to aforementioned potential difficulties with both questionnaires in measuring empathy in medical students.

A quasi-experimental design was thus employed comprising of one between-participants independent variable (Group) with two levels – MBSR and MBSR+IM, and one within-participants independent variable (Time) also with two levels – pre-intervention and post-intervention. The dependent variables included intra-personal (mindfulness, stress, and self-compassion) and interpersonal aspects (affective empathy, cognitive empathy, and social connectedness).

Intrapersonal Dependent Variables and Measures

Five Facets of Mindfulness Questionnaire (FFMQ-15). Since both interventions aim to improve mindful awareness, which has been associated with wellbeing (Carmody & Baer, 2008), it was necessary to select a standardised mindfulness questionnaire for

contextualising the results as compared to other interventions. The FFMQ-39 (Baer et al., 2006) has been used to measure changes in mindfulness levels following interventions. It is a self-report scale incorporating 39 items that measure five aspects of perceived mindfulness including observing, describing, acting with awareness, non-judging of inner experiences, and non-reactivity to inner experiences. These 5-facets can be analysed separately to evaluate which areas participants are improving on and which they are not, and they can also be used as a composite score. Non-reactivity may be considered a measure of decentring. This provides more feedback than other unidimensional measures of mindfulness, such as the widely used but heavily criticised MAAS (K. Brown & Ryan, 2003; Grossman, 2011).

There are two short forms of the FFMQ. One contains 24 items (Bohlmeijer et al., 2011), and the other contains 15 items (Baer, Carmody, et al., 2012). Gu et al. (2016) compared the FFMQ-15 to the original 39-item version and found it to be an acceptable replacement. To minimise the burden on the participants, the shortest form appeared to be most useful for the purposes of this study. The 15-item version contains three items for each of the five facets from the original 39-item scale. Respondents rate items on a 5-point Likert scale ranging from 'Never or very rarely true' (1) to 'Very often or always true' (5). Negatively phrased statements such as 'I do jobs or tasks automatically without being aware of what I'm doing' are reverse scored. The minimum score is 15, and the maximum score is 75.

The Cronbach's α on the FFMQ in this study was calculated to check internal reliability, and the result was very low with $\alpha = .28$ pre-intervention. The post-intervention $\alpha = .84$. No one item, if excluded, would improve the α above the .70 mark on the pre-intervention survey. However, five items, if deleted, would improve the α above the current level. These items were: 1, 2, 6, 7, 8, 10, and 12 – almost half the 15-item scale.

Perceived Stress Scale (PSS). Stress reduction is one of the main aims of the standard 8-week MBSR intervention. The PSS is a short 10-item measure of perceived stressors frequently used to study the effects of mindfulness in general populations (Baer, Carmody, et al., 2012; Manotas et al., 2014; Querstret et al., 2018; Worly et al., 2019). The PSS has been found to be reliable and valid for both University students and the general population (S. Cohen et al., 1983), and it is often used in research on mindfulness in medical students (Bond et al., 2013; A. Chen et al., 2016; Phang et al., 2015).

This perception-based scale, which also considers situational factors, may be more relevant to mindfulness interventions than others. Items such as 'How often have you felt that you were unable to control the important things in your life?' relate to situations within the medical school and without, which are all considered important factors in this population (Pereira & Barbosa, 2013). The PSS is one of the most common self-report measures of stress, which may also indicate a changing relationship between personal and external factors. More specific scales for detailing external stressors in medical school (Dahlin et al., 2005) may be less sensitive to change as they are even more focused on organisational factors rather than perceptions. Furthermore, the PSS can be compared to a wide range of other studies (S. Cohen et al., 1983).

The questions are scored on a 5-point Likert scale from 'never' (0) to 'very often' (4), resulting in a minimum of 0 and a maximum of 40. The questionnaire was adapted to ensure adequate sensitivity to change following a 5-week course. The adaptation involved changing the beginning of each question to 'In the last week' rather than 'In the last month' to account for effects from the short intervention. The Cronbach's α on the PSS was $\alpha = .91$ pre-intervention and post-intervention, $\alpha = .89$.

Self-Compassion Scale-Short form (SCS). Self-compassion has been consistently associated with improvements in anxiety, depression and stress, even more than trait

resilience in students (Shebuski et al., 2020). Furthermore, there is a well-established empirical link between increased self-compassion and a reduction in the severity of PTSD symptoms in traumatised populations (Winders et al., 2020). Any increase in self-compassion is thought to increase the ability to cope with strenuous challenges while improving empathy (Birnie et al., 2010).

The original Self-Compassion Scale (SCS; Neff, 2003b) included 26 items which were designed to measure how individuals tend to judge or harshly evaluate themselves. The scale comprises six sub-scales, including Self-Kindness, Self-judgement, Common Humanity, Isolation, Mindfulness, and Over-identification. The original scale demonstrates good construct validity and theoretical soundness. The scale was critiqued for the level of generalisability of the factor structure, but this was mostly seen in translational studies, and the scale is considered valid overall (Neff, 2016).

The short form of the SCS contains 12 items and is nearly perfectly correlated with the full scale (Raes et al., 2011). All of the items are rated based on a 5-point Likert scale ranging from 'Almost never' (1) to 'Almost always' (5). The minimum score is 12, and the maximum is 60. Raes et al. (2011) do not recommend separately analysing the subscales on the short version since there are only two items in each category and, are thus less reliable than subscales from the full version. The Cronbach's α on the SCS in Study One in this thesis was $\alpha = .86$, and at post-intervention, $\alpha = .85$.

Interpersonal Dependent Variables Measures

Jefferson Scale of Physician Empathy – Student Version (JSPE-S). The JSPE-S was adapted for students based on the JSPE. The JSPE has been validated (Hojat et al., 2001) and used extensively in medicine (D. Chen et al., 2012) to measure what appears to be attitudes towards empathy. However, it was designed to measure cognitive empathy in doctors and not students (see Chapter 2). On the 20-item JSPE-S, like the JSPE, respondents

indicate the level to which they agree with statements about the importance of various aspects of empathy, ranging from Strongly Disagree (1) to Strongly Agree (7). Examples of statements include 'patients feel better when their physicians understand their feelings' and 'understanding body language is as important as verbal communication in physician-patient relationships'. Scores range from a minimum of 20 to a maximum of 140.

A significant change in JSPE scores was reported in an RCT of 63 primary health care physicians following 8-weeks of mindfulness education based on MBSR (Martin-Asuero et al., 2014) and in an RCT of eight weeks of mindful communication in 70 primary care doctors (Krasner et al., 2009), as well as an RCT in 28 medical students (Barbosa et al., 2013). Shapiro et al. (1998) conducted the only other intervention in medical students which demonstrated improvement in empathy using the 100-item Empathy Construct Rating Scale (ECRS), which would be overly burdensome for participants (Sharma, 2022).

Attitudes to empathy, as measured by the JSPE, have been associated with third-party ratings of observed empathy (Hojat et al., 2002). However, in three small studies of 20-30 medical students following mindfulness interventions, JSPE-S scores did not improve (Bond et al., 2013; Danilewitz et al., 2016) or significantly worsened (A. Chen et al., 2016). A larger randomised controlled comparison conducted as part of a PhD thesis by de Vibe (2014) also showed no improvement in the JSPE-S as compared to a weight-list control group following an adapted MBSR group involving 1-hour weekly meetings over seven weeks for medical and psychology students. Due to the widespread use of this measure in medical contexts, it was included in the present study despite the apparent limitations. The Cronbach's α for the JSPE-S was .87 pre-intervention in this study and at post-intervention was $\alpha = .89$.

Perspective Taking and Emotional Concern Subscales of the Interpersonal Reactivity Index (IRI)

Perspective Taking and Emotional Concern Subscales of the Interpersonal Reactivity Index (IRI). The full version of the IRI (Davis, 1980) is a scale of 28 items and attempts to measure self-perceived ability in perspective taking, empathic concern, fantasy identification and personal distress. It was designed using lay participants. The JSPE has been correlated (r = 0.45 for total scales) with the IRI albeit by the original author who designed the JSPE (Hojat et al., 2002). Two pre-post intervention studies of mindfulness in nursing students (Beddoe & Murphy, 2004) and mixed health professionals (Galantino et al., 2005) found no significant improvement in the IRI following mindfulness training. This may have been due to the fantasy subscale skewing the results.

The fantasy subscale was found to have poor concurrent validity to other methods of measuring empathy (Baron-Cohen & Wheelwright, 2004) and has been excluded by studies in the past (Quince, Kinnersley, et al., 2016; Birnie et al., 2010). The perspective-taking element of the IRI includes six items related to cognitive empathy. The Emotional Concern subscale contains six items measuring affective empathy (Davis, 1980). Since cognitive and affective empathy are essential elements of clinical empathy, these subscales seem most useful for the present study. While the personal distress scale might have also been relevant, it includes items such as: 'When I see someone who badly needs help in an emergency, I go to pieces.' Since medical students are explicitly trained to deal with emergencies, this scale may be less sensitive and useful for the present population.

Together, the emotional concern and perspective-taking subscales represent experienced or felt empathy instead of attitudes towards empathy as measured by the JSPE. Each subscale contains seven items, such as 'I am often quite touched by things that I see happen' (EC) or 'I sometimes find it difficult to see things from the "other guy's" point of view'(PT). Each item is scored on a 5-point Likert Scale ranging from 'Describes me extremely well' (5) to 'Does not describe me well' (1), with negatively worded items

reversed. The EC or PT subscales together result in scores ranging from 14 to 70. In the present study, the Cronbach's α on the EC and PT subscales of the IRI was .86 pre-intervention, with a mean of 36.92, and at post-intervention, α = .67 with a mean of 40.43. Upon inspection, one respondent entered 0 for all of the baseline questions on the IRI, and so this score (participant 20) was removed from the final analysis as it is likely this participant completed the score disingenuously.

Social Connectedness Scale-Revised (SOCS). Social connectedness has a theoretical link to mindfulness and empathy (Lee et al., 2001; Lee & Robbins, 1995; Pavlovich & Krahnke, 2012). However, none of the studies designed to investigate the effect of mindfulness on social connectedness found any empirical link. None of them reported investigating the impact of social connectedness on mindfulness or empathy levels (Bowen et al., 2012; J. Cohen & Miller, 2009; Neff & Germer, 2013). As such, it is currently unknown whether social connectedness may partially account for variations seen in the literature regarding the effects of mindfulness on empathy.

This scale aims to quantify how connected individuals feel to others. The questionnaire is a 20-item, self-report scale scored on a 6-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (6) and a minimum score of 20 to a maximum score of 120. Negative results on this scale are related to general psychological distress and dysfunctional interpersonal behaviours. Higher scores have been associated with a number of pro-social behaviours and personality traits that are theoretically useful for those in the helping professions (Hutcherson et al., 2008; James et al., 2017; Kok & Singer, 2017; Lee et al., 2001). Questions on the SoC include: 'I find myself actively involved in people's lives' and 'I feel comfortable in the presence of strangers.' The scale is considered valid and reliable (Lee et al., 2001). In the present study, Cronbach's α on the SCS .94 pre-intervention, with a mean of 83.35, and at post-intervention, α = .95 with a mean of 84.69.

Short Form Scale for Interpersonal Behaviour (s-SIB). This scale (s-SIB; Arrindell et al., 2002) measures aspects of difficulty and distress related to assertiveness as part of a set of social interactions and related to self-esteem. The full scale includes the following separate domains: Negative Assertion (NA; defending rights and interests), Positive Assertion (PA; giving and receiving compliments), dealing with Personal Limitations (PL; admitting ignorance and requesting help), and Initiating Assertiveness (IA; introducing oneself or expressing opinions). Items in each domain relate to two separate categories which are consistent across the scale: Performance (PER) or the degree with which participants believe they engage with the stated behaviours, and Distress (DIS) or the level of inner tension or upset experienced in the examples in the questions (Arrindell et al., 2002). The short form of the scale uses 12 items from the PL and IA subscales only. This version of the scale shows good internal consistency between items and the original test compares well to the short form (Arrindell et al., 2002).

Combining the PL and IA scales, the s-SIB used in this study is a 24-item questionnaire scored using a 5-point Likert scale. Respondents score 12 items such as 'starting a conversation with a stranger' or 'admitting you know little about a particular subject' on a 5-item Likert scale ranging from 'not at all uncomfortable' to 'extremely uncomfortable'. The same 12 items, including 'asking someone to explain something you have not understood' and 'telling someone who has justly criticised you that he/she is right', are also scored using a 5-point Likert Scale ranging from 'I never do' (1) to 'I always do' (5). Scores range from 24 to 120.

The lower the score on the s-SIB, the fewer problematic interpersonal behaviours related to personal limitations and initiating assertiveness that a person exhibits. These behaviours are important components of communication and professionalism which could be associated with variations in changes of empathy. Items as part of the DIS category have

correlated (r > .50) with other measures of socially related anxiety as well (Arrindell et al., 2002). In the present study, Cronbach's α on the s-SIB was α = .83 pre-intervention and post-intervention, α = .89.

Additional Baseline Variables. A general demographics questionnaire measured:

1. Demographic information such as gender, age, year of course, type of course, year of study, marital status, number of children, and socio-economic status (as measured by income or family income)
2. Level of prior mindfulness or meditation experience
3. Number of general communication sessions completed (as part of their curriculum)

Post-Intervention Variables. The following data were gathered after the interventions:

1. Attendance at group mindfulness sessions
2. Post-course evaluation (satisfaction questionnaire)

A post-course evaluation questionnaire was developed to determine participants' satisfaction with the course. The students were asked to rate the following aspects of the course on a Likert scale of 1-5: Quality of teaching, usefulness now, usefulness for future clinical practice, the quality of the teaching rooms, the quality of the audio recordings, the quality of the written materials, the quality of the organisation, the length of the sessions and the length of the course. There was also a question about overall satisfaction, which was a 10-item scale. The survey included a chance to qualitatively report the aspects of the course the participants found most and least useful (see Appendix B for the questionnaire).

Procedure

Ethical approval was sought and obtained (see Appendix A). Several procedural considerations are noted as part of conducting research on in situ teaching in an established curriculum.

1. Following screening, student volunteers were randomly assigned to either the MBSR or MBSR + IM groups using www.random.org. Final-year students were assigned separately to third-year students so that equal mixtures of the final-year students were in each group. Randomisation was not based on any other demographic factor such as age, gender, or type of course (undergraduate or graduate). In total, 60 volunteers were allocated.
2. The researcher could not be blinded to which students were in which group as she was randomly assigning participants and leading the groups. The participants were told that the purpose of the study was to compare two distinct types of mindfulness training and that they were blinded to the differences between the groups. Participants were asked not to compare notes with colleagues in the other arm of the study.
3. Pre- and post-intervention self-reported measures were filled in using the Qualtrics online survey system.
4. Students were asked to fill in the pre-intervention questionnaires one week ahead of the course, and some time was provided during the first session for this as well. The post-intervention questionnaire was sent to the participants one week following the end of their course, and they were sent up to four automatic reminders through the Qualtrics system during a period of up to two weeks. Qualtrics enabled automatic reminder emails to be sent only to those who had not yet completed the questionnaire without the researcher knowing which students had responded.
5. Both groups had access to the same course materials (for blinding purposes). However, this meant that the IM group's materials did not include information on the principles of their additional practices or Kramer's (2007) guidelines, nor any tips for practising the IM approach in their own time.

Analysis

The assumptions for MANOVA are not met in this sample since the sample was small, and the empathy measures are not statistically independent, nor is this a random sample from the population of interest (Field, 2017, p. 753). As a result, no MANOVA was completed. Instead, 2 x 2 mixed measures ANOVAs with time as the within-participant factor and group as the between-participant factor were conducted for each main dependent variable.

ANOVAs were also conducted using gender as the between-participant factor for the interpersonal variable of empathy. It was difficult to predict what effect the interventions would have on male and female medical students since empathy is lower in males (Quince, Thiemann et al., 2016), and mindfulness has occasionally improved only for female medical students without any coinciding effect on empathy as measured by the JSPE (de Vibe, 2014; de Vibe et al., 2013). As such, the exploration of the effects of gender was centred around the null hypothesis: that there would be no difference between the effects on empathy for men and women in the sample.

Results

Demographics

A total of 53/60 participants filled in the baseline questionnaire, although only 35/60 filled in the post-intervention survey. Not all of those who filled in the post-intervention survey had filled in the baseline survey, leaving a full sample of 29 students. There was a higher proportion of male students (55%) than female students (45%) across the full sample, with the MBSR + IM group containing 60% men. This is unusual since the student population in medical school consists of more females than males, and optional mindfulness interventions for medical students relying upon volunteers usually consist of between 70-90% females (Daya & Hearn, 2018). No other differences between the groups according to

categorical demographic variables such as ethnicity, religion, or socio-economic status were found using chi-square tests. A chi-square test also shows no significant differences between the groups regarding gender, type of course, and prior meditation experience (see Table 2). However, the groups are very small. The mean age (23.3) was the same for both groups.

Table 2

Characteristics of the Groups in Study One

	Intervention Groups		Differences between groups
	1	2	
Independent Categorical Demographic Variable	MBSR n = 14	MBSR + IM n = 15	Chi square (p-value)
Gender:			
Men	7 (50%)	9 (60%)	0.29 (0.59)
Women	7 (50%)	6 (40%)	
Type of course:			
Under-graduates	7 (50%)	10 (67%)	0.83 (0.36)
Graduates	7 (50%)	5 (33%)	
Year of study:			
Second year	2 (14%)	3 (20%)	0.166 (0.92)
Third year	11 (79%)	11 (73%)	
Final year	1 (7%)	1 (25%)	
Prior meditation experience			
No experience	8 (57%)	9 (60%)	0.024 (0.88)
Very little experience	6 (43%)	6 (40%)	

Difficulties Measuring Home Practice Time

Initially, a smartphone application was meant to record the actual home practice time, but it did not work and could not be fixed. This was discovered two weeks into the first iteration of the course. As a result, home practice time had to be dropped as a variable for this study, and no reliable results were available as a substitute.

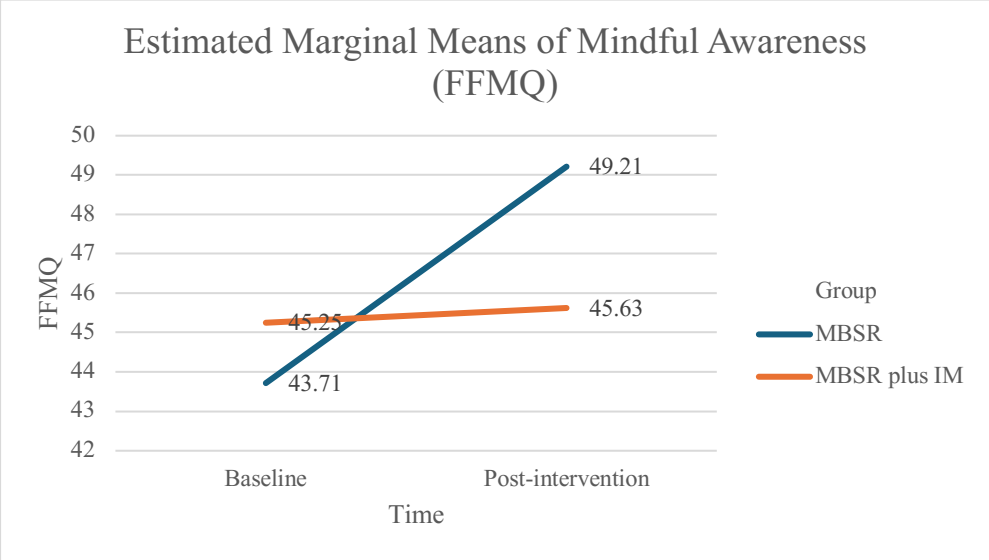
Intrapersonal Dependent Variable Results

Mindfulness (FFMQ)

The main effect of Time on mindfulness as measured by the FFMQ was significant across the whole cohort according to the 2x2 mixed ANOVA, [F (1,28) = 4.70, p =.04], but the main effect of Group was non-significant [F (1,28) = .313, p =.58]. The interaction between Time and Group approached significance, [F (1,28) = 3.58, p = .07]. A follow-up t-test shows mindfulness increased significantly for the MBSR group (t = 2.42; p = .029) over time but not MBSR + IM (t = .57; p = .58; see Figure 2). However, the internal reliability of this measure is in question due to the low Cronbach's α of .28 at baseline, and as such, these results are inconclusive. There is no clear indication why this scale might have produced a low level of internal reliability at baseline. Participants could have filled in the answers without reading carefully or paying attention to the instructions.

Figure 2

Mindfulness Scores (FFMQ) as a Function of Time and Group



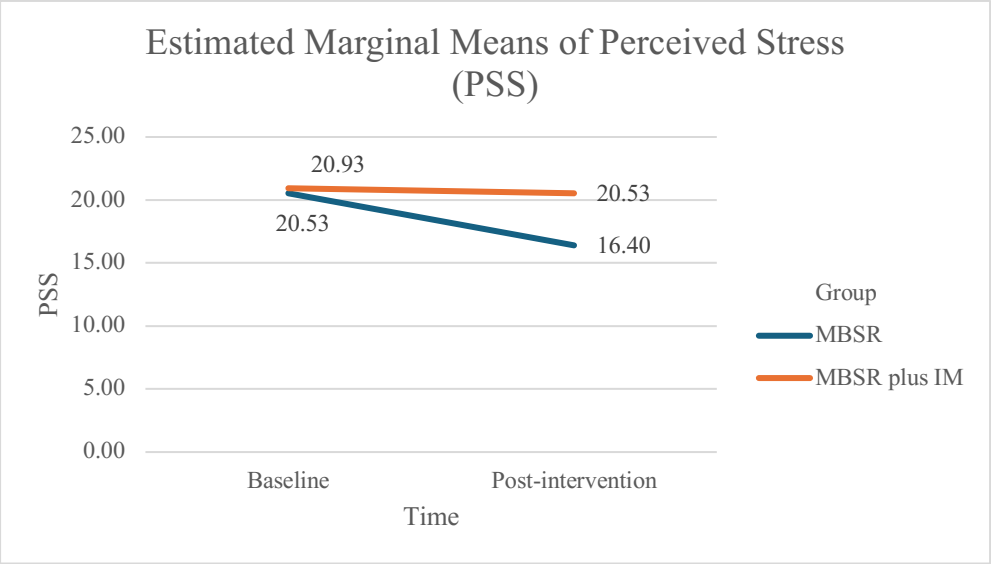
Perceived Stress (PSS)

According to the 2x2 mixed ANOVA, the main effect of Time on the PSS approached significance [F (1,28) = 3.94, p = .06]. The main effect of Group was non-significant [F (1,28) = .81, p = .38]. The interaction between Time and Group was non-significant, [F (1, 28) = 2.67; p = .113] (see Figure 3).

Due to the exploratory nature of this small pilot study, and since the main effect of Time approached significance, even though the interaction between Time and Group was non-significant, a follow-up t-test was conducted. This shows PSS decreased significantly for MBSR (t = -2.13; p = .04) but not MBSR + IM (t = -1.73; p = .09).

Figure 3

Perceived Stress Scores (PSS) as a Function of Time and Group



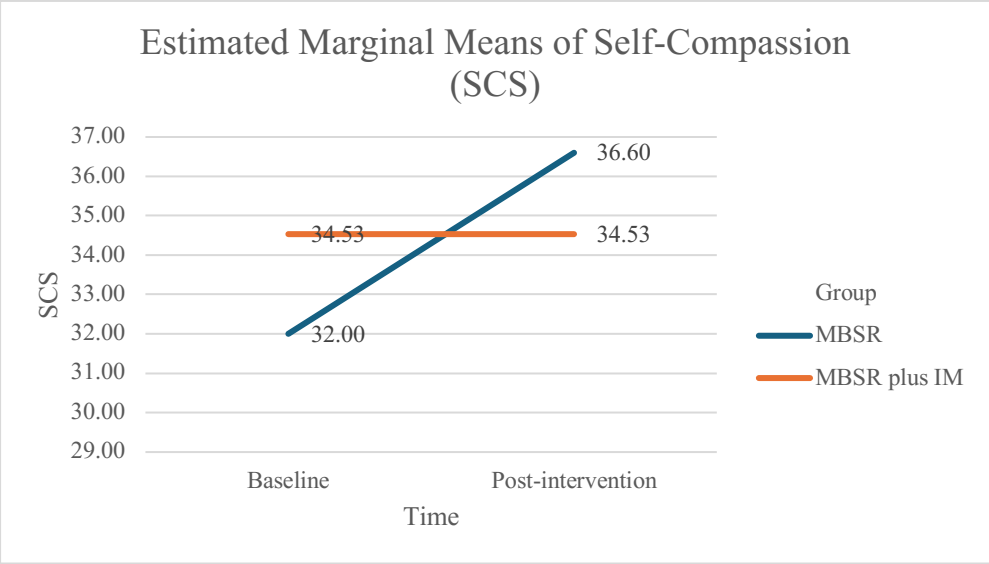
Self-Compassion (SCS)

According to the 2x2 mixed ANOVA, there was no significant main effect of Time on self-compassion [F (1,28) = 2.51, p = .12] (see Figure 4). There was also no effect of Group [F (1,28) = .006, p = .94]. There was also no significant interaction between Group and Time [F (1,28) = 2.51, p = .12]. Self-compassion did not change more for one group than the other.

Due to the exploratory nature of this small pilot study, even though the interaction between Time and Group was non-significant, a follow-up t-test was conducted. This shows that self-compassion did not significantly improve for the MBSR group (t = 1.8; p = .10) or the MBSR + IM group (t = .002; p = .999).

Figure 4

Self-Compassion Scores (SCS) as a Function of Time and Group



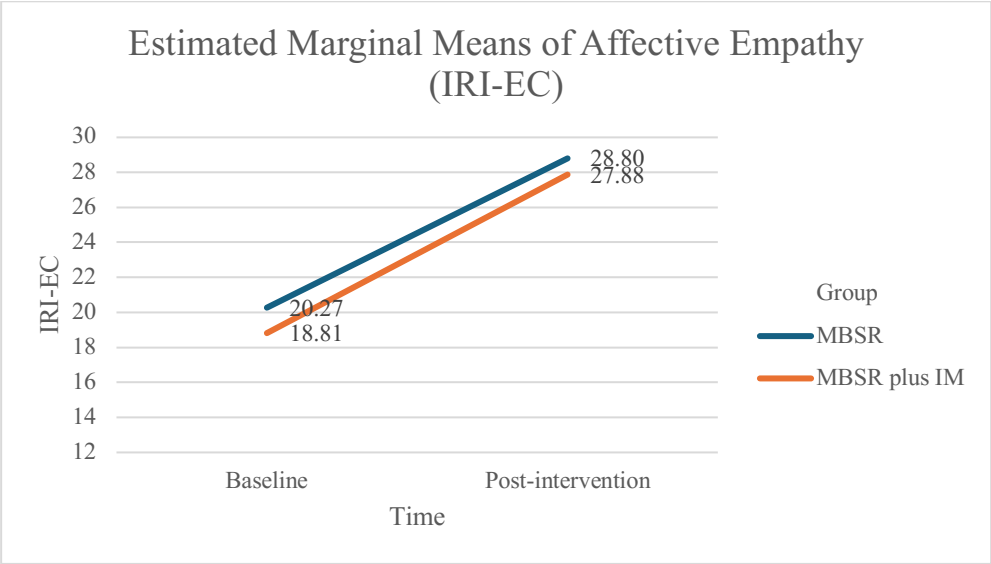
Interpersonal Dependent Variable Results

Affective Empathy (IRI-Emotional Concern)

According to a 2x2 mixed ANOVA, the main effect of Time on affective empathy (IRI-EC) when evaluating the differences between the two interventions was significant [F (1, 29) = 180.71, p < .001] (See Figure 5). The main effect of Group was non-significant [F = .163; df 1,29; p = .689], meaning there was no difference between the effect of the two groups on emotional concern. There was no significant interaction between Group and Time [F (1, 29) = .12, p = .73].

Figure 5

Affective Empathy Scores (IRI-EC) as a Function of Time and Group

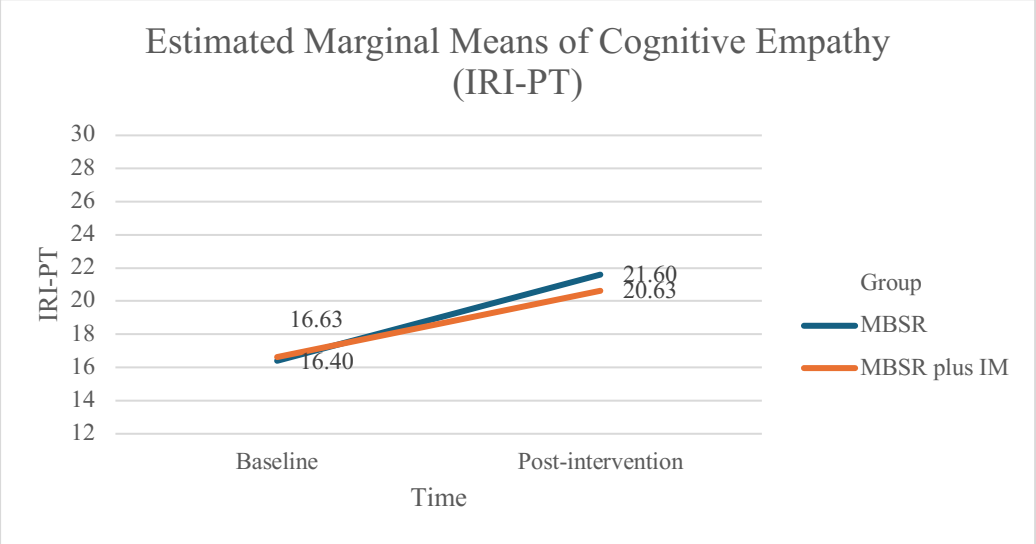


Cognitive Empathy (IRI-Perspective Taking)

According to a 2x2 mixed ANOVA, the main effect of Time on cognitive empathy (IRI-PT) when evaluating the differences between the two interventions was significant [$F(1,29) = 21.29$, $p < .001$] (see Figure 6). This means that levels of cognitive empathy were higher overall after the interventions than before. The main effect of Group was non-significant [$F(1,29) = .11$, $p = .74$], meaning both groups had the same positive effect on cognitive empathy. There was no significant interaction between Group and Time [$F(1,29) = .36$, $p = .55$].

Figure 6

Cognitive Empathy Scores (IRI-PT) as a Function of Time and Group

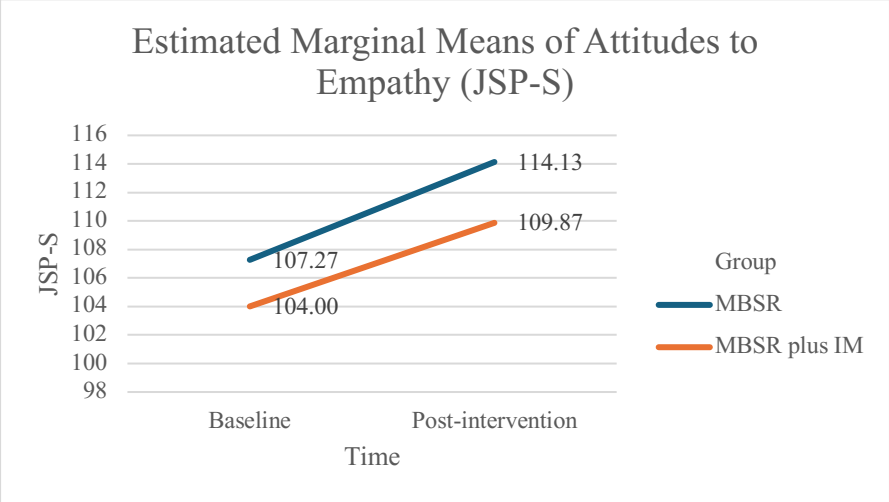


Attitudes to Empathy (JSPE-S)

The main effect of Time on attitudes to empathy (JSPE-S) was significant [F (1,28) = 7.52, p = .01] according to a 2x2 mixed ANOVA (see Figure 7). When evaluating the differences between the two interventions, attitudes to empathy were higher overall post-intervention than pre-intervention. The main effect of Group was non-significant [F (1,28) = .32, p = .57], meaning that there was no difference between groups overall in their levels of attitude to empathy. There was no significant interaction between Group and Time [F (1,28) = .05, p = .83].

Figure 7

Attitudes to Empathy Scores (JSPE-S) as a Function of Time and Group

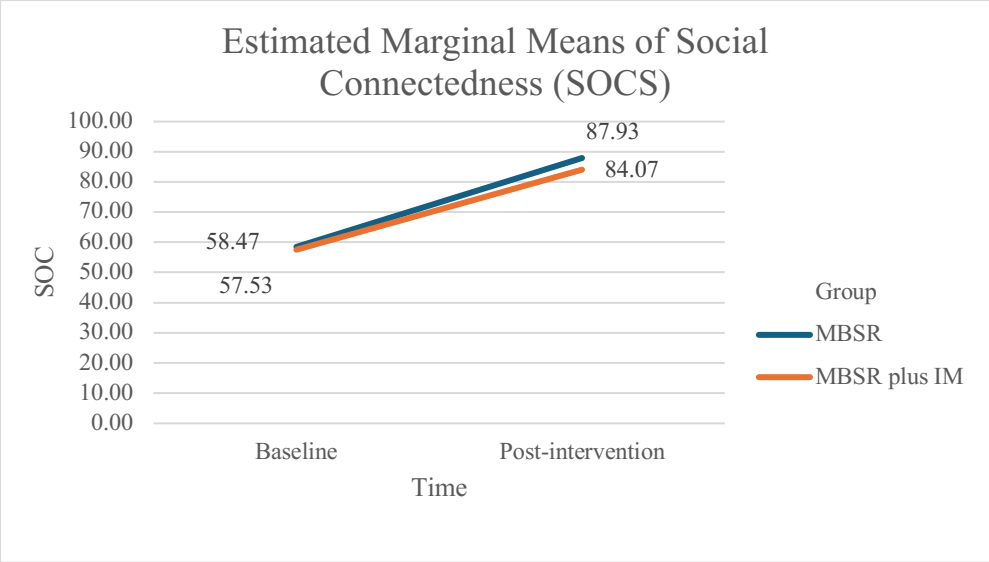


Social Connectedness (SOCS)

The main effect of Time on social connectedness (SOCS) was significant [F (1,28) = 143.24, p < .001] according to a 2x2 mixed ANOVA, with higher levels of social connectedness visible post-intervention than pre-intervention (see Figure 8). The main effect of Group was non-significant [F (1,28) = .21, p = .65]. There was no significant interaction between Group and Time, F (1,28) = .05, p = .83.

Figure 8

Social Connectedness Scores (SOCS) as a Function of Time and Group

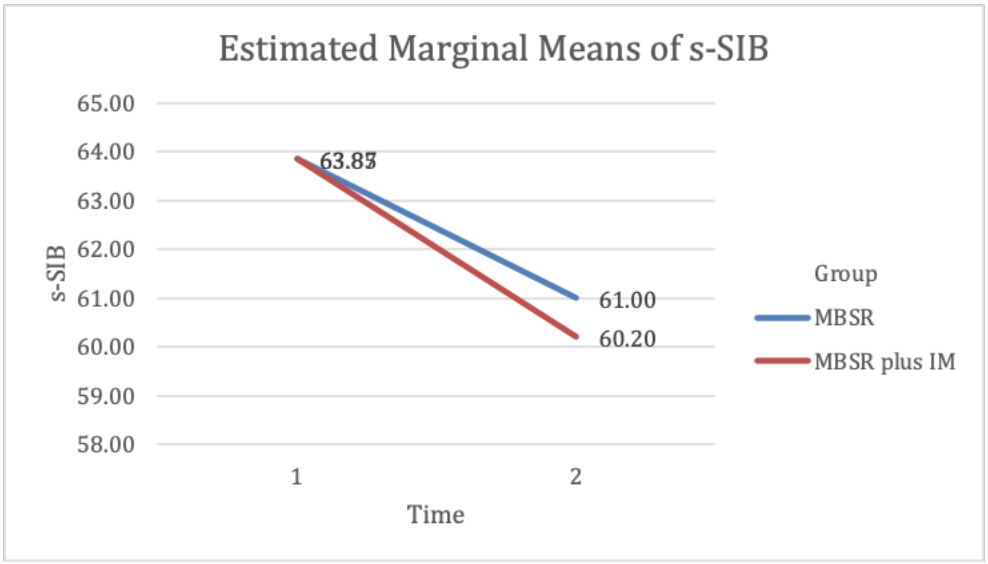


Interpersonal Behaviour (s-SIB)

The main effect of Time on interpersonal behaviour was non-significant [F (1,28) = 1.84, p = .19] according to a 2x2 mixed ANOVA. Thus, levels of problematic interpersonal behaviour remain effectively similar post-intervention compared to pre-intervention (see Figure 9). The main effect of Group was non-significant [F (1,28) = .06, p = .94]. There was no significant interaction between Group and Time between Time 1 (Baseline) and Time 2 (Post-intervention) [F (1,28) = .03, p = .87].

Figure 9

Interpersonal Behaviour (s-SIB) as a Function of Time and Group



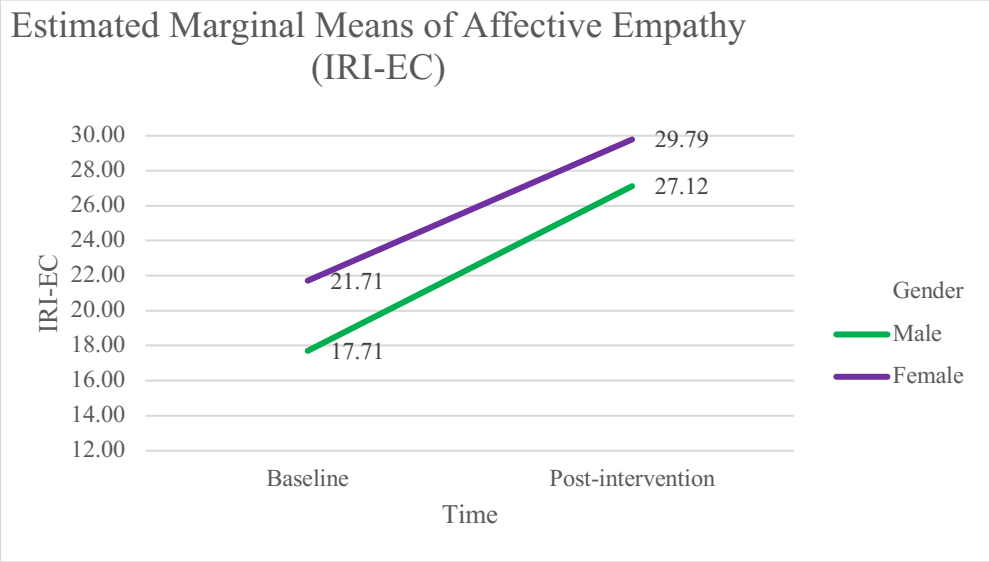
The Effects of Gender

The subsequent three analyses explored the effects of gender on different indices of empathy using mixed 2 x 2 ANOVAs with gender as the between-participants factor and Time as the within-participants factor. Any effect of gender was considered across the sample as a whole since the groups affected empathy equally strongly (see Figures 5, 6 and 7). Subsequent analysis aimed to determine if there were differences between men and women relating to changes in empathy levels over time, as would be evident from a significant interaction term. No transgender or other genders were reported in this sample, although the option was available on the questionnaire.

Affective Empathy (IRI-Emotional Concern) and Gender. Levels of emotional concern, indicating affective empathy, were significantly higher post-intervention than at baseline [F (1, 29) = 182.43, p < .001)] for the entire cohort. Both the main effect of gender [F (1,29) = 1.07, p = .31) and the Gender x Time interaction were non-significant [F (1,29) = 1.17, p = .30) (see Figure 10). This means that the significant increases in emotional concern over time were the same for both men and women in this sample.

Figure 10

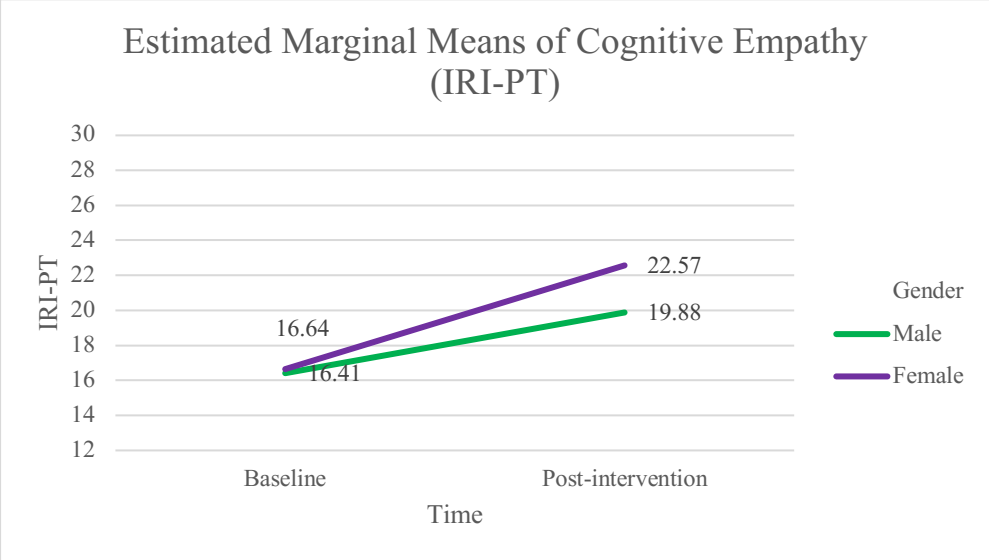
Affective Empathy Scores (IRI-EC) as a Function of Time and Gender



Cognitive Empathy (IRI-Perspective Taking) and Gender. According to a 2x2 mixed ANOVA, the main effect of Time on cognitive empathy was significant [F (1,29) = 22.95, p < .001] for the entire cohort, meaning perspective taking was significantly higher post- than pre-intervention (see Figure 11). The main effect of Gender was non-significant [F (1,29) = .11, p = .74], with men and women reporting statistically similar levels. There was also no significant interaction between Gender and Time [F (1,29) = .36, p = .55]. Thus, the significant increases in perspective taking over time were the same for both men and women in this sample.

Figure 11

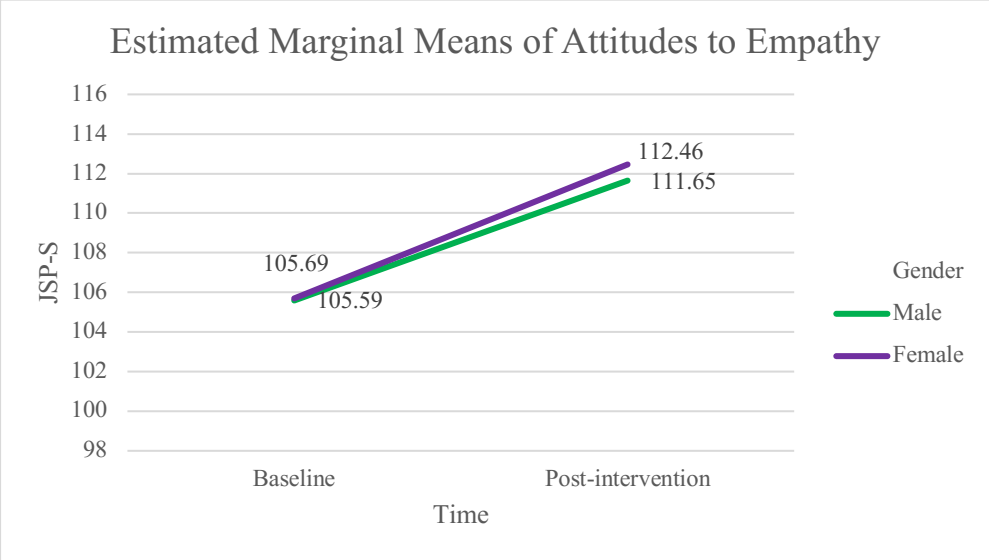
Cognitive Empathy Scores (IRI-PT) as a Function of Time and Group



Attitudes to Empathy (JSPE-S) and Gender. According to a 2x2 mixed ANOVA, the main effect of Time on attitudes to empathy (JSPE-S) was significant [F (1,28) = 7.49, p = .01]; participants reported stronger empathic attitudes after the interventions than before. The main effect of Gender was non-significant [F(1,28) = .005, p = .946], meaning both men and women reported similar levels. There was no significant interaction between Gender and Time [F (1,28) = .05, p = .83] (see Figure 12), indicating that the changes were similar for both men and women.

Figure 12

Attitudes to Empathy Scores as a Function of Time and Group



Comparing Empathy Scores to Population Norms

According to t-tests, there were no significant differences between the MBSR and MBSR + IM groups on any baseline and post-intervention empathy and interpersonally oriented scores, so the data set was treated as one for contextualising the results compared to the national population of medical students. As shown in Table 3, the baseline results began below the UK norms set by Quince, Thiemann et al. (2016) for all of the PT, EC, and JSPE-S empathy measures. This difference was compared using SPSS, placing Quince, Thiemann, et al.'s (2016) means as norms (test values) across all three empathy domains as the comparison for a single sample t-test (*SPSS Tutorials: One Sample T-Test*, n.d.). The norms for students in Year 5 or 6 from the Quince et al. (2016) study, to compare to the scores in the present sample, are reported in Table 3 as test values. The scores for the present study are presented in Table 3 as study values.

The results show that by the end of the study, students in the entire sample significantly surpassed nationally established norms on two out of three measures of empathy despite beginning at lower levels. Before the interventions, the present sample was less proficient at empathic perspective taking than the average UK medical student by year 5 or 6 (Quince, Thiemann, et al., 2016), as measured by the IRI-PT. Prior to the interventions, attitudes to empathy as measured by the JSPE-S were also lower than the UK norms (test values). Post-intervention, cognitive (IRI-PT) and affective (IRI-EC) empathy scores were significantly higher than the UK norms (Quince, Thiemann, et al., 2016). Post-intervention, the JSPE-S scores in the sample matched the UK norms (test values, see Table 3).

Table 3

Comparing Mean Empathy Scores to the UK Norms for the Whole Sample

		Cognitive Empathy IRI-PT			Affective Empathy IRI-EC			Attitudes to empathy JSPE-S		
	n	Study value (sd)	Test value (sd)	t (sig)	Study value (sd)	Test value (sd)	t (sig)	Study Value (sd)	Test value (sd)	t (sig)
Baseline	49	**17.18** (5.19)	19.35 (4.28)	-2.92 (.005)	19.73 (5.57)	21.18 (4.03)	-1.817 (.075)	**107.13** (17.19)	112.37 (11.75)	-2.11 (.04)
Post-intervention	35	**20.71** (3.70)	19.35 (4.28)	2.18 (.036)	**27.97** (3.57)	21.18 (4.03)	11.26 (<.001)	112.20 (17.82)	112.37 (11.75)	-.056 (.955)

Note. Test values (UK norms) were obtained from Quince, Thiemann et al. (2016, p.446-447) based on Year 5 or 6 student values for all genders combined. Scores that were significantly different from the test values according to a single sample t-test are in bold.

Mindfulness Interventions Evaluation Data

1. The mean satisfaction score, out of a possible 55, was 45.88 (5.65) (83% satisfied) for the MBSR group and 45.00 (3.37) (82% satisfied) for the MBSR + IM group. A t-test showed these not to be significantly different ($t = .71$, $p = .48$). The satisfaction score was also internally reliable (Cronbach's $\alpha = .78$). No single item, if deleted, would drop α below .70. Since both groups consistently rated the course (teaching, rooms, and materials) between excellent and good on a 5-point Likert scale ranging from Excellent to Poor, both groups were satisfied with the course they participated in.
2. No significant differences between the groups were found on any of the evaluation measures.
3. Students were asked to name the most and least useful aspects of the course. There were mixed comments about many different aspects of the course, including the IM exercises for those who experienced them.

<u>One student listed IM as the most useful aspect of the course:</u>

"I found the talking with other participants on our inner experiences to be the most

enlightening" (a 30-year-old white male assistant psychologist on the graduate course, with some prior meditation experience)

One student listed IM as the least useful aspect of the course:

"Probably mindful talking. I believe this is just due to the fact that I'm not used to it and need to keep at it" (a 22-year-old Asian female business owner on the undergraduate course with no prior meditation experience.)

Other Positive Comments

Other positive free text comments mentioned the sessions, characterising them as supportive and enjoyable. In addition, the body scan was seen as relaxing, informal meditations were considered refreshing and easy to work into daily life, mindful walking (in the MBSR group) renewed awareness of a regular activity that is often taken for granted, and taking time out was nourishing. Breathing was calming, practising being kinder to oneself was helpful, choosing different techniques was empowering, learning coping mechanisms was useful, developing a daily routine of mindfulness to help with studies was supportive, and the home practice meditations were a nice reminder of what had been covered in the course.

Other Negative Comments

Other negative comments referred to the quality of the rooms, which were sometimes noted as dingy with floors that were too hard (these were the only ones available), sitting (breath) meditations, which were occasionally considered too challenging, practising at home, which was difficult to stick to, mindful walking that felt unnatural, mindful yoga movements which not everyone felt comfortable with, increasing awareness of positive and negative feelings which could be difficult to acknowledge, feeling as though they were being asked to prescribe identities to feelings (which was not the intention), and the home practice meditations which were not considered to be of ideal quality. The recordings were informally

done during the sessions and posted immediately afterwards, including the extraneous sounds and so on; plus, the app did not work as originally expected, so the access to them changed part-way through the course.

Discussion

The primary aim of the pilot study was met in that both 5-week courses were feasible and acceptable for the medical students who reported equally high levels of satisfaction. It was hypothesised (H1) that both groups would perform equally well on all intrapersonal variables and (H2) that the MBSR + IM group would perform more effectively on interpersonal variables.

H1 was refuted in that neither group resulted in significant improvements on all intrapersonal variables, and the MBSR + IM group did not match the intrapersonal impact of the MBSR group. Stress reduced significantly in the MBSR group ($p = .041$) according to a t-test. This was not the case for the MBSR + IM group. Neither intervention significantly improved self-compassion. Mindfulness for the entire cohort significantly increased over time, albeit less so in the IM group. However, the reliability for the FFMQ scale was very low at baseline ($\alpha = .28$). As such, the impact of both interventions on mindfulness remains unclear.

H2 was partially supported in that both groups resulted in significant improvements on three out of four interpersonal variables, and the MBSR + IM group matched the impact of the MBSR group. However, the MBSR + IM group did not impact any of the interpersonal variables more significantly than the MBSR group as initially predicted. Empathy, as measured by the JSPE-S and IRI, improved significantly along with social connectedness in both groups. Interpersonal behaviour improved for neither group.

The analysis of variance on all measures of empathy indicated no gender differences between men and women following the interventions. Both men and women in the sample

improved their empathy across all domains – affectively, cognitively (as measured by the EC and PT subscales of the IRI) and attitudinally (as measured by the JSPE-S). Any other potential influences from other demographic variables were not explored since both groups were similarly diverse in all other domains as determined by a chi-square analysis (see Table 2).

Interpersonal variables improving in the MBSR + IM group, without any effect on stress, is counter to prevailing theoretical expectations that empathy generally improves if stress levels improve (A. Chen et al., 2016). Considering some possible practical, empirical, theoretical, and educational reasons for the surprising results is essential for enhancing interventions in future.

Potential Explanations for the Surprising Results

The convenience volunteer sample consisted of 50% men in the MBSR group and 60% in the MBSR + IM group (55% overall). Although these gender proportions were not statistically different between the two groups, they may have been experientially influential, meaning women and men practised IM together from the start, with unknown consequences. The equal effect on empathy in male students in both groups is also noteworthy since MBSR has performed differently for men than women in other studies (de Vibe et al., 2013), and empathy is typically lower for men than women (Quince, Thiemann, et al., 2016).

Since empathy improved significantly for both groups and did not affect men differently than women, the IM practices may have been more helpful to men than other approaches. However, this is purely speculative. Other mindfulness studies that have not improved empathy in medical students, have been conducted on samples of 70% or more women (Danilewitz et al., 2016; de Vibe, 2014), or the gender proportions have not been reported (Bond et al., 2013; A. Chen et al., 2016).

An empirical aspect of this study that may have affected the surprisingly low impact on perceived stress is the starting point for the PSS. One study which found significant improvements following a short (4-week) mind-body awareness program for medical students reported that the mean PSS scores at the start of the study were approximately 30 (a very high score) (Greeson et al., 2015). By the end of that study, the average PSS scores were approximately 20. In the present study, the stress scores started around 20 and only reduced marginally. Nevertheless, the MBSR group displayed a significant difference in stress, and the IM group did not. The mean PSS score in the original Cohen et al. (1983) study to validate the PSS was 23, which is also higher than the present sample. The students in the current sample may have already been somewhat calmer than usual due to beginning a five-week SSC with fewer demands than their usual routine. Or, perhaps it's only possible to improve stress to a certain degree in medical students, who regularly face more pressure than their counterparts in other courses (Erschens et al., 2019; Pereira & Barbosa, 2013). Results could be different for studies conducted under different circumstances or using different self-report measures.

Another empirical aspect to consider, is that most studies on mindfulness in medical students which demonstrate improvements in stress include other healthcare (Shapiro et al., 1998) or psychology students (de Vibe et al., 2013). On the other hand, quality RCTs, including only medical students or junior doctors, have also not shown strong effects on stress, burnout or mental health when combined in a meta-analysis (Sekhar et al., 2021). Perhaps the lack of stress reduction in medical students throughout the literature, in general, may be due to the high pressure facing this population (Pereira & Barbosa, 2013), combined with a potentially higher incidence of pre-existing trauma than in the general population (King et al., 2017).

Practically speaking, mindfulness has been shown to affect men differently than women in samples made up of a majority of females (de Vibe et al., 2013). Perhaps the recruitment method through snowballing, with groups of acquaintances or friends attending together, could have affected the gender proportions. The fact that 60% of the students in the IM group were undergraduate men, many of whom were known to one another before attending, may have rendered that group less prone to sharing emotional content openly. Familiarity may have prevented an overall atmosphere of compassionate understanding from developing, particularly if male participants tried to impress one another or were masking vulnerability due to stigmas about male emotional expression. According to mindfulness and educational theory (Hölzel, Lazar, et al., 2011; Mezirow, 2000; Shapiro et al., 1998), the effect of the group atmosphere and how safe it feels to express emotions openly could be just as important as meditation for decreasing perceived stress.

Practically and educationally speaking, comments from the participants helped interpret the results to improve the IM intervention. Some students found the IM exercises to be the most useful part of the group experience, while others reported the opposite – that IM exercises were the least useful. It is possible that the IM exercises may have been slightly too challenging for some and may have affected the group cohesion and sense of trust (Mezirow, 2000). Hölzel et al. (2011) compared FMRIs of lay participants before and after 8 weeks of MBSR (for participants who were new to mindfulness). They found that neither the amount of mindfulness practice nor the results of the FFMQ correlated with the beneficial neurological changes they observed in participants' brains. They concluded that the overall experience of MBSR, rather than simply practice time, caused the positive differences seen in the hippocampus. This calming mechanism is an important part of a parasympathetic response, which is one of the aims of MBSR. Positive, supportive, and gently relaxing group experiences thus may be just as important, if not more so, than meditation practice levels for

improving mindfulness. If the current group behaved differently due to the baseline group behaviour dominated by undergraduate men nervous about showing vulnerability, this could partially explain the lack of improvements in stress for the MBSR + IM group.

Theoretically, the results of this study invite questions about the prevailing assumptions concerning the relationship between empathy, stress, and mindfulness. Interestingly, despite a lack of improvement in stress, all measures of empathy and social connectedness improved in the IM group (as they did in the MBSR group). The effects were also particularly strong, with p values <.0001 for both affective and cognitive empathy, indicating very little likelihood that type I errors had occurred, even in this small sample. Additionally, some aspects of empathy (perspective taking and empathic attitudes) for the pilot sample (Table 3) began below the norms in medical students set by Quince, Thiemann et al. (2016). After the intervention, the mean empathy scores improved for men and women. Although the JSPE-S only matched the norms, the PT and EC subscales improved significantly above the norms as measured by a t-test. Empathy has often remained stable following mindfulness interventions (Bond et al., 2013; Danilewitz et al., 2016; de Vibe, 2014) or has even significantly worsened along with stress in one study (A. Chen et al., 2016). Compared to previous research, these results indicate that the IM model used may be extra helpful for improving empathy, even for those who do not improve their stress levels for various unmeasured, unknown, or unknowable reasons.

Contributing to the theory-driven methodological aspects of studying the effects of mindfulness on empathy, the results on the different empathy scales in this study echo the conclusions by Quince, Thiemann et al. (2016); the JSPE-S questionnaire captures something different than the IRI. The improvements on the JSPE-S were not as strong as the improvements in cognitive and affective empathy and did not surpass population norms, while the IRI results did (Quince, Thiemann, et al., 2016). A comparison of the results and a

review of the scales suggests that while reliably correlated in this study, the questions in the JSPE-S may be measuring different things based on face validity (see Appendix D). Since genuine empathy profoundly benefits both providers and receivers (Hojat et al., 2011; Vermeire et al., 2001), it may be worth thinking more critically about the utility of the JSPE-S to capture changes following communication and mindfulness courses. Changing the inner experience may be more important and sensitive than changing attitudes and requires further study.

Limitations

Although only one student dropped out of the mindfulness sessions, less than half of the original sample (29/60 students) completed both questionnaires. Thus, each group for the analysis contained only 14 (MBSR) and 16 (MBSR +IM) participants. Out of 60 busy medical student participants signing up initially, a 48% response rate is acceptable and is similar to response rates in other medical student studies (Daya & Hearn, 2018). However, nothing is known about the effects of the interventions upon those who dropped out of the data collection process.

Wellbeing was not included in the measures since mindfulness and self-compassion are associated with wellbeing (Baer, Lykins, et al., 2012), and the main focus was wellbeing-related factors that may affect empathy. Adding further measures would have been likely to overburden the participants. Causing fatigue and disengagement from asking too many questions can dilute the utility of all measures (Sharma, 2022). However, future studies aiming to clarify wellbeing may consider using the Warwick Edinburgh Mental Well-Being Scale, which is responsive and widely used (Maheswaran et al., 2012).

Due to the small sample and resulting low power, a type II error could be present in this study. There may be an improvement that was not picked up for stress in the IM group and self-compassion in the sample overall. Female medical students usually exhibit higher

mean PSS and burnout scores than men in other studies surveying the general population (Worly et al., 2019). However, it is unusual to see such strong improvements on empathy scales for both genders, particularly since other studies have exhibited no improvements in empathy and only improvements in mindfulness for women (de Vibe et al., 2013).

Furthermore, the difficulties with the smartphone app were a critical limitation. Since the app to measure meditation time failed in week two despite prior testing, it was not possible to reliably switch to measuring time spent practising via self-report. That's because students spent two weeks believing their practice was automatically recorded and didn't record it themselves. Additionally, some students also encountered difficulties accessing the meditation recordings on the app and may have found this to be an additional barrier to practice in the first two weeks before alternatives were provided. These problems mainly affected students using an Android phone, but it was unclear how many encountered difficulties with their home practice nor which of the groups they were in. As such, the problem was multi-faceted in that students may not have practised if they could not access the meditations easily, and any practice would also not be recorded. Switching from the app to MP3 recordings was the only option, although this also may have introduced additional barriers to practice. It is thus difficult to determine whether a difference in exposure to mindfulness practice may have caused the IM intervention to perform less strongly than the MBSR intervention on intrapersonal variables. This also highlights the importance of measuring meditation and informal mindfulness practice time for future studies, as it may be a vital component of a successful mindfulness-based intervention (Hölzel, Carmody, et al., 2011) along with creating a warm, welcoming, and non-judgemental atmosphere in the group (Hölzel, Lazar, et al., 2011).

Attempts to maintain blinding so that participants did not know anything about the differences between the two groups may have caused additional difficulties for the IM group.

Providing the same materials to both groups meant nothing was included in the materials about IM, only MBSR. Students in that group may have needed more support, such as recommended IM practice or further reading material to consider between sessions. Upon reflection, the IM guidelines may be absorbed more fully if reinforced with written material and signposted clearly from the start. This may be more important than blinding since the students meet separately and sign an agreement not to share course materials or discuss experiences with classmates in other groups until the end of the course.

The teacher was new to IM-based training but developed and taught adapted MBSR courses for five years before the study. As such, a sense of confidence and ease in the facilitator, which may be particularly important in transformational learning involving vulnerable situations (Mezirow, 2000), may have been somewhat stronger in the MBSR sessions. This may also partially explain why the MBSR group performed slightly better than the MBSR + IM group on the stress measure, combined with the previously discussed elements.

Although some participants derived great insight from the IM exercises (as indicated by comments in the questionnaire), these exercises may have caused some stress or discomfort for participants who were not feeling as supported or comfortable in the group, or who weren't practising in their own time for any reason. How the IM exercises were set up from the start of the five weeks may have created too much pressure for some of the medical students, a portion of whom knew each other as discussed above. Some participants may have felt overly self-conscious for assorted reasons, interfering with their capacity to develop more ease together. The culture in medical schools is notoriously judgemental, so students tend to worry about what others think of them, and it's important to keep that in mind for future work (Benbassat, 2013).

Perhaps allowing the groups a little bit more time to connect before introducing the IM exercises while building up their mindfulness skills and meditation practice in a kindly and self-compassionate manner could improve the outcomes. Perhaps groups require a little more time to get to know one another or get used to the new way of mindful interaction, particularly if some members are already acquainted. Additionally, having time to practise more intrapersonal meditation before they engage in potentially lightly exposing IM exercises could be beneficial. Thus, it may be best to wait until later in the course to introduce IM exercises after the group has had a chance to begin meditating together and so that some group safety, openness, and cohesion may develop. Several improvements can be made to the group format and facilitation style in future as well. Below, the lessons learned will be discussed in more detail.

Lessons Learned

From observing that occasionally, students appeared to feel uncomfortable during the IM exercises and sometimes opted out of them (which they were openly permitted to do as needed), it could be that they found the entire process more stressful than intended. Even choosing to opt out may have been counter-productive for relaxation purposes since students doing so sat quietly while their peers practised IM. This process of visibly differentiating themselves from their peers may not have been particularly calm and relaxing. In hindsight, a few students choosing to opt out may be due to a combination of factors.

First, low levels of home mindfulness practice may have magnified the effects of any subtle pressure since personal meditation is thought to strengthen interpersonal mindfulness (Bartels-Velthuis et al., 2020). Although meditation time at home was impossible to measure quantitatively due to the mid-study smartphone application failure, informal reports during the sessions indicate that the participants may have struggled to meditate much in their own time. Studies by Phang et al. (2015), Hassed et al. (2009), Warnecke et al. (2011), and Jain et

al. (2007) also indicate that medical students commonly struggle to meditate outside of the sessions.

Relating to judgemental cultures and the guidelines in the exercises, perhaps too much attention was paid to maintaining eye contact in the instructions, which was picked up as potentially problematic following supervision. Although research shows that eye gazing may activate the mirror neurons thought to be involved with empathy (Prochazkova & Kret, 2017), developing an atmosphere of trust between participants engaging in this is crucial. When looking into judgemental and uncompassionate eyes, the experience may be different than if met with kind acceptance. Extreme self-consciousness or unresolved shame in either party could magnify difficulties for both practitioners. As such, the original instruction to maintain eye contact whenever possible was likely too directive. This could have been too exposing or challenging for some. It may thus be best when introducing learners to IM not to stress the utility of eye contact and instead to discuss the fact that it is ok to look away whenever needed to look after oneself. Noticing one's own relationship with eye contact, including the inner experience of that, could be a more inclusively helpful directive.

Conclusions

The benefits from MBSR slightly outweighed the benefits from IM in this cohort of 29 students. The 14 participants in the MBSR group improved perceived stress levels, while the 16 participants in the MBSR + IM group did not. Self-compassion improved for neither group. Nevertheless, unlike four similar studies in medical students (Bond et al., 2013; A. Chen et al., 2016; Danilewitz et al., 2016; de Vibe, 2014), both groups strongly improved empathy and social connectedness. Despite the lack of improvement in stress in the IM group (comprised of 60% men) the strong improvements in empathy indicate something surprising; there may not be a linear relationship between stress and empathy, as others have concluded (A. Chen et al., 2016). Mindfulness may not always affect men differently than women

either, as others have found (de Vibe et al., 2013). It would seem that, at least for this small sample, something else is increasing empathy for the men and women in the IM group despite the lack of improvement in stress and self-compassion.

Furthermore, the strength of the improvement in empathy supports the need for additional research on an improved version of the IM course in larger samples. This may strengthen the power and reduce the effect of individual characteristics such as gender or make these more transparent. Future research will involve changes to the IM course. Future groups will have time to settle, get to know, and trust each other more while learning intrapersonal mindfulness skills before practising IM. More qualitative research on IM is also required to more fully understand the nuances affecting the experience.

Chapter 5: A Randomised Controlled Comparison Between 5-week MSBR and IM Interventions in Medical Students

The previous pilot study comparing MBSR to IM presented in Chapter 4 included a final sample of 29 medical students, with a higher percentage of undergraduate men (55%) than in other studies (Daya & Hearn, 2018). The results from a satisfaction scale found that the 5-week format for both the MBSR and MBSR + IM interventions was acceptable to the student participants, and the interventions were considered beneficial overall. However, the effects on mindfulness were inconclusive due to the low internal reliability of the FFMQ. Stress reduced significantly for the MBSR group but not for the MBSR + IM group. Neither intervention significantly improved self-compassion. Both interventions in the pilot study significantly improved empathy and social connectedness despite the lack of improvement in stress among MBSR + IM participants. These empirical results, combined with information from the students' comments and the experience of teaching both groups, informed a reflective process which concluded that aspects of the IM course could be improved.

This study will build upon the information gathered in the previous one, comparing a 5-week MBSR intervention to a slightly reconfigured IM intervention. Three main changes to the MBSR + IM intervention included updating written materials, introducing Kramer's (2007) guidelines more gradually, and replacing the informally recorded home practice meditations. These alterations will be explained in more detail below.

Firstly, in the pilot study, both groups were provided with the same written information as part of the blinding process. No additional information about the IM exercises was offered apart from what was discussed in the sessions. As explained in Chapter 4, this lack of written confirmation may have slightly disadvantaged that group. As such, in the present study, the materials for the MBSR + IM group included information about IM, and the groups were no longer blinded to the differences between them.

Secondly, in the pilot study, IM was introduced from the start, beginning with a mindful mirror exercise in pairs. This was designed to bring non-verbal interpersonal awareness into the experience of mindful movement. However, some students appeared uncomfortable during this exercise in Study One, and the early challenge could have been counterproductive. The MBSR + IM group may have needed more time to develop intrapersonal mindfulness skills. The lack of adequate settling in time may have interfered with the intention to develop an enduring sense of group safety. In the present study, the dyadic IM practices were, therefore, delayed to week 3, while the IM guidelines were introduced from week 1. This change aimed to build mindfulness skills before participation in the IM exercises without over-facing students.

Finally, in the first study, a smartphone application was meant to provide a platform for the participants to access homemade mindful meditation recordings by the teacher, and the practice time should have been recorded automatically. However, the app did not work properly, and audio recordings were provided via MP3 files instead from week two. This was a clunky process, and the students occasionally commented that it was a little bit difficult to concentrate with noises in the background of the homemade recordings. Therefore, in the second version of the course, guided meditations for use at home were chosen from the 'Finding Peace in a Frantic World' course. The MBSR practices from that programme were selected, beginning with a 15-minute body scan. Students were also encouraged to keep track of their weekly practice time before reporting this in the final questionnaire. (See Appendix C for a description of the home meditations and the links for each one).

Aims

1. The main aim for the present study was to trial a slightly different format of the 5-week Interpersonal Mindfulness intervention to increase its impact on intrapersonal variables

(mindfulness, stress, and self-compassion) while maintaining the positive impact on interpersonal variables.

2. The secondary aim was to compare the effects of MBSR to the effects of MBSR + IM by running a randomised controlled comparison between the two courses, which proved acceptable and feasible in the previous study. The procedure for the previous study was replicated.

Research Questions

1. What intra- and interpersonal effects do five weeks of **MBSR** have on students?
2. What intra- and interpersonal effects do five weeks of **MBSR + IM** have on students?

Hypotheses

1. Both the MBSR + IM and MBSR groups will show significant improvement in mindfulness, self-compassion, and stress (intra-personal variables),
2. Both the MBSR + IM and MBSR groups will show significant improvement in empathy, social connectedness, and interpersonal behaviour (interpersonal variables). The MBSR+IM group will show significantly greater improvement in empathy, social connectedness, and interpersonal behaviour (interpersonal variables) than the MBSR group.

Method

Participants

Recruitment

Medical student volunteers were recruited from either the undergraduate (5- or 6-year) programme or the graduate (4-year) programme at a London medical school. Student participants were recruited in one of three ways.

1. The mindfulness option was described in both the third and final-year SSC handbooks, along with the descriptions of all the other electives students were able to choose from.

2. The principal investigator spoke briefly about the mindfulness elective and associated research in a lecture introducing elective options.
3. If the groups were short on numbers close to the start, an email was sent to all medical students in all years, and students were offered the chance to participate for their own personal and professional development.

Assessment and Course Credit

As in Study One, final-year students participating for course credit had a dedicated five-week period to practise mindfulness and complete an essay-based assessment. Third-year students were fitting the sessions and meditation practice around their regular studies but had three weeks to devote to writing their essays at the end of the year. The 3,000 word assessment included a reflection element plus a related literature review. This was the same for both year groups. The participants who joined for personal and professional development did not complete the assessment, nor did they receive course credit.

Screening

Student volunteers who were interested in participating were screened for appropriate mental health, as in Study One. Any student disclosing acute depression, anxiety or distress was counselled to pursue other options. The screening for suitability began by asking, 'What drew you to mindfulness?' Once students had answered this question (via email), they were asked, 'Are you experiencing any distress at the moment – for example, anxiety, depression or any physically distressing symptoms?' Students were also sent a standard set of questions to double-check if they had any current diagnoses from the GP, to specify which year group they were in, and which iteration of the course they could attend. Ethical approval was sought and obtained (see Appendix A).

Once students were screened and joined the course, all were encouraged to let the teacher know if they started to feel distressed so that they could receive support more

specifically during the sessions or the facilitator could refer them to mental health services as necessary. All participating students were also encouraged to opt out of exercises if they felt they might be too challenging.

Research Design

The Interventions

Although a wait-list control group would have ideally been included in the design, this was not possible due to the mindfulness elective being part of the educational requirements for these students. To run a full randomised controlled trial on an elective taken for course credit, it would have been necessary to pre-recruit students a year ahead and then randomly assign them to either the wait-list control or the active intervention. Such administrative changes may be possible in the future with a grant to compensate the institution for the time and resources required. However, for the present study, a less costly randomised comparison was used to evaluate the theoretically sound interventions and compare the effects.

The two active interventions in the randomised controlled comparison fit the same 5-week period as the interventions in Study One (Chapter 4) and took the same overall theoretical approaches. The MBSR intervention was the same as in Study One (Chapter 4) and still included one MBCT 'walking down the street exercise' (see Chapter 3 for a full description). The intrapersonal aspects of the more experimental intervention were almost the same as the MBSR course, with IM exercises added (MBSR + IM). However, the IM schedule was changed for this study, and interpersonal practices were not introduced until the third week. To prepare the students, the facilitator gradually introduced Gregory Kramer's (2007) guidelines from the beginning as part of the intrapersonal meditations and discussions. The IM guidelines are pause, relax (allow), open, listen deeply, trust emergence and speak the truth (see Chapter 3 for more detail). As before, the same teacher (AS) ran both groups. Both

groups were invited to use the same audio recordings for home practice and met in the same rooms on the same days to control for any differences between students who volunteered on Tuesdays or Wednesdays.

For the first two weeks, both groups completed the same programme, apart from introducing Kramer's (2007) guidelines in the MSBR + IM group meditations, discussions and course materials. The *pause* guideline was introduced in week 1, while the *relax*/*allow* guideline was introduced in week 2. In week 3, both the *open* and *listen deeply* guidelines were introduced. In week 4, the groups were introduced to the *trust emergence* guideline, and the *speak the truth* guideline was introduced in week 5. IM exercises in dyads for practising the guidelines were introduced in weeks 3, 4 and 5.

As in Study One, both courses developed mindfulness skills beginning with bodily awareness and movement, working up to mindfulness of the breath, sounds and thoughts according to the MBSR tradition (Santorelli et al., 2017). Both courses discussed mindfulness during pleasant events, unpleasant events, and ongoing practice and change. However, the MBSR + IM group discussed these topics during dyadic contemplation practices similar to those investigated by Bartels-Velthuis et al. (2020) and as conceived by Kramer (2007).

The IM exercises in pairs follow a structured format whereby one person is the silently mindful listener, and another is the openly mindful speaker for approximately five minutes at a time. The separate roles allow each person to bring kindly awareness to what they experience as they speak or as they listen, both in terms of what they observe in the other and sense internally. These exercises are designed to gently increase awareness and acceptance of the shared aspects of human joy and suffering from a self-directed perspective and without interference or comment from the other. This self-directed sharing can produce fresh insights by reducing resistance and inner struggles with self-judgment while free from input, verbal responses, rescuing or advice. Following separate mindful listening and

speaking, participants release the roles and are invited to discuss and reflect upon the experience of what it was like and what they noticed. This experience theoretically builds compassion for the self and others due to the sense of connection over everyday human experiences (Kramer, 2007). The group comes back together after practising in dyads, where insights are shared, and any challenges are discussed and empathically explored, normalised, validated, and supported. Students have the opportunity to learn that there is more that connects humans than separates us in line with a less dualistic view (Shonin et al., 2015).

The instructions and discussion of Kramer's guidelines included signposting that there was no need to share everything about inner experiences and that sitting in silence was also acceptable according to whatever authentically arose (or not). Listeners were invited to rest from a tendency to offer advice. They were encouraged instead to notice what happened within themselves when the urge to provide information or solutions arose. The facilitator gently repeated the guidelines at each transition point and reminded students to frequently silently pause during the dyadic exercises, according to the IM guidelines for self-support.

The content of the IM exercises gently increased in complexity over the final three weeks. Mindful listening exercises about pleasant experiences were designed for the third week, and unpleasant experiences in the fourth week. Participants progressed to contemplating the prevalence of 'change' in their lives for the final session, including any mixed feelings about the group ending or moving on to a new clinical placement. The topics for the sessions each week are listed below. Both groups experienced the first aspect, but only the MBSR + IM group engaged with the second aspect, which is differentiated in italics.

1. Mindfulness of the body for both groups *(The IM group learned the mindful pause guideline)*
2. Mindful movement *(The IM group learned the relax /allow guideline)*

3. Mindfulness of the breath and awareness during 'pleasant' events *(the IM group learned and practised the open and listen deeply guidelines during the first dyad about sharing pleasant events)*
4. Awareness during 'unpleasant' events *(the IM group learned and practised the trust emergence guideline during the second dyad about sharing unpleasant events)*
5. Integration and ongoing practice *(the IM group learned and practised the speak the truth guideline during the third dyad about contemplating change and the end of the course)*

In addition to attending weekly meetings for five weeks, participants were invited to practise mindfulness each day, or as much as possible, by accessing 15 min pre-recorded professionally guided mindfulness meditations, which are freely available on SoundCloud or an app the students could purchase (see Appendix C: Home meditation practice instructions for both groups).

As in the pilot study, sessions were held on Tuesday evenings or Wednesday afternoons, although only one set of groups (Tuesday or Wednesday) were held per week. Comparison group sets were held on the same evening or afternoon so to control for whatever was affecting each group externally at the time. On Tuesday evenings, the MBSR group met from 5:15-7:15 pm, and the IM group met from 7:30-9:30 pm. On Wednesday afternoons, the MBSR group met from 1-3 pm, and the IM group met from 3:15-5:15 pm. All groups met in person. The first set met in October 2017, the second in January 2018, the third in June 2018, the fourth in September 2018, and the fifth and final set in October 2018 (see Figure 12). A total of five sets of each course ran over one year and between six and nine students attended in each group for most of the sessions. Several third-year students signed up but withdrew before the first session for the June iteration of the course, and so for that iteration, there were two small groups of three to four. It seems June is not the best time to run the interventions

since it is just before exams for the junior students, and the senior students have already completed their course by that point.

Measures and Variables

To investigate the impact of both groups and compare them to one another, previously validated questionnaires were chosen. There are several drawbacks to this positivist epistemological and ontological perspective, including restricting the information gathered to pre-determined hypotheses, which may limit the scope. However, using quantitative and previously validated self-report measures limits the burden on the participants as compared to observational or interview evaluations and allows data to be statistically compared. This provides an objective means to evaluate the courses in contrast to one another. A critical realist perspective is employed, keeping both the benefits and drawbacks of this quantitative approach in mind during the analysis and interpretation.

As in Study One, questionnaires contained the following variables due to their potential connection to empathy. Two measures of empathy were employed due to potential difficulties with both questionnaires in measuring empathy in medical students. For full information about each measure, please see the measures and variables section in Chapter 4.

Intrapersonal Dependent Variables and Measures

Five Facets of Mindfulness Questionnaire (FFMQ-15)

Perceived Stress Scale (PSS)

Self-Compassion Scale-short form (SCS)

Interpersonal Dependent Variables and Measures

Jefferson Scale of Physician Empathy – Student version (JSPE-S)

Perspective Taking (PT) and Emotional Concern (EC) subscales of the Interpersonal Reactivity Index (IRI)

Social Connectedness Scale-Revised (SOCS)

Scale for Interpersonal behaviour (s-SIB)

Additional Baseline Variables. A general information and demographics questionnaire was administered at baseline:

1. Demographic information such as gender, age, year of course, type of course, year of study, marital status, number of children, and socio-economic status (as measured by income or family income). The first was entered if participants entered two religious affiliations (e.g. Christian and Buddhist). (See Table 4)
2. Level of prior mindfulness or meditation experience
3. Number of general communication sessions completed (as part of their curriculum)

Post-Intervention Variables. In the post-intervention questionnaire, the additional following data were gathered

1. Time spent practising mindfulness
2. Attendance at group mindfulness sessions
3. Course evaluation (satisfaction questionnaire)

The post-course evaluation questionnaire helped to determine the level of satisfaction with the course. The students rated aspects of their educational experience on a Likert scale of 1-5. Items included quality of teaching, usefulness now, usefulness for future clinical practice, the quality of the teaching rooms, the quality of the audio recordings, the quality of the written materials, the quality of the organisation, the length of the sessions and the length of the course. There was also a 10-item Likert scale question about overall satisfaction (see Appendix B*)*. Apart from time spent practising mindfulness for previously discussed reasons, all of the above were the same as in Study One.

Procedure

Ethical approval was sought and obtained (see Appendix A). There were many additional similarities between the procedure for this study and the previous one, and the following is a description of the aspects of Study One which were repeated in Study Two.

1. Following screening, student volunteers were randomly assigned to either the MBSR or MBSR + IM groups using www.random.org. Final-year students were randomly assigned separately to third-year students so that equal mixtures of the final-year students were in each group. Since students who asked to join right up to a day before the start of the course were permitted to do so by the University administration, it was impossible to wait until the final sample was recruited to begin randomisation. Latecomers were also randomly assigned to the groups singly or in pairs. Randomisation was thus not based on any other demographic factor such as age, gender, or type of course (undergraduate or graduate).
2. Pre- and post-intervention self-reported measures were distributed using the Qualtrics online survey system, including the following measures: mindfulness (FFMQ), Perceived Stress Scale (PSS), felt empathy (IRI), attitudes to empathy (JSPE), self-compassion scale (SCS), social connectedness (SOCS) and the short form of the Scale for Interpersonal Behaviour (s-SIB).
3. Students were asked to fill in the pre-intervention questionnaires 1-week ahead of the course, and some time was provided for this during the first session to accommodate those students who still needed to fill in the questionnaire. The post-intervention questionnaire was sent to the participants one week after the end of their course, and they were sent up to four automatic reminders through the Qualtrics system for up to two weeks. It was possible, using Qualtrics, to ensure that these automatic reminder emails were not sent to those who had already completed the questionnaire without

the researcher being involved and not knowing which students had responded. This procedure was the same for both Study One and Study Two.

4. The participants were told that the purpose of the study was to compare two different types of mindfulness training as in Study One. The students were asked to refrain from discussing the content of their courses with each other. However, unlike Study One, as mentioned above, the materials were different for each group. MBSR was marked on the materials for that group, while Interpersonal Mindfulness was clearly marked on the MBSR + IM group. If students compared them, they would not have been blinded, and there was no way to monitor this. This was the only procedural difference between the previous and the present study, in addition to the changes to the IM course content described above.
5. The coursebook written materials were newly adapted to the MBSR + IM group. The MBSR+ IM material included all of the same information for the MBSR group, with added information about IM.

Analysis

When there are many dependent variables, as in the present study, some studies begin the analysis with a MANOVA, and if significant, followed by a series of univariate ANOVAs (e.g., Querstret et al., 2018). However, this is mostly the case with RCTs using inactive control groups, where there is a higher likelihood of detecting differences between groups than in studies where only very strong effects will indicate differences between the groups. Under such circumstances, particularly in exploratory studies of new interventions, Huberty and Morris (1989) argue that ANOVAS can provide useful information about the utility of each variable for further studies, especially since any conclusions will be tentative in nature while the interventions are still developing and samples are relatively small. Although calculating effect size might provide insights beyond the p-values, this is most helpful when

there is a true control group (Field, 2017; Kelley & Preacher, 2012) rather than similar comparison groups as in the present study.

The analytical procedure was conducted using SPSS version 28 as follows:

1. Data were checked for normality. Unlike Study One, outliers were identified and excluded variable by variable (not list-wise) as necessary (see below for more information on this procedure and the decisions made).
2. T-tests were conducted on each of the independent and dependent baseline variables in each group to determine if randomisation was successful or if by chance there were any significant differences between baseline variables.
3. T-tests were conducted to compare the non-respondents to the final sample based on the baseline variables.
4. Reliability analyses (Cronbach's Alpha) were calculated on each measure both for the group as a whole, and for each subgroup before and after the intervention.
5. Mixed ANOVAs were conducted on each dependent variable, with time as the within-participant factor and group as the between-participant factor.

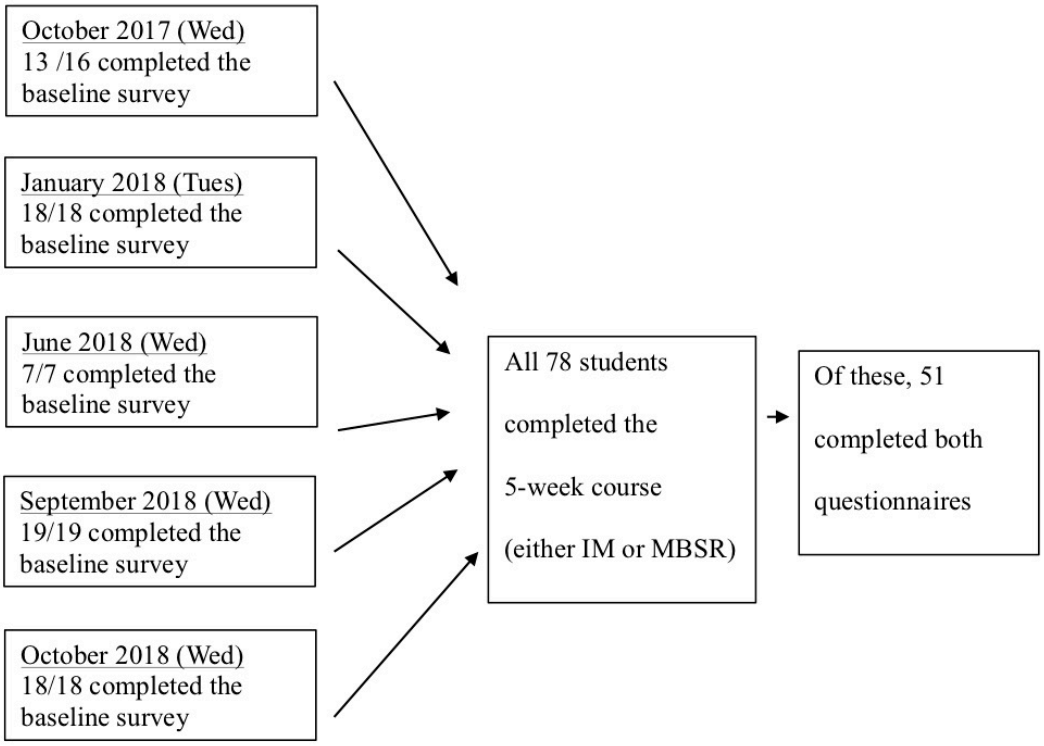
Results

Participants

Seventy-eight volunteers were randomly assigned to one of the two types of mindfulness training. Fifty-one medical students completed both before and after questionnaires (see Figure 13) Twenty-eight additional students completed the course but not the post-intervention questionnaire. The final response rate was 63.4 %.

Figure 13

Student Numbers in Each Cohort



Final Sample

The final sample comprised 23 medical students in the MBSR intervention and 28 in the MBSR + IM intervention. A chi-square analysis was completed to check whether demographic characteristics were evenly represented between the two intervention groups through randomisation. There were considerably more women (38) than men (13) across the sample as a whole, and the proportions were the same across both groups. There were also more undergraduate students (33) than graduate students (18) participating in the study, although these were also evenly represented across the groups according to a chi-square. There were no differences between the final populations in the two groups according to demographic variables, indicating successful randomisation (see Table 4).

Table 4

Characteristics of the Groups in Study Two

	Intervention Group		Differences between groups
Categorical variable	MBSR n = 23	MBSR + IM n = 28	chi square (p-value)
Gender			
Men	6 (26%)	7 (25%)	0.01 (0.93)
Women	17 (74%)	21 (75%)	
Reason for attending			
For course credit	20 (87%)	25 (89%)	0.07 (0.80)
For personal development	3 (13%)	3 (11%)	
Under-graduates	16 (70%)	17 (61%)	0.43 (0.51)
Graduates	7 (30%)	11 (39%)	
Ethnic Origin			
White British	7 (30%)	10 (36%)	2.10 (.84)
White other	2 (10%)	5 (18%)	
Black British	1 (4%)	1 (4%)	
Asian British	5 (22%)	6 (21%)	
Asian other	4 (17%)	4 (14%)	
Other group: mixed race	4 (17%)	2 (7%)	
Religion			
Buddhist	2 (9%)	0	11.46 (.177)
Hindu	5 (22%)	1 (4%)	
Muslim	4 (17 %)	4 (14%)	
Christian	2 (9%)	7 (25%)	
Jewish	0	1 (4%)	
Atheist	6 (26%)	5 (18%)	
Agnostic	3 (13%)	5 (18%)	
Spiritual, not religious	1 (4%)	4 (14%)	
Other: Sikh	0	1 (4%)	
Year of study			
Second year	0	1 (4%)	2.66 (0.45)
Third year	14 (61%)	20 (71%)	
Fourth year	1 (4%)	0	
Final year	8 (35%)	7 (25%)	
Socio-economic status			
1.10 (highest SES)	1 (4%)	0	2.68 (0.85)
1.20	11 (48%)	10 (38%)	
2.00	8 (35%)	11 (42%)	
3.00	1 (4%)	1 (4%)	
4.00	1 (4%)	1 (4%)	
5.00	0	1 (4%)	
6.00 (lowest SES)	1 (4%)	2 (8%)	
Prior meditation experience			
Little to no experience	20 (87%)	26 (93%)	0.50 (0.48)
Considerable experience	3 (13%)	2 (7%)	

Non-responding Participants

Although there were no dropouts, 24 students did not fill in both surveys (16 students from the MBSR group and 8 from the MBSR + IM group). A chi-square analysis confirms that students who participated in the interventions but did not fill in the post-intervention survey (non-responders) did not result in the groups being significantly different according to demographic characteristics such as gender, type of course, year of study, and ethnic origin (see Table 5). The non-responders also did not differ significantly from the 51 participants in the final sample on any of the categorical or continuous variables from the pre-intervention questionnaire according to chi-square or t-tests (see Table 6).

Table 5

Comparison Between Groups According to Demographics of Non-responders

	Intervention Groups		
Categorical variable	MBSR n = 16	MBSR + IM n = 8	chi square (p-value)
Gender			
Men	6 (38%)	3 (38%)	0.01 (.93)
Women	10 (62%)	5 (62%)	
Transgender or other	0	0	
Type of course			
Under-graduates	10 (62%)	4 (50%)	0.34 (.56)
Graduates	6 (38%)	4 (50%)	
Year of study			
Second year	1 (6%)	1 (12%)	0.30 (.86)
Third year	8 (50%)	4 (50%)	
Final year	7 (44%)	3 (38%)	
Ethnic Origin			
White British	5 (31%)	1 (13%)	11.00 (.09)
White other	1 (6%)	1 (13%)	
Black British	0	2 (25%)	
Black other	1 (6%)	0	
Asian British	5 (31%)	1 (13%)	
Asian other	0	1 (13%)	
Other group: mixed race	4 (25%)	2 (25%)	
Religion			
Hindu	0	1 (12.5%)	4.50 (.48)
Muslim	5 (31%)	1 (12.5%)	
Christian	2 (12%)	2 (25%)	
Atheist	3 (18%)	1 (12.5%)	
Agnostic	2 (12%)	0	
Spiritual, not religious	4 (27%)	2 (25%)	
Missing	0	1 (12.5%)	
Socio-economic status			
1.20 (highest SES)	6 (37.5%)	3 (38%)	3.99 (.41)
2.00	3 (19%)	3 (38)	
3.00	2 (12.5%)	1 (12%)	
4.00	3 (19%)	0	
5.00	0	0	
6.00 (lowest SES)	0	1 (12%)	
Missing	2 (12.5%)	0	
Prior meditation experience			
Little to no experience	15 (94%)	6 (75%)	8.56 (.13)
Considerable experience	1 (6%)	2 (25%)	

Table 6

Comparison Between Non-responders and the Final Sample

Categorical Variables	Non-responders n = 24	Final Sample n = 51	chi-square (sig)
Gender			1.14 (.29)
Men	9 (38%)	13 (25%)	
Women	15 (62%)	38 (75%)	
Type of degree			.28 (.59)
Graduate	10 (42%)	18 (35%)	
Undergraduate	14 (58%)	33 (65%)	
Continuous Variables	mean (sd)	mean (sd)	t-test (sig)
Age	24.29 (4.51)	23.86 (4.49)	-.39 (.70)
Pre-intervention FFMQ	48.62 (6.68)	45.31 (8.07)	-1.75 (.085)
Pre-intervention PSS	16.42 (7.49)	17.45 (6.98)	.59 (.56)
Pre-intervention SCS	35.38 (10.01)	34.00 (9.15)	-.59 (.56)
Pre-intervention IRI-EC	20.88 (4.79)	20.98 (4.33)	.10 (.93)
Pre-intervention IRI-PT	16.83 (5.40)	16.57 (4.70)	-.22 (.84)
Pre-intervention JSPE	110.00 (12.18)	114.16 (10.05)	1.56 (.12)
Pre-intervention SOCS	84.67 (17.41)	85.16 (18.60)	.10 (.91)
Pre-intervention s-SIB	83.75 (17.31)	82.26 (15.10)	-.38 (.71)

Continuous Independent Variables

To determine if there were any differences between the groups following the completion of the interventions, the continuous independent variables, including age, attendance in the sessions, formal or informal practice, and satisfaction, were compared using t-tests. The mean minutes spent formally practising at home over the 5-week period was significantly higher for the MBSR group than for the MBSR + IM group. Both groups were equally highly satisfied with the course (see Table 5).

Table 7

Group Means and t-tests for the Continuous Independent Variables

Variable	Intervention groups		t-value (df)	p-value
	MBSR	MBSR + IM		
Age	23.2	24.4	-0.99 (49)	.33
Sessions attended	4.30	4.68	-1.73 (49)	.09
Formal practice in minutes (overall; per week)	438; 88	281; 56	2.14 (49)	**.04***
Informal practice in minutes (overall; per week)	228; 46	140; 3	1.30 (49)	.20
Satisfaction with course	45/55(82%)	48/55 (87%)	-1.29 (48)	.20

Note. * Significant difference in mean formal practice (meditation) time between groups.

Dependent variables

Having been randomly allocated, the groups ought to have been statistically similar on each of the seven continuous dependent variables pre-intervention. This was the case on all variables apart from social connectedness (SOCS) (see Table 8). The SOCS scores significantly differed between the MBSR and MBSR + IM groups from the beginning.

Cronbach's α was calculated for each dependent continuous variable for the sample as a whole (see measures section) to consider the reliability of the standardised and validated scales. The α was also calculated separately for each group (see Table 8). The scales performed consistently above the recommended .70 threshold, apart from the JSPE-S for the MBSR group only. Removing item 18 would improve the α to .71. Item 18 reads, 'Physicians should not allow themselves to be influenced by strong personal bonds with their patients and their family members.' This does not seem related to empathy according to the definitions provided earlier in this thesis and may relate more to sympathy, calling the validity of the JSPE-S into question as a measure of empathy. For further exploration of the face validity and the reliability of the JSPE-S, see Appendix D.

The interpretations for the significant results in Table 8 will be presented in full below, while some of the non-significant findings are presented in Appendix G. The analysis of the empathy results according to gender are also presented in Appendix G. There was no difference between empathy results in the men and women following the interventions on any of the empathy scales. Gender differences were not calculated for the other measures as this was not the main aim of the study.

Table 8

Comparison of Pre-Intervention and Post-Intervention Scores on Dependent Scales

	MBSR Mean scores		MBSR + IM Mean scores		2 x 2 ANOVA
Scale	Pre n (sd) α	Post n (sd) α Effect size	Pre n (sd) α	Post n (sd) α Effect size	Time Group Interaction (df)
Five Facets of Mindfulness Questionnaire (FFMQ) (outliers removed)	43.5 21 (6.5) α .75	48.0 21 (5.9) α .81	46.6 27 (9.1) α .86	49.2 27 (9.0) α .87	**F 20.88* (p<0.001)** F 1.06 (p=.30) F 1.51 (p=.22) (1,48)
Perceived Stress Scale (PSS)	18.2 23 (6.3) α .88	18.3 23 (5.2) α .78	16.9 28 (7.5) α .92	17.6 28 (5.9) α .86	F 0.32 (p=.57) F 0.40 (p=.53) F 0.15 (p=.70 (1,49)
Self-compassion Scale (SCS)	32.4 23 (6.8) α .87	34.3 23 (5.2) α .72	35.3 28 (10.7) α .92	37.0 28 (8.7) α .87	**F 4.49*(p=.04)** F 1.66 (p=.20) F 0.09 (p=.94) (1,49)
Perspective-taking and emotional concern (IRI)	37.17 23 (7.1) α .84	38.74 23 (7.2) α .84	37.9 28 (7.4) α .81	40.0 28 (7.4) α .83	**F 7.99* (p=.007)** F 0.24 (p=.63) F 0.17 (p=.68) (1,49)
Jefferson Scale of Physician Empathy (JSPE-S) (outlier removed)	112.0 22 (9.5) α .76	111.3 22 (8.9) α **.65**[l]	115.9 27 (10.5) α .77	115.2 27 (11.9) α .85	F 0.34 (p=.93) F 2.08 (p=.57) F 0.008 (p=.24) (1,48)
Social Connectedness Scale (SOCS) (outliers removed)	**79.7*** 22 (16.6) α .94	**80.9**[t] 22 (16.6) α .94	**91.9*** 26 (14.2) α .95	**92.3**[t] 26 (13.6) α .94	F 0.001 (p=.98) F 3.85 (p=.06) F 0.44 (p=.51) (1,47)
Inter-Personal Behaviour Scale (s-SIB) (2 outliers removed, and 3 cases missing)	79.1 18 (13.2) α .87	82.0 18 (14.7) α .88	83.6 28 (16.0) α .90	86.0 28 (15.9) α .92	F 2.19 (p=.97) F 0.82 (p=.45) F 0.11 (p=.48) (1,44)

Note. */[t] According to a t-test, by chance and despite randomisation, there was a significant difference between groups at baseline and post-intervention ($p < 0.05$).

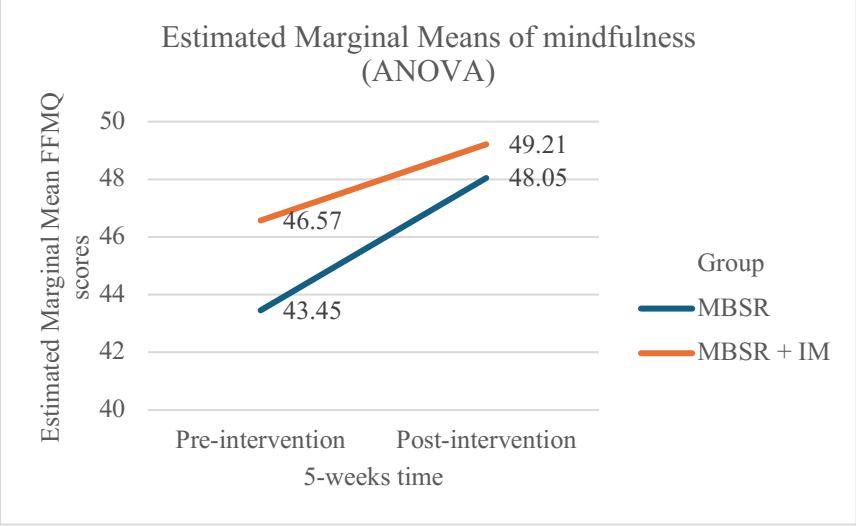
[l] low-scale internal reliability as measured by Cronbach's alpha (α) on the JSPE-S

Intrapersonal Dependent Variables

Mindfulness. Mindfulness scores, as measured by the FFMQ before the interventions, were compared to those after the interventions. The main effect of Time on mindfulness resulted in a significant increase [$F(1, 48) = 20.88$, $p < 0.001$]. This means that mindfulness improved significantly after the intervention as compared to before the intervention in the entire cohort. The main effect of Group proved to be non-significant [$F(1, 48) = 1.06$, $p = .31$]. Thus, no significant difference in the overall mean mindfulness scores was observed between the two groups. The interaction between Time and Group was also non-significant [$F(1, 48) = 1.51$, $p = .22$]. This means that the change in mindfulness over the 5-week period was not significantly different between the two groups (see Figure 14). A t-test might be justified for further clarification if the p-value for the between-group effect was approaching significance.

Figure 14

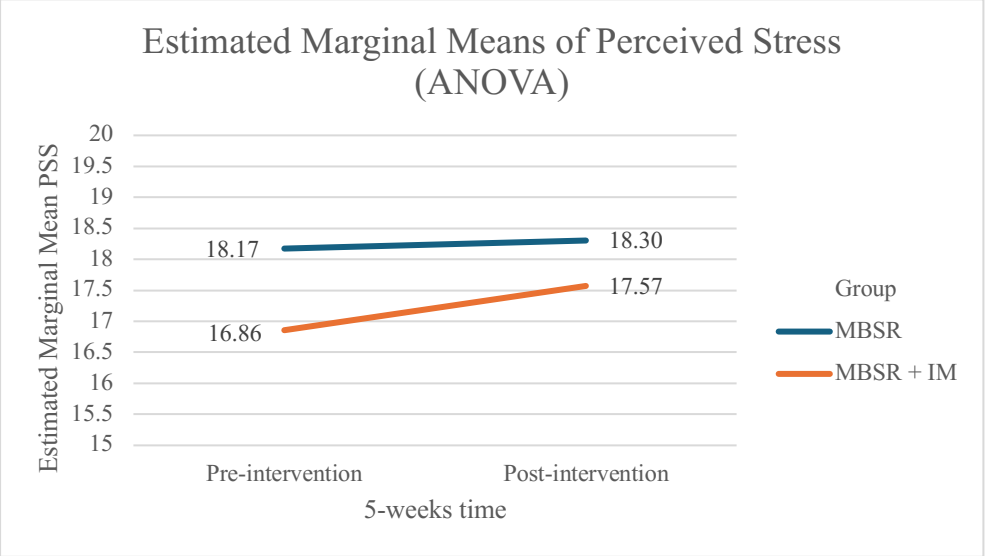
Changes in Mindfulness (FFMQ) Over the 5-Week Time-Period



Perceived Stress. Perceived stress levels before the interventions were compared to the results on the same scale following the interventions. The effect over Time was non-significant [F (1, 49) = .451, p = .57]. The perceived stress scores did not decrease over the 5-week period in the sample as a whole as predicted (see Figure 15). The main effect of Group also proved to be non-significant [F (1,49) = 0.40, p = .53], which means there was no difference in overall perceived stress levels between the two interventions. Furthermore, the interaction between Time and Group proved to be non-significant [F (1,49) = 2.15, p = .70]. Neither intervention had any significant effect on perceived stress levels in this population.

Figure 15

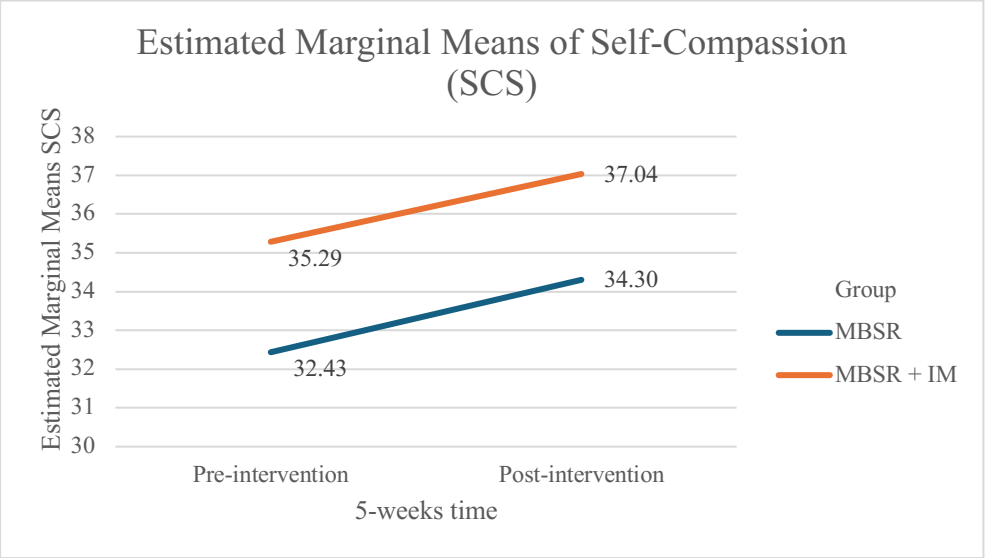
Changes in Perceived Stress (PSS) Over the 5-Week Time-Period



Self-compassion. Self-compassion scores, as measured by the SCS-SF before the interventions, were compared to the results on the same scale following the interventions. The main effect of Time on self-compassion was significant as measured by the SCS-SF [F (1, 49) = 4.49, p = .04] (see Figure 16). This means that self-compassion improved significantly after the intervention as compared to beforehand. The main effect of Group proved to be non-significant [F (1,49) = 1.66, p = .20], which means that there was no difference in overall self-compassion between the two groups as measured by the SCS-SF. The interaction between Time and Group was also non-significant [F (1,49) = 0.09, p = .94]. This means that the change in self-compassion was not significantly different between the two groups.

Figure 16

Changes in Self-Compassion (SCS) Over the 5-Week Time Period

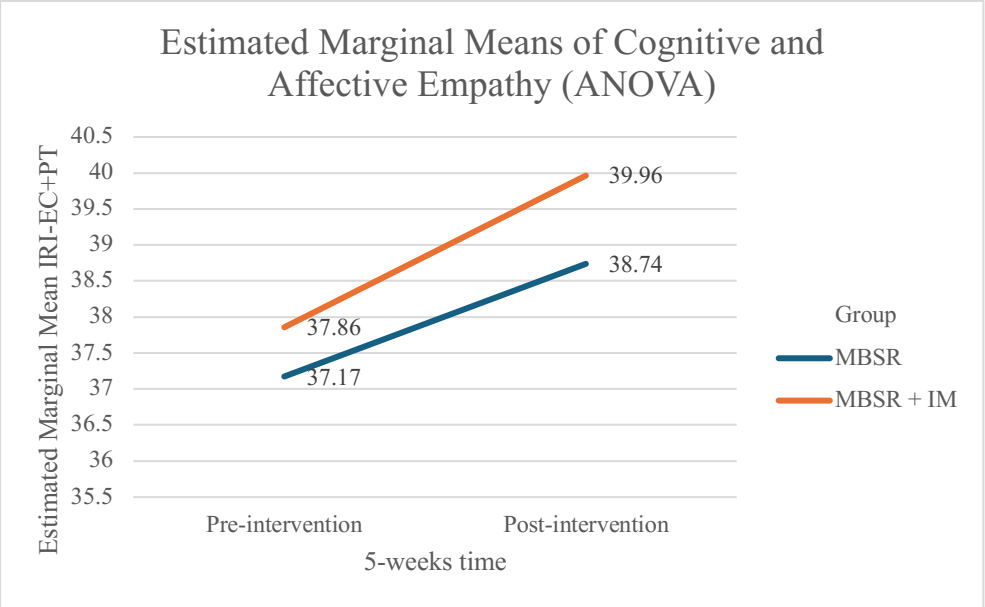


Interpersonal Dependent Variables

Cognitive and Affective Empathy - Emotional Concern (IRI- EC) and Perspective Taking (IRI - PT) Combined. The main effect of Time on cognitive and affective empathy as measured by the IRI proved to be significant, F (1, 49) = 7.99, p = .007, meaning together, affective and cognitive empathy improved significantly after the intervention in the cohort as a whole (see Figure 17). The main effect of Group proved to be non-significant, F (1,49 = 0.240, p = .63). There was also no statistically significant interaction between Time and Group, F (1,49) = 0.17, p = .68.

Figure 17

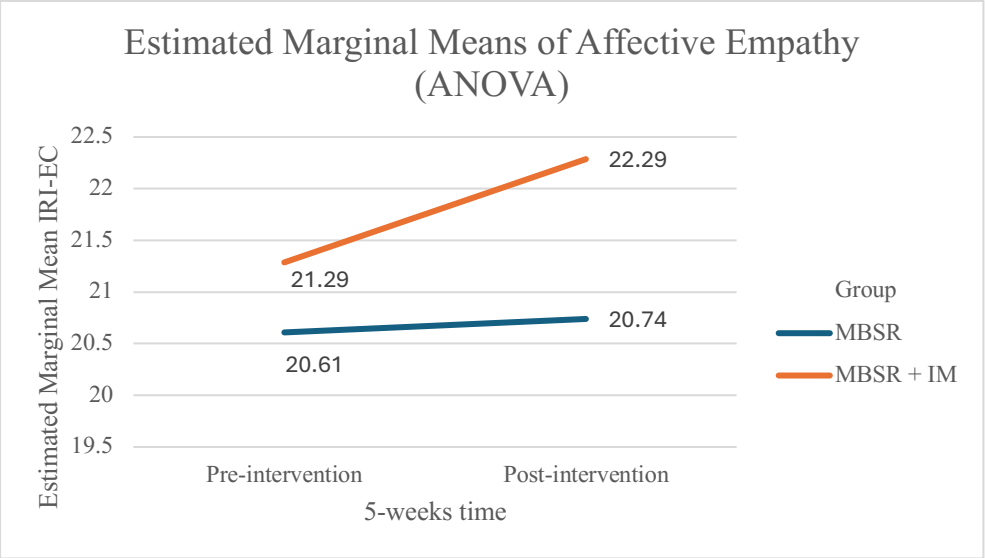
Changes in Cognitive and Affective Empathy (IRI-EC and PT) Over the 5-Week Time-Period



Affective Empathy (IRI-Emotional Concern): Evaluating the Effects of the two Interventions (Groups). To test if there was any difference in affective and cognitive empathy, the subscales on the IRI were analysed separately. The main effect of Time on affective empathy, as measured by the IRI-EC, resulted in a non-significant (see Figure 18) increase over the 5-week period [F (1, 49) = 2.24, p =.14]. The main effect of Group proved to be non-significant as well [F (1,49 = .86, p = .36]. This means that there was no significant difference in the mean affective empathy scores between the two groups overall. The interaction between Time and Group was also non-significant [F (1,49) = 1.32, p = .26]. There was no significant change in affective empathy following the interventions.

Figure 18

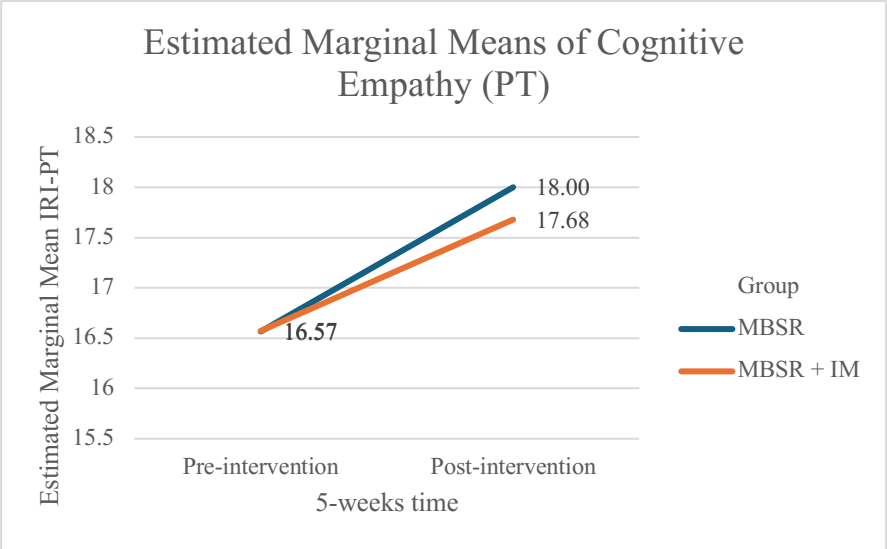
Changes in Affective Empathy (IRI-EC) Over the 5-Week Time-Period



Cognitive Empathy (IRI-Perspective Taking): Evaluating the Effects of the two Interventions (Groups). Empathy scores, as measured by the PT subscale of the IRI before the interventions, were compared to the results on the same scale following the interventions. The main effect of Time on cognitive empathy (IRI-PT) was significant [F (1, 49) = 7.77, p = .008], with higher levels of cognitive empathy evident post-intervention than pre-intervention. The main effect of Group was non-significant [F (1,29) = .019, p =.89]. There was also no significant interaction between Group and Time [F (1,29) = .13, p = .72], meaning both groups had the same positive significant effect on cognitive empathy (see Figure 19).

Figure 19

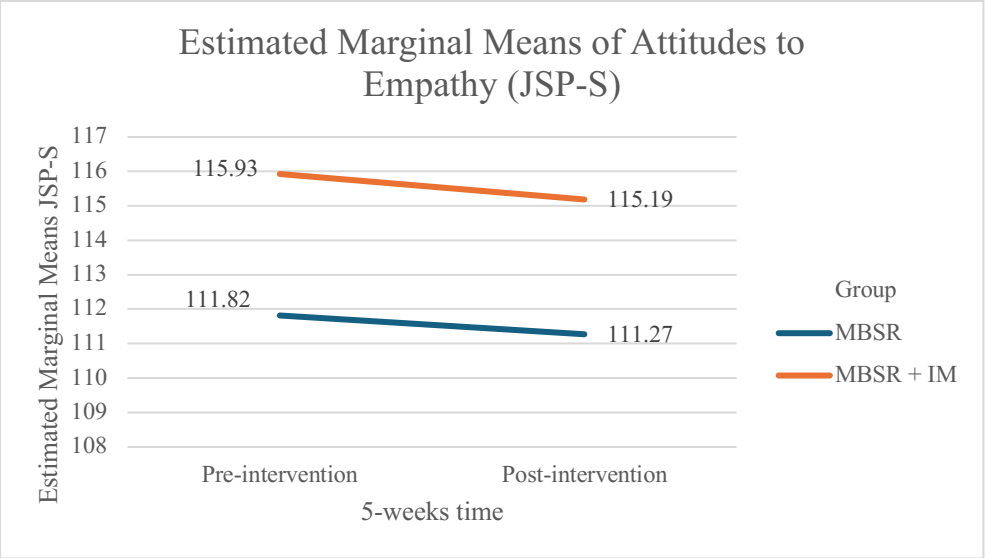
Changes in Cognitive Empathy (IRI-PT) Over the 5-Week Time-Period



Attitudes to Empathy (JSPE-S): Evaluating the Effects of the Two Interventions (Groups). As measured by the JSPE-S before the interventions, mean attitudes towards empathy scores after the intervention remained similar to scores prior to the intervention. There was no significant main effect of Time [F (1,47) = 0.34, p = .93] on the JSPE-S in this sample (see Figure 20). There was no significant main effect of Group on attitudes towards empathy [F (1,47) = 2.08, p =.16]. Furthermore, there was also no statistically significant interaction between Time and Group on this scale [F (1,47) = 0.008, p = .93]. This means that the change in attitudes towards empathy did not differ over time between the groups as measured by the JSPE-S.

Figure 20

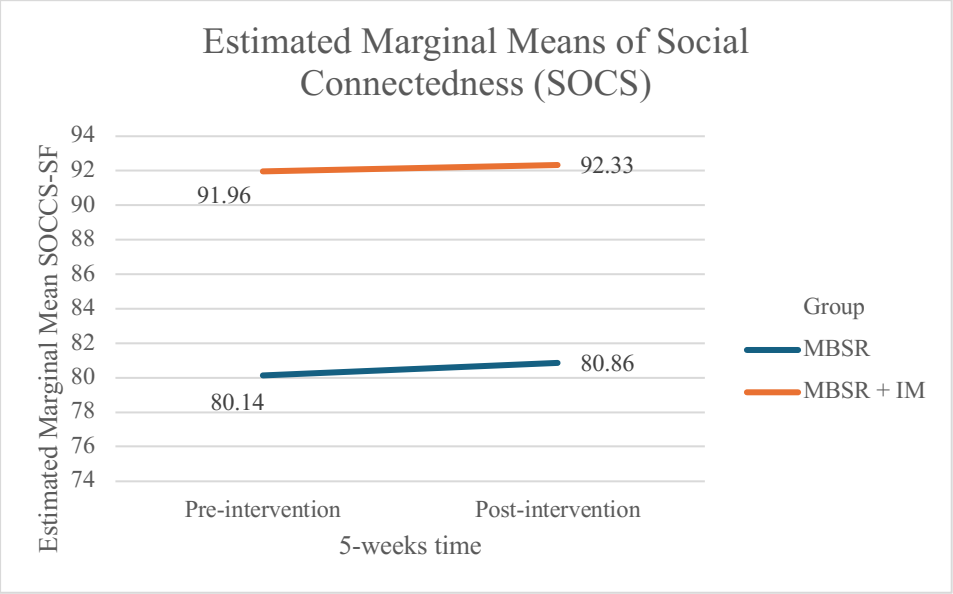
Changes in Attitudes to Empathy (JSPE-S) Over the 5-Week Time-Period



Social Connectedness. Levels of Social Connectedness as measured by the SOCS before the interventions were compared to the results following the interventions. There was no main effect of Time on social connectedness [F (1, 49) = 0.001, p = .98]. The interaction between Time and Group also proved to be non-significant [F (1,49) = 0.44, p = .51]. This means that social connectedness levels did not change following the interventions for the entire cohort (see Figure 21). The main effect of Group approached significance [F (1,49) = 3.85, p = .06]. This appears to be due to the significant difference between the two groups at the start of the intervention (see Table 5) rather than a significant difference following the 5-week interventions. A t-test confirmed this; comparing the change scores between the two interventions was non-significant (t=.14, p=.89), meaning neither intervention improved social connectedness.

Figure 21

Changes in Social Connectedness Over the 5-Week Time-Period



Discussion

This study aimed to compare the effects of MBSR to an improved MBSR + IM intervention by running a randomised controlled comparison. The main research question asked what the intrapersonal and interpersonal effects of the two intervention groups were and whether there were any differences between them. H1 predicted that both groups would significantly improve the intrapersonal variables. This was partially confirmed since both interventions performed the same. However, mindfulness and self-compassion improved, but not stress for both groups. The intrapersonal results following the MBSR + IM group matched those of the MBSR group despite a significantly lower amount of home meditation practice reported by the MBSR + IM group (see Table 5).

H2 predicted that the MBSR + IM group would show greater improvement on the interpersonal variables than the MBSR group, and this was refuted since both groups performed the same on all the interpersonal dependent variables. According to a series of individual 2 (Time) x 2 (Group) repeated measures analysis of variance, both groups improved felt empathy (IRI) but not attitudes towards empathy (JSPE-S) over the 5-week period. However, the JSPE-S showed low internal reliability for the MBSR group following the intervention (see Table 8). This reliability score, combined with a close inspection of the scale for face validity, draws into question the accuracy and utility of the JSPE-S, which will be discussed further below and in Appendix D. There were no other significant effects, and additional non-significant ANOVAs conducted based on gender, which showed that men and women improved at the same rates, are presented in Appendix G.

There were three noteworthy findings. Firstly, the changes made to the MBSR + IM intervention following the pilot study evaluated in Chapter 4 remained successful for the students based on high satisfaction scores (87%). The delay in providing the dyadic IM practices until week 3 appeared to flow well, and although the teacher was also growing in

experience, these changes appear to have made an impact since the MBSR + IM intervention performed intrapersonally more strongly in Study Two than in Study One, matching the MBSR intervention in effects on mindfulness and self-compassion. However, it is difficult to determine which changes made the most difference.

Secondly, while the IRI improved significantly, particularly on the PT (cognitive empathy) scale for both groups, the JSPE-S did not improve in this study. The internal reliability of the JSPE-S was also lower than recommended (.65) for the MBSR group following the intervention, indicating that there could be a problem with the items not all measuring the same construct.

A brief analysis of the face validity of the JSPE-S indicates that the vague nature of some of the questions may be interpreted differently after mindfulness training than they are beforehand. This may not necessarily be connected to improvements in mindful empathy, as people taking mindfulness courses might also increase non-judgemental empathy towards doctors. Many items on the JSPE-S could be seen as unsupportive or judgemental towards physicians, which may contradict the sense of openness fostered in mindfulness courses. See Appendix D for an exploration of the face validity of some of the items on the JSPE and why these may be problematic. It may be that the JSPE-S is not the most sensitive and appropriate measure of empathy as related to mindfulness. The EC and PT subscales on the IRI may be a more appropriate and meaningful measure for such medical students taking mindfulness courses.

Thirdly, there was one particularly surprising finding. The MBSR + IM group, despite receiving similar instructions for home practice to the other group, reported a significantly lower average home practice time. The MBSR + IM group practised approximately 3/5 of the amount for the MBSR group. Given this difference, according to prevailing mindfulness theory, that group ought to have exhibited significantly lower improvements in mindfulness

levels. Medical students typically practice meditation less than recommended (de Vibe et al., 2013; Phang et al., 2015). In a study by Erogul et al. (2014), first-year medical students spent a mean of 40.7 (22.8) per week meditating over 8-weeks, decreasing stress and improving self-compassion. This was less weekly time than the requested commitment of 140 minutes per week in their study and lower than the mean minutes spent in meditation in both groups in the present study over 5-weeks (MBSR – 88 min per week; IM – 56 min per week; see Table 7). Standard 8-week MBSR courses recommend 315 minutes per week of home practice to experience full benefits.

Interpreting the Changes in Empathy

It is difficult to determine what impact small but significant improvements in empathy indicated by two combined subscales on the IRI (see Table 8) would have on the participants' future patients following this study. Statistically significant changes may not be adequate for determining how useful an intervention is. Effect sizes may be more useful (Kelley & Preacher, 2012). However, without a true control group, calculating effect size may not be as meaningful (Field, 2017). Nevertheless, effect size results from other studies may provide further useful points of comparison. Out of 7 quality RCTs on medical students identified in a meta-analysis of empathy interventions by Winter et al. (2020), only 3 indicated medium or greater (0.5+) effect sizes relating to empathy scores of any kind. Two of these were conducted more than 25 years ago in the USA and Canada (Shapiro et al., 1998; Wolf et al., 1987). The third was a controlled experiment investigating simulated patient responses (Foster et al., 2016). The results of that study may have limited generalisability due to the inclusion of conceptually distinct items related to rapport and sympathy (Thirioux et al., 2016) in their measures.

Using observational measures or direct patient reports to measure the impact of empathy interventions on patients might provide helpful additional information. However,

observational methods were not possible in this preliminary study. These would be valuable aspects to consider for possible future RCTs, although the inner experience of empathy may only be partially reflected in observable skills as well. In determining whether investment in RCT studies on IM is warranted, it is worth considering how the present study performed compared to other studies using self-report measures of empathy.

Out of 19 RCTs and matched control group comparison studies included in a meta-analysis of mindfulness interventions by McConville et al. (2017), only one study measured empathy and did not use the IRI (Shapiro et al., 1998). In another review of twelve interventions, including some form of mindfulness (Daya & Hearn, 2018), only four studies and one related thesis (de Vibe, 2014) investigated the impact on empathy. All five used the JSPE (Barbosa et al., 2013; Bond et al., 2013; A. Chen et al., 2016; Danilewitz et al., 2016; de Vibe, 2014). Only a small pilot by Barbosa et al. (2013), which did not randomly assign participants to the intervention or control groups, found any improvement in the JSPE. Another pre-post study investigated the effects of 8 weeks of MBSR on members of the public used subscales of the IRI, but no improvements in empathy were found on that scale (Birnie et al., 2010).

As a means of further contextualising the results on the IRI, a study by Quince, Thiemann et al. (2016, p. 447) found that the overall mean for men and women in medical school in years 1 and 5 or 6 in the UK was 21.18 (4.03) on the EC scale of the IRI, and 19.35 (4.28) on the PT scale of the IRI (similar to final levels in the IM group, which were 22.29 on the EC scale, and 18 on the PT scale). They also found that naturally occurring higher scores on this scale were associated with lower scores on burnout measures. Thus, interventions found to support doctors (or trainees) are likely to benefit patients, as physician burnout has been linked to a higher incidence of medical errors (Brown et al., 2015; Fahrenkopf et al., 2008; West, 2012).

According to a review of empathy education (Winter et al., 2020), medium-length non-mindfulness interventions lasting between 5 and 12 hours (similar to the 10-hr intervention in this study) result in significant improvements in the IRI or other empathy measures only 50% of the time. Therefore, the significant enhancements in empathy observed from the MBSR + IM intervention in Study Two seem promising. As a cost-effective option, IM is a strong candidate for further investment, development, and investigation.

Theoretically, IM is also more likely to be transferrable to multiple situations (Kramer, 2007), particularly when underpinned by an enduring meditative practice. However, combining role-plays with feedback and IM may be even more effective. Further RCTs would undoubtedly benefit from both empirical evidence and greater theoretical clarity, as many interventions are unclear about the definitions of empathy, the theoretical approach to improving it or the reasons for the teaching methods employed. IM requires further investigation to determine any potential impact on patient care. Investigating the present intervention or a longer one in a larger-scale RCT using observational assessments would be advisable.

Comparing Interventions

Considering the addition of an MBCT exercise (See Chapter 3), there may be some concern over comparing the current interventions to other adaptations of MBSR. However, there is little conceptual and theoretical consistency in adapted mindfulness courses. Interventions using both MBSR and MBCT approaches (Galantino et al., 2005) have been included in systematic reviews (Lamothe et al., 2016). Moreover, some studies appear to have used relational practices similar to IM without declaring this or the theoretical approach in enough detail for replication (Krasner et al., 2009; Shapiro et al., 1998). Other studies introduce multiple methods of mind-body approaches, such as relaxation, which are similar to MBSR but don't follow the same guidelines (A. Chen et al., 2016). Additional studies reduce

the length of the sessions (de Vibe, 2014), which could alter the discussion or mindful movement time, thus reducing the efficacy (Hölzel, Lazar, et al., 2011).

Additionally, it is difficult to determine what elements of MBSR or MBCT shorter interventions include or exclude (Jain et al., 2007; Phang et al., 2015). As such, while absolute consistency cannot be expected between adapted interventions, meaningfully comparing them is a wider problem in the field. Greater conceptual and theoretical clarity about the chosen approaches may provide options for future comparisons.

The Length of the Intervention

Longer interventions are likely to confer stronger effects. For example, 8-weeks of MBSR followed by 8-weeks of IM (Bartels-Velthuis et al., 2020) is likely to be more effective than 5 weeks of MBSR + IM. However, MBSR has had a limited impact on mental health in medical students (Sekhar et al., 2021) and in crowded medical education curricula, five weeks may be preferable on a practical and financial level. Conversely, developing the present IM course into longer (8-week plus) versions may maximise the effects. In any case, it seems that the 5-week version developed in this thesis is a respectable option if space or resources are limited, as it provides a potentially useful experience that students could pursue further privately.

Long-term Effects

A follow-up measure was initially included in the proposal for this study to consider whether the interventions maintained impacts on mindfulness, self-compassion or empathy. When the questionnaire was sent out during the 3-month follow-up period following Study One in this thesis, a negligible response rate meant such data could not be meaningfully interpreted. Additional funding was not available to provide incentives for follow-up after Study Two, and so efforts were made to provide some information about longer term effects in Study Three by conducting the interviews 6-8 months following the intervention (see

Chapter 7). Providing financial incentives to complete follow-up questionnaires is likely to be more successful in future as in other studies (Shapiro et al., 2011).

Barbosa et al. (2013) investigated the impact of 8 weekly 2.5-hour sessions of standard MBSR on 28 health students (93% F). They found that empathy levels, as measured by the JSPE, significantly improved immediately following the course from 104 to 120, although they reduced significantly to 100 at 3 wk follow-up. The levels of the JSPE for the current sample remained steady at 115 in the IM group and 111 in the MBSR group following the intervention despite scores significantly improving on the cognitive empathy scale (IRI-PT). Face validity concerns over the JSPE scales suggest that it may not be responsive to non-judgemental empathy following mindfulness interventions (see Appendix D). Nevertheless, if empathy mainly improves through experiencing it, longer interventions are more likely to be effective.

A thematic analysis by Beckman et al. (2012) evaluated the perceived effects of an 8-week mindful communication course followed by 10 monthly sessions (Krasner et al., 2009). The empathy scores in that study increased from 117 to 121 after 12 months. This longer-term format, meeting monthly, provided a meaningful space for sharing ongoing experiences with colleagues and reducing professional isolation. Doctors in that sample qualitatively reported improving listening, attentiveness, presence, and honesty, which appeared to last. This extended model of ongoing monthly meetings following a weekly course is likely to confer more profound and long-lasting effects from a theoretical point of view. If funding allows, it would be a sound model to replicate in future.

Past research indicates that longer-term benefits should be associated with more home practice (Baer, Carmody, et al., 2012) and greater social support (Krasner et al., 2009). It would have been illuminating to determine how much participants practised and felt supported in the three months following the intervention and even longer term. As the MBSR

group practised significantly more than the MBSR + IM group during the interventions, it may be that those participants enjoyed longer-term impacts. However, this is currently unknown and may vary considerably between individuals and groups. The IM practice may have empowered some participants to seek better social support for themselves, which could also have maintained the benefits. Long-term effects will likely be further increased when supported by a compassionate community or undertaken in a Buddhist context (Maitreyabandhu, 2018).

Limitations

The study is too small to provide conclusive answers for the wider population of medical students, and results can only be interpreted for the present sample. In other studies, the effects of mindfulness correlate with greater practice levels (Baer, Carmody, et al., 2012). If the IM group had matched the practice levels of the MBSR group in the present study, stronger effects may have been observed. Larger studies, with more precise measurements of practice time, are required to reach more concrete conclusions.

It is important to consider the significant difference in the social connectedness scale between the randomly allocated groups at the beginning. This influence could be interpreted in two different ways. The first possibility is that because the groups were not equal from the start, higher baseline social connectedness may have accounted for some of the success of the IM group. Students who are already more socially connected might have a certain affinity for learning interpersonal skills and empathy since these are theoretically linked in the literature (Findlay et al., 2006). Extraverted or more socially connected students may have found the IM exercises more acceptable than those who were less socially connected or more introverted. The second interpretation is that it would have been even more challenging to improve mindfulness and empathy levels in people who were already highly socially connected. There may be a ceiling effect in social connectedness, which could also limit the

effects of MBSR + IM in studies with students who are already socially connected. If that were to be the case, the IM group performed admirably, although it is difficult to determine which, if either, of these interpretations is most accurate.

Type II errors may have also occurred, meaning there could be differences between the groups that have yet to be captured due to the small sample size, lack of pure control group or the differences in practice and social connectedness, which occurred by chance. It could be that if the groups had been larger and equal in social connectedness, or if the MBSR + IM participants had practised more, the effects on the interpersonal variables may have been stronger in the MBSR + IM group than in the MBSR group.

Future Research

While a comparison between IM and MBSR was theoretically useful, it may be that it is difficult to show significant differences between the two effective interventions, particularly given a relatively low sample size. It is encouraging that the revised MBSR + IM intervention matched the more standard MBSR intervention. As such, more research on the effects of IM in medical students is warranted. RCTs, recruiting more participants, and using observational empathy measures with empathy clearly distinguished from sympathy would be useful to provide clearer conclusions about the efficacy of this successful intervention. In future RCT studies, including a waitlist control group would also provide more conclusive results about the utility of IM.

The pre-recorded home meditations selected for this study, although professional in quality, were not recorded by the teacher. Furthermore, although the MBSR tradition, according to Jon Kabat-Zinn (1990), incorporates an element of relaxation into the body scan audio recordings, the approach used in the pre-recorded meditations from the 'Finding Peace in a Frantic World' (Segal et al., 2013) recordings (see Appendix C) take a more neutral approach to the exploration of bodily sensations, thoughts and sounds. They are also shorter

in length. Students were provided with both the longer (45-min) and shorter (15-min) options and did not specify in the questionnaire which recordings they used. It could be that the longer meditations practised less frequently provide more transformational effects than shorter meditations practised more often, or vice-versa. Additionally, while incorporating aspects of the IM guidelines, professional quality recordings by the teacher may implicitly remind students of the positive and affirming connections formed in the groups and could increase the effects or improve adherence to practice over impersonal recordings. It would be useful to compare the effects of different approaches for home practices between two groups to determine which are more acceptable and effective. Because multiple changes were made to the intervention between Study One and Study Two, it is impossible to determine which changes made the most difference.

The role of the teacher is an aspect of this study which was not under investigation. As an experienced teacher of communication skills and empathy, the teacher was conscious of mindfully empathising with the students. Receiving non-judgemental compassion and empathy in a mindful context could be more important than the type of exercise or meditation. Medical students are notoriously perfectionistic and hard on themselves (Seeliger & Harendza, 2017), and receiving gentle kindness instead of judgment when struggling with mindfulness practice may be an especially crucial element. The extent of the mindfulness teacher's empathic practice could also be a useful component to explore in future research.

While quantitative studies from a positivist standpoint provide some useful information about the overall acceptability of new interventions, it is difficult to decipher which aspects of new interventions are the most helpful and which could be changed for a strengthened effect. Interview-based qualitative research from a critical realist perspective is required to illuminate the students' experiences with the novel IM mindfulness training, including an exploration of the effects of IM on their experiences with empathy. Student

experiences with home practice is a crucial aspect to illuminate further as well. Additional unforeseen aspects of the student experience could also arise following qualitative investigations.

Conclusions

The present study has demonstrated that it is possible to run a theoretically sound and effective IM intervention based on Kramer's (2007) guidelines. This highly evaluated intervention improves mindfulness, self-compassion, and empathy in medical students, matching the impact of adapted MBSR in a 5-week randomised controlled comparison. Although this course is unlikely to create the depths of interpersonal awareness and understanding following eight weeks of MBSR and eight weeks of IM (with the depth of personal practice achieved over 16 weeks), it may be more practical and cost-effective for over-burdened university curricula and pressured medical students as a crucial interpersonal awareness-inducing starting point.

Most importantly, it is encouraging that felt empathy levels improved in the MBSR + IM group despite home mindfulness practice levels being significantly lower than the equally successful MBSR intervention and despite no decrease in perceived stress. Previous studies have documented medical students' difficulties developing and maintaining recommended mindfulness practices (de Vibe et al., 2013; Erogul et al., 2014; Phang et al., 2015). Despite the lower mindful meditation practice levels for the MBSR + IM group, it remains unclear whether the IM exercises in this sample are responsible for improvements in mindfulness, empathy, and self-compassion. The MBSR group may have exceeded the threshold levels required for such changes, or the changes could be due to unknown factors. Nevertheless, the IM practices in the intervention were well tolerated and equally successful as MBSR and could be developed further. The basic format appears valid, and further RCTs are warranted, including an extended intervention and follow-up period using observational measures of

empathy. Further qualitative research, which illuminates nuances about the lived experience of medical students participating in the IM intervention, is also warranted.

Chapter 6: Literature Review and Methodology for Study Three

Background

This study examines the experiences of medical students 6-8 months after participating in a novel 5-week course combining intrapersonal mindfulness practises with interpersonal mindfulness (IM). While previous research has examined the effects of MBSR, no published study has evaluated the effects of IM on medical students. Given the importance of expanding existing qualitative knowledge in this area, the present study examines how medical students make sense of their participation in the IM course.

Interpretative Phenomenological Analysis (IPA) was used to understand medical students lived experience with IM. IPA offers a systematic and rigorous approach to understanding participants' accounts. IPA acknowledges the central role of the researcher in interpreting the qualitative data. The analysis explores the subjective meaning of shared but personally unique experiences and how they affect students' approaches to participation in their own social world. The following sections summarise the most important aspects of the IM course which are relevant to the present study, followed by a literature review of extant literature.

The Potential Importance of IM

IM could be useful in the context of medical training due to its potential to improve empathy more effectively and efficiently than standard mindfulness interventions (Bartels-Velthuis et al., 2020). Empathy is crucial to patient care (Bellet & Maloney, 1991) and yet is thought to decline or, at best, remain consistent throughout medical school (D. Chen et al., 2012; Quince, Kinnersley, et al., 2016) despite required participation in extensive communication skill training for UK trainees (Von Fragstein et al., 2008). While researchers have found that standard MBSR improves empathy in some medical student cohorts (Malpass et al., 2019; Martin-Asuero et al., 2014; Shapiro et al., 1998; Barbosa et al., 2013), other

investigations show a lack of improvement in empathy following regular MBSR-based mindfulness training (Galantino et al., 2005; Beddoe & Murphy, 2004; de Vibe, 2014). IM may provide opportunities for greater improvements in empathy than MBSR alone (Bartels-Velthuis et al., 2020).

IM, as a dyadic practice of bringing mindful awareness into the relational sphere, is an important communication and self-care technique which may be helpful in medicine. Otherwise known as relational mindfulness, this involves deliberately paying attention and listening to what others share while remaining internally mindful. This can foster the qualities of an open, accepting, and authentic presence. IM shows theoretical (Kramer, 2007; Kramer et al., 2008) and empirical (Bartels-Velthuis et al., 2020) potential for increasing the possibilities for healthy empathy, which 'represents a balanced state where the clinician is open to the experience of another, but does not lose him or herself in that experience' (Bentley et al., 2018, p. 668).

One of the most widely established assumptions in prevailing secular mindfulness theory from both the intrapersonal and interpersonal points of view is that those who regularly practice mindfulness enjoy greater improvements in wellbeing than those who do not. The emphasis on practice originally stems from Buddhist teachings (Maitreyabandhu, 2018; Shonin et al., 2015) and has been widely accepted by psychologists (Brown et al., 2015). There are several randomised controlled trials which empirically support this claim in regard to intrapersonal practises (Daya & Hearn, 2018). However, practice does not always account for changes, and the role of the group experience is also thought to be crucial (Hölzel, Carmody, et al., 2011)

A Shorter IM Course for Medical Students

In order to improve the efficiency of a shortened mindfulness course in medical students, some aspects of the MBCT tradition were incorporated into the present course. This

is due to the efficacy of MBCT for vulnerable individuals (Alsubaie et al., 2017). An important exercise from the MBCT approach to intrapersonal mindfulness (Segal et al., 2013) is the 'walking down the street' exercise since this may help participants recognise that thoughts are not necessarily factual. The exercise provides learners with an experience that begins the metacognitive awareness of reperceiving (Shapiro et al., 2006), otherwise known as decentring (Segal et al., 2013). This inner aspect of mindful awareness may be linked to some of the most important psychological effects (Shapiro, 2009), allowing a person to see that they and their identity are separate from their thoughts, sensations and emotions. As such, this exercise became part of the present 5-week course. Please see the conceptual framework in Chapter 3 for more information.

Standard IM courses based on Insight Dialogue guidelines (ID; Kramer, 2007) last eight weeks (Bartels-Velthuis et al., 2020). Completing an 8-week MBSR course is also a pre-requisite for 8-week IM courses. Many medical schools have limited time and budgets for curriculum additions, making 16 weeks of training impractical. A 5-week course introducing both intra and interpersonal mindfulness is a better fit at the present University, but little is understood about the experience of this or other forms of interpersonal mindfulness in medical students.

As presented in Chapter 5 of this thesis, when quantitively comparing five weeks of MBSR to five weeks of MBSR + IM (Spatz & Walsh, 2019), the participants in the Interpersonal Mindfulness (IM) group reported significantly less meditation practice time than the MBSR group while achieving the same empirical improvements in mindfulness, self-compassion and empathy as the MBSR group. Neither group significantly reduced their stress. This defies previous explanations that improvements in stress are what accounts for improvements in empathy (A. K. Chen et al., 2016).

Previous Quantitative Research on IM

Few studies have been published on IM in the context of behavioural sciences. Cohen and Miller (2009) conducted a 6-week IM intervention for graduate psychology students without naming a theoretical IM underpinning (such as ID or FAP as discussed in Chapter 2). The authors introduced various exercises relying on embodiment techniques in the relational sphere, such as physical 'mirroring' (J. Cohen & Miller, 2009, p. 2764). Their intervention yielded statistically significant improvements in quantitative measures of mindfulness, perceived stress, social connectedness, emotional intelligence, anxiety, and depression in that sample. However, there was no control or comparison group and no qualitative exploration of the lived experience of the participants. Additionally, the daily mindful meditation practice time was not reported. As such, it is difficult to determine how the intervention worked.

In another study, Bartels-Velthuis et al. (2020) quantitatively evaluated the effects of IM on mental health workers during their pilot RCT. The authors provided a 9-week, 2.5-hour-per-session secular IM course based on ID principles (Kramer, 2007; Kramer et al., 2008). They found that their intensive intervention improved empathy and self-compassion but not mindfulness or stress levels compared to a control group. Their participants had already attended an 8-week MBSR intervention before the intervention, as is the norm in IM following Kramer's (2007) conceptual framework (Chapter 3). As such, there may have been a ceiling effect. There was no report of the participants' engagement with daily mindful meditation or informal mindfulness, nor any qualitative exploration. As such, the reasons why empathy improved despite mindfulness and stress remaining the same are not illuminated. However, this result is encouraging compared to previous intrapersonal approaches, which have been associated with increased stress and decreased empathy in this population (A. Chen et al., 2016).

Existing research investigating MBSR or MBCT supports the widely held view that more time spent practising mindful meditation leads to greater wellbeing for participants in courses lasting various lengths in various populations (Malpass et al., 2019; Morgan et al., 2015; Murphy & Lahtinen, 2015; Solhaug et al., 2016). There is, however, little information available in these studies to suggest why some researchers have found that the amount of mindfulness practice does not always equate with beneficial changes (Hölzel, Lazar, et al., 2011). Qualitative research may shed more light on the participant experience, but there is no available qualitative research on IM. Qualitative literature relating to intrapersonal mindfulness and empathy will be reviewed below since the aims of IM and MBSR are similar and overlap theoretically.

Previous Qualitative Research on *Intra*personal Mindfulness

Qualitative studies have investigated mindfulness (Dobie et al., 2016; van der Riet et al., 2015) or empathy (Aomatsu et al., 2013; Leonard & Willig, 2021) but rarely the intersection between the two (Malpass et al., 2019). The most cited method for learning empathy in one qualitative study by Ahrweiler et al. (2014) was through examples from other clinicians, indicating a possible social link. Cohen-Katz et al. (2005) conducted a broad thematic analysis of interviews and written feedback from student nurse participants in an 8-week MBSR course. This analysis generated many themes, including a perception of increased empathy following mindfulness training. However, there was little depth to the exploration regarding the internal process, nor any information showing why empathy improves for some following mindfulness training but not for others.

Negative or neutral experiences for nurses (Wu et al., 2021) or caring professionals (DeMauro et al., 2019; Morgan et al., 2015) following mindfulness training remain cursorily explored in existing qualitative reviews. DeMauro et al. (2019) conducted a deductive qualitative synthesis, aiming to explain how mindfulness mitigates burnout and enhances

professional caring. However, the experiences of medical students or doctors were not included. Furthermore, the authors reported mainly positive accounts, neglecting to describe what happens for those who struggle to practise or experience limited benefits.

The challenges reported to developing mindful awareness in healthcare professionals may stem from a culture that does not readily accept vulnerability (Nissim et al., 2019). This context, combined with personal characteristics, may cause difficulties in finding the motivation or time to practise meditating at home (Morgan et al., 2015; Wu et al., 2021; Cohen-Katz et al., 2005). Encountering difficulties focusing on oneself instead of others emerged for nurses (Cohen-Katz et al., 2005), and struggling with intense emotions during mindfulness practice was highlighted in five qualitative studies included in a review by Morgan et al. (2015).

Some qualitative studies on mindfulness have limited relevance for the present population. For instance, Murphy and Lahtinen (2015) illuminated how practitioners believe mindfulness influences thoughts in a rigorous IPA study. This study appears to add to the understanding of how cognitive processing can improve for patients with recurring depression who have participated in an 8-week MBCT course. And yet, the present sample of medical students do not disclose recurring depression and do not practice for 1 hour per day as MBCT encourages, indicating there are few synonymous implications.

Long-term mindful communication training may be useful for qualified doctors. Beckman et al. (2012) conducted a thematic analysis of the perceived reasons behind the success of a mindful communication programme for 20 rural primary care physicians in the US. Emerging themes highlighted a value placed on practising listening mindfully to patients, creating boundaries while empathising, sharing experiences in a safe yet authentic manner, reflecting with colleagues, and developing greater levels of awareness plus a sense of being less alone in their struggles. However, the intervention was extensive, involving eight weeks

of mindfulness training, followed by a silent retreat and 10 monthly meetings. As such, the context is quite different for medical students in the UK participating in five weeks of IM who do not have any patient responsibility and may be less isolated than primary physicians. For unsupported doctors, simply meeting regularly for sharing, reflection, and compassion may have been the most important aspects. There is no mention in this study about the experience of practising mindfulness daily at home, nor any difficulties in adopting the practices.

Existing qualitative studies by Malpass et al. (2019) and Solhaug et al. (2016) on general mindfulness in medical students have investigated impressions immediately following mindfulness courses. These studies also mainly highlight positive results without detailing challenging experiences or illuminating key differences between participants who view mindfulness in a goal-oriented way or a more open way (Solhaug et al., 2016). Neither of these studies highlighted the role of past traumatic experiences, and neither study included experiences related to interpersonal mindfulness exercises. Both studies investigated MBSR, including some information about empathy. Nevertheless, some information from these studies is relevant to the present research, as presented below.

Malpass et al. (2019) conducted a thematic analysis of semi-structured interviews with medical student participants, which took place shortly following participation in eight weeks of MBSR training. Some of the participants made a link between a growing sense of self-awareness followed by a perceived increase in empathy. Additional reported benefits from increased awareness involved noticing and distancing from negative assumptions and judgements towards ‘difficult’ patients. A perceived improvement in communication skills was also noted due to an increase in confidence while talking about feelings with others. However, the experiences of students who struggle to practise mindfulness, to empathise, or to develop self-awareness is not highlighted and there was a lack of exploration of the inner

experiences of the participants as related to judging themselves or engaging in negative self-talk. Furthermore, there are some methodological concerns about the study. One of the methodological issues relates to inviting only 12/57 participants in the intervention for interview, six of whom attended. No explanation was offered as to why those participants were chosen. Another methodological limitation involves not reporting the time between completing the mindfulness course and the interviews.

The qualitative study by Solhaug et al. (2016), is particularly relevant to the present study as the authors employed IPA (J. Smith et al., 2009) to interpret Swedish medical and psychology students' experiences following an adapted 7-week MBSR course. That course differed somewhat from the MBSR + IM course in Study Two; no interpersonal mindfulness was offered, it was two weeks longer, the intervention (de Vibe et al., 2013) consisted of 1.5-hour meetings each week for six weeks, a 6-hour retreat session in the seventh week, and 30 min of recommended daily MBSR-based practice at home.

Sohaug et al. (2016) presented two relatable overarching themes. The first was 'understanding mindfulness', illuminating how students conceptualised mindfulness, including their intentions for joining the sessions. The second theme was 'engaging with mindfulness', highlighting experiences related to student journeys learning mindful skills and practices. The authors concluded that:

> Students who reported a more comprehensive understanding of mindfulness seemed to be more engaged in practices and to perceive a broader range of program benefits. Conversely, students who took a more instrumental approach to reaching specific goals, such as improved relaxation and concentration, appeared to experience a more limited range and nature of benefits, and reported less engagement in the practices (Solhaug et al., 2016, p.5).

Some participants in the Solhaug et al. (2016) study found mindfulness helped with self-care and compassion, while others saw it as a limited version of a 'break', and an 'ought-to' mode still dominated their approach. These themes begin to provide a more balanced view of students' struggles than other studies (Malpass et al., 2019) while fitting the practice into their pressured lives. However, there is no explanation of why some students approached mindfulness more instrumentally, nor any concrete reasons provided for why some participants engaged with the home practices while others did not.

A clinical psychology doctoral thesis by Turner (2013) used IPA to investigate the experiences of 8 mixed professional healthcare workers whilst learning MBSR. Although empathy did not feature, the lived experience of the participants was helpfully explored, including one who diverged from the remainder of the sample and took a goal-oriented approach affording limited benefits. This theme is reminiscent of the more instrumental experiences the Solhaug et al. (2019) study reported. Participants in the Turner (2013) study who found mindfulness fulfilling and noticed improvements in their working habits, also described the groups as a safe sanctuary where they were surprised that they could work on their own wellbeing instead of focusing solely on how others were doing. They also became more aware of how harshly they treated themselves and attempted to build compassion for themselves and others. Some of these themes may be relevant to the present study, although IM was not part of the experience under investigation in that research.

Qualitatively highlighting experiences in a lay population of couples, Gillespie et al. (2015) identified limited interpersonal benefits following 8-weeks of MBSR, with some participants' partners explaining that following chronic illness, "getting a little bit of her back [after the mindfulness program] helped, but... there's such a long way to go (Gillespie et al., 2015, p. 402)." The authors concluded that the dyadic practices of IM may be more impactful. Given the limitations of the existing qualitative research and a lack of peer-

reviewed publications on the lived experience of IM, additional qualitative investigation is warranted.

Summary

While the qualitative and quantitative studies reviewed above have significantly contributed to knowledge of mindfulness in the context of the behavioural sciences, they are also limited in several notable respects. Namely, little critical research is available to understand what is happening for those who experience challenges when attempting to implement a mindfulness practice (DeMauro et al., 2019; Ferraro, 2021). Differences in the depth of cognitive understanding of mindfulness are posited as a reason for differences in engagement by Solhaug et al. (2016). However, this seems insufficient and does not explain why some students overcame challenges finding time and others did not. Research is particularly sparse regarding IM. No existing qualitative studies could be found to investigate the lived experience of practising IM skills in any population. Furthermore, no studies could be found to illuminate how busy medical students approach the goal of learning general mindfulness skills, especially relating to the challenges of finding the time to practise outside core sessions. The positivist paradigm and existing qualitative literature offer little explanation for what causes individuals to vary in terms of what they gain from any mindfulness intervention. There is also no available explanation for what happens when stress is not reduced in line with improvements in mindful awareness, self-compassion, and empathy.

As a result of the limits to the existing literature, a new approach is needed for exploring the rich nuances of individual experiences with mindfulness from a critical realist ontological position and a qualitatively oriented epistemology. The lived experience of medical students practising mindfulness, in general, has been under investigated. There do not appear to be any qualitative evaluations of brief mindfulness courses lasting less than

seven weeks. The present course was designed to last five weeks due to the limited time and resources available in the medical school and is, therefore, unique. There is a need to qualitatively examine the experience of participants in the 5-week IM course to determine more about how and why it works for some but not others and what could be happening for students who do not improve their stress, mindful awareness, self-compassion or empathy.

Aims of the IPA Study

The present study sought to examine the lived experience of medical students as related to an expanded context or impact. A greater understanding of the overall experience for students 6-8 months following their course may help bring awareness to longer-term effects and lasting impressions. This knowledge may help to highlight the experiences for students who find IM to be useful as well as those who experience fewer benefits. Taking both benefits and challenges equally seriously may help to create more effective courses. As such, an open-ended interview, allowing participants to be guided by their own thoughts and feelings, similarly to how they share in interpersonal mindfulness practice, and with minimal interference from the agenda of an interviewer, became the main aim.

Research Question

What is the lived experience of mindfulness for medical students participating in a 5-week MBSR + IM intervention?

Method

Methodological Considerations

IPA (J. Smith et al., 2009) is the chosen qualitative method for the present study for several theoretical and practical reasons. Firstly, IPA acknowledges and utilises the subjective opinions of the researcher rather than attempting to eliminate them as Grounded Theory (Charmaz, 2006) might do while advocating a naïve researcher stance. Given the

background and level of involvement in teaching by the researcher in this study, achieving a naïve perspective was not a realistic goal.

IPA allows for an interviewing style lightly underpinned by social constructivism (Pfadenhauer & Knoblauch, 2018; J. Smith et al., 2009) and aligned with critical realism (Leonard & Willig, 2021). Phenomenological approaches acknowledge that human experiences are not fully understood until shared; meanings are not necessarily made until written or spoken, and existence is inherently relational (Vagle, 2018). IPA theory is in line with the view that the meanings humans make from their experiences are simultaneously subjective and reactive, with different and sometimes contradicting realities and views co-existing in different parts of the psyche as explained by Dialogical Self Theory (DST; Hermans, 2008), which posits that there are multiple parts and points of view within one person.

Sense-making is an ongoing process, and discovering what it is like to have an experience and make conclusions about that experience is the aim of IPA. It is possible with IPA, to conduct a nuanced enquiry, using an unstructured interview, mindfully exploring positive, neutral, and negative experiences from a non-judgemental stance. The researcher attempts to understand the participants' views while interpreting what is both latent and implicit (Braun & Clarke, 2012). This is the hermeneutic circle (J. Smith et al., 2009). A positive rapport between researcher and participant is crucial to engage in this delicate work, facilitating sharing of nuances that may not normally be disclosed.

The IPA approach is also synergistic with IM theory (Kramer, 2007), which states that a connected and supportive presence from others facilitates personal insight. In the present study, there is already a positive rapport between the researcher and the participant since the researcher was the mindfulness teacher. IPA acknowledges the benefit of this relationship, including how the researcher's interpretation of some elements of a shared

experience can be beneficial. Any limiting effects of this pre-existing relationship can be mindfully mitigated with IPA through conscious awareness and overt acknowledgement of power dynamics, assumptions and shifting roles and agendas – both during the interview process and in the analysis phase.

IPA is suited to an open, person-centred exploration of how participants experience a phenomenon. Beginning with an unstructured and empathic interview, each participant is facilitated to share how they think about and understand their own experience with the given phenomena. Wherever possible, empathic interpretations from the participant's point of view allow insight into their conscious feelings and motivations. This involves using affective and cognitive empathy. Affective empathy is usually observed in non-verbal expressions such as nodding or looking concerned (Fultz & Bernieri, 2022). Cognitive (verbal) empathy may include summarising emotional content while checking and clarifying if the emotional meaning was understood, e.g. That sounds distressing. Questions to elicit empathic opportunities are also helpful, e.g. How did that feel? Gentle scepticism or suspicion balances empathy and allows for expanding the meanings beyond what participants can understand for themselves (Willig & Stainton-Rogers, 2017, p. 23), recognising typical human limits in self-awareness. The interviewing style and the interpretative analysis encourage exploring assumptions when they become visible, frequently reflecting on the differences and similarities between the perspectives of the researcher and the participants while benefitting from the existing trust.

Rather than attempting to decipher a universal 'truth' about the experience of interpersonal mindfulness for medical students, an IPA approach will illuminate unique phenomena related to the participants' lived experiences including meaning-making (Murphy & Lahtinen, 2015). The utility of IPA does not reside in explicitly in hypothesis or theory formation as other qualitative techniques such as thematic analysis (Braun & Clarke, 2012) or

grounded theory (Charmaz, 2006) might do. An IPA approach is suited for highlighting contradictions, meanings, motivations, and reservations from the participants, which may lead to a deeper understanding of the challenges and benefits for this population. These in turn, may or may not lead to theoretical shifts.

The Importance of Reflexivity

Reflexivity is one of the most important aspects of qualitative analysis due to the intimate reliance upon the researcher's experience to interpret the data. Finlay (2002) states that one of the most important factors in determining the validity of qualitative research is to engage in a reflexive account of the influences, assumptions and perspectives universally present in qualitative research. According to Herz (1996), reflexivity is

> An optimistic, active construct that […] has been said to be an ongoing conversation about experience while simultaneously living in the moment… It permeates every aspect of the research process, challenging us to be more fully conscious of the ideology, culture, and politics of those we study (p. viii).

Overtly considering and discussing these inherent human factors within the researcher is widely considered the surest method for limiting their effects and situating the findings; that is, according to the social constructivist paradigm (Pfadenhauer & Knoblauch, 2018) which informs the critical aspect of the critical realism approach undertaken in this thesis (Creswell et al., 2003; Willig & Stainton-Rogers, 2017).

In IPA, the hermeneutic circle involves the researcher making sense of the sense-making of the participant. It is through the researcher's experiences, beliefs, attitudes, and knowledge that the interpretations are made. The researcher is, therefore, the analytical tool. The researcher's frame of reference is woven through the work, and the influence of the researcher's approach can be felt from the interviewing stage through to the analysis and interpretation phases. For the reader to accurately make sense of the lived experiences of the

participant and digest the data in light of them, the researcher must be as explicit as possible about the various theoretical lenses through which the story has been pieced together.

There is a growing practice for qualitative researchers to include reflexivity statements which provide basic details of the researcher's background, similar to a resumé. However, these statements are often formal and lack details of personal background information, creating barriers to meaningfully contextualising the interpretation of the data (Olmos-Vega et al., 2022). True reflexivity also means that as much as the data gathering and analysis is influenced by a researcher's approaches, the researcher may equally be touched and changed by the process (Aluwihare-Samaranayake, 2012; Lahman et al., 2011). Below is a summary reflexivity statement followed by an open reflection on the researcher's relevant background, which undoubtedly influenced the data interpretation (Chapter 7).

Reflexivity Statement

I am an American/British dual citizen who is a long-term (20+ years) resident of London and a keen observer of UK culture. Growing up in the USA, I was home-schooled until secondary school and raised on a small farm. I experienced developmental (early) trauma, which I was initially unable to face and only discovered in 2017 following a traumatic road traffic accident.

- I have been teaching communication skills in the medical school where the current research takes place since 2008.
- I have been practising MBSR since 2009 but began practising visualisation and basic meditation sporadically throughout my teens and 20s.
- I have taught mindfulness in the medical school where the research takes place since 2012.
- I have been practising IM in the ID (Kramer, 2007) tradition since 2015.

- At the time of the present qualitative study, which began in 2019, I knew many of the students as a communication skills teacher, and as their mindfulness teacher for the 5-week IM course that I designed to fit into their elective schedule.
- I occupy a position as an 'insider' in medical education to a degree but with a different epistemological lens as a research psychologist, communication skills lecturer and facilitator - rather than a medic.
- There is a potential for a power difference between myself and the students in the present study, in that I was responsible for the mindfulness course, and I am a member of the permanent faculty in the medical school where they study. However, the student essays were graded by another faculty member, so I had no influence on the final grades for the present sample.

Reflexivity Regarding Trauma

Following a talk at UEL, midway through my PhD, I began to understand for the first time that things had not just been a little bit difficult, but that I had been deeply traumatised in childhood. It soon became clear that my mindfulness practice, while supportive and helpful, was not effective enough for resolving trauma symptoms. This realisation eventually led me to pursue Identity Oriented Psychotrauma Theory (IOPT) informed therapy and training.

The result of my own trauma awareness journey led to a different qualitative analysis than originally intended. I did not begin by intending to consider trauma theory for the analysis, only mindfulness theory. However, as I progressed, I could see through multiple lenses - the more behavioural or traditional mindfulness theory patterns were evident, as well as the emerging trauma theory related themes. The early trauma lens helped to clarify what seemed to be happening when participants contradicted themselves about their own experiences or showed repeated signs of inner harshness verging on perpetration which

interfered with their conscious goals. My analysis began with a focus on the cognitive-behavioural effects of interpersonal mindfulness on the lived experience of medical students. In the end, the ways in which some students experienced IM appeared to have been deeply coloured by survival tactics that likely arose from early trauma according to Identity Oriented Psychotrauma Therapy (IOPT) theory and practice (Broughton, 2021; Ruppert, 2023).

Once one of the participants (George) specifically mentioned childhood abuse, and a spontaneously arising memory from when he was in secondary school, as well as the self-development journey that prompted in him afterwards (but before attending the IM course). This was a key turning point, and after recognising the importance of this, I shifted from noticing simple themes aligned with Buddhist or Interpersonal mindfulness theory of a cognitive-behavioural nature towards also noticing themes emerging in line with IOPT and suppressed early betrayal trauma (Freyd, 1996). I was mindful that my own experience could be projected onto the students. So, I began a careful process of querying my own assumptions through the later phase of the analysis, as described below. I sometimes noticed similar patterns in the participants as in myself or others. Still, I understood that this did not necessarily mean they were going through the same experience. It became clear that there was a need to firmly bracket the contribution from these theories without negating the benefit of the awareness they afforded.

Following consulting with additional academics, I settled on an IPA analysis informed by a bricolage approach (Pratt et al., 2020). Through writing memos, summarising the participants' experiences, and highlighting related quotes, I was checking and re-checking what I believed I recognised in the data. Bracketing my assumptions throughout the memos, ensuring I stayed as close as possible to the data, and analysing each interview in multiple stages, all helped. Throughout, I kept the data from the participants central, reading and re-reading what they said more than my notes. Although this was a long process, I was prepared

to question myself and carefully consider the various lenses with which the data could be viewed.

I expected this to be a protracted effort, but I was surprised to find out how the qualitative analysis would affect me. Seeing similar patterns in the participants was confronting as I was only beginning to recognise them in myself. This was sometimes painful. In the end, I chose to continue to welcome the process, acknowledge my fear, gain support in feeling what was coming up in me and look rather than continue to avoid painful emotions. I took interruptions of study to take breaks from the confronting data and work on recognising and integrating my trauma. Once I returned to look again, I began seeing much more clearly after each pass.

I hope that the detailed evidence I provide will indicate that my subjective interpretations have been checked for accuracy and hasty or unconscious assumptions, coming back very closely to the meanings behind what the participants have disclosed, and in the IPA tradition, working to look at patterns throughout entire interviews to produce a reliable and accurate analysis. I also have aimed to be precise but non-judgemental and compassionate towards the participants. I am utterly grateful that they permitted me to discuss their experiences with them in such intimate detail. I have also ensured that no identifying characteristics are included while describing enough about the context of the individuals to paint an accurate picture of the social context that would also affect their experience. I have ultimately become energised and motivated by this work.

Using a Theoretically Informed Trauma Awareness Approach

Given the inherently reflexive nature of all qualitative research, examining particularly relevant theoretical influences on the researcher's point of view can be useful. IOPT, founded by Franz Ruppert (2012, 2023), was the main therapeutic method I used to understand, settle and integrate my own trauma symptoms. IOPT is a theory and a therapy for

understanding the effects of early trauma on the psychological health and identity of those who suffer from trauma-related changes to their psyche. The therapy was developed from Family Constellations (D. Cohen, 2006) , resulting in a psychotherapeutic parts-based modality designed with autonomy and client choice in mind. IOPT attracts a growing number of practitioners and clients internationally and is one of a few emerging DST (Hermans, 2008) approaches, illuminating identity struggles and personality beyond attachment theory while incorporating aspects of embodiment and emotional integration. Internal Family Systems (IFS; Hodgdon et al., 2022; Schwartz & Morissette, 2021) is another form of DST, as popularised in the movie INSIDE OUT.

According to IOPT, trauma is differentiated from stressful or difficult experiences through examination of reactions following a traumatic event as subjectively experienced by an individual. The original and involuntary trauma reaction is a life-saving mechanism which occurs as the usual stress response of an individual becomes so overwhelmed that the person could die if the racing heart and other physiological aspects of the stress response continue to worsen. At the moment of traumatisation, a hypo-mobilisation of the system saves the person from overload, resulting in resignation and collapse following extreme activation of the stress response (Broughton, 2021, p. 73). This relates to the now well-known mobilisation of the vagus nerve beyond healthy fight or flight to the freeze, fawn or collapse response (Van Der Kolk, 1994). According to IOPT (Ruppert, 2012, 2023), an involuntary trauma survival reaction results in the psyche of the individual splitting off a part of their healthy self along with the severe pain as it was experienced at the time, particularly if the trauma occurs early in the person's life (developmental trauma).

According to IOPT, difficulties with remaining present, particularly during stressful moments, stem from traumatic experiences as described above, that affect a person's development. As a result of multiple parts of the psyche splitting away from consciousness,

victims are prevented from being in contact with themselves as they truly are and authentically feel, which is an integral aspect of developing a true or authentic identity. Without all parts of their psyche available, victims must continue to deny, dissociate, or otherwise distance themselves from their real feelings and keep the original trauma reactions out of conscious awareness. Dissociation or other distraction techniques, such as a racing mind, occur during stressful moments in the present, in involuntary anticipation of repeated trauma, making it difficult to be fully available as an agentic being with choices, apart from when feeling calm and particularly safe. As discussed by Broughton (2021), the constructed self, based on accomplishments, characteristics, or fulfilling particular functions for other people (such as caring), emerges instead of an authentic self. This includes survival tactics and ego protection mechanisms which hold traumatic experiences out of awareness (splitting). This necessary traumatic avoidance reduces the pain of recognising trauma in the short run yet comes at a cost, meaning that such a person may struggle to feel safe being present with difficult emotions, reducing resilience and the ability to fully function as a healthy, autonomous person in the present. This may also limit the capacity for mindful presence and empathy since mindfulness involves becoming more aware of and thus more tolerant towards one's own pleasant, neutral or unpleasant experiences (Kabat-Zinn, 1990, 1994) as well as those of others (Kramer, 2007).

Essentially, many people find it too disturbing to be consciously aware that someone they loved (parents or carers) and were entirely dependent upon would belittle, berate, or otherwise emotionally, physically or sexually abuse them as children (Freyd, 1996). This distressing possibility means most people may remain understandably unaware that aspects of their childhoods were, in fact, deeply traumatic. Recent grounded theory research on the qualitative experiences of clients and therapists engaging in IOPT (Stjernswärd, 2021) found a central theme related to the benefits of getting to know the inner self. Participants engaged

in a mostly self-directed process facilitated by a therapist, which fosters healthy autonomy and a growing sense of authentic identity along with improvements in agency or self-efficacy (Finney Rutten et al., 2016).

According to IOPT, gaining contact with the authentic self involves encountering and integrating some of the previously sublimated feelings of trauma in the body. This then reduces the need for a constructed sense of self and associated survival mechanisms, thus opening up to the possibility of becoming more present. This may involve having traumatic memories emerge or developing a deeper connection to bodily sensations that tell a somatic story (Van Der Kolk, 1994). Through IOPT, traumatised parts of the psyche which have been sublimated and forgotten begin to create healthy connections between them, rather than remaining split off and lost in the subconscious. Like the story in the Inside Out movie, through acknowledging and feeling what happened, traumatic experiences become integrated, allowing greater presence in the body and each moment. This goes beyond standard mindfulness theory to explain why, for some traumatised individuals, there may be blockages to practising mindfulness (Malpass et al., 2019; Solhaug et al., 2016), feeling difficult emotions (Morgan et al., 2015) or gaining meaningful or transformational effects.

The way IOPT theorises the effects of early or developmental trauma on the human psyche and identity was used during the inductive interpretation of the qualitative interviews during the second phase in this study, in conjunction with mindfulness theory and the general psychological knowledge of the researcher under the over-arching umbrella of IPA. These theories were all bracketed in the later phases, and the attention was returned to the meanings participants were making of their experiences themselves, making clear whether they identified themselves as traumatised or not. The process of bracketing enables a researcher to rely upon personal experiences while interpreting the data, without allowing them to over-

shadow the reports of the participants. In this way, the researcher's experiences are an advantageous aspect of the research (Olmos-Vega et al., 2022).

Bracketing a Theoretical Trauma Approach

The process of bracketing in this thesis was quite specific. When it was difficult to make sense of the contradictions within the participants' accounts, there was a struggle to settle on accurate experiential statements or themes. Once resolved through reading and re-reading, this was followed by grouping themes together within each participant data set as recommended in IPA (Smith & Nizza, 2022). Following becoming stuck after initial noting (Appendix H: Initial Noting Phase of Analysis), the researcher (AS) grouped long quotes from different participants together in memos, which seemed to fit in some way (Appendix I: Excerpt of Second Stage of Grouping and Noting). Free writing, pulling in other quotes that came to mind, was helpful. In the end, a very long, 35,000 + word series of memos was produced from analysing and interpreting the data using IOPT and mindfulness theory (see Appendix J: Excerpt from long memo).

Once meaningful connections had been made within and between participant experiences and assumptions were visible, cleaner interpretations emerged. Going back to the data and putting subjective analyses aside was important. For example, instead of concentrating purely on the potential effects of trauma throughout each participant's interview, the analysis continually re-considered what each person was aware of and could experience using the trauma lens. Clarity from the memo writing resulted in deep emersion in the data (Appendix K: Mid-bracketing, themes grouped according to self-knowledge)

To finish, the participants' points of view were inductively identified in experiential statements and themes. At this level, the interpretation was no longer based on the trauma theory, and the participant experiences were represented factually (see Appendix K). Following this process, it was then possible to group the experiential statements into

subthemes (Appendix L: Table of emerging subthemes). The process of checking and double-checking for accurate interpretations of the participants' own views continued from a final grouping of the emerging themes and quotes (see Appendix M: Thematic Table with Quotes) through the writing phase.

Participants

Any medical student currently enrolled in the University was eligible to take part in the IM intervention as part of the randomised controlled comparison as described in Chapter 5, provided they declared that they were not currently suffering from any acute physical or mental distress or had a psychological diagnosis including anxiety or depression. As the course involved experimental elements, volunteers were informed that the course was only open to those who were well, for their own protection. Student participants in the course were also encouraged to speak to the teacher (AS) beforehand if they had any questions, queries, or doubts. Students taking the course for university credit were given priority. In the end, all the groups consisted of 10 students or less (see Figure 13 in Chapter 5), with a total sample of 78 participants.

Recruitment

The five weeks of mindfulness training took place as a Student Selected Component (SSC) option for third or final-year medical students in a medical school in London. The SSC is an elected topic for study. This is a small but formal part of their course credit for graduation. As described in Chapter 5, participants in the original course were mainly recruited through an advertisement in a published handbook listing all SSC options for third or final-year medical students. An additional invitation was sent via email to recruit students in other years who were interested in completing the study for personal and professional development purposes. The students who took the course for SSC credit completed a 3,000-word reflective literature review on a topic relating to mindfulness in healthcare. Seventy-

eight participants participated in the 5-week mindfulness intervention as part of Study Two and as reported in Chapter 5, Figure 13.

Participants in the current study were purposefully recruited from the sample of students who participated in the 5-week course. They had all previously consented to be contacted for a follow-up interview. One email requesting volunteers for a face-to-face interview was sent out to the entire cohort of 78 students who completed the intervention, as presented in Chapter 5, during September and October 2018. Some of the original participants may have graduated by the time the invitation to interview was sent out. Others may have been busy with exams or on holiday. Only six students from the IM group responded to the original email and completed the interview. No further emails were sent to ensure the students were not overburdened with correspondence. The final sample comprised of three men and three women who completed the 5-week IM intervention. (see Table 10, Chapter 7) for demographic details of the participants. Over a period of two months, May-July 2019, all six interviews took place. This was 6-8 months after completing the 5-week course and just after their end-of-year exam period.

The elapsed time between the course and the interview carries some benefits and at least one drawback. The time away from the course allowed students to consider the ongoing and longer-term experience of mindfulness rather than overstating the benefits without reflecting on the challenges. Directly following an intervention, it may be that participants could be carried away by any enthusiasm associated with the Hawthorne effect or other influences of the research process, such as the Novelty effect (McCambridge et al., 2014). The timing of these interviews should have reduced that risk while ensuring that all students had completed their end-of-year assessments so that there was no undue strain from participating in the research. Additionally, 6-8 months later, their reflections include information about how mindfulness was interwoven into their experiences of being a medical

student and facing numerous challenges and pressures. However, the main drawback is that this elapsed time also may have reduced their detailed memory of their experiences within the course.

Interview Data Collection

Verbal consent was sought at the start of each interview. Interviews were conducted face to face within the medical school, in a private teaching room prior to the COVID19 pandemic. The researcher (AS) is considered an insider, as she is known to the students as a faculty member, the mindfulness teacher and to a minor extent as an academic authority figure since she occasionally assesses students in their communication-related oral exams. The potential for a power imbalance between the participant and researcher (Finlay, 2002) was considered throughout the consent and interview process.

The role of an insider as interviewer is thought to carry drawbacks and benefits (Malpass et al., 2016). According to Smith, Flowers, and Larkin (2009), when the researcher is known to the participants, this may provide fertile ground for exploring personal information due to an existing trusting rapport. However, there is also potential for confusion of roles when shifting from teacher to interviewer. This was carefully considered and consciously addressed. For example, interviews were held in rooms different from the mindfulness sessions to reduce unconscious association with the place and the roles. As part of the consent procedure, AS explicitly communicated the change in roles to set realistic expectations and engage the students in an attempt to leave behind the usual way of interacting as much as possible. Overtly acknowledging the effect of this pre-existing dynamic is an essential component of IPA (J. Smith et al., 2009, p. 61). The introduction and consent portion of the interview was carefully approached to help the participant feel at ease and discuss expectations (J. Smith et al., 2009, p. 63).

The interviews were conducted in an unstructured manner following a single core interview question to illuminate unanticipated aspects of the participants' lived experience (J. Smith et al., 2009, p. 69). The opening question was designed to encourage the participant to speak freely. Over-empathising or asking leading questions was avoided as much as possible (J. Smith et al., 2009, p. 66). Prompts were conducted throughout to encourage deep exploration of relevant details, see below.

The opening question to the interview: Please tell me about your experiences with mindfulness.

Conducting the Open Interview

As previously discussed, empathy is an area of particular interest for this thesis because there is a lack of information in the literature explaining why empathy improves following some mindfulness interventions and not others, or for some people and not others. As such, the topic of empathy was followed up in each interview after the participants brought it up or occasionally introduced by the interviewer if the participant had yet to mention it. Mindful listening and speaking (interpersonal mindfulness) were also particularly mentioned if the participants did not bring this up themselves, as so little is known about the experience of IM. Additionally, the topic of home mindfulness practice was introduced if the participants did not mention it. If the researcher introduced these topics, this was done using open questions, such as, what about the mindful listening and speaking exercises? How did you find those? Otherwise, the interviews were led entirely from what each participant chose to say (see Appendix H or Table 9). This participant-led approach and unstructured interview facilitated autonomous priorities from the participants' perspectives to emerge. Trauma was not introduced as a topic by the researcher since it was not identified as a possibly important aspect of the research until the analysis phase.

Many emerging disclosures were followed up or clarified in some way, although the choice of which topic to explore when multiple topics were presented was decided based on the mindful curiosity of the researcher. As such, the interviews were co-constructed in a reflexive manner. To maintain some distance, the researcher frequently summarised back what was understood, followed by checking for confirmation and openly encouraging disagreement (e.g. You were saying… have I got that right? Is there anything I missed or misunderstood about that? See Appendix H: Initial Noting Phase of Analysis). Prompts were used to encourage the participant to expand, such as: What was that like? Could you tell me more about that? Occasionally, the potential for making assumptions when summarising, questioning, or following up was named and acknowledged to encourage the participant to share their own perspective as separate from the researcher. Thus, space was provided for expansion and present-moment reflection in action throughout. For example, summarising followed by checking, 'Did I understand that correctly from your point of view?' Empathy was expressed to build rapport and provide the participant with support while discussing sensitive issues. Verbal cognitive empathy also encouraged deeper sharing. For example, 'That sounds distressing'. Questions to elicit empathic opportunities were also helpful. E.g. How did that feel? Non-verbal or affective empathy expressions, such as nodding or looking concerned, often occur alongside verbal or cognitive empathy. Gentle scepticism or suspicion balances empathy and allows for expanding the meanings beyond what participants can understand for themselves (Willig & Stainton-Rogers, 2017, p. 23), recognising the human limits in self-awareness while alone. E.g. What do you mean by that? The interviewing style and the interpretative analysis encouraged exploring assumptions when they become visible and involved frequent reflection on the differences and similarities between the perspectives of the researcher and the participants while benefitting from the existing trust.

Analysis

All six IM transcripts were transcribed by hand using the self-transcribe function on transcribe.wreally.com. This software works securely offline and provided an automatic loop feature to avoid using a pedal. It was also possible slow down the speech to make it easier to type in line with what was being said. All interviews were secured on the local computer in the researcher's home and password protected. To follow GDPR guidelines, the original audio recordings were deleted after analysis and write up were complete as they contain sensitive information.

Following completion of the transcripts, each interview recording, in turn, was played again at least twice while following along with the text to gain further connection to the meanings for the participant and to correct mistakes. Non-verbal utterances, pauses, laughter, intakes of breath, snapping of fingers, etc., which may have been missed during the initial transcription, were added in some cases since these non-verbal communication patterns had the potential for deepening the interpretation of what the participant truly meant, in keeping with the double hermeneutic integral to IPA analysis (J. Smith et al., 2009, p. 80). Contradictions in beliefs and views became visible through this process indicating that while parts of a person believed one thing, parts of them believed something else. These tensions and self-contradictions were especially noted for the insights they provided, further illuminating the interpretations of the nuanced and sometimes multiple meanings the participants took from their experiences.

The following analysis process was adapted from the procedure laid out by Smith, Larkin and Flowers (J. Smith et al., 2009, p. 91) to fit the unique challenges of the present research.

A. **Re-listening to the interviews and re-reading the transcripts:** This process allowed the researcher to become deeply familiar with each participant's account, including

their linguistic habits and the meanings they were attempting to make based on their experiences. Re-listening and re-reading helped the researcher immerse themselves in each participant's point of view.

B. Initial interpretative noting (Appendix H): This step focussed on key objects of interest or concern from the participants' perspectives, which were aligned with the research question. If potentially different meanings were emerging, other aspects of the interview were reviewed and compared for interpretational context. Excerpts during which the participants contradicted themselves or appeared to struggle with convergent views were particularly compared and contrasted. Notations during the first phase loosely followed the following guidelines (J. Smith et al., 2009, p. 84).

a. General descriptive comments (the initial attempt to digest what the participant was saying and what they meant) were written in normal text.

b. Linguistic comments (linking habits of speech and interpreting what they were implying) were written in italics.

c. <u>Conceptual comments (engaging with a deeper level of interpretation) were usually written in underlined text.</u>

NOTE: It was often difficult to make sense of the contradictions of experience within the participants' accounts. The reseaercher regularly found it difficult to settle on experiential statements that seemed specific enough. That meant there were often lists of several potential different experiential statements next to each section. This made it impossible to group themes together within each participant data set as recommended in IPA (J. Smith & Nizza, 2022). As such, the decision was made to move on to subsequent cases to see if, after reading through them all, greater certainty might develop, while bracketing.

C. **Moving to the next case:** Each movement to the next interview involved deliberately fostering an open mind to allow the voice of each new participant to be freshly interpreted.

D. **Re-organising and repeating interpretative noting to become fully emersed in the data and familiar with the sometimes-contradicting experiences within each participant** (Appendix I: Excerpt of Second Stage of Grouping and Noting Before Bracketing): The interviews were analysed and interpreted multiple times in turn, partially informed by the first notes. Having previously been through all transcripts in detail, further insights about the patterns of speech, context and experiences of each participant began to emerge. These inductive interpretations were mapped out as connected to quotes on an Excel spreadsheet. The quotes and direct utterances from the participants always remained central, and adaptations were made to the notation style to suit the researcher, as suggested by Saldãna (2021). Potential experiential statements were highlighted within the notes.

E. Making sense of the complex data and identifying deeper interpretations that were still closely tied to the participants' experiences and the meanings they were making was challenging. To move the analysis forward, memos were created listing patterns or contradictions in each case along with unique facts about the person to maintain contact with their context and background.

IPA attempts to walk the fine line between sympathising with the participant's point of view as stated, and sceptically reviewing what the participant shares about their experience and how they share it, to uncover additional unconscious or hidden meanings. As such, IPA analysis is often conducted with little or no influence of an overriding theory other than general psychological knowledge.

However, to clarify confusing contradictions, IOPT became a part of the interpretative process, as explained in the reflexivity and trauma awareness sections and was subsequently bracketed in the following steps. The unexpected theme around trauma emerged through George's naming of it. This was more possible to clarify once IOPT theory entered the note-taking process. The overall inductive aims of IPA were followed throughout, with the participants' quotes remaining the central focus.

F. **Developing emergent experiential themes.** Experiential statements were identified while re-noting, as described in step 4, by rephrasing the most important aspects of each interpretative note and highlighting them as connected to the data. (For an example, see Appendix I: Excerpt of Second Stage of Grouping and Noting Before Bracketing). Some of this occurred case by case, and at times, cases were revisited when emerging themes in other cases allowed for greater insight.

G. **Searching for connections across emergent themes while bracketing for theories and assumptions** (Appendix J: Excerpt from long memo). This process began by comparing various themes from the different participants. Hundreds of themes were identified in each case, so it became difficult to group and organise themes into categories of similar or related themes in a list. A process of combining themes through writing memos occurred, followed by bracketing theoretical assumptions and iteratively revisiting the data to form groups of experiential themes as described above.

During the latter phase of analysis and following bracketing (Appendix K), the researcher was more accurately able to interpret the data from each participant's point of view. The researcher became acutely aware of the ways in which theoretical knowledge was colouring interpretations. At this point, returning to the process of inductively identifying accurate experiential statements reflected more of the

participant points (Appendix L). Suddenly, the experiential themes became clearer and similarities between them allowed for grouping. At this level, the interpretation no longer involved trauma theory, and the experiences of what the participants said were represented clearly. The process of checking and double checking for accuracy related to interpreting the participants' views, continued through the reorganisation of the themes (Appendix M), as well as the writing phase.

Summary

This Chapter provided an overview of the gaps in the literature, showing that qualitative research on mindfulness in medical students has thus far not included an exploration of interpersonal mindfulness, nor has the nascent literature explored potential reasons for variations of experiences following any approach to mindfulness training. The IPA qualitative methodology is synergistic with IM and uses the researcher's theoretical knowledge and insider experience without overshadowing participants' perspectives. While the standard modern IPA approach (J. Smith & Nizza, 2022) was not followed to the letter, the creative approach resulted in a lengthy analysis process, which was carefully documented and reflexively employed. The following Chapter presents the results of the IPA analysis, discusses the information obtained, and ends with the most salient conclusions.

Chapter 7: The Lived Experiences of Medical Students Following a 5-week Introduction to Interpersonal Mindfulness (IM)

Background

This qualitative study was designed to add to the scholarly understanding of potential reasons why mindfulness interventions are not always transformative for medical students, as found previously in this thesis and elsewhere (Sekhar et al., 2021). Although some qualitative research has previously illuminated aspects of experiences of mindfulness training in medical students, this is scarce and may be skewed toward positive findings, given that scholars generally interview students shortly after interventions (Malpass et al., 2019; Solhaug et al., 2016). Similar research in other populations, such as newly qualified psychologists, examines the experiences of those who commit to a regular practice mindfulness practice and overcome any challenges (Ferraro, 2021). As such, extant research in this domain has not previously provided insights into longer-term impacts on medical students, those who experience limited benefits, or those who do not overcome challenges. Furthermore, no published studies investigating the experience of medical students following interpersonal mindfulness interventions could be located. The present research thus aims to address these limitations in the literature.

Taking a qualitative approach instead of engaging in further hypothesis testing for the final study in this thesis was a pragmatic and theoretically informed decision. The MBSR and MBSR + IM interventions evaluated in Chapter 5 resulted in equal improvements for both groups. That is despite the finding that students in the MBSR + IM group practised significantly less mindful meditation in their own time than those in the MBSR group. To improve training opportunities in future, clear explanations are required for why IM produced the same results more efficiently than MBSR. Chapter 5 concluded that there may be something different going on in the MBSR + IM group or with the participants in that group

despite being facilitated by the same teacher (AS). An enquiry into the lived experience of these medical students 6-8 months following five weeks of MBSR + IM training could provide more insight into unforeseen aspects of the student experience than further hypothesis testing as well as longer-term effects, which were missing from the previous studies due to negligible engagement with the 3-month follow-up questionnaires.

Qualitative research can uncover unanticipated information and is more ecologically sound (Willig & Stainton-Rogers, 2017, p. 23). Taking a critical realist ontological position may also meaningfully inform future hypothesis formation. Interpretative Phenomenological Analysis (IPA) is a qualitative method that benefits from the researcher's experiential, theoretical and academic awareness while eliciting and interpreting the unique experience of the participants. IPA methodology also enables the researcher to conduct and analyse an open, person-centred exploration of how participants experienced the MBSR + IM intervention. Empathising with the participants' experiences while remaining aware of the participants' assumptions, as well as the analysts' own, allows for a critically realistic picture to develop. IPA stipulates relying on previous knowledge of psychological theories while bracketing assumptions throughout the note-taking and analysis phase (J. Smith et al., 2009). Gentle scepticism about the depth of human self-awareness also expands the meanings beyond what the participants can perceive and understand for themselves (Willig & Stainton-Rogers, 2017, p. 23). The researcher's experience informs the interpretative analysis while remaining true to the participants' accounts. An IPA approach is thus suited for highlighting participants' contradictions, motivations, or reservations (J. Smith et al., 2009), which may lead to a nuanced critical understanding of any challenges or benefits the participants experienced.

Given the limitations of previous findings, this study aims to provide insight into why time spent on home-based mindfulness practice by medical students is often less than in other

populations (de Vibe et al., 2013; Erogul et al., 2014; Phang et al., 2015). Another aim is to explore how intra and interpersonal mindfulness, two related but separate aspects, may affect empathic connections more than has been previously investigated (McConville et al., 2017). A further aim is to learn more about the longer-term experience of integrating mindfulness into daily life. Prior wellbeing or resilience interventions yield variable results in this pressurised and at-risk population (Blacker et al., 2019; Erschens et al., 2019; Kunzler et al., 2020; Seo et al., 2021), as well as mindfulness interventions (Sekhar et al., 2021). Additional insights about the general struggles students face may also be helpful for medical education scholars who wish to improve the medical student experience across multiple domains. An unstructured IPA, empathic and mindful interview best suits such an exploration.

Interviews

As outlined in Chapter 6, data was gathered beginning with one primary open question, followed by exploring and clarifying whatever emerged. The interviewer also considered several key concepts for additional inquiry if participants did not naturally address them (see the list below for the topics included). Throughout the interview, empathic reflection facilitated the sharing of nuanced feelings and motivations. The established rapport with the interviewer, who also served as the mindfulness teacher, fostered a trusting relationship that enabled participants to openly discuss sensitive topics. As previously discussed (see Chapter 6), there may also be some drawbacks to a pre-existing relationship, such as a risk that the participant may try to please by attempting to predict what the interviewer wishes to hear. Steps were taken to mediate such risks, such as carefully orienting participants to the difference between the teaching relationship and the interview during the introduction. Additionally, the researcher's IM practice supported the embodiment of an authentically non-judgemental approach, which encourages the psychological safety necessary for truth-telling.

The unstructured interviews were conducted approximately 6-8 months after the participants completed an introductory 5-week intervention, which included both intra and interpersonal mindfulness (MBSR + IM), allowing for an exploration of the impact on their daily lives since the course.

Research Question

What is the lived experience of mindfulness for medical students participating in a novel IM intervention?

Open-ended Question to Begin the Unstructured Interview

Please tell me about your experiences with mindfulness.

Responding and Exploring During the Interview

The exploration was further guided by an interest in related topics, as informed by the previous studies in this thesis, along with limitations to other research studies as discussed in the literature review. Each experience the participant brought up was followed up an attempt to clarify or open up more granular detail (What would you experience when ...? Would you like to say more about that?). Occasionally, related topics were introduced with an open question (e.g. What about ….? How do you feel about …. ?). Related topics included empathy, mindful listening and speaking (interpersonal mindfulness), practicing mindfulness at home, and any impact/influence/difficulties related to their life as a student or in general.

As an example of how the unstructured interviews were conducted, Table 9 (below) illustrates how the initial open question was typically followed up with verbal and non-verbal responses. These examples are from the interview with George. It is worth observing how the interactional responses include paralinguistic utterances, reflections, empathic statements, clarifications, and explorations, which, together with an embodiment of the non-judgemental principles of Interpersonal Mindfulness (IM), combine to provide a supportive and open environment. This approach resulted in discovering what was most important to the

participant while addressing the research aim without frequently questioning in a pre-planned manner, as is routinely the case in semi-structured interview formats.

Table 9

Examples of Interviewer Questions and Responses During the Unstructured Interview

(First open question) I: So, could you tell me about your experiences with mindfulness?
(Genuine enthusiasm for the transformation he described) I: That's quite remarkable.
(Normalising the challenge with finding time to meditate) I: That's a common thing, isn't it? Finding the time, making the time, allowing yourself to take the time, whatever.
(Attempting to clarify his experience related to discovering mindfulness wasn't what he expected it to be) I: Could we go back sort of to the beginning then of the course for you, and is there anything you remember that was like a sort of a turning point, or a moment of hmm, maybe this isn't what I thought it would be, or? Is there anything that sticks out? I know it was a while ago now.
(Interpretation of what he said about his own self-reflection) I: Yeah. You sound like you're very sort of um, *open*, and sort of non-judgementally *curious* about your own mind.
(Paralinguistic encouragement to sensitive disclosures) I: Yeah. (softly, while nodding)
(Encouragement and follow-up question) I: Yes. That's sort of something you've always had?
(Empathic statement in response to disclosure about previous emergence of a traumatic memory) I: Right (softly). That must have been phenomenally difficult when that happened.
(Authentic compassionate statement referring to the support available to him at the time of remembering an early trauma) I: I'm so glad that was available to you at that time.
(Clarifying question about the therapeutic support he received for the spontaneously erupting traumatic memory) I: Was that the same person that you ended up having some support with, or did you see somebody else?
(Empathic statement) I: That was that. Yes. So, a formative time, and a pressurised time with exams and so on.
(Empathy and encouragement) I: Yeah. Very difficult at the time, but then equally sort of so good that you got it out, and you were able to sort of work on it and then move forward.
(Non-judgemental summary of what he had previously said to check understanding and encourage further elaboration) I: Right. Ok, so then you come along [to the IM course in this study], and you're thinking hmm, this [ex-boss], [mindfulness] doesn't work for [them], and you're not sure it's going to work [for you], and you think it's sort of more group therapy type of stuff, and then you're in the meditations, were you? And the sort of um... [George motioning] Yep... the [meditations] we sort of did towards the beginning of the 5-weeks, and you're noticing with some curiosity how much the mind the wanders, and then how naturally one tends to fall asleep.
(Clarifying question encouraging the sharing of more detail based on what he had previously said) I: Ok, so 'getting it [meditation] for a couple of minutes'... what would you experience around that?

Note. The participant responses (redacted from Appendix H) are too personal and revealing to publish in full.

The results of this qualitative study are presented below, including demographic information gathered about the six-person convenience sample, all of whom volunteered to participate following one email request to the sample (more details are included in Chapter 6). However, it is worth noting that these students may be particularly engaged or invested, as they took the time to meet up and talk for no personal gain at the end of the exam period when they could have been on holiday. No others in the IM sample volunteered, and there were no cancellations. The interviews took place in person, following participants' end-of-year exams and before the COVID-19 pandemic. The participants provided the information required to look up their quantitative demographic data, the basics of which are included in Table 10. Transcription and analysis proceeded over two years, resulting in three superordinate themes, major themes, and several subthemes, as presented in Table 11.

Participants

Table 10

Study Three Participant Demographics

Alias	Gender	Age	Prior education	Ethnicity	Religion	Disclosed MH* history or diagnosis?	Developed a mindfulness practice?
Vicky	F	20	A-levels	White other	Christian	Some counselling for anxiety in the past	Occasionally meditates when she's feeling well but doesn't have a regular practice. Does not practise when stressed. Enjoys limited benefits.
Inesh	M	21	Undergrad Degree	Asian British	Muslim	Previous & Current OCD	Meditates often, for 3-5 minutes, and practises when stressed. Speaks of transformational experiences from IM such as disclosing OCD diagnosis to friends for the first time.
Jason	M	25	Undergrad Degree	White British	Jewish	Previous anxiety & depression	Never established a formal meditation practice, although he occasionally checks in with his breath etc when it fits around his goals. Does not practise when stressed. Experiences limited benefits.
Catherine	F	34	Undergrad Degree	White British	Atheist	Previous severe depression & current imposter syndrome and burnout	Integrated informal mindfulness into daily life, but never established a formal meditation practice. Does not practice when stressed. Experiences limited benefits.
George	M	34	Undergrad Degree	White British	Spiritual but not religious	Previous trauma, anxiety & depression	Meditated regularly during the course. Dropped the practice afterwards but picks it back up when stressed. Speaks of major transformations after IM (saved marriage).
Ashley	F	40	Post-grad degree	White other	Christian Buddhist	No MH disclosure	Meditates daily for 20 minutes and has been doing so for 20+ years as a Buddhist. Practises when stressed. Reducing people-pleasing and experienced transformational benefits related to attending to own needs more following IM.

Note. *MH = specific mental health status as spontaneously disclosed as part of the open interview

Analysis, Results, and Theme by Theme Discussion

The IPA analysis of the interviews revealed three interrelated superordinate themes including, *self-knowledge*, *depth of intrapersonal mindfulness*, and *interpersonal awareness.* The superordinate themes, major themes, and subthemes (see Table 11) highlight not only the similarities but also key differences in how the medical student participants experienced interpersonal mindfulness. The order of presentation is important. In line with typical findings, as described in recent developments in Interpretative Phenomenological Analysis (IPA) theory (J. Smith & Nizza, 2022), there is a deep symbiosis between experiences. The first superordinate theme of self-knowledge appears to permeate and influence the two others. The medical students' lived experience within and around the mindfulness course is affected by what they 'brought with them' to the course itself, and the self-knowledge superordinate theme highlights several important aspects of their prior experiences concerned with recognising the impact of past distress or trauma. Participants' existing self-knowledge or capacity to grow appears to have affected and be affected by the depth of mindful awareness. These other experiences, in turn, appeared to inform both the quality (defined by the participants in terms of their ease, authenticity and satisfaction) of the interpersonal connections and the depth of the learning that was made possible and available to participants throughout the course. The superordinate themes, major themes and subthemes are presented below (Please see Appendix H through M for excerpts of the thematic development). At the end of the analysis for each theme, a brief discussion related to the existing literature is presented. A synthesis discussion of the points covered in each theme is provided subsequently.

Table 11

IPA Superordinate Themes, Major Themes, and Subthemes

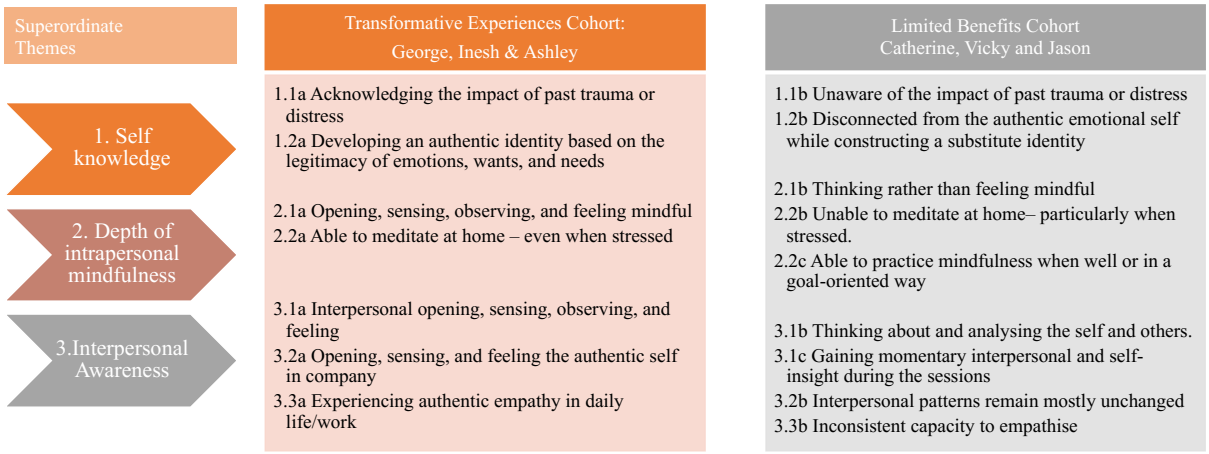
1. SELF-KNOWLEDGE
1.1 Recognition of the impact of past trauma or distress *1.1a Acknowledging the impact of past trauma or distress* *1.1b Unaware of the impact of past trauma or distress.*
1.2 Recognition of a valid authentic self *1.2a Developing an authentic identity based on the legitimacy of emotions, wants, and needs* *1.2b Disconnected from the authentic emotional self, while constructing a substitute identity*
2. DEPTH OF INTRAPERSONAL MINDFULNESS
2.1 Capacity to feel mindful *2.1a Opening, sensing, observing, and feeling mindful* *2.1b Thinking rather than feeling mindful*
2.2 Capacity to meditate or practice informally *2.2a Able to meditate at home – even when stressed* *2.2b Unable to meditate at home – particularly when stressed* *2.2c Able to practise mindfulness when well or in a goal-oriented way*
3. INTERPERSONAL AWARENESS
3.1 Interpersonal connection and awareness in sessions *3.1a Interpersonal opening, sensing, observing, and feeling* *3.1b Thinking about and analysing the self and others* *3.1c Gaining momentary interpersonal and self-insight during the sessions*
3.2 Interpersonal connection and awareness in daily life *3.2a Opening, sensing, observing, and feeling in daily life/work* *3.2b Interpersonal patterns remain mostly unchanged*
3.3 Experiencing empathy *3.3a Experiencing authentic empathy in daily life/work* *3.3b Inconsistent capacity to empathise*

Superordinate Theme 1: Self-Knowledge

The participants' depth of self-knowledge they arrived with and developed through the course varied. Although the mindfulness intervention was designed to increase awareness in the present, all six participants spontaneously shared trauma symptoms or potentially traumatising aspects of their pasts throughout the unstructured interviews. The central finding was that some participants exhibited growing awareness of and compassion for how their past difficulties affect them in the present. These factors were present for the transformative experiences cohort (Figure 22). In contrast, the limited benefits cohort continued to blame themselves for their struggles. They did not seem to acknowledge the seriousness of what they reported happening to them, nor the influence of past conditioning on their views in the present.

Figure 22

Synthesis of IPA Data - Subthemes Regrouped According to Emerging Cohorts



Major Theme 1.1: Recognition of the Impact of Past Trauma or Distress

The analysis revealed that this theme was experienced in two main ways. Some participants were beginning to acknowledge their own original innocence as part of becoming more aware of the impact of past distressing or traumatic events on themselves. Other participants were experiencing something opposite; they did not appear to recognise past

distress or trauma consciously and blamed themselves, blunted emotionally or tended to become angry rather than acknowledging the impact of their past experiences.

Subtheme 1.1a: Acknowledging the Impact of Past Trauma or Distress

Three participants displayed some recognition of the impact of past distressing or traumatic events. Although more tentative in some than others, growing self-knowledge appeared to be a general attitude they were developing. These participants appeared to be engaging in a self-exploration project; as part of this, the IM course appeared to support a personal, self-directed search for self-understanding, supplemented by additional reading and education in certain cases. This was evident in similar descriptions of growing awareness of the seriousness of early distressing or traumatic experiences (all of which occurred well before medical school) along with a growing awareness of how these events also affect them in the present.

For George, recognition of a specific traumatic event in his childhood is related to how open he was to developing self-knowledge during and after the mindfulness course. He previously experienced a moment of recognition of a childhood trauma, where a distressing memory hit him 'like a train'. It all came 'flooding out' when he was a teenager. During the interview, he reflects on what it was like when the memory came up, at least a decade before enrolling in medical school.

> At one point, when I was about 7 or 8, I was sort of abused, once. But just once, and that was sort of fine, and I was sort of too young to really realise what had happened, and I think the trauma of it, meant that I just sort of buried it somewhere, and it was only when I was a lot, lot older that it suddenly just, weirdly, I was watching a film where something like that happened, and then just suddenly it was like I had been hit by a train, and it all came flooding out. (George)

The prior recognition of the truth of what happened to him, although painful, appears to have primed George to continue increasing his self-knowledge, including self-reflection and personal growth throughout the mindfulness course. His sense of 'enjoyment' of experiencing 'being reflective' also provided a fertile ground for furthering mindful awareness in the present. Having already experienced remembering traumatic events, he was respectfully curious and open to the contents of his own mind - to a degree and under certain circumstances. As indicated by his repeated hesitation (I guess), George also appears to remain somewhat wary of his mind.

> I guess I quite enjoy being reflective about that sort of stuff. Well, certainly since all of that stuff sort of cracked, I guess (George).

Inesh does not mention the word trauma. However, he acknowledges raw feelings and is open to discovering why he's feeling the way that he does, even if, at times, he finds this challenging. Although he circumvents some triggers, he can occasionally accept, allow, and feel his own emotions as part of his growing self-knowledge, which developed through the course and afterwards. Using the word 'trigger', Inesh indicates his growing awareness of a link between what happens in the present and what happened in the past. Avoidance is part of his strategy to manage but does not dominate his experience. He can also recognise the origins of his feelings at times, which, although difficult and time-consuming, brings relief. He is gaining some insight and awareness about the impact of past events on his present state of mind.

> Even if you're upset like, just acknowledging that you're upset and how something makes you feel, I think just gives you a better um, well, just a better understanding really. Um, because it's ok to be upset, and that's a human emotion. Um, but at least you know what's made you upset, and just having... as opposed to being (pause)... if you can, like, if you know what event or what trigger led to what emotion, at least then

you know what to avoid, or what your strategy is to avoid that, or how you can overcome it. Um, because like I read somewhere, like awareness is the first step... and, actually that's really true, because if you don't know what's causing you to feel that way, you don't know how to actually go and tackle that... So, it does make everything much more raw.... Um, but then, at least you know you have a goal, and um, what to do about that. (Inesh)

Similarly, Ashley understands she has good reasons for feeling like she does. She does not mention specific traumatic moments but appears to recognise that past distressing events have affected her in understandable ways. Below she describes how she practises bringing compassion for herself and others into her experience. She is not blaming herself or others for struggling on an emotional level. Ashley connects general past events and present fears and expresses how normal this is. She experiences emotionality and suffering as a universal human struggle, which she is naturally a part of.

Maybe you were in a previous situation, or something happened, and it primed you, and now you're kind of having still these old links from that previous or whatever, I think in every individual case it's different, but I think are you being afraid of being hurt? And that's very human. Or being rejected or, but to just acknowledge it for what it is... It is here and it's very human to have that fear. (Ashley)

The self-knowledge George, Ashley, and Inesh have expressed above centres on a truthful acceptance of themselves as human beings who suffer from what happened in the past as linked with or triggered by what is happening in the present. These phenomena included similar descriptions of growing awareness of the seriousness of past difficult experiences and how they affect them. In facing difficult truths and emotions, such participants exhibit reductions in fear towards their own minds, feelings, and thoughts. They seem to increase their self-empathy (Andersen, 2005) while understanding that their

experience is common to other humans, which is an important component of self-compassion (Neff, 2003a) and is thus protective of mental health problems (Yarnell & Neff, 2013).

The developing self-knowledge for these participants coincides with a sense of self-legitimacy. Increasing openness towards an inclusive sense of self-awareness appeared to have interacted helpfully with other experiences in the course as well, permitting contact with other difficult mental states during meditation (subtheme 2.1a), being able to meditate while stressed (subtheme 2.2a), coinciding with multiple interpersonal benefits (see subtheme 3.1a, 3.2a ad 3.3a). The role of specific childhood trauma awareness, as George describes, and the utility of such specific emerging self-knowledge in highly functional populations is not typically recognised in the existing mindfulness and self-compassion literature (Neff et al., 2020). It would be useful to carry out further research on the interaction between developing early childhood trauma awareness and mindfulness.

Subtheme 1.1b: Unaware of the Impact of Past Trauma or Distress

Unlike George, Inesh and Ashley, the other three participants (Vicky, Catherine, and Jason) displayed an inability to recognise and accept the impact or seriousness of what had happened to them in the past in both a general and a specific sense. Instead of seeing their own original innocence in how they had been treated, they were blaming themselves for their own suffering, indicating a sense of resignation about having certain symptoms or compulsive behaviour patterns without understanding how they developed. This underdeveloped self-knowledge coincided with an over-arching lack of self-empathy and a tendency to speak harshly about themselves.

Vicky described how she felt her brother was mistreated since he did not perform well in school. She is conscious of choosing to work extra hard in school as a direct result and states this clearly herself below. However, she downplays the seriousness of the situation using the words ‘told off’ rather than recognising potential trauma for her brother and its

secondary impact on her. She may have thus internalised the idea that she would have deserved to be as harshly treated as her brother was if she had not become so vigilant about her schoolwork. Some self-awareness is present in that she recognises that she has changed her behaviour due to these events. However, this insight does not extend to recognising the impact of this situation on her emotional state and present struggles. It is unlikely that she can choose to see this any differently than she does. Through not being able to recognise the likely original trauma, she blames herself. Her self-knowledge and self-empathy are understandably limited.

> I have a brother, um [pause] he's um, yeah, he's very like shy [hesitant]. Yeah, like he didn't study a lot at all when we were younger and like I always did, because I also saw how he was being told off and everything… so I was like, oh my God, I need to make sure I study because like otherwise I'll get told off. (Vicky)

Vicky further struggles to trust her emotions (e.g. anger) without understanding how natural it would be to feel this way, having likely experienced emotional trauma or distress at a formative age due to her father's frequent 20-minute tirades. She reports learning to shut down her emotions through the 'disasters' that used to occur when she expressed similar feelings at boarding school. Those difficulties in expressing her anger or frustration in a way that could be met with connection and compassion may have been traumatic as well, further instilling the unconscious belief that she must conform to the will of others to protect herself. She shuts down her emotions and isolates herself instead of working to express herself in an authentically productive manner.

> I used to very much, you know, respond to my emotions and like when I'm angry, shout kind of thing and it always led to like disasters... so like my dad has that. He gets like really angry and then he'll like shout for like 20 minutes. [...] But people don't respond well to that, and that's something like I learned at boarding school. You know, when

you're surrounded by all your friends the whole time it can get really stressful, but then you can't, you know, get angry and like scream for 20 minutes because then people get really put off and upset... Um. So yes, I think I learnt not to react to my emotions that way. Um, I guess that's why in like in a way, like I close off a little bit just so that I don't burst. Because if you don't talk to anyone, you're not going to shout at anyone. (Vicky).

In a similar manner, Jason appears to be aware that he possesses limited self-knowledge and decides that what he struggles with is down to him and his own character rather than due to how he was formerly treated. This creates further resistance to understanding or being more compassionate towards himself. He has absorbed a message that he is the problem rather than what happened to him as being traumatising.

I mean you don't know how damaged you really are or whatever, do you, but that's like, I am what I am, so… (Jason)

This relates closely to his overall approach to mindfulness, which includes trying to rid himself of parts of his psyche that he doesn't like rather than understanding and feeling compassion for all he went through and is also now experiencing. This directly affects how he experiences mindfulness because he can only use mindfulness in the same way.

It's [mindfulness is] still in line with being harsh with yourself because it's just like tools to get rid of the parts of your character that you don't like. (Jason)

Jason also seems to be actively avoiding further self-knowledge due to an understandable fear over how painful it will be to become more aware of the trauma that damaged him.

I don't like over-sharing and I feel a bit more uh, like it could actually damage to go through that, because and like unpacking boxes that are actually quite nicely put to the side. (Jason)

This data highlights what happens when non-judgemental observance of impermanent emotional states in the mind and body is either possible or impossible. When there is understandable resistance to seeing oneself as having been innocently traumatised as a child, mindful awareness may be blocked. In this case, reperceiving does not develop (Shapiro et al., 2006). Although one scholar acknowledges that trauma-related emotions may arise during meditation (Treleaven, 2018), no previous research could be identified that considers the role of early childhood trauma in this process for non-clinical populations. A recent qualitative study of the experiences of survivor participants in trauma-sensitive mindfulness and compassion intervention identified the importance of understanding reactions to known traumas (Wästlund et al., 2023). This model could be usefully added to MBSR (Santorelli et al., 2017) or IM (Bartels-Velthuis et al., 2020) courses to include awareness of unknown early trauma as encountered in IOPT (Ruppert, 2023). This may be especially useful since IOPT-related self-knowledge also appears to foster present-moment awareness (Stjernswärd, 2021).

Major Theme 1.2: Recognition of a Valid Authentic Self

As presented in the subthemes below, George, Inesh, and Catherine are developing a sense of self-worth based on what they experience inside, including what they legitimately want, need, or feel (subtheme 1.2a). The resulting increase in openness towards an inclusive and authentic sense of self appears to have interacted with the experiences in the course in positive ways. Conversely, Catherine, Vicky, and Jason struggle to construct an identity based on external characteristics and achievements rather than an embodied and valid sense of what they feel and need. They also appear to feel defined by the difficult behaviours they recognise in themselves (subtheme 1.2b).

Subtheme 1.2a: Developing an Authentic Identity Based on the Legitimacy of Emotions, Wants and Needs

Participants exhibiting this subtheme shared ways of accessing their authentic sense of self or identity based on their inner experience. These participants are getting clearer that they have a right to feel as they do and want what is right for them. They are beginning to attend to (rather than deny) their needs, wants, ideas, and emotions. They are becoming more openly self-supportive. They share a sense of beginning to accept their own imperfect humanity rather than ruminating over external factors such as what they accomplish, own, wear, or how they appear to others.

In the extract below, Inesh finds that he is pretending less interpersonally after the IM course, displaying more of who he truly is, as related to his emotions. This connection with what may be considered his authentic self means he needs to allow time and space for difficult feelings. The IM course provided an example of a safe space; he experienced relief and a 'lighter' way of being by independently re-creating that safety within himself. The benefits of feeling free (lighter and less stressed) from the burden of acting in a way he has done before, seem to outweigh the drawbacks of connecting with raw emotions. There is an inherent self-directed kindness in allowing for this.

> Previously [to practising interpersonal mindfulness] I think they were still there - the same sort of emotions - but I think, the thinking process was different. Um, and, [in the past] I guess, I tried to cover up the real emotion and continue like things were ok, and not challenge them, or just continue and pretend I'm happy with things the way they're going [in relation to others] when I might not be. Um (pause), so once you sort of take a step back and give yourself the space, and I guess the kindness to actually be true to your emotions, they're much more, the underlying feelings are much more raw. […] it does make you feel lighter. (Inesh)

Ashley found that the IM course enabled her to see the importance of mindfully being aware of her own needs as part of an emerging authentic sense of herself while interacting with others instead of losing contact within as she had done previously.

> I think I sometimes forget a bit, I sometimes worry a bit too much about others and then forget sort of myself a bit. (Ashley)

Although meditating in a solo fashion for over 20 years, through IM, she has acquired new skills for pausing and asking herself about her own needs before she tries to support anyone else. This focus on her own needs and wants as part of her own authentic identity is an important shift for her.

> That was so helpful for me, to actually think what is it that I need now? What, and not what is it that this and this and this person needs and I need to remember to do that and that for them... but actually to see, to say, well maybe it's more important that I do this for myself at the moment? (Ashley)

George found that practising IM helped him to return to an authentic, true identity involving a "sense of the self as a subject of experience in the present moment (Cowan et al., 2023, p. 1)" that he embodied before the immense combined strain of medical school, marriage, and parenthood. This emerging sense of self-assurance in the legitimacy of his own worth, separate from how he performs academically or how perfect he is at home, enables him to sometimes remain open in the face of interpersonal strain. It seemed poignant for him that his wife noticed a difference.

> She was really interested to know what my journey was, um, because I think she was just like, what on earth are you taking... like what on earth has happened to you! [chuckling] Um, I didn't feel like I had changed as a person [after interpersonal mindfulness], in a weird way, I sort of felt like I had gone back to the person I felt I was like a long time ago, like quite open, quite happy to put their hand up and be like oh

> yeah, sorry about that. [...] And, I had sort of become a person who I didn't really like [before the IM course]. (George)

George found that after the IM course, he felt less panicked about his exams and less threatened by the prospect of failing, albeit mediated by reduced stress and pressure at home. His academic performance in medical school no longer defines his sense of self-worth.

> There was a definite difference first year, pre-mindfulness course and taking exams, but tempered by the fact that there was also a new baby in the mix. [...] In the second year and after the mindfulness course, I felt [...] I might not do superbly well, but I feel like I've got a bit more of this under my belt now, and I feel calm about it, and I feel in control. (George)

These participants are engaging in a process of discovering their inherent identity and self-worth outside of their academic or professional accomplishments. They are taking responsibility for embracing and understanding the qualities of their own body-mind. This is an ongoing and challenging project, but the rewards seem to outweigh the difficulties. These same participants are also acknowledging the impact of past traumatic or distressing experiences from before medical school (subtheme 1.1a).

According to IOPT, a true identity is acknowledging everything "within the physical and psychological boundary" of a person, "including what is conscious and what is unconscious, including all experiences, good or bad, known or unknown, denied or allowed, including all splits and traumas (Broughton, 2021, p. 46)." A developed authentic identity thus involves integrating mental and physical experiences or sensations, as in the Buddhist tradition (Maitreyabandhu, 2018), such that a person experiences the present moment less filtered by ego protection mechanisms that originally unconsciously emerged as a means to survive early traumatic experiences.

In their mixed-methods study investigating the impact of authentic self-awareness on reporting medical errors, Choi et al. (2022) found that greater acceptance of personal flaws through developing a mindful meditation practice improves authenticity. An improved sense of authentic self also meant judgments from others were less influential in that study, although the role of trauma awareness was not mentioned. Another recent exploratory questionnaire-based study also found that self-efficacy was associated with higher levels of interpersonal mindful awareness in Spanish school teachers (Moyano et al., 2023). However, although Brown et al. (2007) highlighted the ego-quieting capacity of mindfulness, conducive to reducing a person's self-esteem reliance upon external outcomes, they and others (Heppner & Kernis, 2007) do not acknowledge the role of trauma awareness in mindful authentic identity development. This may be a useful element to consider.

Subtheme 1.2b: Disconnected from the Authentic Emotional Self While Constructing a Substitute Identity

In striking comparison to the previous subtheme, the analysis revealed other experiences dominated by disconnection from an authentic sense of self in some participants. Instead of recognising their needs, ideas, and wants as legitimate, Catherine, Vicky and Jason described moments of criticising themselves for having emotions or shutting them down, unable to see their authentic selves as valid.

Two main phenomena characterised the construction of a substitute identity. Firstly, participants identified troubling behaviours as inherent to their self-hood. Any difficult behaviours were not compassionately viewed as separate from their core self but as self-defining. In their minds, these participants *were* their behaviour rather than understanding that their behaviour developed for valid reasons and is separate from their true selves. Secondly, by constructing an identity based on external factors, participants were redefining themselves through external measures of success, such as becoming a medical professional or

achieving excellent exam results. They did not recognise a solid sense of self-worth based on their natural human needs and desires but relied upon their achievements to create a sense of potentially worthy identity.

For example, Catherine was experiencing emotional pain while chasing an elusive sense of worth as a competent doctor. Despite clear evidence of success (she had passed her final exams before the interview), she doesn't feel worthy of being a doctor or perhaps even being alive (here). She is disconnected from her own authentic identity. She appears out of touch with her emotionally valid self. She names this pattern as low self-esteem or imposter syndrome. Despite finding the pursuit of professional perfection dissatisfactory, she is compelled to continue searching for self-acceptance outside of her being.

> I think it's all around, I guess, self-esteem. Imposter syndrome, that kind of thing [...] At least when I'm doing something towards making myself better; a better doctor, like the more I study, the better doctor I'll be, and hopefully overcome the fact that I'm not supposed to be here, or that kind of thing. (Catherine)

Similarly, Vicky struggles with a constructed, substitute sense of identity based on external markers of esteem. Only approximately 10% of medical students achieve entry to prestigious inter-collated BSc programmes like the one Vicky describes missing out on below (estimate provided from unpublished institutional data). However, she sees not performing at such an elite level as a personal failure. She attempts (unsuccessfully) to cognitively talk herself out of feeling the weight of placing her worth on external accolades or achievements. The feelings of worthlessness are disproportionate to the event and do not seem rooted in an inherent desire to study something but a desire to appear valid through external achievements. She does not see herself as 'enough' just as she is, and although she attempts cognitive reframing, she does not believe the positive narrative she has learned in CBT therapy.

It's tricky [the relationship with myself]. I think it's the stress of like exams and everything, and just all of that. (hmm) It's difficult to be like 'Oh, I'm worth something' […] I just thought oh that's like, you know, that's awful, like I didn't get this BSc. And then I thought to myself, I'm still doing medicine. Just because I don't do the BSc, doesn't mean I'm not going to be a good doctor or be, or you know, a good person or someone to value. And I think that's a very hard thing to do - to tell yourself that even though you fail, like it doesn't mean your value decreases like it's not based on that... Yes, so that's been a bit hard recently. (Vicky)

Elsewhere in the interview, Vicky describes a crippling fear of failure. She defines herself through academic performance so strongly that even the thought that she has failed is almost unbearable. She imagines that failing an exam would shake her tenuous sense of externally located self-worth even further, resulting in devastating shame. This appears to be due her unconsciously constructed identity based on performance as her source of worth.

I think it would be awful [to fail]. Yeah, like even after the exam, after we'd finished, I was like so distraught for no... [reason], like I'd finished my exams and I was like, ahh, I'm so sad. It's so bad, but I don't know, I guess because I thought I'd failed [..] I think there's a bit of like shame I think from the person who does fail. And, I think I would feel SO ashamed. (Vicky)

Vicky is aware of a pervasive desire to please others and be perfect, but she locates this within herself rather than realising it likely originates as external to her, potentially from early trauma. She is identifying with her perfectionistic and neurotic habits (I am perfectionistic, I am neurotic) rather than seeing these tendencies as something she once learned out of necessity, and which are therefore separate from who she truly is inside.

I guess I feel like I'm quite a perfectionist and like um, yeah, I think I still care a lot about what people think about me... Like even on an escalator, it sounds ridiculous, but

> I stand on the right side… And some people don't, and you know I'm like, HOW do you do that? It drives me insane? I guess I'm quite neurotic. (Vicky)

Similary, Jason harshly judges how he had struggled in his previous degree and unconsciously constructs his tenuous sense of worth and identity on the basis that he is now finally focused enough to fulfil his obligations in medical school. He frequently swore throughout the interview, expressing anger at himself and others, but struggled with and avoided any other emotions. He almost believes he knows who he is, tempering his strong assertions with his repetitious use of the word 'like' to indicate a lack of inner clarity and assuredness. It seems that he wishes he knew who he was rather than fully believing it. Like Vicky, this construction of himself is founded on developing worthy academic habits and passing exams. He is more concerned with finally focusing instead of allowing himself to become inherently interested in what he is learning or who he is as a human being who legitimately encounters various challenges and fluctuating emotions.

> For the last kind of like couple of years, I felt very like, I know who I am, I know where I am, where I'm going, like [...] I think like being a little bit like, older, um and finding my ways to like deal with things; how to like, how to just keep my shit together. Like make sure I'm passing my exams. I had so many fucking resits in (previous university degree) I was a bit of a bum, and a stoner, and not where I should have been, and it took me until I was like 23/24 to be able to get to the point where I can have a bit of focus. (Jason)

Like Vicky, Jason sees what happened to him (his damage) as the result of something that he is and has identified with (I am), rather than something he survived and adapted to, the best way he could.

> I mean you don't know how damaged you really are or whatever do you, but that's like, I am what I am, so… (Jason)

Sharing openly, Vicky, Catherine, and Jason's experiences of constructing an identity based on being successful medical students coincide with a tendency to identify themselves with their learned behaviour. They express dismay at how they experience life, feeling disproportionately angry or ashamed of themselves and at times others. Achievements are everything, and yet they are frequently unable to believe what they accomplish is good enough. These internal phenomena include avoiding authentic feelings of vulnerability, with disproportionately harsh or unforgiving attitudes. Severe self-judgments control their behaviour, perhaps due to a lack of authentic self-worth to motivate them intrinsically. The internal cognitive phenomena highlighted in this theme are characterised by working and living from a place of reactive survival rather than a more solid sense of self that is based on recognising valid and authentic needs. Regardless of what they achieve, an enduring sense of inherent worth and ease is elusive for these participants through no fault of their own.

The connection between subthemes 1.1b and 1.2b in the limited benefits cohort is worth noting. Both experiences are intimately entwined within the same participants. Catherine, Vicky, and Jason are experiencing a lack of self-knowledge potentially related to the impact of childhood traumas or distressing experiences that they cannot acknowledge through no fault of their own (1.1b). They are also constructing their identities based on never-fully satisfactory achievements, and simultaneously, they are identifying with their own troublesome behaviours (1.2b).

Relatively few empirical research studies (51) and theoretical articles (62) have concentrated on exploring the development of the self as associated with mindful meditation (Shireen et al., 2022). None of the studies in the Shireen et al. (2022) review appear to explore self-worth, which has *not* improved following mindfulness training. The data from the current study suggests that an unconsciously constructed or 'narrative' identity (Cowan et al., 2023, p. 1; Dahl et al., 2015) based on external achievements and stories could be at the

heart of unimpressive results following similar interventions (Sekhar et al., 2021). After all, basing self-esteem, self-worth, or identity on the capacity to reach goals without realising there is another choice arguably creates a fear-based existence. In such situations, worthiness becomes contingent upon success and turns failures into existential threats (Crocker et al., 2003). This increases the impact of environmental stressors. Conversely, the advantages of fostering a true or authentic identity based on a sense of emotional legitimacy appear numerous, for example, having been associated with more secure and flexible self-esteem (Heppner & Kernis, 2007) and fewer medical errors (Choi et al., 2022).

In addition, patterns related to issues with a constructed identity, including but not limited to perfectionism and imposter syndrome, may be related to the success or failure of mindfulness interventions. These will be discussed further in the limitations in this chapter and final discussion chapter. Since resilience (Kunzler et al., 2020) and mindfulness programmes (A. Chen et al., 2016; de Vibe et al., 2013; Sekhar et al., 2021) have been found to confer fewer transformative benefits for medical students than in lay or qualified professional populations, the pattern highlighted in this theme is notable and may be widespread.

Superordinate Theme 2: Depth of Intrapersonal Mindfulness

In this superordinate theme, the sample diverged around participants' experiential capacity to practise mindfulness and deeply sense what was happening in the present moment – in sessions, during meditation and generally in their daily lives. For Ashley and George, rich and detailed descriptions of what happened in meditation and what they noticed in daily life were common throughout the unstructured interviews. Conversely, Catherine, Jason and Vicky often *thought* about the helpful mindfulness concepts they wished to adopt and did not seem to connect to *how* they could do this. They rarely *felt* mindful. Their incapacity (through

no fault of their own) to feel mindful and to meditate while stressed seemed to impair their ability to gain as much benefit from the practices as the others who were sensing and feeling.

Major Theme 2.1: Capacity to Feel Mindful

The experience of mindfulness itself and what it was like to be present in the moment during meditations, informally or with others varied for the participants. Some participants richly described what it was like to calm their thoughts and be more connected within through opening, sensing, observing or feeling mindful (subtheme 2.1a). These participants (Ashley, George and Inesh) also acknowledged the impact of past traumatic or distressing experiences (subtheme 1.1a). Other participants described thinking about what it would be like to be mindful rather than feeling it (subtheme 2.2b). These were the same participants (Catherine, Jason and Vicky) who appeared to be unaware of the impact of past traumatic or distressing experiences on themselves (subtheme 1.1b).

Subtheme 2.1a: Opening, Sensing, Observing, and Feeling Mindful

Some participants described what it was like to experience mindful meditation. Through her long-term and regular Buddhist meditation practice, Ashley was already deeply sensing and opening to herself in meditation before the 5-week IM course. In general, she is not avoiding her emotions to manage them; she could be curious about and connected with her emotions at times and reports soothing herself through noticing and feeling. She names the emotions in an observational manner and sees herself as separate from them. Even strong emotions are understood to be transitory and impermanent. She displays reperceiving (Shapiro et al., 2006).

> I often feel like a mountain, not made of stone, but it just feels sort of grounded as you sit on your mat, and you feel sadness coming up or anger or grief or whatever it is. And you just sit there open with your breath and emotion just washes really over you an' you don't engage with it. You see it for what it is. And you don't go off in your thoughts

and follow it and try and figure out what it is, but you see it for what it is - that sadness or this grief. (Ashley)

Poignant similarities are evident between Ashley's experience and that of George, who had never practised mindfulness prior to the 5-week course. He has been developing an open, non-judgemental, and emotionally self-connected way of being both during mindful meditations and in general. When focusing on his body and breath, he encounters a direct emotionally regulating and self-observational experience.

[In meditation] I felt very sort of at one with my mind, and I guess with my body, um because you're focusing on the breath, so that's quite a sort of mechanical, automatic thing. But, you've also sort of moderately tamed this crazy thing in the mind that is trying to wander. And, it just feels very, it just felt very (pause) like, just very sort of at one with myself. (George)

Inesh also experiences an improved capacity to be more present in daily life (have little moments of mindfulness), think more clearly, and behave more openly. He describes mindful re-framing (Segal et al., 2013) while opening to what he feels.

What I think that [formal mindfulness practice] does, is it just builds you up to have moments of clarity and openness. And, I don't think people know that very much, like, the long-term cognitive effects of it... the formal practices set you up to have little moments of mindfulness throughout the day and give you that thinking process. And, I wasn't expecting to have it either to be honest. I think that's why people are sceptical about it, because they don't know the long-term effects of it, which are very beneficial. Well, for me, anyway.... because it's more than just taking 5-minutes and just being calm and thinking about your breathing rate. (Inesh)

The phenomenon of opening, sensing, or feeling mindful surprises and supports the participants who describe it. They are feeling their emotions mindfully, and this sense of

inner self-connection relates to being more present in daily life. Although a sense of calm is pleasant for them, the experience isn't purely about taking a break from the stressors in life; it's about living and experiencing life more fully. These are the same participants who were also acknowledging the impact of past traumatic or distressing experiences (subtheme 1.1a) and developing an authentic identity (subtheme 1.2a).

While themes in the existing qualitative literature do not identically match the present ones, some commonalities are observed in studies of intrapersonal mindfulness. For example, DeMauro et al. (2019) systematically reviewed qualitative descriptions of mindfulness for healthcare workers dealing with burnout. Among the 17 studies included in their review, several participants reported greater emotional and bodily awareness following mindfulness training, similar to the transformative experiences cohort (Figure 22). Participants in that study also reported observing anger without descending into unconstructive, seemingly endless rumination, like some in this cohort. Emotional regulation or non-reactivity was another intrapersonal theme in that study. Breathing and letting upset emotions go, following noticing and experiencing them, and reducing the sense of being on an uncontrolled emotional rollercoaster were also commonly reported.

Reperceiving, decentring or engaging the observational self seems an essential benefit of successfully developing an enduring mindfulness practice (K. Brown et al., 2015; Carmody, 2015). This assertion is supported by similar phenomena reported in an IPA study of newly qualified psychologists (Ferraro, 2021). In that study, taking time out for self-care was one of the main motivations and benefits reported by the participants, who had all successfully developed a personal, secular mindfulness practice. Synonymous with the present findings, each participant customised their mindfulness practice. Direct accounts of emotional regulation appeared to occur through understanding, naming and being present to various emotional experiences without over-facing or forcing adherence to prescribed

meditation patterns. These self-regulating accounts are also reminiscent of the states of reperceiving (Shapiro et al., 2006). However, no cases were included in that study to gain an understanding of what happens when a successful mindfulness practice does not develop.

Subtheme 2.1b: Thinking Rather Than Feeling Mindful

Catherine, Jason, and Vicky shared experiences opposite to those discussed in subtheme 2.1a. These participants all displayed ways of thinking about mindfulness as related to achieving their personal goals. They spoke about mindfulness intellectually, as if they could cognitively learn to become more mindful without sensing and feeling. They did not elaborate on how they could learn to improve the skills they wanted to build and seemed unaware of a need to gradually support themselves in opening and feeling, with an integrated sense of self-compassion based on intimate self-knowledge.

Throughout the interview, Vicky provides examples of thinking rather than feeling. She talks about how hard it is for her to practise informal meditation because all she becomes aware of are her thoughts. It becomes clear that she's not sensing or feeling much in the present moment.

> It's easier in a way to do that [formal meditation, even though she also rarely manages to meditate] because you've got time to focus and meditate, whilst if you're brushing your teeth and listening to music and then you think about brushing your teeth mindfully, but then something else pops in your head and you just have different thoughts... it's difficult to keep your mind focused on what you're doing, I guess. (Vicky)

Vicky goes on to explain how she struggles with feeling present during emotionally unpleasant moments. She expresses a wish to be able to learn to embody the IM principle (Kramer et al., 2008) of opening to and, therefore, being present with or sharing what is happening. She's thinking about becoming mindful rather than practising it.

> In those moments when you're so like stressed out and angry and annoyed and everything, it's so hard to like open up, you know. That's just something I need to learn to do, I suppose. (Vicky)

Catherine is aware of how she allows her concerns about being judged by others to get in the way of her capacity to be herself mindfully, connected to the fact that mindful meditation is so overwhelming that she can't bring herself to practise much (see subtheme 2.2b). Like Vicky, she thinks about how it might be helpful to worry less (be more mindfully present), but her shame seems to kick in and prevent her from mindfully experiencing her pain. She doesn't seem to know how to remain in touch with her own difficult emotions. They are too much for her. She continues to mostly override what she feels to please others, becoming visibly upset when she realises during the interview how hard it is for her to put mindful self-care into practice.

> … [I feel] I guess slightly ashamed about how much I worry because I have come from such a privileged life, because I'm very lucky to be at Medical School. I know people that didn't get in [....]. So I need to just not worry about whether what I'm saying is helpful to other people or not..... my whole life actually would be better (chuckling wryly) if I just did that. If I just did what was kind of helpful to me. Rather than overrule.... (looking sad) (Catherine)

Catherine seems to think a lot about thinking rather than feeling emotions. This thinking may even act to prevent awareness of emotions unconsciously. Although she considers her strategy successful to a certain degree, she's unsure what causes her to feel better. She believes that a slight improvement in her depression is down to reducing the violently negative thoughts she has had in the past. She seems afraid of and, therefore, unable to feel mindful. She also believes that she's slightly less hard on herself than before therapy, although elsewhere in the interview, she displays incredibly harsh views of herself. It also

seems that she's worried that her cognitive re-reframing skills learnt during CBT will decrease using mindfulness. However, she appears unconfident in her cognitive conclusions.

> ... they [thoughts] have got a lot better [after cognitive therapy, prior to the mindfulness course], and I am able to control them much more now, which is again, the worry I have with something new like mindfulness, where it's a new dimension that I, I maybe can't control as well as everything else. But, yeah. (Catherine)
>
> *How do you control them, if you don't mind my asking?* (Interviewer)
>
> I say control, hmm, I'm not sure if that's really the right. I guess. I just used that word because before, in particular with my depression and things, like I couldn't stop that violent, or not violent, so much as negative spiral of thoughts, before it got me really low? Whereas, now I'm able to do that more on my own. I still have my low periods or whatever, but I never seem to, well I haven't luckily, in the last few years probably since my first year of uni, actually gone as low as before, so somehow I'm able to, not quite sure how... maybe just more recognition within myself, and slightly less hard on myself I think. (Catherine)

Similarly, when Jason starts to feel and share with others, something holds him back, and he takes a self-monitoring position. He displays an internal control mechanism; Instead of feeling the pain of not being sure whether what he has said has been received well, he swears at himself to stop the next spiral of thinking or ruminating about how he has been perceived - all the while pushing vulnerable feelings away. All of this clearly frustrates or even angers him at times, but anger is the main emotion available to him throughout the interview.

> I don't have that much of a problem with being like quite open, um, so, but then afterwards I'm like, oh shit, maybe.... [implying non-verbally that he worries that he shouldn't have shared or will be judged], but then on top of that, I think - who gives a

fuck! Which is, one of my favourite actions to have when you're in that sort of just spiral of, overthinking. (Jason)

Jason also reflects on his struggle to be present and self-accepting. He questions his thinking rather than realising how much of his own emotional world he isn't feeling. After all, how could he know what he hasn't felt? He understands that it might be useful to accept himself but does not seem to be in touch with what that entails or how he would go about it.

Maybe I've thought about it wrong, and the way that you should come out of it is to actually just accept yourself. I should be more just accepting, like, wholly, um… (Jason)

These participants who experienced the phenomena of thinking about rather than feeling mindful were bright, capable, and insightful enough to communicate the workings of their own minds. Their struggle to be emotionally mindful may relate to unconsciously holding themselves away from experiencing their own difficult or traumatised feelings, perhaps because it would be too overwhelming to be present with them.

Other qualitative research has focused on problematic thinking and how mindfulness helps to improve this without adequately highlighting what it is like for those who struggle. For example, the thematic analysis by Malpass et al. (2019) consists of semi-structured interviews with medical student participants, shortly after participation in 8 weeks of MBSR training. One of their general findings was that participants related to their challenging thoughts with greater acceptance following MBSR. They do not explain why mindful cognitive reframing is less effective in some students, as appears to be the case in the present cohort.

In the Solhaug et al. (2016) IPA study, some medical student participants experienced a limited version of 'time-out' during mindfulness training, similar to the limited benefits cohort (Figure 22). However, there is no explanation of why those students struggled to understand mindfulness more than others, apart from the sense that there may have been a

difficulty with cognitive understanding. This does not seem to be a viable explanation when medical students are generally above average in intelligence (Emanuel & Gudbranson, 2018). Emotional Intelligence (EQ) may be a useful quality for understanding openness to mindful awareness. However, EQ may also be related to trauma awareness (E. West et al., 2020). The present results thus indicate that thinking may take over as a mechanism for preventing early trauma awareness from emerging. This process seems to unconsciously limit the capacity to feel mindful or present - in an understandably self-protective manner.

Major Theme 2.2: Capacity to Meditate or Practice Informally

Most of the participants expressed similar difficulties in terms of fitting meditation into their daily lives. Only Ashley, who had established a long-term mindfulness practice well before the course, meditates regularly. The experience with fitting meditation into daily life to varying degrees, diverges for the new meditators according to their capacity to meditate when feeling well, focusing on goals or when feeling stressed. Some participants are able to meditate for the benefits they observe when they notice they are feeling overwhelmed with stress, and others are not able to do so. Some participants preferred to practise informally, finding meditation almost impossible.

Subtheme 2.2a: Able to Meditate at Home – Even When Stressed

For George, Inesh, and Ashley, there was a possibility of practising when they were feeling pressured as well as when they were more at ease. These participants who reported being able to meditate at home, even when stressed, seemed generally committed to a mindfulness practice 6-8 months following the course, through the benefits they had noted initially and on an ongoing basis. They still managed to practise occasionally and brought the mindfulness principles they had deeply experienced during the course into their daily lives. They were each creating a unique practice that worked for them.

Inesh experienced being able to practise meditating when feeling pressured, even though it was challenging. He also found meditation rewarding and helpful for re-focusing his mind.

> In times of stress, it's quite tempting to you know, just power through. But, actually, just taking that small bit of time out, just help – you know, realign yourself, and then you can re-prioritise and think - what do I have to do next? (Inesh)

George reported that his wife also took a mindfulness course. They had developed a mindfulness practice together, however while they were busy, they didn't always manage to keep it going. When they were feeling the strain of their full lives - getting low or feeling stressed (hectic) - they would return to mindfulness and meditate more. They seemed able to slow down once they became aware of how rushed they were becoming. The improvement they experienced seemed to sustain their efforts.

> We found that when things were getting a bit low again, we would do a bit of mindfulness and then there would be a bit of an improvement and that sort of thing, so it was quite interesting to do that during the course and then after the course we'd do a bit again, if things were getting a bit like hectic (George)

Ashley, as a long-term meditator, has developed such a strong practice that she feels her daily meditation ritual is what enables her to manage her numerous duties and demands without becoming overwhelmed. This is a self-sustaining habit that she developed prior to taking the IM course in medical school.

> I need my daily meditation just to be grounded, to be in the moment, and not get too stressed about everything - being stressed about exams, etc. I need to work part-time as well because obviously I need to finance my studies, because I'm a bit older. So, it's been quite a lot to, to juggle, but you know that it's really just helped me being in the

present moment. To manage all of these responsibilities. Yeah, and not to worry about you know the future and what will be next etc. (Ashley)

There is an inherent and observable benefit for the participants who practise meditation regularly or return to mindfulness after a break. At the heart of this phenomenon of being capable of meditating while stressed or dealing with pressure is an observable sense of relief, which is helpful to them and brings them back to practice when they are struggling. These participants take refuge in the meditations when needed, which improves their quality of life. They do not all need to meditate regularly to experience improvements. It thus could be that the capacity to meditate while stressed may be more important than practising daily, particularly when supported by IM.

Despite similar themes present in the extant literature (DeMauro et al., 2019; Ferraro, 2021; Morgan et al., 2015), other studies highlighting differing capacities for engaging with mindfulness (Solhaug et al., 2016) have not shown that the particular capacity to meditate when stressed seems to coincide with growing self-knowledge and authentic identity development, as observed in the transformative experiences cohort.

Trauma awareness work (Broughton, 2021; Ruppert, 2023), alongside mindfulness, could strengthen the authentic identity, further differentiating between what is happening in the present as separate from what happened in the past. This may help practitioners to open up to sensing, observing and feeling mindful (Stjernswärd, 2021). It may be that a combination of mindfulness and IOPT would be helpful for those struggling to meditate.

Subtheme 2.2b: Unable to Meditate at Home – Particularly When Stressed

Vicky, Catherine, and Jason encountered substantial barriers to practising mindfulness when they felt stressed or worried despite expressing a desire to live more mindfully and experience what they imagined the associated benefits to be. For Vicky, meditating was something that she did occasionally to look after herself. However, all of her self-care efforts

were undermined when she thought she had failed important exams. During any stressful time, she found she could not meditate, and then she meditated less and less over time.

> I think when you're… I get this [...] when I thought I hadn't [passed exams] I was like, oh, I don't deserve to like look after myself and you just don't want to go out to eat and you don't want to like make yourself food, because you're like, oh, I don't deserve to like be well fed or like whatever... it's like that awful thing that you're like, Oh, I don't deserve to like look after myself. And um so it's hard...It just, [meditation] is just not what you want to do [...] I find that in the moments when I'm most stressed, I just can't [practise mindfulness]. And, then it kind of degenerates. (Vicky)

Catherine describes wanting to be able to meditate as she seeks relief from her anxious thoughts. However, she regularly feels so overwhelmed by her worries and how urgent she perceives the need to succeed in medical school (subtheme 1.2b), that she does not find the meditations at home rewarding or even possible. Without experiencing relief at home when meditating, she never developed a home-based formal meditation practice.

> I tried to do the mindfulness [meditations], which I know is hard anyway, it's not something that's going to come easy, but I really struggled. I had so many worries going on… That I found it was quite overwhelming to be lying, you know trying to not tackle all of those worries... I always struggle with keeping my worries under control, and not letting them take over…. So that was frustrating really, actually, because I know how much I need it, and I'm, I really do want to find time for this in my life, especially with my new job starting. (Catherine)

Jason displays a similar approach with his struggle to develop a meditative or even any mindfulness practice at all. He feels that he has many obligations and struggles to fulfil them, so mindfulness could feel like just another chore.

> I didn't get on well with the [practice] things that were suggested in my own time. If I was doing it [meditating] like I thought I was doing it and feeling like it's homework, it's like I didn't wanna… I was like, if I'm feeling like that when I'm doing it - oh just get your homework done, then, like I shouldn't be doing it? I prefer to be like a bit more spontaneous. (Jason)

Jason was able to attend the group meetings, but it felt difficult for him to take time out for himself when he thought he should be studying.

> It [getting to the group mindfulness sessions] was always at odds with 'oh, I should be working now' - which is, yeah. Which I kind of just had to get over, because, I was trying to be a bit kind to myself in that. Because, you could always fucking think that. Like, so like within limits, you need to work when you need to, obviously, but I felt like it was important enough to take two hours out - two hours when I would probably be eating lunch and chatting, so, I can do that.[...] (Jason)

Dealing with the stress of medical school and the caffeine he uses to get through also affected his experience in the sessions. He struggled to meditate in the sessions as well as at home at times.

> I do feel like I had a slight resistance to it [meditation] at first, like it does depend on how racing my mind is, how much coffee I've had, how open to whatever I'm doing.... I think those things all affect it. (Jason)

Despite a desire to feel better, volunteering to do the course, and wishing to develop a self-supportive mindfulness practice, the limited benefits cohort (Figure 22) clearly struggled to develop a regular meditation habit at home. These participants experiencing the phenomenon of being unable to meditate when stressed found that they were overwhelmed with complex thoughts and emotions when attempting to meditate, especially away from the supportive group environment. For one participant (Jason), even meditating within the group

could be challenging, depending on his state of mind. These difficult and negative experiences deterred participants from continuing with the practice or even prevented them from ever developing any home-based practice during the course. This experience of struggling to meditate while pressured or stressed coincided within the same participants (Catherine, Vicky, and Jason) who seemed unaware of the impact of past traumatic or distressing experiences on themselves (subtheme 1.1b).

Quantitative studies have shown that many medical student participants frequently do not meditate as often as recommended (de Vibe et al., 2013; Erogul et al., 2014; Phang et al., 2015). No explanation for this is regularly offered besides pressure and a shortage of time. However, the emotional and practical challenges associated with studying healthcare or medicine are also present in studies where most participants reported meditating regularly (McConville et al., 2017). A qualitative review of mindfulness interventions for healthcare practitioners by Morgan et al. (2015) also identified difficulties in remaining present with strong emotions. Yet, the authors suggest that this emotional challenge does not disrupt mindfulness practice. Solhaug et al. (2016, p. 7) offer that stress may be an additional barrier for medical students who face different challenges to qualified practitioners; however, they also did not explain why this impedes mindfulness practice for some medical student participants and not others. The limited benefits cohort in the present study found they did not manage to meditate when stressed and struggled to develop self-knowledge. This may be due to a lack of understanding about the impact of unresolved early childhood trauma, symptoms of which they also appeared to exhibit. For participants who find meditation overwhelming or impossible during stressful moments, instituting trauma-informed behaviour change principles may be more effective (Marks et al., 2022).

Subtheme 2.2c: Able to Practise Mindfulness When Well or in a Goal-Oriented Way

For those who displayed this subtheme (Catherine, Jason and Vicky), there were commonalities related to being able to practise mindfulness when they were feeling well. In particular, an informal mindfulness practice was useful for one participant, despite finding meditation to be overwhelming when stressed. Another preferred formal meditation. Jason, the third participant in the limited benefits cohort (Figure 22), never developed a consistent home-based mindful meditation practice. Nevertheless, he gained enough from his experience in the IM course that he was able to invoke mindful breathing when it mattered to him.

> Breathing is a nice one, I tried that before my OSCE [oral exam] actually[…] I just sort of took like a couple of minutes like closing my eyes, and taking some slow breaths in and out, and yea, it was, it was nice. I found it calming, so yeah. (Jason)

We learn that Catherine can briefly sense what it is like to be in the present through informal meditation and strong external input through her senses. For her, the brief daily informal practices fit around the pressures of medical school as related to her constant work to try to overcome her severe imposter syndrome ('I felt like I had to be studying all the time'). The whirling thoughts about constantly having to prove herself seem to settle when another sense is more overpowering and when her senses are pleasant enough for her to focus on them instead of her worries.

> The informal mindfulness I found so helpful, because I felt like I had to be studying all the time, or I was always worried about something. Just sitting down with a cup of tea and just feeling the warmth through my hands and just noticing those feelings and I think I talked about the [mindful] shower as well. I loved that. (Catherine)

Despite struggling to practise meditation when she's overwhelmed with stress and thoughts about possible failure (see subtheme 2.2b), Vicky finds it possible to meditate when

she's feeling calmer. She can look after herself when she feels like she deserves it, and during such times she sees meditation as a positive self-care tool.

> When you're relaxed and happy you're like, oh I'll do this [meditate] for my mental health and my [own] good (Vicky).

Catherine, Vicky and Jason in the limited benefits cohort (Figure 22) found it possible to practise informal mindfulness or meditate when feeling well, or when their goals aligned with some of the basic benefits they had briefly experienced throughout the course. These were the same participants who found they were not able to meditate when they felt stressed (subtheme 2.2b) and also had not recognised the impact of past traumatic or distressing experiences (subtheme 1.1b).

Solhaug et al. (2016) found a similar utilitarian approach to mindful meditation in medical students. Their superordinate theme, 'Engaging with mindfulness,' highlighted limited experiences related to the journey of learning mindfulness, similar to the present study in students who engaged less and took a more goal-oriented approach. The authors concluded that *"*students who took a more instrumental approach to reaching specific goals, such as improved relaxation and concentration, appeared to experience a more limited range and nature of benefits, and reported less engagement in the practices (Solhaug et al., 2016, p. 5)." Some participants in the Solhaug et al. (2016) study found mindfulness to help with self-care and compassion, while others saw it as a limited version of a time-out, and the 'ought-to' mode still dominated their approach. Whatever those participants brought with them to the course, dominated their experience of mindfulness, just as it did for the limited benefits cohort.

Since meditative practice is likely at the heart of improvements in mindful awareness (K. Brown et al., 2015; Daya & Hearn, 2018; Hölzel, Lazar, et al., 2011; Shonin et al., 2015), aspects that might encourage more frequent practice, despite inconsistencies and challenges,

are essential. It may be that IM is be more useful than previously recognised on an intrapersonal basis, as well as in relationship with others. Some scholars are also beginning to understand that anyone may have suffered from early trauma without consciously realising it (Freyd, 1996; Maté & Maté, 2022) although the body always remembers (Van Der Kolk, 1994). As such, even for groups of participants without mental health diagnoses, a trauma-informed approach to learning and practising mindfulness may confer more consistent transformative results.

Superordinate Theme 3: Interpersonal Awareness

This category refers to experiences in the sessions (Major Theme 3.1), which coincided with the participants' capacity to bring the IM guidelines into daily life (Major Theme 3.2). All of the participants spoke about both challenging and beneficial experiences from the IM course 6-8 months leading up to the interview. However, some experienced more lasting and transformational effects. In contrast, others experienced limited benefits (Figure 22), particularly regarding the extent to which they were able to experience authentic empathy in daily life (Major Theme 3.3). A range of interpersonal awareness experiences will be described below.

Major Theme 3.1: Interpersonal Connection and Awareness in Sessions

The depth to which participants experienced interpersonal connections in the sessions varied. Some expressed a sense of fully engaging with interpersonal opening, sensing, observing, and feeling (subtheme 3.1a) while others were thinking and analysing (subtheme 3.1b) although occasionally experiencing momentary interpersonal connection and learning (subtheme 3.1c). The extent of the participants' ability to *feel* interpersonally mindful, also appears to be related to the extent to which these participants were able to bring their interpersonal learning into daily life (Major Theme 3.2).

Subtheme 3.1a: Interpersonal Opening, Sensing, Observing, and Feeling

This subtheme highlights how three participants (George, Ashley and Inesh) appeared to engage deeply with the mindful listening and speaking exercises. Mindful listening and speaking involved timed exercises during which participants were invited to silently listen or talk in pairs for five minutes at a time. Participation in these exercises was voluntary, yet all the students in the sessions participated fully, choosing not to opt-out when the chance to do so was explicitly offered. The IM exercises began in week three of the second iteration of the 5-week course, although Gregory Kramer's (Kramer, 2007) guidelines were gently introduced from the beginning. The participants who were interpersonally opening, sensing, observing, and feeling seemed to use mindful listening and speaking opportunities during the IM course to expand their emotional awareness in general. These participants gained deep insight into their own feelings and interpersonal habits while also understanding more about how others feel. Several key experiences exemplifying this experience will be highlighted below.

During the mindful listening and speaking exercises in the sessions, Ashley noticed what happens inside of herself when others do not behave as mindfully as she wants or expects. She was able to recognise and name her emotions as related to her expectations, as well as legitimise them. This seems to have allowed her to hold difficult interpersonal reactions gently within herself rather than outwardly projecting or reacting.

> [I noticed] emotions [during the mindful listening and speaking exercises]. I would get really angry. I mean by angry, I just got really awww.... I wished they would just shut up.... [because I wanted that same peaceful feeling of meditating alone] […] But then I saw it, I saw that I'm just frustrated about it. And then you just let go of it and after a while, it's fine... but I think it's a good.... It's good practice in itself… you then come back to yourself. (Ashley)

In the sessions, Inesh experienced what it was like to be deeply heard and seen and to have the space to share his authentic feelings. This seemed to have been a new experience which transformed his mindful self-awareness in general. As a result of feeling mindfully supported, he starts to see the feelings he identifies during these exercises as legitimate.

> I feel like once you've been listened to, um, you know what it actually feels like. Um, because it gives you the space to actually delve a bit deeper, and actually talk about how things made you feel, as opposed to just, if you were to have a conversation where things were back and forth, you're just superficial. Whereas, if it's just one-sided and it turns out that one person is speaking at a time, and the other person is wholly listening, you're actually able to go a bit deeper into the feelings and the emotions, and why you think that might be going on. (Inesh)

George found that he could observe the workings of his own mind while he was mindfully listening to another during the sessions. His impulse to interject was strong, and he found it challenging to resist commenting. Nevertheless, he heeded the invitation to listen silently while pausing internally and observing his experience of this. Similarly to the others exhibiting this subtheme, he was engaging curiosity about his own experience. He also seems to have increased his intrapersonal awareness by observing what happened inside himself when he recognised and resisted the urge to interrupt another person.

> I really wanted to ask a question [during mindful listening or speaking in class], or I really wanted to go hmmm, and it was really difficult to not do that. But, it was also really interesting to see where my mind went, in terms of, wanting to ask why that person felt like that. (George)

While listening silently and mindfully, George observed that there was more space for the speaker to talk freely and openly rather than being influenced by questions or comments. He engaged his curiosity about the benefits of this experience as well.

> I remember one guy saying, the fact that you didn't say anything, and you didn't nod, I mean I think I maybe sort of nodded very gently, you know, but it wasn't as sort of 'oh, that's interesting, furious nodding' it was more a kind of, I haven't just completely blanked out here. Um, I think, he, he said, well, I sort of felt like, I could just carry on talking, and I just wanted to carry on going and going, which was very interesting. (George)

During the post-exercise discussions, George was struck by the freedom that his silence created in the speaker to attend to his own agenda, unencumbered by subtle influences from him as the listener. This gave him important insight into how restrictive questioning can be.

> Um, whereas, I think, and when we were talking at the end, I sort of said, you know, oh I always really want to ask questions, I'm always really interested to ask questions, but that would have cut you off, and it probably would have pointed you down a different direction. And, he said he just really enjoyed the flow of having a think himself about what it was he was trying to say. (George)

Profound self-specific insights emerged for the participants who were opening, sensing, observing and feeling during the mindful listening and speaking exercises. In practising being present with their internal sensations, thoughts and impulses, while in dialogue with one another, these participants noticed more about both their own experience and the experience of others. This insight happened in an organic and self-directed manner. Their curiosity was engaged, and they understood more about what it means to be received non-judgementally. These participants expanded their interpersonal awareness without blaming or shaming themselves for natural interpersonal inclinations.

While no other studies could be located with the same information in this subtheme, intrapersonal mindfulness may have similar effects on the capacity for interpersonal mindful

awareness, particularly when approached from a trauma-informed perspective. For example, a qualitative study of a trauma-informed mindful intervention by Wästlund et al. (2023) found that noticing and being with inner sensations, including unpleasant ones, during solo meditation was associated with reduced shame and deep sharing in a supportive group. This seemed to allow the participants, who were self-identified trauma survivors, to become more aware of and accepting towards their own needs as well as those of others. That, in turn, seemed to foster interpersonal opening with the group. IM over five weeks also seems to support this process of simultaneous self and other awareness as was initially envisioned by Kramer (2007), particularly in those who were simultaneously deepening their self-knowledge as exemplified by the transformative benefits cohort (Figure 22).

Subtheme 3.1b: Thinking About and Analysing the Self and Others

This subtheme concerns a pattern that emerged about the experience of thinking and analysing instead of feeling and sensing during interpersonal mindfulness practice. For example, Jason thinks about his behaviour in the sessions or the interview in reaction to other people's behaviour, as if there is no agency or choice to do anything else. He considers possible explanations about why he runs out of things to say in some situations rather than others based on how trustworthy the other person seems. He isn't feeling what it is like to run out of things to say or to trust someone and carry on talking; he's thinking about those things. He hasn't begun to experience impermanence or reperceiving yet, and he puts the responsibility and power for this squarely outside of himself rather than recognising the reflexive nature of interpersonal relating, and his own role.

> I remember like running out of things to say [during the mindful speaking and listening], […] So, I dunno if it's like because I wasn't that clear on the instructions, or because I didn't like just talking for a minute, or someone talking to me for a minute... (pausing) but, I'm yeah, I think that's probably to do with who I'm speaking

to, and that trust thing. You've let me speak for so long here, I don't have a problem now talking for like a minute, and being quite um, I think, yeah, quite open. (hesitant). Um, but I suppose that is dependent upon the trust. Um, so, yeah. (Jason)

Vicky found some aspects of the IM exercise helpful, although she experienced limited benefits. She appears to have been thinking about making sense rather than being in the moment and feeling parts of herself before sharing. This experience highlights the depths of her inner disconnection as highlighted in the previous subthemes. It wasn't until others verbalised their emotional responses during the IM exercises that she could tentatively begin to recognise her own. Although this was a fascinating experience for her, she couldn't get to the point of vocalising her emotions. Unlike George (see subtheme 3.1a), who experienced transformative effects, she could not build upon this momentarily useful exercise.

The thing that I found difficult wasn't necessarily talking to the person, it was kind of voicing your um feelings and, and you know concrete, concrete, like sentences and things that made sense?... And it's nice actually to hear what they say, because then you're like, oh I felt that as well, but I couldn't vocalise it, because I didn't know how to say it? (Vicky)

Similarly, when Catherine was practising mindful speaking during the sessions, she was more preoccupied with what others might think of what she was saying than what she noticed about her own experience. She is aware of interpersonal discomfort and concludes that she's too much for people who don't know her instead of feeling compassion for herself. This seems to have brought her in contact with her inner discomfort, and instead of bringing compassion to that experience, she's judging herself in terms of being afraid that her emotions are too much.

I'm used to people maybe not being as open as I am. So, sometimes with people I don't know, I'm afraid that it's maybe a bit too much for them, or... I don't know. I don't

> really know, but I found it slightly more uncomfortable than I would normally probably, it [what she said during the IM exercises] is more than what I would normally say. (Catherine)

These participants are trying to cognitively make sense of what they experienced in the mindful speaking and listening exercises. They flounder to try to understand themselves, understand others, and explain what they noticed. During the course and in personal situations, they reportedly struggle with verbalising their own feelings, either sharing too much or not enough. They ruminate about their patterns, attempting to fix their outward behaviour without gaining inner self-understanding and empathy. Often, it was too challenging to trust themselves or colleagues who were not experts in mindful listening either.

A qualitative study by Beddoe and Murphy (2004) on the effect of mindfulness in nursing students highlighted similar themes. The authors reported that common fears of losing face through unsatisfactory academic performance affected the participants' capacity to reduce rumination. However, Beddoe and Murphy (2004) did not explain what might have caused this. Combining such results with the present data indicates that distracting thoughts may arise as a protection mechanism to prevent contact with overwhelming emotions for some people. This may be due, at least in part, to unresolved early trauma, which has interfered with a person's capacity to interpret and experience the present moment accurately (Broughton, 2021). Working on early trauma using IOPT confers similar awareness benefits (Stjernswärd, 2021) as successful mindfulness (Beddoe & Murphy, 2004; DeMauro et al., 2019; Malpass et al., 2019; Solhaug et al., 2016). It may be that longer times practising mindful communication (Beckman et al., 2012) or IM may be more helpful for fostering both personal and interpersonal mindful awareness, particularly when taking the role of early trauma into account.

Cognitive-behavioural approaches to mindfulness (Segal et al., 2013) do not seem to overtly recognise that excessive or problematic thinking on an interpersonal level may not be a cause but rather a symptom of a constructed identity, as this cohort exhibits in previous subthemes. As highlighted by Catherine in the present subtheme, emotional contagion may result in subconscious self-monitoring and ruminating to avoid overwhelming interpersonal pain. Interestingly, those unconsciously shutting down emotions (Jason and Vicky) also exhibited excessive thinking. Both struggles with interpersonal emotional presence are worthy of further investigation.

Subtheme 3.1c: Gaining Momentary Interpersonal and Self-insight During Sessions

For those who encountered more thinking than feeling, the experience of the mindful listening and speaking exercises facilitated useful micro-reflections, resulting in small moments of limited self-awareness. IM temporarily increased authentic mindful interpersonal interactions or momentarily reduced negative thoughts. This appeared to be quite a revelation for these participants.

Catherine often self-monitors and tends to concern herself more with how others perceive her than how she authentically feels. However, she experienced a few poignant moments of authentically sharing through IM, more than she usually does. Realising that she wasn't judging other people for their less-than-perfect emotional experiences, she briefly considered that she might also be worthy of such grace. Although her experience of reduced self-judgment and sense of 'just being' didn't last, IM allowed her to temporarily let go of her concerns and self-criticism, experiencing a short break from her typical self-flagellation. Notably, this happened despite her struggles to develop a formal meditation practice (subtheme 2.2b).

> I got to know the other people and the kind of things they were saying and, and then sometimes people would say stuff that wouldn't necessarily make that much sense to me or that I found slightly confusing and I thought but that's okay like, even if I sound like that to them, like I don't think any worse of them […] in the last few sessions, I managed to really enjoy it [mindful listening and speaking], because I cared a little bit less. And, I was just, really interested in the material about the listening thing, and, and then I was able to respond kind of more naturally without worrying what I was saying, whether it's any good or not… I was able to just 'be'. (Catherine)

Vicky usually struggles not to interrupt others and enjoys an animated conversation. Experiencing the urge to comment while listening to another was a familiar struggle she explored during the IM course. She recognises that this can interfere with her ability to listen both personally and professionally. She also struggles to avoid interrupting simulated patients during her oral exams (OSCE). Although she speaks of her tendency to interrupt as a compulsion, IM seemed to provide a helpful reflection and moment of self-awareness.

> I found it really hard not to interrupt and be like, oh, yeah, me too... I feel it's also something, I think that [listening] is one thing I've wanted to like develop, and I'm constantly like kind of working on, but I do find it really hard I think just because I am chatty, even in OSCE's and things, you know, you're told to just sit and listen to someone talk. When, all you want to do is ask them a question, a very specific question... I have that in daily life as well. Like when someone's talking, I constantly want to like talk back... But not to be rude just to like, you know have a conversation that I enjoy, like, a bouncing conversation, I guess. (Vicky)

Following a few weeks of practising IM, Vicky reports that she never fully adopted the practice of mindful listening. Nevertheless, she engaged in micro-reflections about just how challenging it can be to listen without immediately commenting on what she is thinking

in response, indicating momentary self-compassion. This was a pleasant and motivating experience for her, which she would like to repeat.

> I found that sometimes I like tried to stop myself from talking to just listen... I know I need to work on that, but I did enjoy like drawing that from the sessions… Acknowledging that it was a problem that I do have so like, and then when you do listen to someone, it's actually really nice. Rather than like, you know talking back and interrupting because you want to say something about what they've said. Um, yeah. So, I know I need to develop that skill, but it's something that I think is important and I want to do. (Vicky)

The participants who were thinking rather than feeling during the mindful listening and speaking exercises, as displayed above, nevertheless gained brief, personally relevant insights. These moments of learning related to interpersonal struggles rooted in themselves. Although the depth of transformation achieved by other participants was not evident, the participants who displayed momentary interpersonal and self-insight were also temporarily experiencing self-compassion or understanding. Some found silently listening to be more enjoyable than before, and others managed to slow their self-critical minds down for a few minutes outside of the sessions. The IM experience thus appears to have offered a reflective opportunity to gain brief self-directed insights for these participants, perhaps reducing the resistance often associated with external feedback.

Other research on mindfulness in any population could not be identified to highlight similar themes. However, as highlighted in the literature review, Bartels-Velthuis et al. (2020) conducted an RCT of a 9-week, 2.5 hours per session IM course. They found that their intensive intervention improved self-compassion and empathy but not mindfulness or stress levels when self-report scores were compared with those in the control group. Significant self-reported improvements were observed on two subscales of the FFMQ in that study,

including non-reactivity to inner experience and less isolating behaviour. The limited benefits cohort in the present study, although seemingly not experiencing non-reactivity or reperceiving, nevertheless experienced brief moments of insightful progress towards those ends. Considering that the cohort in the Bartels-Velthuis et al. (2020) study had practised MBSR and IM intensively, this parallel is noteworthy. As reported previously, those in the present study encountered only five weeks of introductory IM material. It may well be that additional IM practice could provide additional benefits, both on a personal and interpersonal level, regardless of the level of pre-existing trauma awareness and self-knowledge.

Major Theme 3.2: Interpersonal Connection and Awareness in Daily Life

Some participants appeared to deeply transfer benefits from the awareness they gained during the mindful listening and speaking exercises into their daily lives. The transformative experiences cohort described ways that they were opening, sensing, and feeling their authentic self interpersonally at times. However, the limited benefits cohort did not express such changes and appeared unable to make this happen through no fault of their own. The participants with limited translation of such skills into their daily lives seem to have been prevented from the essential elements of deep and lasting emotional learning that others experienced.

Subtheme 3.2a: Interpersonal Opening, Sensing, Observing, and Feeling

For this subtheme, the ability to feel an authentic sense of identity and worth (section 1.2a) appeared to interact with the lessons learned in the mindful listening and speaking exercises in a fruitful manner. The three participants expressing this theme were growing a sense of self-knowledge and present-moment awareness to translate into their daily lives with other people. In the segments displaying this phenomenon, participants judged themselves less, judged others less, or recognised when they had inadvertently done so. They noticed that correcting their approach or making amends following mistakes was possible without losing

sight of their self-worth or what they needed or wanted. They appeared to be opening to their authentic emotions and developing self-compassion and self-empathy, which made them feel more present due to having to monitor and protect themselves less. This growing ability to remain congruent with the experiences of the present moment instead of reacting from a place of projection, fear and ego-led self-protection is what some Buddhists (Andersen, 2005; Maitreyabandhu, 2018) and some IOPT practitioners (Broughton, 2021) call the process of integration.

Inesh was particularly eloquent about developing greater self-compassion, which is helpful while letting go of fears that past conditions will repeat themselves, thus becoming more present and integrated. He demonstrates how, despite continuing to struggle with overthinking on an interpersonal level, this tendency was reduced following the IM course and his ongoing brief (5 min) daily mindfulness practice. While he occasionally still identifies himself with his troubling behaviours (I'm an overthinker), he has gained some useful cognitive reframing skills that he engages with as part of a mindful pause, giving himself and another person some space and some grace.

> I'm an over-thinker, um, and I sort of have that anxiety about general things, on a base level. So, and, even simple things like, um,... Yesterday, I was working as part of a conference here, and I saw someone, and I was just having a conversation, but I then I had to quickly end it so that I could continue working obviously, and help like guide the attendees to wherever they were going, um, and so after that conversation ended, I was like, oh, did it end the right way, did I say something wrong, were they offended by that, or, and so what [Interpersonal] mindfulness has given me, is just that moment to sort of actually step back and think, what actually went on, and just realise there could be just a whole host of things going on, not to take things personally, and just to give yourself that space and also them some space. (Inesh)

Inesh also begins to observe how this greater interpersonal presence and authenticity improves his daily life experience. These improvements involve his interpersonal connections and also extend to the high-stakes and pressure-filled oral exams (OSCEs) that all medical students must pass to progress to the subsequent year of study. He notices how his new sense of openness influences others as well. There is a sense of reduced tension due to the steps he is taking towards remaining true to what he is feeling.

> Because you're not carrying the burden of, um, you know, these thoughts, or, just accepting things how they are, you're actually able to vocalise it. Um, and sort of lay out your agenda and be more open and honest. Um, and then it allows the other person to do the same. Um, and I think you can apply that situation to lots of different parts of our life, whether that be relationships, or an OSCE (oral exam) situation, or talking to a patient, or a friend. Um, if we have that sort of kindness to ourselves, and that openness and honesty about how we feel and our thoughts, um and how we are, we can build a more, you know fruitful relationship, um, and just have an over-all more agreeable situation. (Inesh)

George disclosed that his marriage transformed following the IM course, due to his increased ability to reflect on how he was feeling and what might be contributing to those feelings, both within himself and externally. Rather than getting caught up in perceived slights and reacting unhelpfully from a place of ego protection, he could use a mindful pause and recognise what was happening in time to avert troublesome reactions. If he found that he occasionally behaved unskilfully, he could make amends more readily and fully. He thus also expresses taking steps towards reperceiving as part of moving towards integration.

> When I started doing the [Interpersonal] mindfulness course, we noticed that our relationship [marriage] got much, much better... I found that I was in a much better space to sort of manage my... (pause) I sort of could, I could just see where my mind

was going. So, if something was starting to upset me, I was able to sort of take a step back and go, well, why is this upsetting me SO much? Instead of letting my mind go crazy, or rise to the, whatever injustice I thought was happening… if I didn't, if I didn't have that buffer, then I was far quicker to say afterwards, I'm so sorry. Like, the reason that really upset me was because… (George)

George occasionally also found it helpful to use mindful listening techniques with patients. His broadening repertoire of mindful communication skills meant that he adapted from his usual jovial self to a state of gentle, mindful presence when necessary. In the following case, he used these skills to support a vulnerable patient.

There was a patient the other day... I did a night shift here, in A&E, and there was a patient who came in, who was quite a shy young guy and I barely nodded or did or said much at all, I just let him talk. And obviously I had to sort of ask him a few questions, but you know, whilst he was giving me the answers, there wasn't really anything but just listening. And that was very interesting. He was definitely someone that I could do that [mindful listening and speaking] with. He is definitely someone who if I had questioned too much, he would probably close up. He was too unwell to have a bit of a laugh and a joke with. Uh, so, there was none of that. So, then actually it came into just listening, and obviously ask a few questions, but while he, whilst he was answering those, just literally listening, not saying anything. And, I got a really interesting you know, history out of him, so (SIB), so yeah. So I guess, I guess I do use it. (George)

The participants who exhibited this subtheme all shared an increased ease in opening, sensing, and feeling their authentic selves around others while being interpersonally mindful in their daily lives. Although the increased present-moment authenticity these subjects reported did not mean they were always calm, they *were* feeling. They were engaging in moment-to-moment awareness, and they were sometimes able to be present to their own

needs and relationships with others, as well as alone. A sense of inner connection gave these participants increased choices and possibilities to make themselves heard and seen, allowing others to do the same. This benefitted the patients at times as well as the students' relationships and therefore their satisfaction, ease and wellbeing.

The increase in authentic self-insight and connection highlighted above aligns with what Buddhist psychotherapists such as Andersen (2005) consider self-directed empathy. Such self-understanding may lead to greater levels of integration within the psyche, whereby joyful and uncomfortable feelings are accepted in both oneself and another as connected to spontaneous experience. Others have also found that once enough inner safety is present for trauma awareness to grow and an authentic identity begins to develop (Stjernswärd, 2021), that caring for others by being present with their suffering becomes less effortful. Empathy for others may also improve self-related empathy in a reflexive manner. IM practices (Bartels-Velthuis et al., 2020), particularly if trauma-informed behaviour change principles are incorporated (Marks et al., 2022), may be suited to encouraging such transformational change.

Subtheme 3.2b: Interpersonal Patterns Remain Mostly Unchanged

For others, perhaps unsurprisingly, given the limitations of their in-session experience and the lack of regular meditative practice, the ability to consistently bring what they learned on an interpersonal level into daily life was restricted. The participants exhibiting this theme reported some minor interpersonal benefits from the course, but this was eclipsed by an ongoing inability to remain self-empathic and present with their own emotions. Vicky was particularly challenged in this regard and saw mindfully listening and speaking as something unique to the classroom environment. She felt IM was too strange and unusual to engage with in daily life.

> In the session, when you're meant to do that [practising IM while listening and speaking in pairs], and you're told to do it, so it's not, it's not weird. But I guess when you're out in the real world, you don't, you don't do that. (Vicky)

Jason found that he could notice that he was able to be patient with others if he was feeling well. Still, as soon as he was feeling stressed, he could not maintain consistent awareness or compassion. He wisely wishes to stop projecting onto others, but he does not know how to support himself in reducing such interpersonal reactivity. He has not compassionately recognised the validity of his emotions and cannot remain present with them nor gently support himself when encountering them. He remains at the mercy of his moods and the other conditions around him.

> If I go home and my mum's like nagging me about I don't know, help around the house and chores – that kind of thing – um, I know she's like super busy, but I'll like put up a fight potentially, if I'm feeling shit, um, but if I'm, I'm not [feeling bad], it would be more like – oh, I understand, like she's stressed, I should not be projecting... um, yeah, I think a lot of it is about projecting your emotions onto other people. Which, like I see a lot of others do, and it's not a trait I like in other people? So, it's not something... I'd like to avoid it if I can, but obviously, it's a... like you can't not like carry all of the stuff around with you, if you're in a mood or whatever. (Jason)

Catherine brought IM into her group discussions in the classroom in terms of occasionally letting go of her extreme self-restriction. The IM practice she benefitted from in the sessions improved her ability to participate in group sessions without berating herself at times. However, even speaking about it, she still called herself ridiculous, and she looked sad as she recalled being temporarily somewhat less violent towards herself. She displayed a limited capacity to experience self-empathy during understandable interpersonal challenges and could not *fully* recognise the improvements she was making.

> I remember walking away [from Problem Based Learning], and I guess I felt like a bit, again ridiculous, but proud of myself. Because I was able to do it [engage in group discussions] without like 'stabbing' myself several times because what I thought, what I thought I said wasn't of any use whatsoever to anybody else (looking and sounding sad). (Catherine)

Although there were some minor improvements for these participants, the limited benefits cohort exhibiting this theme expressed little self-oriented empathic understanding of the conditions that originally formed their approach. Without a deepening sense of self-knowledge and inner compassion for their struggles, they seemed unable to develop a regular mindfulness practice or fully connect with and understand their own authentic feelings. Thus, these participants understandably struggled to apply the momentary benefits they experienced during the mindful listening and speaking exercises to their daily lives on a reliable basis.

While traditional mindfulness theory (K. Brown et al., 2015; Monshat et al., 2013) notes that developing a solo mindfulness practice is an excellent way to deepen qualities associated with relational mindfulness, adequate attention has not been paid to the childhood conditions affecting those who struggle to do so (Duane et al., 2021). The difficulties for the limited benefits cohort may relate to various factors, including a need for deeper social support and connectedness. The correlation between past trauma and present circumstances may also not be coincidental; early trauma survivors are often observed unconsciously re-creating environments in later life which mirror early circumstances (Broughton, 2021) since they are familiar.

Researchers have found that those who are clear about their feelings more often receive accurate empathy than those who express emotional confusion (Ickes, 2003). Those experiencing a degree of safety with emotional presence internally may thus regularly receive empathy through risking feeling vulnerable while sharing. When received with kindness,

emotional vulnerability may also strengthen a sense of psychological safety (Kramer et al., 2008). Receiving empathy in all states of mind and despite emotional confusion may also be one of the most crucial elements in learning to feel and communicate emotional content, particularly for those who have been traumatised (Crouch et al., 2019). The limited benefits cohort was struggling with these interrelated factors and likely rarely received empathy, instead regularly experiencing criticality or indifference without and within. Unconditional positive regard and empathy from teachers and therapists (Rogers, 1959, 1962) increase self-empathy and compassion. Following positive experiences while feeling seen, heard or understood, traumatised individuals are more likely to begin supporting themselves or engage in healthy habits such as meditation, even when stressed. Longer-term practice in dyads through IM may also provide the crucial experience of feeling seen and accepted by others (Bartels-Velthuis et al., 2020). Therapeutic intervention is also advised (Treleaven, 2018).

Major Theme 3.3: Experiencing Empathy

The phenomenon of experiencing empathy towards others was displayed in two ways. Firstly, some participants actively engaged in authentic other-oriented empathy in daily life. This involved working to remain present with themselves instead of over-identifying with the suffering they witnessed. These participants could notice and correct unconscious assumptions before they became harmful. Actively engaging with empathy was also associated with positive self-protection. These will be displayed below in subtheme 3.3a.

The second method of experiencing empathy involved an inconsistent commitment to an empathic approach. These participants either closed themselves off to the emotions of others or experienced pain through over-identifying. They were able to experience empathy through the IM course momentarily. However, they display a limited ability to be present with the emotions of others. These experiences are highlighted in subtheme 3.3b.

Subtheme 3.3a: Experiencing Authentic Empathy in Daily Life/Work

Some participants recounted examples of engaging with authentic empathy in daily life following the IM course, including while working as medical students. Ashley previously tended to over-identify with others. However, through her long-term Buddhist practice, she developed the capacity to sit with people's pain in a similar way to how she sat with her own (subtheme 2.1a). She trusts that feelings come and go, and is confident that by witnessing pain, it is possible to be supportive without over-reacting or rescuing.

> You sit with them, but you're not; you don't let yourself be dragged under by it. Because otherwise, you're not of help to the person. You just stay in the moment, in the present... And then you let go and then you're with the next person who is suffering, and you sit with them. (Ashley)

Inesh identified that it was from a basis of growing self-compassion while reducing self-criticism and cognitive load (excess energy to think) that he had more capacity to be present and do some important perspective-taking. This helped him to reduce any assumptions he tended to make about another person's behaviour. In this way, being empathic also supported him and helped him to remain calmer in the face of interpersonal uncertainty. He was taking the behaviour of others less personally. There was a mixture of cognitive reframing (Andersen, 2005) combined with a greater capacity for authenticity, which he seems to have found helpful for reducing interpersonal distress.

> Once you take out the judgement and the self-criticism, um, for me anyway, I don't have the, I don't have to use that excess energy to think about um, why they might not want to agree to that, or is it a reflection on me, so if you have that empathy and think, that, you know, they might you know, have lots of things going on, and that's ok, and, not taking it as a reflection on me. That's when, I think you have the space to just um, be present and not be bogged down by the fact that it's a reflection on you, and taking that too harshly. Um, so that does come from empathy. (Inesh)

George found that he could even empathise when he made a hasty assumption with a patient and could feel discomfort without being overwhelmed with shame or self-criticism. This growing openness, or awareness when he wasn't being open, exemplified reflection in action, which seems to have stemmed from practising being present with his difficult interpersonal feelings. Sensing authentic discomfort from unintentionally stereotyping helped him to notice what happened and correct his course. Rather than ignoring, self-shaming or projecting onto the other person, he made a healthy change to open-up immediately. This experiential, emotionally reflective empathy translated to a clinical setting.

> There's a big connection between sort of stereotyping someone [patient] and actually allowing yourself to remain open... [recognising] oooh, you totally judged him... That's quite a nasty feeling of like, you totally misjudged that situation, and there is a little bell that goes - ding, ding, ding, ding, ding. That wasn't ok. Um, so yeah, I think that's interesting. And, maybe doing the mindfulness course actually has heightened that awareness of, ooh, you've closed yourself off there. (George)

The participants who had also been feeling interpersonally mindful in the sessions opened to self-empathic and emotional awareness, as highlighted in subtheme 2.1a (opening, sensing, observing, and feeling mindful). They also encountered a growing capacity to experience authentic other-oriented empathy in their daily lives. These participants noticed the discomfort of hasty assumptions without becoming ashamed or defensive and were, therefore, able to meaningfully correct themselves. They could also see the perspectives of others in ways that reduced their own stress, exhibiting a reflexive way of mutually beneficial perspective-taking. This included, at times, being able to sit with and accept the natural emotions of another in the same way that they were witnessing their own, indicative of integration (Andersen, 2005) and early trauma resolution (Broughton, 2021).

The role of psychological integration of various parts of a splintered psyche due to trauma may be more important than previously recognised in empathy research. The current subtheme seems similar to experiences highlighted in other qualitative mindfulness research exemplifying positive or transformative experiences (Bihari & Mullan, 2014; DeMauro et al., 2019; Gillespie et al., 2015; Monshat et al., 2013; Morgan et al., 2015; Vreeling et al., 2019). Although not previously named as such, these echo the beginning steps towards integration as understood from various perspectives in the Buddhist context (Andersen, 2005; Maitreyabandhu, 2018) or through resolving early trauma by becoming aware of it and gradually feeling more of the effects oneself (Broughton, 2021). Conversely, integration may also occur following effective psychological therapeutic intervention (Andersen, 2005) with an empathic therapist who facilitates self-connection (Rogers, 1959). Rogers (1962), a humanist, states that an integrated person,

> Is unified within himself from the surface level to the level of depth. He is becoming "all of one piece." The distinctions between "role self and "real self," between defensive façade and real feelings, between conscious and unconscious, are all growing less the further these trends continue. All that the individual experiences and is, within the envelope of his organism, is increasingly available to his conscious self, to himself as a person. There is a continuing growth of good communication between all the different aspects and facets of himself (Rogers, 1962, p. 29).

Mindful psychological integration, taking Buddhist, psychotherapeutic, humanistic, and early trauma perspectives into account, may be considered as a personal sense of coherence, authenticity, and self-assuredness accompanied by deepening self-knowledge, understanding, and compassion. An integrated person exhibits less pretending and discontinuity in various situations and displays more contact with a true, authentic, or real self, however imperfect this may be, accepting flaws and working with them rather than

disowning them (Maitreyabandhu, 2018). This authentic self welcomes deepening awareness of past and present conditions, mindfully experiencing and appropriately expressing the continuum of human emotions ranging from pain to joy with a reduced sense of defensiveness, grasping or seeking to be rescued (Broughton, 2021). Such a person also displays the ability to step back and mindfully observe themselves at times, otherwise known as decentring or reperceiving (Hölzel, Lazar, et al., 2011; Shapiro, 2009). There is a capacity for discernment, reflection, and self-correction, which replaces judgementalism or perpetration aimed towards others or the self. This confers greater sustainable emotional availability within and without, whether it is gained through humanistic therapy (Rogers, 1959), IOPT trauma therapy (Stjernswärd, 2021), trauma-informed mindfulness (Wästlund et al., 2023), IM (Bartels-Velthuis et al., 2020) or any other method of choice. Empathic communication is also likely to be less burdensome and harmful for the giver and more useful for the recipient when provided by an integrated person. The depth of integration could also be at the heart of why some practitioners are more effective therapists or teachers than others. Even a short IM course appeared to have facilitated a movement towards such integration on a personal and interpersonal level for the Transformational Benefits cohort (Figure 22). However, this was not always the case.

Subtheme 3.3b: Inconsistent Capacity to Empathise

Some participants described their capacity to empathise as inconsistent and transitory, depending on their mood or tendency to judge others. These participants either closed themselves off to others' emotions if they were feeling stressed or experiencing pain. Jason found he had to pretend to empathise during oral exams and struggled to be understanding of others when he was pressed for time.

> You have so much on, and when you're being like short-tempered, and impatient, and maybe um, like unappreciative [...] I think it takes like a calm mind to be able to

> appreciate, and to sort of hold onto those sort of traits [empathy], um, so it, I think it like brings out a better side of you when you're feeling like that, rather when you're feeling more like just stressed. (Jason)

Catherine, who found her own emotions overwhelming, experienced emotionality in others in a similar fashion. She tended to rush to try and fix or rescue. This is emblematic of emotional contagion. She struggled with being present or allowing the other person to have their own feelings that come and go. She appears to be over-identifying with the experiences of others who are suffering.

> I struggle with so many of my feelings myself, that I can't bear for other people to go through the same thing. (Catherine)

Vicky usually finds it difficult to 'care' about people she does not know. Nevertheless, she heard and absorbed the stories of strangers for at least a few minutes during the IM exercises. From that connection, she briefly experienced empathy and kindness towards those she previously would have discounted since they aren't members of her regular social circle.

> I guess when you talk to strangers in an intimate way, it makes you realise that they are people rather than just randoms, right? … People with a life behind them, I guess or like a family or a past… I think because, because you open up SO much [in the sessions], you.... find out about the background of people, and you know why they think a certain way, and like why do they do certain things and yeah, it's, it's really... I think it makes you closer to them and more empathetic and kinder in a way. (Vicky)

Despite her brief positive encounter with authentic empathic perspective taking through the IM exercises, Vicky's overall attitude is to continue judging people who struggle with self-inflicted health problems. The empathy she felt in the sessions is limited and

inconsistent. She judges others in a similar fashion to how she judges herself as only worthy if she succeeds (subtheme 1.2b).

> I just think it's hard to be empathetic with someone when they're not someone you care about, or they're just some random person and you don't know about their life and you don't know why they've done something [...] So like, something that's caused a certain like health problem. Yeah. I find that hard to be empathetic, when someone's like overweight and you're like well and their dad has had a stroke and you're like, well, you know, you're gonna have a stroke as well if you don't lose some weight. (Vicky)

For the participants who displayed an inconsistent commitment to empathy, there were limitations surrounding their capacity to understand others. Some are becoming too distressed by the difficulties that others are experiencing, exhibiting emotional contagion or over-identification. Others are closing themselves off to people's perspectives and emotions, mirroring how they appear to think instead of feeling and experiencing their own emotions as valid (subtheme 2.2b). When feeling well, they can empathise or pretend to do so, but if they are feeling stressed, they find it more difficult and add more stress to their experience through feigning.

Both shutting down and judging or experiencing emotional contagion may be related to projection and trauma survival (Broughton, 2021). Those such as Vicky and Jason, who sometimes reported shutting down to their own inner struggles, seem to believe some patients to be worthy of respect and empathy but not others. They are simultaneously aware that there is a requirement to provide equal opportunity empathy to pass Medical School oral exams (OSCE), which increases their cognitive load and, therefore, stress. Their unconscious emotional blunting strategies may have been adopted from generations of family members who learned to numb themselves in order to survive trauma (Broughton, 2021). While

emotional contagion may seem the opposite sort of issue, this is just as serious since it can cause burnout (Wagaman et al., 2015) and exhaustion.

The phenomenon of emotional contagion exhibited above by Catherine, was also highlighted in the following excerpt from a study of mindful communication for GPs by Beckman et al. (2012, p. 2). One participant explained, "I would empathize to the point where I would be so in their shoes. I would start to feel the way that they felt, and I mean, you know, take four of those in a row in a day and I would be just wiped out...". Following extensive interpersonal mindful communication practice over 8-months, the same participant in the Beckman et al. (2012) study who initially struggled with emotional contagion goes on to report, "It's not that I don't empathize with them anymore, but [now] I feel OK just to listen and be present with them... and I think that in some ways helps them more... and that is a wonderful thing that you can do for patients, I just needed to learn that myself, I guess (Beckman et al., 2012, p. 2)." This example illustrates that following more opportunities to practise over a longer period, deeper transformation could also be possible for participants similar to the ones in this study, even without overt trauma work.

The participants in the limited benefits cohort frequently say one thing but are thinking or internally experiencing something else. This inconsistency between internal and external thoughts and behaviour seems confusing and burdensome, accompanied by a stress-inducing cognitive load. These patterns also indicate a lack of integration from Buddhist (Maitreyabandhu, 2018) and psychotherapeutic perspectives (Heppner & Kernis, 2007; Sollarova & Sollár, 2010) as well as a lack of authentic identity, two psychological concepts which appear to be linked. While IM is, in part, designed to improve authenticity and inner coherence, interventions do not typically follow an early trauma-informed stance. The current abbreviated intervention, although cost-effective compared with longer interventions, may also benefit from development in line with trauma-informed approaches (Treleaven, 2018).

In sum, to empathise effectively and consistently, psychological integration and authentic identity development may be more important than previously considered. Perhaps stress impedes empathy more in those who have not been provided with adequate opportunities to work towards psychological integration than in those who have, explaining why this link is so often cited in the empathy literature (A. Chen et al., 2016) that follows the Theory of Compassion Fatigue (Figley, 2002). As such, trauma-informed approaches to behaviour change (Marks et al., 2022), communication skills (T. Brown, Mehta, et al., 2021), mindfulness (Duane et al., 2021; Wästlund et al., 2023), resilience training (Oehme et al., 2019), and medical education in general (T. Brown, Berman, et al., 2021) may be more transformative than cognitive-behavioural approaches. Indeed, in any industry involving high-stress levels, trauma-informed approaches may be more effective, especially if they also take early trauma that participants are unaware of (Freyd, 1996) into account.

Trainee psychological therapists engage in their own personal therapy, and ongoing monthly psychotherapeutic supervision is required for qualified therapists (Wilson et al., 2016). Similar, humanistic-oriented (Rogers, 1959, 1962) supervision, elevated through early trauma-informed approaches (Broughton, 2021; Ruppert, 2023), could also be useful for medical and health personnel who regularly deal with emotionally challenging and even secondary or re-traumatising situations as part of their daily work (British Psychological Society, 2020; Richardson et al., 2016; Sprang et al., 2023; Wagaman et al., 2015).

Synthesis of Discussion Points

The above analysis section included a short discussion at the end of each theme to consider implications as situated within the existing literature. This section synthesises these points, beginning with revisiting the research aims, summarising the results, highlighting key overall intrapersonal or interpersonal insights, and considering other explanations for the

difficulties exhibited with imposter syndrome and perfectionism in the limited benefits cohort. This section ends by discussing the limitations of the study.

Research Aims and Summary of the Results

This IPA study aimed to openly explore what might be causing variable responses to mindfulness practice in medical students. The analysis of unstructured interviews showed that the lived experience of medical students following a 5-week MBSR + IM course varies considerably across a relatively homogenous sample. The six students in this sample were predominantly white (apart from one Asian). Most had previously completed a degree, apart from one who attended medical school straight after A-levels. One had completed post-graduate studies (See demographic table – Table 10). The analysis highlighted three superordinate themes.

The three interrelated superordinate themes were *self-knowledge*, *depth of mindfulness*, and *interpersonal awareness*. The superordinate themes and those related to them (see Table 11) highlight not only the similarities but also key differences. The medical students' lived experiences within and around the mindfulness course appear to be affected by what existing self-knowledge they possessed before the course. This highlights several important aspects concerned with recognising the impact of past distress or trauma. Participants' existing capacity to develop self-knowledge appeared to affect and be affected by the depth of mindful awareness. These three superordinate themes informed both the quality (in terms of their ease, authenticity, and satisfaction) of the interpersonal connections and the depth of the learning that the participants reported throughout the course.

All students found the experience of IM somewhat challenging at first while encountering associated benefits to varying degrees. The IM exercises were designed to allow space for vulnerability within safe boundaries, reducing temptations to rescue or provide advice through the instruction to listen silently while someone else shared. This was meant to

gently challenge participants so that they could develop both their intra and interpersonal awareness as initially envisioned by Gregory Kramer (2007). How participants engaged with these supportive challenges throughout the various themes highlights two main patterns for this sample, *transformative experiences* and *limited benefits* (see Figure 22).

Three out of six participants reported transformative experiences, which saw IM satisfyingly translated into their daily lives. For this cohort, multiple aspects appear related to their capacity to acknowledge the impact of past experiences because of the effect this had on their ability to remain somewhat present with difficult emotions. For example, they reported times when they were able to react authentically in the moment (instead of after an event), which allowed them to address their own agendas more effectively and more often with what they considered to be less conflict, resulting in more ease for themselves. They have not become bulletproof to interpersonal stress or disagreement overnight; they were still working on many aspects of their self-knowledge, mindfulness, and empathy. However, they were asking for help when needed. They also appear to be on a path to mindful psychological integration, using unique autonomous approaches. All three participants reported returning to mindfulness as needed following disruptions. They all found mindful meditation to be supportive during times of stress despite varying commitments to steady mindfulness practice.

The three participants encountering limited benefits described essentially the opposite experience, encountering a few moments of useful insight following IM without any reported transformation of their daily lives. They seemed to experience more struggles with practising mindfulness, were particularly unable to meditate when stressed, and expressed harsh views of themselves. This second cohort (Figure 22) talked about suffering deeply following disappointments, which seemed to temporarily shatter the sense of self they had constructed around being worthy if others provided positive feedback. Their identities seemed to be

wrapped up in a need to succeed in medical school, creating, at times, almost unmanageable tension and stress. The difficulties these participants faced on occasion were so overwhelming they found that they could not care for themselves at times. As an extreme example, Vicky found she was unable to feed herself after thinking that she had failed an exam. Regularly facing such anguish, it is no wonder these participants failed to meditate much on their own and thus struggled to develop the kind of enduring mindfulness practice which could help support them. The participants in the limited benefits cohort also engaged to varying degrees during the course itself. Although they were overall expressing commitment to the concept of mindfulness, had experienced suffering, and wanted to feel better, they had trouble participating fully. They expressed an over-arching avoidance of mindful meditation, especially on their own, while exhibiting dismissiveness towards their own experience or those of others. Emotional awareness and empathy appeared to be conditional and fleeting for these participants as well, indicating a possible connection between the depth of self-knowledge and the capacity for mindfulness and interpersonal connection.

Contributions to the field

Positive experiences of mindfulness in the present study (for the transformative experiences cohort) broadly support the work of other qualitative studies on the beneficial effects of mindfulness in various similar populations, such as caring professionals (Ferraro, 2021). However, previous studies of medical students (Solhaug et al., 2016; Malpass et al., 2019), healthcare professionals (Wu et al., 2021), or other professionals (Micklitz et al., 2021) only cursorily explore challenges to developing a mindfulness practice for those who have overcome them (Ferraro, 2021). Past qualitative research has done little to uncover what difficulties students (Canby et al., 2015) or healthcare professionals (Wu et al., 2021) continue to encounter following a mindfulness course. Nor do previous studies appear to

illuminate potential reasons for both positive and negative outcomes within the same intervention for a relatively homogenous population.

Similar phenomena presented in previous research lack fulsome explanations, supporting a need for trauma-informed interpretations and approaches. For example, themes presented in studies by Solhaug et al. (2016) and Malpass et al. (2019) highlight how medical students experienced MBSR-based mindfulness interventions. Both authors described perfectionism, people-pleasing, and imposter syndrome, which are all common in medical students (Vaa Stelling et al., 2023). In the psychological literature, such patterns have been considered in a manner that does not account for any original reasons for the behaviour. Scholars tend to describe what dysfunctional phenomenon a person 'has' as if it came from within in some way rather than being caused by adverse childhood experiences (ACES). Qualitative researchers rarely link data within participant accounts to highlight any potential reasons for perfectionism, imposter syndrome or other difficulties. Based on the present data, considering dysfunctional phenomena as survival strategies linked to surviving childhood trauma or ACES (C. Chen et al., 2019; King et al., 2017; Seeliger & Harendza, 2017) may be more accurate, as well as pointing to a need for trauma-informed tactics.

Alternatives to the early trauma paradigm for understanding self-esteem-related issues in highly functioning individuals are also worthy of critical exploration. A profound lack of self-confidence is evident in people with imposter syndrome, as reported by Catherine in the present study. Otherwise known as imposter phenomenon, fraud syndrome, or imposter experience (Holden et al., 2021), Clance and Imes (1978) first identified this approach to self-motivation by cognitive self-flagellation in high-performing women. Considered self-perpetration as a survival mechanism from the early trauma perspective (Broughton, 2021), from a cognitive perspective, imposter syndrome is an "inability to accurately self-assess with regard to performance (Parkman et al., 2016, p. 52)." Problematic thinking is widely

considered to be the cause of this (Newman et al., 2019). However, attempts to pinpoint social reasons for developing imposter syndrome, such as being a first-generation university degree holder, have been inconclusive (Holden et al., 2021). Evidence also refutes that the absence of a successful role model in the home environment causes imposter syndrome or perfectionism (Holden et al., 2021).

Perfectionism is associated with a conditional sense of self-worth placed on external achievements. Those experiencing high-functioning perfectionism are thought to gain satisfaction from meeting their own exacting standards while enjoying numerous benefits (Newman et al., 2019). Conversely, neurotic perfectionism is thought to set sufferers up against impossible ideals, which adversely affect mental health and self-esteem, leading to burnout (Kilbert et al., 2005; Newman et al., 2019). Cognitive theorists believe malfunctioning thinking patterns cause this without exploring whether high-functioning perfectionism evolves into the neurotic type over time or under stress.

Cognitive-behavioural explanations for developing perfectionism and imposter phenomenon appear limited to identifying thought patterns without fully considering what causes them. Given the data from the present study, these patterns may develop as trauma survival strategies stemming from conditional approval from parents (Rogers, 1959, 1962) or more severe betrayal trauma, which can be impossible for young children to recognise (Freyd, 1996). Conditional approval is confusing, results in a child never feeling 'good enough', and is a form of emotional trauma (Broughton, 2021). Difficulties stemming from this, or more severe unrecognised trauma, could be widespread (Maté & Maté, 2022) or contained in a minority represented by the present sample. Additional research is required.

Intrapersonal Insights

Theoretically, the information gathered about the student experiences in this study is related to the process highlighted in the literature on mindfulness, known as reperceiving.

Reperceiving is important because it allows practitioners to integrate difficult emotions while remaining present. According to Shapiro et al. (2006, p. 378), reperceiving, otherwise known as disidentification (K. Brown et al., 2015) or decentring (Segal et al., 2013), is a process whereby one's ability to be objective regarding internal and external experiences progressively increases, and as such, is perhaps one of the main indications of mindful progress. With an established sense of impermanence, which involves regularly experiencing that all pleasant and unpleasant experiences come and go, reperceiving allows for a sense that one's emotions and thoughts do not define oneself. This appears to coincide within individuals in the transformational experiences cohort, who appear to be engaging in mindful psychological integration (Maitreyabandhu, 2018) while recognising the impact of past experiences.

In line with their lack of recognition of past distressing events and the related difficulties in connecting to a sense of authentic identity (Table 11), the participants who approached mindfulness in a goal-oriented way tended to think about mindfulness rather than feel mindful. Internal blocks appeared to affect the process of learning mindfulness skills for the limited benefits cohort, who did not appear to experience enduring reperceiving, impermanence or integration. This pattern may be more common for traumatised individuals who are not aware of the impact of their formative experiences, which understandably blocks their ability to develop compassion towards their own survival techniques.

Malpass et al. (2019) highlight potential higher psychological vulnerabilities in medical students than in the general population as part of their thematic analysis. They also mention the high prevalence of coping mechanisms such as perfectionism without any information about the cause. *Unrecognised* early trauma (Freyd, 1996) could be a precipitating factor and is so far not regularly discussed in the prevailing literature. It may be useful to begin to consider this element more closely as well as recognised trauma, which is

beginning to attract attention in the mindfulness (Treleaven, 2018; Wästlund et al., 2023) and education or resilience fields (T. Brown, Berman, et al., 2021; Oehme et al., 2019).

Interpersonal Insights

The interpersonal experiences of the participants in this sample mirrored their intrapersonal ones regarding the depth of learning and impact the participants were able to take away from the MBSR + IM intervention. However, there are some notable differences between the intrapersonal and interpersonal experiences. The limited benefits participants, who reported being unable to meditate on their own due to finding it too difficult to be present with their emotions during stressful times, found that mindfully listening and speaking with others was challenging but rewarding in the end, unlike their experiences with meditation at home. IM seemed to offer the limited benefits participants an opportunity to briefly connect within while connecting to others, resulting in important insights and moments of authentic emotional self-awareness (see Table 11). Those momentary connections and insights did not consistently translate into daily life. However, they occurred in a self-directed manner and seemed momentarily empowering.

The transformative experiences cohort reported moments of opening, sensing, and feeling their authentic selves in the company of others, as well as experiencing authentic empathy in daily life and work. As such, they may have been engaging in reperceiving on an interpersonal basis, which also may have conferred benefits related to integration. They reported sensing that the actions and reactions of others were feeling less threatening to them and their identities than before the course. While they experienced challenges and difficulties, such as not performing well in exams, these were not (at the time of the interview) causing the participants to feel as though they could not care for themselves or were not worthy as individuals, as was the case for the limited benefits cohort. Reperceiving and integration

related to both intrapersonal and interpersonal practice may be useful concepts to explore further in future research.

Experiences of empathy mirrored a similar dichotomy, as illustrated by the other differences between the transformative experiences and limited benefits cohorts. Those who were embracing their own feelings mindfully were able to sit with or witness the feelings of others more effectively, too. When a participant described a capacity to feel their own, sometimes raw emotions, even as they were connecting with others, they were also growing in their capacity to empathise even during tense situations; they could support themselves more meaningfully to remain present when challenged. The limited benefits cohort experienced limitations in perspective taking and could only empathise when they were feeling well (just as they found it difficult to meditate unless they were feeling well). They had difficulties in caring for strangers, and they were doing complicated mental cognitive gymnastics to pretend that they cared enough during oral exams to get the empathy marks they needed to pass. The lack of authenticity for the limited benefits participants could also be stressful due to the additional cognitive load.

Without a sense of growing capacity for reperceiving, impermanence, and integration, participants in either personal or interpersonal interventions may experience limited effects related to their capacity for experiencing empathy. This could partially account for the wide variation in empathy changes following mindfulness courses seen in other quantitative studies (Daya & Hearn, 2018; de Vibe, 2014).

In sum, the results summarised above address the confusing results from the quantitative studies in the present thesis, particularly regarding how the IM group may have improved their quantitative results despite less mindful practice time in Study Two (see Chapter 5). The limited benefits cohort appeared to gain something during the IM exercises during the course despite practising solo mindfulness significantly less in their own time due

to being unable to meditate while stressed. This may have accounted for improved scores following the intervention despite lower practice levels. As such, the IM exercises seem as powerful and perhaps even more supportive in some cases than solo meditation, although the impact may not last without deeper integration and meditative practice. Taking trauma reactions into account in future quantitative studies may help to provide further insight into variations and mixed results following mindfulness interventions in medical students (Daya & Hearn, 2018; Sekhar et al., 2021).

Theoretical Implications for Understanding Variable Effects of Mindful Practice

Mindfulness theory based on the Theory of Compassion Fatigue (Figley, 2002) states that improvements in mental health, wellbeing and empathy are overwhelmingly correlated with consistently high levels of intrapersonal mindfulness practice, meditation and stress reduction (Baer, Carmody, et al., 2012; K. Brown et al., 2015; Shonin et al., 2015). However, supporting the findings in this thesis, there is additional compelling evidence that this is not always the case (Hölzel, Lazar et al., 2011). There may not be a linear link between the amount of meditation practice, stress reduction and empathy. In the present study, only Ashley had an enduring and consistent meditation practice, which she had developed in a Buddhist context prior to participating in the IM intervention. The ways in which other students practised according to their own needs fit with Treleaven's (2018) and Ferraro's (2020) recommendations for learning mindfulness while dealing with past traumas in an autonomous fashion.

Furthermore, according to the transformative benefits cohort, it may be that the capacity to practise while stressed, having acknowledged some of their own difficulties in the past, could make a bigger difference than the overall amount of meditation practice. The findings from this study are, therefore, providing insight into why practice levels do not necessarily coincide with beneficial change – the change may be more down to *how* one

practices, and when one returns to it (even when stressed) rather than avoiding it when needing it most through no fault of one's own. Furthermore, this study highlights that a capacity to practise, while stressed or not, may be somewhat related to the level of past trauma or distressing experiences participants have been able to recognise and integrate.

The data from the present study also implies it may be more important for teachers and researchers to consider whether participants are finding it possible to meditate under pressurised conditions and to work with that and support the participant to choose what is right for them rather than pressing (even gently) for large amounts of regular practice. Teachers are advised to notice if students overly rely upon external achievements for a sense of self-worth, as these may be at greater risk of burnout for such individuals, and mindfulness alone may not be an adequate prevention strategy. When trauma survival signs are evident or disclosed, particularly related to any strong reactions to meditation practice, students should be referred for deeper therapeutic support with their trauma (Treleaven, 2018). Generally, following Treleaven's (2018) steps for supporting traumatised participants (Wästlund et al., 2023) and allowing for autonomous choice may be crucially important for all students, regardless of the level of mental distress or trauma they disclose, and in any situation.

Regarding different degrees of self-knowledge and the possibility of a connection to unrecognised trauma, it may be useful to consider links between behaviours in the same person in future qualitative research (J. Smith & Nizza, 2022). Mindfulness researchers are advised to consider improving qualitative methodology that has often relied upon pre-set questions using semi-structured interviews (DeMauro et al., 2019; Gillespie et al., 2015; Monshat et al., 2013; Santos et al., 2016). Less structured interviews, beginning with a central open question and following the IM guidelines (Kramer, 2007), may provide more helpful information. Similarly, quantitative researchers are advised to resist pressure to report mainly

positive findings (Sekhar et al., 2021), which, combined with a lack of trauma-informed education, (T. Brown, Berman, et al., 2021) may result in under-reporting of essential issues.

Limitations of the IPA Study

As with any study, several limitations exist. Firstly, this was a small sample of six participants. These volunteers were the only ones out of the 28 students completing the IM intervention to volunteer to participate in the interviews. They did so during a break following exams when they could have been doing other things, such as going on holiday. This may indicate an unusual commitment to expressing their story, which not all participants may possess, or there could be other factors affecting all of them similarly, such as limited funding. As such, it is not possible to directly extrapolate the insights to a wider population nor infer that the themes discovered are reflective of everything students encounter. However, the strength is that details of experiences from insightful participants came alive through the deep immersion in each case, which may not be possible with a larger sample. These participants provided valuable information which could be investigated in future research.

Due to aspects related to possible trauma and distress emerging only in the analysis phase and not in the data collection phase, it was not possible to check with the participants whether these interpretations resonated with them. Ideally, there would have been a chance to respectfully return to the participants and check these interpretations for further insights and information. This analysis might or might not fit with their ideas of themselves. It may also be ethically difficult to check with participants about some of these sensitive topics, as they may prefer not to become more aware than they already are.

A final limitation concerns the study's flexible deployment of IPA principles, which may be difficult to replicate in future studies. While some aspects of the method, such as those recently described by Smith and Nizza, (2022) were not strictly followed, there were many positive aspects to using the method creatively. For example, the long memo-writing

process provided illuminations of the connections of themes within and between participants, which may not have been highlighted otherwise.

Conclusions

In highlighting themes associated with self-knowledge around past traumatic or distressing events, the present study stresses the importance of including psychological perspectives beyond the cognitive-behavioural paradigm, which is pervasive in mindfulness scholarship, teaching, and theory (K. Brown et al., 2015; Segal et al., 2013). One of the mechanisms underlying medical students' ability to meditate when they are stressed, and the accompanying depth of mindful awareness, may be linked to whether they have begun to acknowledge and heal from past traumas. The prevalence of, as well as the legitimate need for, strong but limiting survival strategies may be what causes some medical students to gain limited benefits from these practices, including a lack of lasting improvement in empathy. Distinct aspects of experience emerging from a relatively homogenous sample carry implications for teaching mindfulness to anyone in the future. Trauma-informed paradigms provide students with adequate autonomy to choose creative ways to practise, such as shorter meditations.

Students may also benefit from explicit warnings about the possibility of uncovering unknown trauma (Freyd, 1996) as part of the mindful approach provided by Treleaven (2018), or following recommendations of teachers utilising trauma-informed practice (Wästlund et al., 2023). As facilitators, becoming trauma-aware and fostering openness while empathising directly with struggling students appears crucial. It is essential to both support students who are unable to look at and acknowledge the impact of trauma while fostering an environment which is open and sensitive enough for those who are perhaps already reflecting on their pasts. Understanding that the defence mechanisms some students exhibit are there for very good reason and being sure not to judge or press participants to practise through

possibly trauma-related difficulties before first exploring any issues with a trauma therapist would also be prudent. Adhering to trauma-informed approaches (Treleaven, 2018) may allow students to get as much from mindfulness as possible, while minimising the chance of unhelpfully triggering past traumas in unhelpful ways.

Interpersonal mindfulness may allow for a gentle and supportive connection from which to safely begin to bring compassion and understanding to participants' own experiences, as well as the experiences they witness in others. This can foster mindfulness and empathy in equal measure. These practices can also feel exposing at the start while providing wonderful opportunities for expanding awareness beyond what is possible in intrapersonal practices alone. This study indicates numerous benefits may emerge from even five weeks of IM. It is, therefore, likely that a full 8-week course, or one with even longer follow-up sessions, such as over a period of 10 months (Beckman et al., 2012), would offer even greater benefits. Furthermore, gentle facilitation and gradual introduction of IM appear particularly important for potentially traumatised students who understandably struggle to meditate while stressed. More research is needed to determine the wider trends and to investigate further the role of trauma or past distressing experiences in participants who do not disclose that they are suffering from trauma or may not be aware of it. Everyone who struggles to practise has very good reasons for the difficulties they face, and mindfulness teachers and researchers are advised to take this into account for themselves as well as for their students.

Chapter 8: Discussion, Implications, and Conclusions

The three studies in this thesis were designed to develop and explore the effects of a novel 5-week introduction to interpersonal mindfulness for medical students. The first two quantitative studies both involved a Randomised Controlled Comparison. However, the MBSR + IM intervention (hereafter referred to as IM) was amended following feedback between Study One and Study Two. The third study explored student experiences of the novel IM course, 6-8 months following the intervention in Study Two. The following sections will draw salient points from each phase while weaving the insights and questions raised together. Subsequent sections will consider contributions related to research, practice and empathy theory.

Study One

The first pilot study aimed to determine the acceptability and efficacy of the 5-week Interpersonal Mindfulness (IM) intervention compared to an adapted 5-week Mindfulness-Based Stress Reduction (MBSR) intervention developed over several years (Spatz, 2015; Ussher et al., 2014). The IM intervention in Study One was the same as the MBSR intervention but included relational dyad practices before group discussions. Both interventions also included one MBCT exercise (Chapter 3). Sixty participants were blinded to their group and were told that the study was investigating different ways of learning mindfulness. The final study sample completing both questionnaires was 29 medical students (45% women, mean age 23.3 - sd 3.94).

The results of Study One highlighted important considerations for how the IM exercises were introduced and received. Self-compassion did not improve for either the MBSR or IM group. The mindfulness measure was inconclusive due to low reliability (Cronbach's alpha of .28). Stress decreased for the MBSR group (14 students, 7 men and 7 women) but not the IM group (15 students, 9 men and 6 women). Practising IM before the

students could settle in together and learn basic intrapersonal mindfulness skills could have interfered with developing intrapersonal mindfulness and related neuro-physiological relaxation (Hölzel, Lazar, et al., 2011). Social connectedness surprisingly improved in both groups. Although social connectedness rarely improves in other studies, (Masi et al., 2011) this may relate to the particularities of the convenience sample. Empathy also significantly increased on the JSPE and the Emotional Concern (EC) and Perspective Taking (PT) subscales on the IRI across both groups.

Contrasted with other mindfulness studies, the data and experience from the slightly more male-dominated IM group (9 men, 6 women) may have affected the results. Notably, male medical students don't always increase mindfulness, stress or wellbeing following even longer mindfulness interventions involving additional contact hours (7 weeks, 16.5 hr contact time) in female-dominated groups practising MBSR (de Vibe et al., 2013). In particular, the de Vibe (2013) study on a majority (73%) female population of 176 medical students (together with 112 psychology students, see Table 13) found that the men's average scores did not increase on the non-judging scale of the FFMQ, while the women's did. This suggests that men may struggle more than women to reduce self and other oriented judgements. It is also worth noting that no other genders volunteered for participation in this thesis or elsewhere in the reviewed literature, despite inclusive options for reporting this.

If there is a tendency for men to begin and also remain judgemental following mindfulness groups (de Vibe et al., 2013), this could affect the experience of IM in a group made up of slightly more men than women, where it is particularly important to mindfully listen without judging so that a person can feel supported to openly explore their own experience (Kramer, 2007; Rogers, 1959). Research suggests that acceptance fostered by being part of a non-judgemental group may be just as important as meditation practice (Hölzel, Lazar, et al., 2011), and a sense of stress reducing group support may come from

both the facilitator and other members. Relationally, even silent, judgemental reactions can be distinguished non-verbally from empathic ones (Brugel et al., 2015). A combination of low starting empathy points for men and the slightly higher proportions of men in the sample for the IM groups in Study One may have meant there was inadequate empathic support in the majority of IM dyads (Rogers, 1959) to produce calming effects (Hölzel, Lazar, et al., 2011). Perhaps it could also be more stressful to begin practising IM with the opposite gender. The lack of solo meditation time before practising relationally over 10 hours of contact teaching time in Study One, in combination with possibly less baseline empathy in male participants, may have also affected stress levels in both the men and the women who practised IM together from the start. It thus may be wise to encourage same-sex dyads where possible for the first few sessions in future groups. This may be more relaxing and supportive for both genders. Later on in the course, mixed dyads may also be helpful for gaining additional insights.

Given the potential for limited impact on empathy in a sample unusually made up of more men than women (see Tables 12 and 13), the small but significant improvement in empathy across both genders by the end of the intervention is noteworthy. It may be that men can, in fact, benefit as strongly from mindfulness as women, in contrast to other findings (de Vibe, 2014; de Vibe et al., 2013). This improvement in the IM group, despite no reduction of stress, is also counter to the theory of compassion fatigue (Figley, 2002), which considers stress and empathy or compassion to be connected. Other authors have concluded that their increase in stress following a mindfulness intervention, along with a decrease in empathy, has empirically demonstrated that empathy cannot improve when stress increases (A. Chen et al., 2016). However, following only 5 weeks (10 contact hours) of mindfulness in Study One, both cognitive (IRI-PT) and affective (IRI-EC), empathy increased significantly along with attitudes to empathy (JSPE-S). The post-intervention means also significantly surpassed the

normative empathy values on the IRI-PT [19.35 (4.28)] and IRI-EC [21.18 (4.03)] subscales (Quince, Thiemann et al., 2016) despite values beginning significantly below the benchmark at baseline (see Table 3, Chapter 4). As such, the results of Study One refute the theory of compassion fatigue and suggest that there may be a different explanation for why empathy improves or not. This will be explored further in the theoretical implications section.

There may be some face-validity issues with the JSPE (Appendix D), and the scale may reflect judgemental attitudes towards empathy in doctors that more men respond to than women. Scores at baseline on that scale were below the norms for UK medical schools [107.13 (17.19)] (Quince, Thiemann, et al., 2016). Nevertheless, following the first comparison of the 5-week mindfulness interventions, the full sample matched UK norms on the JSPE [112.20 (17.82) t = -.06 (p = .955)] (see Table 3, Chapter 4). However, it was difficult to surmise what might make the difference since both interventions performed the same, apart from the stress measure. This was initially considered a limitation to the first iteration of the IM group in Study One. However, upon reflection, this decoupling of stress and empathy in not only women but also men is a fascinating finding in a literature dominated by research conducted on groups regularly consisting of a higher proportion of female volunteers (Daya & Hearn, 2018), in which empathy rarely improves on either the JSPE or the IRI (see Tables 12 and 13 below). There was little explanation for these unusual results until the qualitative results in Study Three illuminated potentially crucial aspects of the student experience associated with early trauma.

Study Two

The second randomised controlled comparison aimed to test a refined version of the novel IM intervention to the same adapted MBSR intervention in Study One. The participants who completed both questionnaires were 51 medical students (75% women, mean age 23.9 - sd 4.49) out of 78 completing the courses. Both groups were comprised of the same

proportion of men and women (IM group, n = 28, 75% female; MBSR group, n – 23, 74% female). Changes were made to gently introduce Kramer's (2007) guidelines through solo meditations for the first two weeks, theoretically allowing more time to develop an intrapersonal mindfulness practice and potentially reducing stress before introducing full IM practice from week 3. This meant that students in Study Two participated in 3 IM exercises in dyads compared to 5 in Study One. Blinding was not attempted, so that bespoke materials about IM could be included in the course handbook for the IM group.

This more gradual approach to IM may have improved engagement and intrapersonal effects. No one opted out of any IM exercises as a few did in Study One and the experimental intervention matched the more standard MBSR intervention across all outcomes. The developed IM intervention performed intrapersonally more strongly in Study Two, conferring improvements in self-compassion and mindfulness that were absent for the IM group in Study One. However, the interpersonal improvements in Study Two were not as strong for either group. A few important similarities and differences between groups may be useful to consider when interpreting the knowledge gained from both studies.

Mindfulness, self-compassion and empathy improved across both groups in Study Two, but stress and social connectedness did not for either group. The different gender proportions (45% women in the IM group in Study One and 75% women in Study Two), highlight a question about how much of the improvement in self-compassion is related to differing gender norms or characteristics. The fact that stress did not improve for either the MBSR or IM interventions in Study Two is puzzling since both interventions improved mindfulness and empathy. From the qualitative study, it may be that different samples respond to mindfulness or empathy interventions based not only on gender but perhaps also on how much childhood trauma they have experienced (Crouch et al., 2019) or whether they are beginning to acknowledge it (Broughton, 2021; Stjernswärd, 2021). The way each gender

could be differently traumatised in early childhood may also play a role, although that is outside of the scope of this thesis.

Additionally, the significant increase in empathy following the two slightly different IM interventions in Studies One and Two, despite a lack of improvement in stress in both studies and less meditation time than MBSR in the second, is unusual in the literature and noteworthy for several important reasons. Firstly, studies in which empathy improves in medical students following mindfulness interventions (Shapiro et al., 1998) are in the minority compared to studies indicating no improvement in empathy following mindfulness interventions (Bond et al., 2013; A. Chen et al., 2016; Danilewitz et al., 2016; de Vibe et al., 2013). Communication skills interventions of a similar length (without any mindfulness) have also conferred only a 50% success rate in increasing empathy (Winter et al., 2020), despite some of these being evaluated by more sensitive and accurate observational or patient feedback methods (Riess et al., 2012; Wündrich et al., 2017). Additionally, only approximately 13% of all studies investigating the impact of empathy in qualified healthcare professionals and students over the past 50 years (Nembhard et al., 2022) used the IRI as in the present studies. None of the other studies on mindfulness in medical students referenced in this thesis have used the IRI. However, the IRI has been used to evaluate mindfulness in other populations, with only two out of 18 studies indicating significant increases (see Tables 12 and 13). Some studies even show a decline in empathy as measured by the JSPE after mind-body interventions for medical students (A. Chen et al., 2016).

While the cognitive empathy (IRI-PT) scale improved for both groups following Study Two, affective empathy (IRI-EC) did not (Figures 18 and 19). It is difficult to determine why this may be from the quantitative data alone. After starting at a slightly lower point, IRI-EC scores significantly exceeded norms in the Study One IM group (19). Conversely, there was a higher starting point on the IRI-EC in the Study Two IM group (21)

(See Table 1). There is no way to presently determine if the exercises in Study One improved affective empathy more effectively than the intervention in Study Two or if the high percentage of men (60% in the IM group) or perhaps fewer severely traumatised people in Study One caused the differences. More research on gender, trauma, mindfulness, and empathy in healthcare staff and students is certainly required.

Table 12

IRI EC and PT subscale results in multiple populations

Study	Experimental Intervention	Sample	Comp Grp?	IRI - EC Pre: Post	IRI - PT Pre: Post
Study One	5-wk 50% IM (10 hr)	29 Med St (45% F)	MBSR	IM + 19; 28 MBSR + 20; 29	IM + 16; 21 MBSR +16; 22
Study Two	5-wk 30% IM (10 hr)	51 Med St (75% F)	MBSR	IM = 21; 22 MBSR = 21;21	IM + 17; 18 MBSR +16; 22
Airagnes et al. (2014)	10-wk Balint Groups (20 hr)	163 Med St (74% F)	Non-R CG	No increase 18; 17	No increase 17; 18
Beddoe & Murphy (2004)	8-wk MBSR (20 hr)	16 Nursing St (100 %F)	No CG	No increase *	No increase *
Galantino et al. (2005)	8-wk MBSR/ MBCT (20 hr)	64 HC staff (96% F)	No CG	No increase *	No increase *
Gockel & Burton (2014)	10-wk SP role-plays (15 hr)	126 Soc W St (84%)	No CG	Decreased 24; 23	No increase 24: 23
Hattink et al., (2015)	8-16 wk online Alzheimer's caring info	72% Lay carers, 28% HC staff	RCT	**Increased** **13; 20**	**Increased** **13; 19**
Nosek et al. (2014)	2-wk NVC (3.5 hr)	55 Nursing St (89% F)	No CG	No increase 22; 22	No increase 24; 23
Oman et al. (2010)	8-wk passage meditation (12hr)	58 HC staff (86% F)	RCT	No increase 21; 21	**Increased** 17; 19
Shapiro et al. (2011)	8-wk MBSR (* hr)	30 Non-medical St	RCT	No increase across full scale*	
Schonert-Reichl et al. (2015)	12 wk Mindfulness (10 hr)	99 Children (86% F)	Non-R CG	**Increased ***	**Increased ***
Seto et al. (2006)	6-wk Triadic role-plays (45 hr)	47 Couns St (71% F)	Non-R CG	No increase *	No increase *
Switzer (1999)	Maternal Care Appointments	26 Med St (58% F)	No CG	No increase *	Not measured
VanCleave (2007)	Empathy training (10 hr)	45 Soc W (95% F)	RCT	No increase *	No increase *
Webster (2010)	4-wk reflection module (*)	72 Nursing St *	Non-R CG	No increase *	No increase *
Wallmark et al. (2013)	8-wk Buddhist M (10 hr)	42 Lay ppl (86% F)	RCT	No increase 29; 29	**Increased** 26; 27
Study		Sample	Method	IRI-EC	IRI-PT
Quince, Thiemann et al. (2016)		Medical students	Review	21.18 (4.03)	19.35 (4.28)

Note. IRI-EC – emotional concern/affective empathy. IRI-PT – perspective taking/cognitive empathy. = No difference. + Sig increase. – Sig decrease. * Did not report sub-scores. Med – medical. Soc W – Social work. St – Students. HC – healthcare. CG – control. Non-R – Non-randomised. NVC – Non-Violent Communication.

Moreover, the IM group, despite receiving similar instructions for home meditation practice as in the MBSR group in Study Two, reported a significantly lower level of average home practice time. The IM group practised a mean of 56 min meditation + 3 min informal mindfulness per week outside of the sessions. This is significantly lower than the MBSR group (mean 88 min meditation + 46 min informal mindfulness per week) (see Table 8). Both groups appear to have practised more than the participants in the de Vibe (2013) study (19.5 min per week), although both studies used self-report measures, which slightly differed. It could be advantageous to investigate practice times more accurately in the future to determine the minimal amount required for improvements in the various intrapersonal and interpersonal domains. However, the information from Study Three suggests that the amount of meditation or informal mindfulness practice time required for positive changes could vary considerably from person to person.

Nevertheless, given this difference in practice time between the IM and MBSR groups, according to prevailing cognitive-behavioural mindfulness theory (K. Brown et al., 2015; Shapiro et al., 2006), the IM group ought to have exhibited significantly lower improvements in mindfulness levels related to this difference. Not only did mindfulness levels in the IM group match those in the MBSR group, but the IM group also performed equally strongly on self-compassion in Study Two. It thus seems possible that the IM exercises added to MBSR may improve the efficiency of the 5-week intervention, increasing opportunities and support for growing interpersonal insight, which also facilitates intrapersonal present-moment awareness, as Kramer (2007) theorises. After all, Hölzel, Carmody and colleagues (2011) found that improvements in brain scans were de-coupled from meditation time and hypothesised that the social support and exercise within MBSR groups may improve mindful awareness as much as the home practice. It seems possible that IM could magnify this group effect while increasing the opportunities for transformational

learning from the space provided to freely talk and 'be' during the IM exercises. Conversely, the IM group may have met a minimum level of required meditation practice time similar to the successful Phang et al. (2015) 5-week intervention where participants practised a mean of 3 days per week (for an unspecified time). As such, it is also essential to consider multiple possible reasons for these results.

Social connectedness (SCS) may both affect and be affected by any mindfulness training, theoretically, particularly interpersonal mindfulness (Kramer, 2007). This has been empirically supported according to the efficacy of a large-scale RCT investigating the effects of an intensive IM intervention in laypersons by Kok and Singer (2017). Such improvements in social connectedness involving a wider sense of belonging within local communities are rarely seen and only weakly effective in previous loneliness interventions, as determined in a review by Masi et al (2011). Social connectedness may be a particular challenge for medical students due to how training occurs in blocks of time spent away from friends and family. Nevertheless, in Study One, social connectedness improved significantly in both groups and across both genders in a group comprised of 55% men. However, the baseline levels of Social Connectedness in Study One were lower (58) than in Study Two (MBSR 80 and IM 92; see Table 8). Post-intervention, Study One reached similar levels (MBSR 88; IM 84) as to the starting points in Study Two (MBSR 80; IM 92) (see Figure 8 and Table 8). Furthermore, social connectedness levels did not change following the interventions in the second study for either group, indicating that there may be a ceiling effect.

As introduced in the literature review, Cohen and Miller (2009) studied the impact of six weeks of interpersonal mindfulness on psychology students using an unspecified interpersonal approach, somewhat different from Kramer's (2007) framework. In their study, SCS scores significantly increased from 91 at the start to 99 after the intervention. The apparent success of Cohen and Miller's (2009) interpersonal intervention may partly be due

to the different course conditions for psychology students than for medics, who, particularly in the final year, travel alone to placements, with little informal contact with classmates or teachers at the University.

Taking the above-mentioned contexts and limitations of self-report measures into account, the small but significant increases in the IRI in Study Two may benefit students despite the unknown effect on patients. This, in combination with the increases in mindfulness and self-compassion, which are indicative of wellbeing, (Baer, Lykins, et al., 2012) means that continuing to develop, deliver and evaluate IM interventions could be worthwhile. Explicitly trauma-informed approaches, which were not formally in place during Studies One and Two, may be particularly useful when incorporated into longer-term interventions. A recommendation for providing longer-term IM interventions is based on the success of an intensive mindful communication intervention by Krasner et al. (2009), which included 10 monthly meetings following 8-week interventions (incorporating 52 hours of contact time) for qualified doctors. Compared to the 10 hours of contact time for the interventions in Studies One and Two, lengthier interventions could be more advantageous. Nevertheless, a short course may be a useful starting point given budgetary constraints.

Study Three

The third study aimed to explore potential reasons why mindfulness interventions are not always transformative across all measures for all medical students, as found previously in Studies One, Two and elsewhere (Sekhar et al., 2021). This IPA study, consisting of open-ended interviews with six IM participants from Study Two, 6-8 months following the intervention, provided valuable insights into the participants' experiences. The analysis revealed two main trajectories: transformative experiences and limited benefits (see Figure 22). These were spread across three superordinate themes (see Table 11). The related

superordinate themes were *self-knowledge*, *depth of intrapersonal mindfulness*, and *interpersonal connections*.

Half of the sample demonstrated multiple aspects of transformative experiences, engaging in an ongoing self-development project. This involved acknowledging or accepting previous traumatising or difficult experiences, empathising with oneself, and engaging in reperceiving or decentring (K. Brown et al., 2015; Hölzel, Lazar, et al., 2011; Shapiro et al., 2006) seemingly as part of a journey towards authentic identity integration (Andersen, 2005; Broughton, 2021; Rogers, 1962). This was connected to a developing sense of self-worth that was somewhat protected from academic, professional, or general life stressors through feeling and sharing. These three individuals reported experiencing increased openness, resilience, and the ability to practise meditation while stressed following the course. This conferred a potential perpetuating benefit as they were aware that they could pick the practice up again following going through another difficult time.

The other half of the sample exemplified limited benefits, both intra- and interpersonally. These three individuals reported only being able to practise meditation when already feeling somewhat calm or when it fit around their goals. This is similar to other findings about instrumental approaches in some medical students by Solhaug et al. (2016). It was typically too overwhelming to meditate while stressed for this cohort, and they wisely did not coerce themselves to do this as it could have caused more harm without therapeutic support (Treleaven, 2018). These students exhibited a more tenuous sense of self, dependent upon external validation and success, along with troubling patterns such as high levels of anger, self-beratement, perfectionism, and imposter syndrome.

Such self-critical approaches are considered common in medical students (C. Chen et al., 2019; Clance & Imes, 1978; Seeliger & Harendza, 2017; Vaa Stelling et al., 2023) and are thought to be a form of trauma survival from the IOPT perspective (Broughton, 2021). These

may also be considered forms of displaying a constructed or narrative identity. It is worth repeating that early trauma can be too painful to recognise when inflicted by parents or carers due to dependency and the understandable perception of such regularly repeated experiences as normal (Freyd, 1996). As such, these participants would have no choice but to develop survival strategies, which eventually become burdensome. Choosing to recognise the cause and soothe the initial injuries using parts-based trauma work may be a more effective means of recovery (Ruppert, 2023; Schwartz & Morissette, 2021; Stjernswärd, 2021). However, without information about such approaches and possibly limited efficacy to the cognitive-behavioural paradigms they had already tried, there is little choice in the matter but to keep going with the same patterns in place.

Both cohorts reported self- and other-related insights, self-soothing moments, and improvements interpersonally and related to empathy following the IM intervention. The interpersonal experiences mirrored the intrapersonal ones, with participants relating to emotions during dyadic mindful listening and speaking exercises as they did during solo meditations. It seems opening to authentic emotions may signify less early trauma or the beginning signs of addressing and accepting its effects. Avoidant or overly critical strategies can involve over-identification, characterised by becoming caught in negative thoughts or emotional spirals following challenging encounters. This can be burdensome or stressful and may indicate survival patterns developed due to early trauma (Broughton, 2021). The capacity to meditate while stressed may also indicate a degree of trauma integration. Additionally, self-empathy from opening and feeling may be crucial for improving struggles with other-oriented empathy.

During the IM exercises, all participants gained valuable insight into their emotions and those of others, learning various degrees of acceptance towards emotional content commensurate with the steps they had previously taken towards deepening their self-

knowledge. This opening to feelings, occurring at each individual's own autonomous pace, may be a key factor contributing to any increased efficiency of an IM intervention, requiring less meditative practice time to develop reperceiving qualities. The qualitative findings in this thesis thus align with the quantitative results by Vich et al. (2020). That study of 128 management students found that eight weeks of relational mindfulness practices, similar to the IM group in Study Two and those of Bartels-Velthuis et al. (2020), led to sustained improvements in mindfulness, self-compassion, and stress reduction over a 12-month period. The gradual unfolding of interpersonal emotional awareness over time, particularly when the interventions are also longer or include monthly follow-up meetings, as in Krasner et al. (2009), may magnify the benefits gained from solo meditation. Longer-term interventions may be particularly helpful for improving empathy for those with unresolved early trauma. Resolving early trauma seems to involve developing reperceiving or decentring coinciding with a growing sense of authentic identity, which takes time (Stjernswärd et al., 2021).

The findings suggest that even short IM practices and solo meditation may gradually develop self-directed awareness in anyone, regardless of their trauma awareness-related self-knowledge, particularly if they are supported and empowered to practise in a way that suits them, without pressure to conform. An autonomous and self-directed approach has been noted as an integral component when successfully overcoming meditation-related challenges connected to self-care in other qualitative studies (Ferraro, 2021). Learning emotional presence from others' approaches, whether ready to embrace trauma or not, appears possible using IM, deepening the mindfulness experience, particularly related to self-compassion (Bartels-Velthuis et al., 2020; Kok & Singer, 2017; Vich et al., 2020). Over time and with more practice, trauma-informed approaches to IM seem likely to increase the development opportunities.

A crucial implication from discovering these patterns related to either continuing to struggle or transforming following IM is that strong differences in self-knowledge and understanding may be present in various proportions in society and, therefore, different medical education institutions. Such variety in pre-existing self-knowledge related to trauma awareness is also a previously uncharted factor. Similarly, variable patterns following mindfulness interventions may reflect not only the strengths of the approach in the intervention group itself, combined with the pre-existing patterns in the participants, but also the overall openness to growth in the rest of the organisation (SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach, 2014). Individual trauma journeys, combined with organisational environmental factors or approaches to teaching, working, and learning, may either inflame or soothe existing trauma-survival mechanisms (Abraham, 1999; Handran, 2015). Although wider societal patterns of self-knowledge related to early trauma awareness are not within the scope of this thesis, these factors may be worth investigating further.

In sum, mindfulness interventions may be most helpful for those who are already feeling safe enough to begin to slowly recognise any difficult emotions or early trauma triggers. A sense of psychological safety is influenced by individual, group, facilitator and organisational factors, which can either increase vulnerabilities resulting in burnout in healthcare workers or reduce them (Handran, 2015). To improve the efficacy of any intervention, including resilience-focused approaches, which frequently confer negligible benefits (Kunzler et al., 2020), wider attention to trauma-informed approaches is also recommended within the wider fields of psychology and education. For those who may not yet be in a position to integrate their experiences through no fault of their own (as in the limited benefits cohort), additional specialist therapeutic intervention is recommended (Treleaven, 2018). Expert intervention combined with an improvement in organisational

approaches could help all individuals (Handran, 2015), improving retainment levels (Abraham, 1999; McCann & Granter, 2019) and patient experiences (Fink-Samnick, 2022).

Limitations

Both quantitative studies (Chapters 4 and 5) were relatively small samples from only one medical school in London, UK. The second study included 51 participants, which is a more robust number than the 29 students who completed the first pilot study. However, neither are representative samples of the population, meaning it is not possible to extrapolate the results more widely. As a result, the novel conclusions made about the effects of the MBSR + IM intervention and the role of potential early trauma are exploratory and tentative.

Study One did not gather home meditation practice time due to the failure of an app meant to measure it accurately. Since this information was unavailable, it is unknown whether variations in practice time influenced the outcomes. The IM group may have practised even less in that study, which could partly explain its lack of improvement in perceived stress.

The sample in Study Two also began with a significant difference between groups. Social connectedness was higher in the IM group from the start. This difference may explain the seemingly greater efficiency despite the low practice levels of that group since the participants in the IM group experienced similar benefits despite practising meditation significantly less than the MSBR group.

The six-person sample in the qualitative study was clearly too small for generalisation to other populations. However, several themes resonated with findings from other qualitative studies (Beckman et al., 2012; Ferraro, 2021; Malpass et al., 2019; Morgan et al., 2015; Solhaug et al., 2016). In addition, the depth of the exploration highlighted potential areas around the role of trauma and the state of psychological integration, which could be investigated more widely.

Having the same person as the teacher, interviewer, and analyst carries some benefits and drawbacks. There is consistency in both comparison groups being taught by the same person with the same ethos. As a further strength, the existing relationship may have empowered the participants to share more deeply than they might typically be inclined to do during the interviews. However, the pervasive role of the teacher/researcher is evident. Attempts were made to temper the influence of existing power dynamics and related pressures as much as possible. The teacher/researcher was not responsible for marking the assignments for the students who participated. Interviews were held in different locations than the original teaching, and there was an explicit acknowledgement of the role change between the teaching and the interviews. The unstructured interviews in Study Three may have also helped to reduce investigator influence while uncovering unanticipated aspects of the participants' views.

Contextualising Empathy Results and Implications for Research and Practice

The qualitative information, combined with data from the quantitative studies, supports a growing view that a person's lack of connection to a solid sense of self (possibly caused by unrecognised early trauma) may involve over-identification, leading to emotional contagion and compassion fatigue, in some individuals. Furthermore, this may be one of the mechanisms which can cause variable results following mindfulness interventions. This thesis concurs with recent proposals that healthy (functional) empathy (Schrötter et al., 2024) may become decoupled from stress in some individuals or even that empathy may develop components that are protective of burnout, particularly when accompanied by supportive, restorative, and inclusive (Thirioux et al., 2016) organisational practices. Approaches which limit possibilities of re-traumatisation (Handran, 2015) for staff who may already be vulnerable due to unresolved early trauma are worthy of further investigation.

While the self-report empathy results from Study Two are significant but small, it is difficult to determine how much these would transfer to authentic demonstrable empathy that would benefit patients. Observational methods of rating empathic behaviour may offer greater sensitivity and specificity than self-report measures, although they were not included in the present thesis. In considering whether the small improvements in empathy self-report measures signify any potential benefit for patients, it's useful to compare results from both mindfulness and non-mindfulness empathy interventions using the JSPE and other observational methods (see Table 13).

Table 13

JSPE Results Following Empathy Interventions Compared to UK Medical Student Norms

Study	Content (session/overall)	Final Sample (% Females)	Method	Empathic attitude
Study One in this thesis	5-weeks (120 min) of MBSR with 50% IM (10 hr)	29 medical students (45% F)	Randomised Controlled Comparison	JSPE+ (IM 104 to 110; MBSR 107 to 114)
Study Two in this thesis	5-weeks (120 min) MBSR with 30% IM (10 hr)	51 medical students (75% F)	Randomised Controlled Comparison	JSPE= (IM 116 to 115; MBSR 112 to 111)
Barbosa et al. (2013) USA	8-week (150 min) MBSR (28 hr)	28 healthcare students (93% F)	Pre- and post-test measures with control [NR]	**JSPE+** / - (104 to 120 to 100 at 3-wk follow-up)
Bond et al. (2013) USA	11-week (90 min) mind-body relaxation (16.5 hr)	24 medical students *	Pre- and post- with no control	JSPE= (means not reported)
Chen et al. (2016) USA	11-week (90 min) mind-body relaxation (16.5 hr)	20 medical student respondents *	pre- and post-test with no control	JSPE- (120 to 80)
Buffel de Vaure et al. (2017) France	7 (90 min) Balint Groups (10.5 hr)	299 Medical Students (54 % F)	Pre-and post-test with R waitlist control [ᵀ]	**JSPE+** (110 to 112) CARE=
Danilewitz et al. (2016) Canada	8-week (90 min) MBSR (12 hr)	22 medical students (73% F)	Pre-and post-test with waitlist control [R]	JSPE= (117 to 118)
de Vibe et al. (2013; 2014) Norway	7-week (90 min) MBSR + 6 hr retreat (16.5 hr)	112 psych & 176 medical students (73% F)	Pre-and post-test with waitlist control [R]	JSPE= (115.6 baseline, final mean not reported)
LoSasso et al. (2017) USA	Communication skills (1 hr) w peer roles & SPs (unspecified)	70 medical Students *	Pre- and post-test with waitlist control [R]	JSPE= (Baseline? to 113.9) **SP ratings +**
Riess et al. (2012) USA	4-week (60 min) Awareness, video feedback & mindfulness (4 hr)	99 doctors (45% F)	Pre- and post-test with standard training control [R]	JSPE= (113 to 114) **CARE +**
Wündrich et al. (2017) Germany	2 video empathy sessions (6 hr)	158 medical Students *	Pre- and post-test with control [R?]	JSPE= (means not reported) **SP & expert ratings+**

Study	Sample	Method	Empathy Norms
Quince, Thiemann et al. (2016)	Medical students	Literature review	JSPE-S UK (M 110; F 114)

Note. + Sig increase. = No sig difference pre and post-test. – Sig decrease. * Gender information missing. [R] – randomised. [NR] – Not Randomised. [ᵀ] – Methodological concerns include not all students receiving the surveys and one item missing from the JSPE-S. SP – Simulated Patient. ? – Not reported. CARE – Consultation and Relational Empathy Measure (observational measure).

A surprising relationship between self-report methods and observational or experiential approaches to measuring empathy emerges in the extant literature. Self-reported attitudes to empathy (JSPE) following communication-based (and not mindfulness) training did not change in three studies aiming to improve empathy despite significant differences identified by trained OSCE raters (Wündrich et al., 2017, p. 3), simulated patients (LoSasso et al., 2017) or using the standardised Consultation and Relational Empathy Measure (CARE; Riess et al., 2012). This pattern of significant effects on standardised observational measures but not self-report measures of empathy is unexpected.

The assumption tends to be that self-report measures may be more likely to overestimate changes rather than underestimate them due to the Hawthorne or other effects (McCambridge et al., 2014), including pressure to exhibit socially desirable characteristics. As three quality studies in Table 13 indicate (LoSasso et al., 2017; Riess et al., 2012; Wündrich et al., 2017), that may not always be true. Some participants may be prone to *underestimating* their empathic capacity on self-report measures. On the other hand, observational reports are also incomplete because they cannot capture inner experience.

Differing methodological approaches complicate matters. An underestimation through observation was reported in one study by Buffel de Vaure et al. (2017), whereby the JSPE indicated significant improvements in empathy, but the CARE did not. However, drawing conclusions from that study may be limited by several methodological issues. These include not providing the full JSPE (one item was missed) and using different randomisation procedures across two universities. Methodological differences also exist for the Reiss et al., (2012) study which indicated significant improvements on the CARE but not on the JSPE. The qualified doctors in that study were compensated $100 per hour for participating in that USA study, which may artificially inflate engagement.

An attempt at capturing an inner experience of empathy, as depicted by the IRI, may not consistently match observable skills either. However, this scale is used less often in medical contexts (Nembhard et al., 2022). The only study located in available empathy reviews (Lamothe et al., 2016; Everson et al., 2018; Luberto et al., 2018; Winter et al., 2020) which included the IRI plus an observational evaluation of empathy skills was a doctoral thesis by Vaclav (2007). The author compared the impact of 10 hours of empathy training, including SP role-plays with feedback, to didactic education for 45 social work counsellors in India. In that study, the observational reports indicated improvements in empathic behaviour following the intervention despite no increase in the inner experience of empathy as measured by the IRI (VanCleave, 2007). No studies could be identified that compared improvements in the IRI to the CARE.

Scholars have repeatedly questioned how reliable the capacity to reflect on inner patterns is (Fultz & Bernieri, 2022). Although a sense of exaggeration is often assumed, this may not always be the case for empathic behaviour in medical (Buffel du Vaure et al., 2017; Wündrich et al., 2017) or social work (VanCleave, 2007) students and professionals (Riess et al., 2012) who can be insightful yet hard on themselves while dealing with considerable pressure to both fit in and stand out (Vaa Stelling et al., 2023). Future empathy studies could build on past research to compare skill-based learning to mindfulness-based learning using the CARE and the IRI instead of, or as well as the JSPE.

The IRI has been rarely studied following empathy interventions in medical students, and previous studies have not found significant effects from mindfulness or other communication approaches such as role-plays when using this measure (Airagnes et al., 2014; Switzer, 1999). While the IRI has been used more often in other populations such as mixed healthcare professionals (Everson et al., 2018; Lamothe et al., 2016; Luberto et al., 2018; Winter et al., 2020), improvements in the IRI EC and PT subscales are uncommon

across all populations. Beyond this thesis, only three studies have reported significant increases in felt empathy using this scale: these involved 8-week mindfulness-like interventions for the lay public (Wallmark et al., 2013; Hattink et al., 2015) or mixed healthcare professionals (Oman, 2015). Additionally, one RCT found improved IRI scores among children who practised brief mindfulness exercises three times per day as part of an alternative school programme (Schonert-Reichl et al., 2015). However, these populations face notably different environmental factors than medical students, and more research is required.

Beyond these unusual improvements, a key pedagogical distinction between the present studies and traditional communication skills training for empathy development (Winter et al., 2020) lies in the focus on authentic thoughts and emotions. The IM courses in Studies One and Two featured relational exercises between individuals practising being open and lightly vulnerable according to their own pace and comfort level. Rather than explicitly focussing on empathy or requiring students to demonstrate particular skills through role-play, these exercises allowed empathy to emerge naturally while contemplating pleasant or unpleasant experiences together. The emphasis was on allowing whatever emotional content arose to be present while practising kindly observing. This approach meant that nothing was externally forced or evaluated, providing space for participants to explore in their own way. Thus, any benefits may be more poignant and sustainable. It is, however, unknown whether the apparent benefits from this practise according to the IRI will translate into more effective communication with patients. For future studies, the question of whether IM improves empathic behaviour in line with improvements in the IRI or JSPE could be answered using Objective Structured Clinical Exams (OSCE) or on clinical placements.

Mapping Empathy Cohort Patterns to Qualitative Data

A recent study by Schrötter et al. (2024) quantitatively characterised three distinct empathy profiles in German medical students. These were based on patterns emerging on

subscale scores on the IRI from a cluster analysis. Rather than looking simply at increases in the IRI, particular patterns were noted. The first was named *reflected functional empathy*, which is characterised by medium scores on empathic concern (EC) and perspective-taking (PT) scales of the IRI with low levels of personal distress (PD). The second is *unreflected burdensome empathy*, which entails high levels of EC and PT and high levels of PD. The third is *distancing and avoidance,* which is associated with low levels of EC and PT along with low levels of PD. These categories appear similar to qualitative descriptions of empathy in Study Three, within Superordinate theme 3.3- experiencing empathy (see Table 11, Chapter 7).

The quotes in Table 14 (below) compare overlapping concepts from Schrötter et al.'s (2024) quantitatively identified patterns in a population of 413 German medical students and qualitative data excerpts from the six participants qualitatively investigated in Study Three. These profiles exhibit three coinciding patterns connected to experiences with self and other relating, which may be more widespread than the qualitative study in this thesis could determine. The table also includes three related synonymous quotes from two other qualitative studies on mindfulness or empathy, exemplifying similar phenomena have been qualitatively identified elsewhere. One of the quotes from qualitative studies in Table 14 investigated the experiences of doctors completing a lengthy 8-week mindful communication course followed by 10 monthly meetings (Beckman et al., 2012). The other illuminated general experiences with empathy in multi-professional healthcare students (Yu et al., 2022). It is rare to find examples of significant challenges with empathy or mindfulness in the qualitative literature. Further investigation is needed to refute or corroborate emerging patterns from these combined sources, which suggest medical students may relate to others in ways that mirror whether or how they are able to empathise and be present with their own suffering.

Table 14

Schrötter's IRI Empathy Profiles Compared to Qualitative Examples

Schrötter's (2024) IRI empathy profile	**Examples of similar self and other-relating patterns from Study Three**	**Empathy examples from other studies**
Distancing and avoidance *(low IRI- EC and IRI-PC, low personal distress)*	Self-relating: "I think I learnt not to react to my emotions that way. Um, I guess that's why in like in a way, like I close off a little bit just so that I don't burst." (Vicky) Other relating: "I just think it's hard to be empathetic with someone when they're not someone you care about, or they're just some random person and you don't know about their life, and you don't know why they've done something" (Vicky)	"I have certain personal biasness towards certain groups of people… So one specific example is those with eating disorders, those anorexic. So to me, they do have an underlining issue. It may be psychiatric, it could be whatever. But it's very difficult for me to empathize with them. Like, what makes you starve yourself? (Yu et al., 2022, p. 6)"
Unreflected, burdensome empathy *(medium IRI-EC and IRI-PC, with high personal distress)*	Self-relating: "'stabbing' myself [verbally] several times because what I thought, what I thought I said wasn't of any use whatsoever to anybody else." (Catherine) Other relating: "I struggle with so many of my feelings myself, that I can't bear for other people to go through the same thing." (Catherine)	"I would empathize to the point where I would be so in their shoes. I would start to feel the way that they felt and I mean, you know, take four of those in a row in a day and I would be just wiped out... (Beckman et al., 2012, p. 2)"
Reflected, functional empathy *(high IRI-EC and IRI-PC, low personal distress)*	Self-relating: "Maybe you were in a previous situation, or something happened, and it primed you, and now you're kind of having still these old links from that previous or whatever, I think in every individual case it's different, but I think are you being afraid of being hurt? And that's very human. Or being rejected or, but to just acknowledge it for what it is... It is here and it's very human to have that fear." (Ashley) Other relating: "You sit with them, but you're not; you don't let yourself be dragged under by it. Because otherwise, you're not of help to the person. You just stay in the moment, in the present... And then you let go and then you're with the next person who is suffering, and you sit with them." (Ashley)	"It's not that I don't empathize with them anymore, but [now] I feel OK just to listen and be present with them... and I think that in some ways helps them more.... (Same participant as above after 8 weeks of mindful communication plus 10 monthly follow-ups - Beckman et al., 2012, p. 2)"

A difference in dualistic thinking emerges throughout the quotes from Study Three in the first two categories in Table 13. While one's own emotions are inaccessible or overwhelming, others' emotions and actions are incomprehensible or too distressing as well. Considering these patterns through an early trauma lens, it becomes evident that *distancing and avoidance* (Schrötter et al., 2024) occur if individuals unconsciously split off different parts of themselves (Stjernswärd et al., 2021) due to unrecognised early trauma (Freyd, 1996) in a way that keeps their own perspective and emotions shut down. In that case, they develop the same sort of dualistic thinking within and without. On the other hand, *unreflected burdensome empathy* (Schrötter et al., 2024) occurs if individuals tend to treat themselves more harshly than they treat everyone else. These individuals may experience high empathy towards others but find this just as unbearable as they find their own suffering. Any empathy they do possess is unsustainable due to the ongoing inner patterns of harsh self-treatment. *Reflected functional empathy* (Schrötter et al., 2024) involves understanding oneself, developing self-empathy (Rajput & Rosenberger, 2017) within, and thus developing the capacity to understand and be present with difficult emotions in others as well. Such ease in self and other relating would theoretically be more available in those with little trauma, or for those who have begun to recognise and resolve it.

The patterns in Table 14 highlight the potential reasons why some people would improve empathy (and other intrapersonal variables) following mindfulness interventions while others do not. As Jason said in Study Three, mindfulness can just become another method of 'being harsh with yourself because it's just like tools to get rid of the parts of your character that you don't like.' It may be that this can occur in any approach or modality. If so, until such patterns are deeply resolved or integrated, any new therapeutic approach becomes a part of existing trauma-survival strategies, and only limited benefits are seen regarding empathy. When such strong patterns are in place, it may be unrealistic to expect a short

course of any type to address them comprehensively. Early childhood adverse experiences research often focuses on the most severely affected (Crandall et al., 2019). However, these patterns may also be more prevalent in highly functioning members of society than is typically recognised (Broughton, 2021; Maté & Maté, 2022). For mindfulness to open such individuals up to new possibilities of more authentically compassionate thinking requires more sensitively introduced early trauma awareness than prevailing cognitive-behavioural approaches to mindfulness typically provide (Santorelli et al., 2017; Segal et al., 2013).

The current research, together with re-interpreting related studies, highlights a potential benefit to using trauma-informed methods in mindfulness teaching, and not only for known trauma survivors or those with psychiatric diagnoses. There is also clearly a benefit to supporting the development of a longer-term mindfulness practice, which may underpin such deep understanding and change as in the 10-month Krasner et al. (2009) study qualitatively evaluated by Beckman et al. (2012). This is also a useful reminder of how important it is for mindfulness teachers (and researchers) to recognise, verbalise and be open and present with their own inner early trauma-related challenges while also empathising with student difficulties. There may be no greater instrument than a teacher who is deeply developing their own early trauma awareness and can confidently embody and demonstrate it.

Theoretical Implications for Understanding Empathy

Prior psychological theory and research on secular mindfulness commenting on challenges related to empathy have followed the **Theory of Compassion Fatigue** (Figley, 2002). This theory firstly states that caring for distressed or traumatised individuals too often or too deeply can cause severe stress or burnout in healthcare professionals, coinciding with a lack of self-care. As a consequence, according to this logic, recovery of empathy occurs mainly through a stress reduction. For some, this may manifest as over-identification (Neff, 2016). This could interact with what scholars describe as hypersensitivity (Thirioux et al.,

2016), the causal factors of which are often not explicitly discussed or addressed. Empirically supporting this theory, increases in empathy (using the JSPE, and considering its limitations, see Appendix D) have been found to coincide with mindfulness and stress in both positive (Dyrbye et al., 2006) and negative (A. Chen et al., 2016) directions, concluding that to improve empathy, stress must reduce. Although stress reduction could be the deciding factor related to increasing empathy levels in some individuals, the present thesis highlights that this may not be a universal pattern. Furthermore, empathy may not be stressful for all.

Exemplifying a decoupling between stress and empathy, Bartels-Velthuis et al. (2020) conducted a quasi-experimental study of a 9-week IM intervention incorporating 22.5 hours of contact time consisting of around 70% relational mindfulness practice. Professional healthcare participants in that study did not significantly improve mindful awareness or stress compared to the non-randomised control group. Nevertheless, they improved empathy as measured by the Empathy Quotient (EQ) scale. Scores on the Professional Quality of Life Scale (ProQOL) also indicated a significant reduction in compassion fatigue. These results, combined with similar results from Studies One and Two in this thesis, suggest empathy levels may not always correlate with stress levels. Something else such as unresolved early trauma could mediate the relationship between stress, mindful awareness, compassion fatigue and empathy in some individuals. Additionally, something about IM may be particularly useful for increasing empathy, even if stress remains relatively high. This improvement may be related to experiencing genuine empathy in the sessions, depending on who leads, how empathic they are, and how empathic the other group members are with one another.

Rather than a unidirectional cause and effect between caring for distressed others and developing compassion fatigue, emotional burnout may arise due to developing a constructed identity from the psyche-splintering consequences (Schwartz & Morissette, 2021) of early trauma survival combined with multiple overly challenging environmental factors (Fink-

Samnick, 2022; Handran, 2015). Environmental challenges encompassing a pervasive sense of disconnection adversely affect both staff and patients (Southwick & Southwick, 2020). Conversely, trauma-informed institutional approaches are likely to increase harmonious connection within healthy boundaries and support patients as well as staff (Fink-Samnick, 2022).

As exemplified in the limited benefits cohort in Study Three, surviving early traumatic or distressing events may involve having little access to a sense of legitimate, authentic identity, which would be more protective in the same environment or under the same conditions. For example, a person with an authentic identity may possess more agency to leave a continually re-traumatising system (Broughton, 2021) rather than running themselves into the ground with people pleasing and compassion fatigue. Continually over-identifying with others as a healthcare professional without a clear sense of a separate, agentic self can be exhausting and disorienting, resulting in repeated victimisation (Graham-Kevan et al., 2015). Maintaining empathy under these circumstances would of course be unsustainable, resulting in burnout.

Over-identification related to self-abandonment (Bauer, 2017) within stressful environments could be caused by susceptibility to emotional contagion. Emotional contagion, an environmentally adaptive protection mechanism present in infants who cannot yet cogently understand their environment, allows for non-verbal resonation with parents or carers. An experiment by Waters et al. (2017) shows that under stressful conditions, this results in absorbing and thus displaying the same emotional and neurological state (fight, flight, freeze, fawn or collapse; Van Der Kolk, 1994) as the primary attachment figure. For those who depended upon regularly distressed, traumatised, dysregulated or mentally ill carers as children, continual emotional contagion may be traumatising (Crandall et al., 2019; Freyd, 1996; Herrando & Constantinides, 2021), resulting in a constructed rather than

authentic identity (Broughton, 2021; Ruppert, 2023). Emotional contagion with joyful or calm states can also be positive (Waters et al., 2017) and, therefore, protective (Crouch et al., 2019) to a certain degree (Crandall et al., 2019). Nevertheless, individuals particularly susceptible to emotional contagion are more at the mercy of the environment around them as adults as well. As such, trauma-informed organisational practices are likely even more important (Handran, 2015).

Although some individuals react to trauma through over-identification or hyper-empathy in an instinctual way of understanding, soothing or predicting harmful behaviour, blunting is an alternative childhood coping mechanism involving unconsciously shutting down awareness of emotions to cope (Broughton, 2021). This apparently low level of empathy may relate to the theory of **Emotional Dissonance**, as described by Thirioux et al. (2016, p. 7). This perspective considers hypo-empathy, or difficulties understanding and connecting to the legitimacy of others' feelings, to be associated with an intrapersonal pattern of emotional blunting, coinciding with difficulties identifying emotions in oneself. Vicky and Jason arguably display this pattern in Study Three (Table 13). Emotional blunting or difficulties feeling one's own emotions are also thought to be another survival strategy following early trauma (Broughton, 2021). Western society often favours unemotional and logical reasoning associated with academic or material success, particularly in extreme forms of stunted emotional capacity exhibited in narcissistic personality profiles (Hirschi & Jaensch, 2015). This may also be more common in men, who display lower mean empathy values (Quince, Thiemann et al., 2016). Like all trauma survival mechanisms, there are reasons why blunting would have been useful or partially protective. However, these and other survival mechanisms eventually cause difficulties (Broughton, 2021). A predominance of semi-functional survival strategies instead of authentic emotional self-attunement also indicates a lack of authentic identity. An emotionally blunted constructed identity may render

an individual's contentment dependent upon external factors as well, and they may be more prone to displaying unhealthy anger or aggression among other methods of perpetration (Broughton, 2021).

Together, the theories of compassion fatigue and emotional dissonance align with the patterns related to constructed identities and inconsistent empathy exhibited in Study Three's limited benefits cohort. Conversely, an emerging theory of **Reflexively Beneficial Empathy** may more accurately explain the patterns exhibited in the transformational experiences cohort. Such a perspective dictates that empathy is not only deeply helpful for the recipient, sometimes even on a physical, pain-alleviating level (Betti & Aglioti, 2016), but also for the provider as part of reflexively developing self-empathy (Rajput & Rosenberger, 2017). This may occur while reducing the strain of maintaining dualistic viewpoints that consider some individuals more worthy of understanding than others based on their levels of innocence or social acceptability (Joffe, 1999). Data from other IM studies (Bartels-Velthuis et al., 2020), combined with early trauma theories, adds credence to these emerging parallels.

Combining Schrötter et al.'s (2024) categories with these three theories of empathy, along with the early trauma theories and information from Study Three, may be helpful for more precisely researching or teaching empathy while considering early trauma (See Table 15). An individual may encounter multiple empathy profiles characterised by emotional blunting, over-identification or reflexively beneficial empathy during different circumstances. Alternatively, one profile may dominate. Those with considerable unresolved early trauma are more likely to experience emotional blunting or over-identification. IM may be supportive to people experiencing any empathy profiles due to the self-directed opportunities for giving and receiving authentic empathy, which can increase empathy and self-compassion alongside growing trauma awareness.

Table 15

Schrötter's Empathy Profile, Trauma Theory, and What IM may Offer

Empathy profile	What early trauma and identity theory adds to understanding the patterns	What IM theoretically offers in terms of self-directed self-development
Empathic blunting **Emotional Dissonance** (Abraham, 1999; Larson & Yao, 2005; Thirioux et al., 2016) **Distancing and avoidance** (Schrötter et al., 2024)	Identifying with avoidant, judgemental or punitive survival strategies from carers, leads to unconsciously adopting hypo-empathy (Thirioux et al., 2016) coinciding with a lack of self-empathy (Rajput & Rosenberger, 2017) as a means of coping. This may be partially due to non-awareness of the impact of early trauma (Broughton, 2021; Freyd, 1996) and conditional parental approval (Rogers, 1962), causing a person to construct an identity based on external factors with a propensity towards emotional blunting (Cowan et al., 2023; Dahl et al., 2015), particularly if this was rewarded when emotionality was ignored or punished. Threats to the constructed identity and ego are met with shutting down to emotions inside and out or blaming others/self. This may result in exhibiting a dualistic, judgemental, controlling, aggressive or defensive way of relating to human struggles in the self and for others (Shonin et al., 2015).	Space to notice, observe, and name what arises interpersonally, without the need to over challenge egoic protections, which exist to prevent flooding with distressing childhood memories or related emotions. Listening to others describe their feelings can facilitate gradually opening to one's own emotional awareness. Manageable insights emerge related to learned patterns and communication behaviours such as difficulties listening without interrupting. Growing self-empathy gently reduces the need for harsh views of oneself or others (Bartels-Velthuis et al., 2020) and may slowly decrease experiential avoidance (Bowen et al., 2012) or improve social connectedness (Kok & Singer, 2017).
Over-identification **Compassion Fatigue** (Beckman et al., 2012; Bond et al., 2013; A. Chen et al., 2016; Figley, 2002; Thirioux et al., 2016) **Unreflected, burdensome empathy** (Schrötter et al., 2024)	Identifying with and tending to suffering in others from an early age leads to ongoing susceptibility to emotional contagion and hyper-sensitivity (Thirioux et al., 2016) combined with a lack of self-empathy (Rajput & Rosenberger, 2017) as a coping mechanism. This may be related to non-awareness of the impact of early trauma of an emotional, sexual or physical nature (Broughton, 2021; Freyd, 1996) and conditional parental approval (Rogers, 1962), particularly when caring was protective. This background can cause a person to construct an identity based on external factors (Cowan et al., 2023; Dahl et al., 2015) rather than developing a solid authentic sense of self. Failures can be seen as existential threats (Crocker et al., 2003). Pleasing, rescuing, or caring for others becomes a mostly successful survival strategy. This may relate to imposter syndrome (Clance & Imes, 1978; Parkman, 2016), perfectionism (C. Chen et al., 2019) or freezing, fawning, and collapsing when faced with confrontation (Van Der Kolk, 1994).	Space to find out what it's like to be accepted and heard without being advised, which reduces self-recrimination and improves self-determination. The invitation to silently listen and mindfully share may be uncomfortable at first but can increase agency or highlight whether there is an impulse to rescue, tell stories for the benefit of another or edit oneself to fit external expectations. Slowly, manageable insights emerge related to eye contact, and other learned communication behaviours or previously adaptable automatic responses. A sense of growing self-empathy is possible, when met with silent acceptance from another. This may support growth in emotional intelligence (J. Cohen & Miller, 2009) and emotional regulation without shutting down or dissociating.
Reflexively Beneficial Empathy **Reflected, functional empathy** (Schrötter et al., 2024)	Self-knowledge and acceptance, related to a developing authentic identity (Rogers, 1962) allows for a reduction in various over-identifications or blunting while understanding the impact of any past difficulties or traumas on oneself (Broughton, 2021; Freyd, 1996). A synergistic understanding of self and others within healthy boundaries may be possible. Results in non-dualistic thinking when approached with mindful ethics (Shonin et al., 2015). This pattern may be present for individuals with low to negligible early trauma, those who are resolving trauma, or those who have learned authentic mindful relational or therapeutic skills (Gambrel & Keeling, 2010; Rogers, 1959).	Space to grow in authenticity and deepen the capacity for understanding oneself and others. Any of the above struggles can emerge for any of these individuals at various times. Meditating and then sharing mindfully to a kindly silent listener may further gradually reduce any retained survival techniques, increasing the capacity to be present with emotions in the self or others. The project of self-discovery for any of these patterns may be deepened with compassionate and non-judgemental early trauma awareness. An authentic identity is developing and can be found again following distress or disturbance.

Burnout is often characterised by depersonalisation, de-realisation and a lack of empathy (Cecil et al., 2014). Environmental factors undoubtedly adversely influence overworked and under-supported healthcare professionals (Abraham, 1999; Brazeau et al., 2010), and dysfunctional organisational practices can compound early trauma susceptibility or support growth (Fink-Samnick, 2022). Organisations may more effectively support healthcare students and professionals to engage in authentic identity development and reflexively beneficial empathy when adopting appropriately inclusive practices (T. Brown et al., 2021; Oehme et al., 2019; SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach, 2014). A trauma-informed approach emphasises organisational factors rather than blaming individuals, recognising trauma's prevalence (Maté & Maté, 2022) and effects (Schwartz & Morissette, 2021). Individuals dealing with unresolved trauma are capable of effective study and work but benefit greatly from supportive, mindful, empathic and trauma-informed leadership practices (Fink-Samnick, 2022; Manderscheid, 2009). IM has shown promise in developing compassionate leaders (Donaldson-Feilder et al., 2021; Vich & Lukeš, 2018), and future interventions for managers might benefit from incorporating trauma-informed principles of behaviour change (Marks et al., 2022) and education (T. Brown, Berman, et al., 2021; Treleaven, 2018).

In sum, empathy difficulties related to being either too closed down or susceptible to emotional contagion could both be resolved by addressing early trauma (Broughton, 2021; Freyd, 1996; Treleaven, 2018). While developing intra- or interpersonal mindfulness skills, trauma-informed approaches may be more impactful than prevailing cognitive-behavioural paradigms typically advocate (Neff & Germer, 2013; Segal et al., 2013). IM provides space for supported self-exploration, which moves deeper than intrapersonal meditation but at a self-directed and, therefore, an individually customisable pace. Experiencing others sharing emotional or cognitive content which is rarely observed in daily interactions may improve

compassion and empathy elements in-line with participants' emotional availability (Hildebrandt et al., 2017; Kok & Singer, 2017; Kramer, 2007). Given the wider societal discussion about the high prevalence of trauma (Maté & Maté, 2022), it may be the right time to develop and provide an array of similar options for larger populations within healthcare organisations and medical education (T. Brown, Berman, et al., 2021). Integrating group therapeutic approaches such as Identity Oriented Psychotrauma Therapy (IOPT) (Ruppert, 2023; Stjernswärd, 2021) with IM, may be a useful combination for those who want to practise bringing mindful awareness to trauma work, or trauma awareness to mindful communication approaches. Developing and providing inclusive trauma-informed mindfulness approaches (Treleaven, 2018; Wästlund et al., 2023) as standard, would be another positive and supportive development for all. Perhaps the most widely beneficial innovation would be to institute trauma-awareness training for all medical educators, and provide training on trauma-informed care for all medical students, including trauma-informed history taking (T. Brown, Mehta, et al., 2021). Theoretically this would benefit all future patients in terms of both communication styles and treatment safety (Sibinga & Wu, 2010). Healthcare students or professionals can also benefit from engaging in greater self-empathy when incorporating a reflexively beneficial interpersonally mindful empathic approach towards their patients, also resulting in greater feelings of accomplishment (C. P. West et al., 2014).

Conclusions

This thesis explored the impact of a brief IM intervention on medical students' empathy, mindfulness, self-compassion and related variables, including social connectedness. The quantitative findings, combined with illuminating qualitative experiences, suggest that IM holds promise for efficiently developing empathy along with self-compassionate presence. Crucially, the qualitative study revealed two distinct trajectories – transformative

experiences and limited benefits – highlighting how early trauma and an individual's level of self-knowledge may influence intervention outcomes by affecting everything from the capacity to meditate while stressed to developing capacity for presence with difficult emotions in oneself and others.

The results support extending prevailing theories on empathy and compassion fatigue by considering the role of early trauma and constructed versus authentic identities. An authentic identity fostered through trauma awareness seems key to developing reflexively beneficial empathy, whereby empathy nurtures the recipient and the provider. Conversely, constructed identities from unresolved early trauma may be linked to empathic blunting or unsustainable over-identification. The findings highlight the potential benefit of incorporating trauma-informed principles into mindfulness teaching, not just for known trauma survivors (Wündrich et al., 2017) but for all individuals, as early trauma may be highly prevalent in society (Freyd, 1996; Maté & Maté, 2022; Schwartz & Morissette, 2021). More research is needed.

Future studies on the efficacy of all wellbeing interventions should consider unresolved early trauma as a factor affecting individuals' intervention outcomes. Integrating trauma-sensitive principles within any intervention could enhance their scope and impact. Embedding self-development and communication approaches within trauma-aware, inclusive organisational cultures and leadership practices may further support healthcare students and professionals to cultivate a resilient, empathic practice. Providing widespread training on trauma-informed care, including trauma-aware history taking, could significantly benefit patients and practitioners alike.

Given the repeated pattern in the literature and the data from this thesis suggesting medical students do not tend to meditate much outside sessions (de Vibe et al., 2013; Phang et al., 2015), it may be unwise to rely heavily on home meditation practice for improving

outcomes. It seems IM may offer additional support when unresolved early trauma understandably interferes with a solo mindfulness practice. Re-experiencing trauma during solo meditation can be detrimental (Treleaven, 2018) and is wisely avoided. The kindness and connection which can be built through providing space to simply 'be' in the company of another person during IM seems to have temporarily provided relief from the relentless self-recrimination some of the limited benefits participants displayed. This connection seems to have improved self-compassion, empathy, and mindfulness, even in those who could not fully engage with home practice and were understandably struggling with unresolved early trauma. IM also seems to have deepened the transformative effects for those already embarking on a journey of increasing self-knowledge, awareness and compassion, providing additional insight in addition to intrapersonal practice. Longer-term interventions are likely to be more powerful, although shorter-term courses are cost-effective.

Despite previous findings suggesting that men and women benefit differently from mindfulness interventions, with women improving more significantly than men across several variables (de Vibe et al., 2013), it is clear from the present series of studies that this is not always the case. Non-dualistic or inclusive empathic attitudes must begin with the self before extending to others, and for both genders. Standard communication skills or focused empathy-building courses for healthcare professionals that do not include mindfulness are also advised to consider providing opportunities for experiencing authentic empathy and encouraging emotionally open dialogue in safe spaces for everyone. To provide sustainable empathy, everyone needs to receive and internalise it, whether that comes from a rare unconditionally loving parent, empathic teacher, as part of IM, Identity Oriented Psychotrauma Therapy (IOPT), or other parts-based approaches such as Internal Family Systems (IFS; Schwartz & Morissette, 2021).

While the impact of IM observed in this thesis and elsewhere (Bartels-Velthuis et al., 2020), compared to other approaches, makes it tempting to require participation in similar courses for all medical students, mandatory participation may not be the answer for increasing empathic care and preventing burnout. Following a trauma-informed and inclusive framework, individual choices must be considered as much as possible. Those who do not wish to participate fully can also negatively impact those who are engaged (Stewart-Brown et al., 2018). Interventions that can increase a sense of social connectedness may also be as beneficial as a mindful meditation practice (Kok & Singer, 2017; Masi et al., 2011). As part of a trauma-informed approach, choice encourages autonomy (T. Brown, Berman, et al., 2021; Marks et al., 2022), likely improving engagement and outcomes as well as tacitly fostering authentic identity development. Exploring what one wants to engage in provides not only the motivation to do so but also strengthens contact with one's own inner needs, which may have been neglected or punished during traumatic events and perpetuated ever since from within (Stjernswärd, 2021). Encouraging all students to choose some form of autonomous self-development while providing wellbeing electives related to interpersonal mindfulness, MBSR, Balint Groups, trauma therapy groups, or resilience training may be the most effective strategy.

Overall, this thesis underscores the value of interpersonal, trauma-sensitive mindfulness interventions for holistically developing self-compassion, awareness, and understanding in medical education and healthcare settings. Fostering resilient authentic identities in medical personnel capable of reflexively beneficial empathy through such approaches could revolutionise future patient care and workforce sustainability.

References

8-week relational mindfulness course. (2008). London Mindful. https://www.londonmindful.com/8-week-interpersonal-mindfulness-course.html

Abraham, R. (1999). The Impact of Emotional Dissonance on Organizational Commitment and Intention to Turnover. *The Journal of Psychology*, *133*(4), 441–455. https://doi.org/10.1080/00223989909599754

Aherne, D., Farrant, K., Hickey, L., Hickey, E., McGrath, L., & McGrath, D. (2016). Mindfulness based stress reduction for medical students: Optimising student satisfaction and engagement. *BMC Medical Education*, *16*(1), 209. https://doi.org/10.1186/s12909-016-0728-8

Ahrweiler, F., Neumann, M., Goldblatt, H., Hahn, E. G., & Scheffer, C. (2014). Determinants of physician empathy during medical education: Hypothetical conclusions from an exploratory qualitative survey of practicing physicians. *BMC Medical Education*, *14*(1), 122–122. https://doi.org/10.1186/1472-6920-14-122

Airagnes, G., Consoli, S. M., De Morlhon, O., Galliot, A.-M., Lemogne, C., & Jaury, P. (2014). Appropriate training based on Balint groups can improve the empathic abilities of medical students: A preliminary study. *Journal of Psychosomatic Research*, *76*(5), 426–429. https://doi.org/10.1016/j.jpsychores.2014.03.005

Alsubaie, M., Abbott, R., Dunn, B., Dickens, C., Keil, T. F., Henley, W., & Kuyken, W. (2017). Mechanisms of action in mindfulness-based cognitive therapy (MBCT) and mindfulness-based stress reduction (MBSR) in people with physical and/or psychological conditions: A systematic review. *Clinical Psychology Review*, *55*, 74–91. https://doi.org/10.1016/j.cpr.2017.04.008

Aluwihare-Samaranayake, D. (2012). Ethics in Qualitative Research: A View of the Participants' and Researchers' World from a Critical Standpoint. *International*

Journal of Qualitative Methods, *11*(2), 64–81. https://doi.org/10.1177/160940691201100208

An, H., Chung, S., Park, J., Kim, S. Y., Kim, K. M., & Kim, K. S. (2012). Novelty-seeking and avoidant coping strategies are associated with academic stress in Korean medical students. *Psychiatry Research*, *200*(2–3), 464–486. https://doi.org/10.1016/j.psychres.2012.07.048

Andersen, D. T. (2005). Empathy, Psychotherapy Integration, and Meditation: A Buddhist Contribution to the Common Factors Movement. *Journal of Humanistic Psychology*, *45*(4), 483–502. https://doi.org/10.1177/0022167805280264

Ang, R. P., & Goh, D. H. (2010). Cyberbullying Among Adolescents: The Role of Affective and Cognitive Empathy, and Gender. *Child Psychiatry & Human Development*, *41*(4), 387–397. https://doi.org/10.1007/s10578-010-0176-3

Aomatsu, M., Otani, T., Tanaka, A., Ban, N., & Dalen, J. (2013). Medical students′ and residents′ conceptual structure of empathy: A qualitative study. *Education for Health*, *26*(1), 4–4. https://doi.org/10.4103/1357-6283.112793

Arik, C., Anat, R., & Arie, E. (2012). Encountering Anger in the Emergency Department: Identification, Evaluations and Responses of Staff Members to Anger Displays. *Emergency Medicine International*, *2012*, 1–5. https://doi.org/10.1155/2012/603215

Arrindell, W. A., Sanavio, E., & Sica, C. (2002). Introducing a short form version of the scale for interpersonal behavior (s-SIB) for use in Italy. *Psicoterapia Cognitiva e Comportamentale*, *8*(1), 3–18.

Baer, R. A., Carmody, J., & Hunsinger, M. (2012). Weekly change in mindfulness and perceived stress in a mindfulness-based stress reduction program. *Journal of Clinical Psychology*, *68*(7), 755–765. https://doi.org/10.1002/jclp.21865

Baer, R. A., Lykins, E. L. B., & Peters, J. R. (2012). Mindfulness and self-compassion as predictors of psychological wellbeing in long-term meditators and matched nonmeditators. *The Journal of Positive Psychology*, *7*(3), 230–238. https://doi.org/10.1080/17439760.2012.674548

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using Self-Report Assessment Methods to Explore Facets of Mindfulness. *Assessment*, *13*(1), 27–45. https://doi.org/10.1177/1073191105283504

Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., Walsh, E., Duggan, D., Williams, M. J. G., & Williams, J. M. G. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment*, *15*(3), 329–342. https://doi.org/10.1177/1073191107313003

BAMBA. (2016). *Good Practice Guidelines for Teaching Mindfulness-Based Courses*. British Association of Mindfulness-Based Approaches. https://bamba.org.uk/good-practice-guidelines/

Barbosa, P., Raymond, G., Zlotnick, C., Wilk, J., Toomey, R. I., & Mitchell, J. I. (2013). Mindfulness-based stress reduction training is associated with greater empathy and reduced anxiety for graduate healthcare students. *Education for Health*, *26*(1), 9–14. https://doi.org/10.4103/1357-6283.112794

Baron-Cohen, S., & Wheelwright, S. (2004). The Empathy Quotient: An Investigation of Adults with Asperger Syndrome or High Functioning Autism, and Normal Sex Differences. *Journal of Autism and Developmental Disorders*, *34*(2), 163–175. https://doi.org/10.1023/B:JADD.0000022607.19833.00

Bartels-Velthuis, A. A., van den Brink, E., Koster, F., & Hoenders, H. J. R. (2020). The Interpersonal Mindfulness Program for Health Care Professionals: A Feasibility Study. *Mindfulness*, *11*, 2629–2638. https://doi.org/10.1007/s12671-020-01477-5

Bauer, K. (2017). To be or Not to be Authentic. In Defence of Authenticity as an Ethical Ideal. *Ethical Theory and Moral Practice*, *20*(3), 567–580. https://doi.org/10.1007/s10677-017-9803-4

Bazarko, D., Cate, R. A., Azocar, F., & Kreitzer, M. J. (2013). The Impact of an Innovative Mindfulness-Based Stress Reduction Program on the Health and Well-Being of Nurses Employed in a Corporate Setting. *Journal of Workplace Behavioral Health*, *28*(2), 107–133. https://doi.org/10.1080/15555240.2013.779518

Beach, M. C., Roter, D., Korthuis, P. T., Epstein, R. M., Sharp, V., Ratanawongsa, N., Cohn, J., Eggly, S., Sankar, A., Moore, R. D., & Saha, S. (2013). A Multicenter Study of Physician Mindfulness and Health Care Quality. *The Annals of Family Medicine*, *11*(5), 421–428. https://doi.org/10.1370/afm.1507

Beckman, H. B., Wendland, M., Mooney, C., Krasner, M. S., Quill, T. E., Suchman, A. L., & Epstein, R. M. (2012). The Impact of a Program in Mindful Communication on Primary Care Physicians: *Academic Medicine*, *87*(6), 815–819. https://doi.org/10.1097/ACM.0b013e318253d3b2

Beddoe, A. E., & Murphy, S. O. (2004). Does Mindfulness Decrease Stress and Foster Empathy Among Nursing Students? *Journal of Nursing Education*, *43*(7), 305–312. https://doi.org/10.3928/01484834-20040701-07

Bellet, P. S., & Maloney, M. J. (1991). The importance of empathy as an interviewing skill in medicine. *JAMA*, *266*(13), 1831–1832. https://doi.org/10.1001/jama.1991.03470130111039

Benbassat, J. (2013). Undesirable features of the medical learning environment: A narrative review of the literature. *Advances in Health Sciences Education*, *18*(3), 527–536. https://doi.org/10.1007/s10459-012-9389-5

Bennett, M. J. (2017). Overcoming the Golden Rule: Sympathy and Empathy. *Annals of the International Communication Association*, *3*(1), 407–422. https://doi.org/10.1080/23808985.1979.11923774

Bentley, P. G., Kaplan, S. G., & Mokonogho, J. (2018). Relational Mindfulness for Psychiatry Residents: A Pilot Course in Empathy Development and Burnout Prevention. *Academic Psychiatry*, *42*(5), 668–673. https://doi.org/10.1007/s40596-018-0914-6

Bergomi, C., Tschacher, W., & Kupper, Z. (2013). The Assessment of Mindfulness with Self-Report Measures: Existing Scales and Open Issues. *Mindfulness*, *4*(3), 191–202. https://doi.org/10.1007/s12671-012-0110-9

Betti, V., & Aglioti, S. M. (2016). Dynamic construction of the neural networks underpinning empathy for pain. *Neuroscience & Biobehavioral Reviews*, *63*, 191–206. https://doi.org/10.1016/j.neubiorev.2016.02.009

Bewick, B., Koutsopoulou, G., Miles, J., Slaa, E., & Barkham, M. (2015). Changes in undergraduate students' psychological well-being as they progress through university. *Studies in Higher Education*, *35*, 633–645. https://doi.org/10.1080/03075070903216643

Bihari, J. L. N., & Mullan, E. G. (2014). Relating Mindfully: A Qualitative Exploration of Changes in Relationships Through Mindfulness-Based Cognitive Therapy. *Mindfulness*, *5*(1), 46–59. https://doi.org/10.1007/s12671-012-0146-x

Bird, A.-N., Martinchek, M., & Pincavage, A. T. (2017). A Curriculum to Enhance Resilience in Internal Medicine Interns. *Journal of Graduate Medical Education*, *9*(5), 600–604. https://doi.org/10.4300/JGME-D-16-00554.1

Birnie, K., Speca, M., & Carlson, L. E. (2010). Exploring self-compassion and empathy in the context of mindfulness-based stress reduction (MBSR). *Stress and Health*, *26*(5), 359–371. https://doi.org/10.1002/smi.1305

Blacker, C. J., Lewis, C. P., Swintak, C. C., Bostwick, J. M., & Rackley, S. J. (2019). Medical Student Suicide Rates: A Systematic Review of the Historical and International Literature. *Academic Medicine*, *94*(2), 274–280. https://doi.org/10.1097/ACM.0000000000002430

Block-Lerner, J., Adair, C., Plumb, J. C., Rhatigan, D. L., & Orsillo, S. M. (2007). The case for mindfulness-based approaches in the cultivation of empathy: Does nonjudgmental, present-moment awareness increase capacity for perspective-taking and empathic concern? *Journal of Marital and Family Therapy*, *33*(4), 501–516. https://doi.org/10.1111/j.1752-0606.2007.00034.x

Bohlmeijer, E., ten Klooster, P. M., Fledderus, M., Veehof, M., & Baer, R. (2011). Psychometric properties of the five facet mindfulness questionnaire in depressed adults and development of a short form. *Assessment*, *18*(3), 308–320. https://doi.org/10.1177/1073191111408231

Bond, A. R., Mason, H. F., Lemaster, C. M., Shaw, S. E., Mullin, C. S., Holick, E. A., & Saper, R. B. (2013). Embodied health: The effects of a mind–body course for medical students. *Medical Education Online*, *18*(1). https://doi.org/10.3402/meo.v18i0.20699

Boudreau, R. A., Grieco, R. L., Cahoon, S. L., Robertson, R. C., & Wedel, R. J. (2006). The pandemic from within: Two surveys of physician burnout in Canada. *Canadian Journal of Community Mental Health*, *25*(2), 71–78. https://doi.org/10.7870/cjcmh-2006-0014

Bowen, S., Haworth, K., Grow, J., Tsai, M., & Kohlenberg, R. (2012). Interpersonal mindfulness informed by Functional Analytic Psychotherapy: Findings from a pilot

randomized trial. *International Journal of Behavioral Consultation and Therapy*, *7*(2–3), 9–15. https://doi.org/10.1037/h0100931

Branson, D. C. (2019). Vicarious trauma, themes in research, and terminology: A review of literature. *Traumatology*, *25*(1), 2–10. https://doi.org/10.1037/trm0000161

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper (Ed.), *APA Handbook of research methods in psychology: Vol. Vol 2* (pp. 57–71). American Psychological Association. https://doi.org/10.1037/13620-004

Brazeau, C. M., Schroeder, R., Rovi, S., & Boyd, L. (2010). Relationships between medical student burnout, empathy, and professionalism climate. *Academic Medicine*, *85*(10), S33–S36. https://doi.org/10.1097/ACM.0b013e3181ed4c47

Brennan, J., McGrady, A., Lynch, D. J., Schaefer, P., & Whearty, K. (2016). A Stress Management Program for Higher Risk Medical Students: Preliminary Findings. *Applied Psychophysiology and Biofeedback*, *41*(3), 301–305. https://doi.org/10.1007/s10484-016-9333-1

British Psychological Society. (2020). *GUIDANCE Taking trauma related work home: Advice for reducing the likelihood of secondary trauma*.

Broughton, V. (2021). *Trauma and Identity: Identity Oriented Psychotrauma Therapy: Theory and Practice*. Green Balloon Publishing. https://books.google.co.uk/books?id=yvqXzgEACAAJ

Brown, J. (2008). How clinical communication has become a core part of medical education in the UK. *Medical Education*, *42*(3), 271–278. https://doi.org/10.1111/j.1365-2923.2007.02955.x

Brown, K., Creswell, J., & Ryan, R. (2015). *Handbook of mindfulness: Theory, research, and practice.* The Guilford Press. https://www.guilford.com/books/Handbook-of-Mindfulness/Brown-Creswell-Ryan/9781462525935/contents

Brown, K., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, *84*(4), 822–848. https://doi.org/10.1037/0022-3514.84.4.822

Brown, S., Goske, M. J., & Johnson, C. M. (2009). Beyond Substance Abuse: Stress, Burnout, and Depression as Causes of Physician Impairment and Disruptive Behavior. *Journal of the American College of Radiology*, *6*(7), 479–485. https://doi.org/10.1016/j.jacr.2008.11.029

Brown, T., Berman, S., McDaniel, K., Radford, C., Mehta, P., Potter, J., & Hirsh, D. A. (2021). Trauma-Informed Medical Education (TIME): Advancing Curricular Content and Educational Context. *Academic Medicine*, *96*(5), 661–667. https://doi.org/10.1097/ACM.0000000000003587

Brown, T., Mehta, P. K., Berman, S., McDaniel, K., Radford, C., Lewis-O'Connor, A., Grossman, S., Potter, J., Hirsh, D. A., Woo, B., & Krieger, D. (2021). A Trauma-Informed Approach to the Medical History: Teaching Trauma-Informed Communication Skills to First-Year Medical and Dental Students. *MedEdPORTAL: The AAMC Journal of Teaching and Learning Resources*, *17*, 11160. https://doi.org/10.15766/mep_2374-8265.11160

Brugel, S., Postma-Nilsenová, M., & Tates, K. (2015). The link between perception of clinical empathy and nonverbal behavior: The effect of a doctor's gaze and body orientation. *Patient Education and Counseling*, *98*(10), 1260–1265. https://doi.org/10.1016/j.pec.2015.08.007

Buffel du Vaure, C., Lemogne, C., Bunge, L., Catu-Pinault, A., Hoertel, N., Ghasarossian, C., Vincens, M.-E., Galam, E., & Jaury, P. (2017). Promoting empathy among medical students: A two-site randomized controlled study. *Journal of Psychosomatic Research*, *103*, 102–107. https://doi.org/10.1016/j.jpsychores.2017.10.008

Burgoon, J. K., Berger, C. R., & Waldron, V. R. (2000). Mindfulness and Interpersonal Communication. *Journal of Social Issues*, *56*(1), 105–127. https://doi.org/10.1111/0022-4537.00154

Canby, N. K., Cameron, I. M., Calhoun, A. T., & Buchanan, G. M. (2015). A Brief Mindfulness Intervention for Healthy College Students and Its Effects on Psychological Distress, Self-Control, Meta-Mood, and Subjective Vitality. *Mindfulness*, *6*(5), 1071–1081. https://doi.org/10.1007/s12671-014-0356-5

Carmody, J. (2015). Reconceptualizing mindfulness: The psychological principles of attending in mindfulness practice and their role in well-being. In K. W. Brown, J. D. Creswell, & R. M. Ryan (Eds.), *Handbook of Mindfulness: Theory, Research, and Practice* (pp. 62–80). The Guilford Press. https://www.routledge.com/Handbook-of-Mindfulness-Theory-Research-and-Practice/Brown-Creswell-Ryan/p/book/9781462525935

Carmody, J., & Baer, R. A. (2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program. *Journal of Behavioral Medicine*, *31*(1), 23–33. https://doi.org/10.1007/s10865-007-9130-7

Cecil, J., McHale, C., Hart, J., & Laidlaw, A. (2014). Behaviour and burnout in medical students. *Medical Education Online*, *19*(1). https://doi.org/10.3402/meo.v19.25209

Cedfeldt, A. S., Bower, E. A., English, C., Grady-Weliky, T. A., Girard, D. E., & Choi, D. (2010). Personal time off and residents' career satisfaction, attitudes and emotions. *Medical Education*, *44*(10). https://doi.org/10.1111/j.1365-2923.2010.03773.x

Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis (Introducing Qualitative Methods series)*. Sage Publications Ltd.

https://www.google.co.uk/books/edition/Constructing_Grounded_Theory/2ThdBAAAQBAJ?hl=en&gbpv=1&pg=PP1&printsec=frontcover

Chaukos, D., Chad-Friedman, E., Mehta, D. H., Byerly, L., Celik, A., McCoy, T. H., & Denninger, J. W. (2018). SMART-R: A Prospective Cohort Study of a Resilience Curriculum for Residents by Residents. *Academic Psychiatry*, *42*(1), 78–83. https://doi.org/10.1007/s40596-017-0808-z

Chen, A., Kumar, A., & Haramati, A. (2016). The effect of Mind Body Medicine course on medical student empathy: A pilot study. *Medical Education Online*, *21*(1), 31196. https://doi.org/10.3402/meo.v21.31196

Chen, C., Hewitt, P. L., & Flett, G. L. (2019). Adverse childhood experiences and multidimensional perfectionism in young adults. *Personality and Individual Differences*, *146*, 53–57. https://doi.org/10.1016/j.paid.2019.03.042

Chen, D., Kirshenbaum, D., Yan, J., Kirshenbaum, E., & Aseltine, R. H. (2012). Characterizing changes in student empathy throughout medical school. *Medical Teacher*, *34*(4), 305–311. https://doi.org/10.3109/0142159X.2012.644600

Chen, J., Chin, W. Y., Fung, C. S. C., Wong, C. K. H., & Tsang, J. P. Y. (2015). Assessing medical student empathy in a family medicine clinical test: Validity of the CARE measure. *Medical Education Online*, *20*(1). https://doi.org/10.3402/meo.v20.27346

Cherkil, S., Gardens, S. G., & Soman, D. K. (2013). Coping styles and its association with sources of stress in undergraduate medical students. *Indian Journal of Psychological Medicine*, *35*(4), 389–393. https://doi.org/10.4103/0253-7176.122235

Choi, E., Leroy, H., Johnson, A., & Nguyen, H. (2022). Flaws and all: How mindfulness reduces error hiding by enhancing authentic functioning. *Journal of Occupational Health Psychology*, *27*(5), 451–469. https://doi.org/10.1037/ocp0000327

Clance, P. R., & Imes, S. A. (1978). The imposter phenomenon in high achieving women: Dynamics and therapeutic intervention. *Psychotherapy: Theory, Research & Practice*, *15*(3), 241–247. https://doi.org/10.1037/h0086006

Cohen, D. (2006). "Family Constellations": An Innovative Systemic Phenomenological Group Process From Germany. *The Family Journal*, *14*(3), 226–233. https://doi.org/10.1177/1066480706287279

Cohen, J., & Miller, L. J. (2009). Interpersonal mindfulness training for well-being: A pilot study with psychology graduate students. *The Teachers College Record*, *111*(12), 2760–2774. https://doi.org/10.1177/016146810911101202

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A Global Measure of Perceived Stress. *Journal of Health and Social Behavior*, *24*(4), 385–396. https://doi.org/10.2307/2136404

Cohen-Katz, J., Wiley, S., Capuano, T., Baker, D. M., Deitrick, L., & Shapiro, S. L. (2005). The effects of mindfulness-based stress reduction on nurse stress and burnout: A quantitative and qualitative study (introduction and part III). *Holistic Nursing Practice*, *19*(2), 78–86. https://doi.org/10.1097/00004650-200503000-00009

Coronado-Montoya, S., Levis, A. W., Kwakkenbos, L., Steele, R. J., Turner, E. H., & Thombs, B. D. (2016). Reporting of Positive Results in Randomized Controlled Trials of Mindfulness-Based Mental Health Interventions. *PLOS ONE*, *11*(4). https://doi.org/10.1371/journal.pone.0153220

Cowan, H. R., McAdams, D. P., Ouellet, L., Jones, C. M., & Mittal, V. A. (2023). Self-concept and Narrative Identity in Youth at Clinical High Risk for Psychosis. *Schizophrenia Bulletin*, sbad142. https://doi.org/10.1093/schbul/sbad142

Cox, C. L., Uddin, L. Q., Martino, A., Castellanos, X. F., Milham, M. P., & Kelly, C. (2012). The balance between feeling and knowing: Affective and cognitive empathy are

reflected in the brain's intrinsic functional dynamics. *Social Cognitive and Affective Neuroscience*, *7*(6), 727–737. https://doi.org/10.1093/scan/nsr051

Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., & Petticrew, M. (2008). Developing and evaluating complex interventions: The new Medical Research Council guidance. *BMJ*, *337*, a1655. https://doi.org/10.1136/bmj.a1655

Crandall, A., Miller, J. R., Cheung, A., Novilla, L. K., Glade, R., Novilla, M. L. B., Magnusson, B. M., Leavitt, B. L., Barnes, M. D., & Hanson, C. L. (2019). ACEs and counter-ACEs: How positive and negative childhood experiences influence adult health. *Child Abuse & Neglect*, *96*, 104089. https://doi.org/10.1016/j.chiabu.2019.104089

Crane, R. S., Brewer, J., Feldman, C., Kabat-Zinn, J., Santorelli, S., Williams, J. M. G., & Kuyken, W. (2017). What defines mindfulness-based programs? The warp and the weft. *Psychological Medicine*, *47*(6), 990–999. https://doi.org/10.1017/S0033291716003317

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 161–196). Sage.

Crocker, J., Luhtanen, R. K., Cooper, M. L., & Bouvrette, A. (2003). Contingencies of Self-Worth in College Students: Theory and Measurement. *Journal of Personality and Social Psychology*, *85*(5), 894–908. https://doi.org/10.1037/0022-3514.85.5.894

Crouch, E., Radcliff, E., Strompolis, M., & Srivastav, A. (2019). Safe, Stable, and Nurtured: Protective Factors against Poor Physical and Mental Health Outcomes Following Exposure to Adverse Childhood Experiences (ACEs). *Journal of Child & Adolescent Trauma*, *12*(2), 165–173. https://doi.org/10.1007/s40653-018-0217-9

Dahl, C. J., Lutz, A., & Davidson, R. J. (2015). Reconstructing and deconstructing the self: Cognitive mechanisms in meditation practice. *Trends in Cognitive Sciences*, *19*(9), 515–523. https://doi.org/10.1016/j.tics.2015.07.001

Dahlin, M., Joneborg, N., & Runeson, B. (2005). Stress and depression among medical students: A cross-sectional study. *Medical Education*, *39*(6), 594–604. https://doi.org/10.1111/j.1365-2929.2005.02176.x

Damião Neto, A., Lucchetti, A. L. G., da Silva Ezequiel, O., & Lucchetti, G. (2020). Effects of a Required Large-Group Mindfulness Meditation Course on First-Year Medical Students' Mental Health and Quality of Life: A Randomized Controlled Trial. *Journal of General Internal Medicine*, *35*(3), 672–678. https://doi.org/10.1007/s11606-019-05284-0

Danilewitz, M., Bradwejn, J., & Koszycki, D. (2016). A pilot feasibility study of a peer-led mindfulness program for medical students. *Canadian Medical Education Journal*, *7*(1), e31–e37. https://doi.org/10.36834/cmej.36643

Davis, M. H. (1980). A Multidimensional Approach to Individual Differences in Empathy. *JSAS Catalog of Selected Documents in Psychology*, *10*, 85–103. https://www.uv.es/friasnav/Davis_1980.pdf

Daya, Z., & Hearn, J. H. (2018). Mindfulness interventions in medical education: A systematic review of their impact on medical student stress, depression, fatigue and burnout. *Medical Teacher*, *40*(2), 146–153. https://doi.org/10.1080/0142159X.2017.1394999

de Vibe, M. (2014). *Mindfulness training for medical and psychology students* [Doctoral Thesis, University of Oslo]. https://www.Duo.Uio.No/Handle/10852/40933.

de Vibe, M., Solhaug, I., & Tyssen, R. (2013). Mindfulness training for stress management: A randomised controlled study of medical and psychology students. *BMC Medical Education*, *13*, 107–107. https://doi.org/10.1186/1472-6920-13-107

Dekeyser, M., Raes, F., Leijssen, M., Leysen, S., & Dewulf, D. (2008). Mindfulness skills and interpersonal behaviour. *Personality and Individual Differences*, *44*(5), 1235–1245. https://doi.org/10.1016/j.paid.2007.11.018

DeMauro, A. A., Jennings, P. A., Cunningham, T., Fontaine, D., Park, H., & Sheras, P. L. (2019). Mindfulness and caring in professional practice: An interdisciplinary review of qualitative research. *Mindfulness*, *10*(10), 1969–1984. https://doi.org/10.1007/s12671-019-01186-8

Derksen, F., Bensing, J., & Lagro-Janssen, A. (2013). Effectiveness of empathy in general practice: A systematic review. *British Journal of General Practice*, *63*(606), e76-84. https://doi.org/10.3399/bjgp13X660814

Dobie, A., Tucker, A., Ferrari, M., & Rogers, J. M. (2016). Preliminary evaluation of a brief mindfulness-based stress reduction intervention for mental health professionals. *Australasian Psychiatry*, *24*(1), 42–45. https://doi.org/10.1177/1039856215618524

Dobkin, P. L. (2008). Mindfulness-based stress reduction: What processes are at work? *Complementary Therapies in Clinical Practice*, *14*(1), 8–16. https://doi.org/10.1016/j.ctcp.2007.09.004

Dobkin, P. L., & Hutchinson, T. A. (2010). Primary prevention for future doctors: Promoting well-being in trainees. *Medical Education*, *44*(3), 224–226. https://doi.org/10.1111/j.1365-2923.2009.03613.x

Dobkin, P. L., & Hutchinson, T. A. (2013). Teaching mindfulness in medical school: Where are we now and where are we going? *Medical Education*, *47*(8), 768–779. https://doi.org/10.1111/medu.12200

Dobkin, P. L., & Zhao, Q. (2011). Increased mindfulness – The active component of the mindfulness-based stress reduction program? *Complementary Therapies in Clinical Practice*, *17*(1), 22–27. https://doi.org/10.1016/j.ctcp.2010.03.002

Donaldson-Feilder, E., Lewis, R., Yarker, J., & Whiley, L. A. (2021). Interpersonal Mindfulness in Leadership Development: A Delphi Study. *Journal of Management Education*, *46*(5), 816–852. https://doi.org/10.1177/10525629211067183

Duane, A., Casimir, A. E., Mims, L. C., Kaler-Jones, C., & Simmons, D. (2021). Beyond deep breathing: A new vision for equitable, culturally responsive, and trauma-informed mindfulness practice. *Middle School Journal*, *52*(3), 4–14. https://doi.org/10.1080/00940771.2021.1893593

Dyrbye, L. N., & Shanafelt, T. (2016). A narrative review on burnout experienced by medical students and residents. *Medical Education*, *50*(1), 132–149. https://doi.org/10.1111/medu.12927

Dyrbye, L. N., Shanafelt, T. D., Werner, L., Sood, A., Satele, D., & Wolanskyj, A. P. (2017). The Impact of a Required Longitudinal Stress Management and Resilience Training Course for First-Year Medical Students. *Journal of General Internal Medicine*, *32*(12), 1309–1314. https://doi.org/10.1007/s11606-017-4171-2

Dyrbye, L. N., Thomas, M. R., & Shanafelt, T. D. (2006). Systematic review of depression, anxiety, and other indicators of psychological distress among US and Canadian medical students. *Academic Medicine*, *81*(4), 354–373. https://doi.org/10.1097/00001888-200604000-00009

Eklund, J. H., Holmström, I. K., Kumlin, T., Kaminsky, E., Skoglund, K., Höglander, J., Sundler, A. J., Condén, E., & Summer Meranius, M. (2019). "Same same or different?" A review of reviews of person-centered and patient-centered care. *Patient Education and Counseling*, *102*(1), 3–11. https://doi.org/10.1016/j.pec.2018.08.029

Emanuel, E. J., & Gudbranson, E. (2018). Does Medicine Overemphasize IQ? *JAMA*, *319*(7), 651. https://doi.org/10.1001/jama.2017.20141

Erogul, M., Singer, G., McIntyre, T., & Stefanov, D. G. (2014). Abridged Mindfulness Intervention to Support Wellness in First-Year Medical Students. *Teaching and Learning in Medicine*, *26*(4), 350–356. https://doi.org/10.1080/10401334.2014.945025

Erschens, R., Keifenheim, K. E., Herrmann-Werner, A., Loda, T., Schwille-Kiuntke, J., Bugaj, T. J., Nikendei, C., Huhn, D., Zipfel, S., & Junne, F. (2019). Professional burnout among medical students: Systematic literature review and meta-analysis. *Medical Teacher*, *41*(2), 172–183. https://doi.org/10.1080/0142159X.2018.1457213

Evans, B. J., Stanley, R. O., & Burrows, G. D. (1993). Measuring medical students' empathy skills. *British Journal of Medical Psychology*, *66*(2), 121–133. https://doi.org/10.1111/j.2044-8341.1993.tb01735.x

Everson, N., Levett-Jones, T., & Pitt, V. (2018). The impact of educational interventions on the empathic concern of health professional students: A literature review. *Nurse Education in Practice*, *31*, 104–111. https://doi.org/10.1016/j.nepr.2018.05.015

Falb, M. D., & Pargament, K. I. (2012). Relational mindfulness, spirituality, and the therapeutic bond. *Asian Journal of Psychiatry*, *5*(4), 351–354. https://doi.org/10.1016/j.ajp.2012.07.008

Feinmann, J. (2002). Brushing up on doctors' communication skills. *The Lancet*, *360*(9345), 1572–1572. https://doi.org/10.1016/S0140-6736(02)11592-3

Ferraro, J. (2021). *What is the experience of using mindfulness as self-care for newly qualified counselling psychologists: Interpretive Phenomenological Analysis* [University of East London].

https://repository.uel.ac.uk/download/92b15ab22e0034156660e15ab716327961ce368a3f640a07a1fe6abc9d621590/3072527/2021_DCounPsy_Ferraro.pdf

Field, A. (2017). *Discovering Statistics Using IBM SPSS Statistics*. SAGE. Google-Books-ID: c0Wk9IuBmAoC

Fields, S. K., Mahan, P., Tillman, P., Harris, J., Maxwell, K., & Hojat, M. (2011). Measuring empathy in healthcare profession students using the Jefferson Scale of Physician Empathy: Health provider – student version. *Journal of Interprofessional Care*, *25*(4), 287–293. https://doi.org/10.3109/13561820.2011.566648

Figley, C. R. (2002). Compassion fatigue: Psychotherapists' chronic lack of self care. *Journal of Clinical Psychology*, *58*(11), 1433–1441. https://doi.org/10.1002/jclp.10090

Figley, C. R. (2013). *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized*. Routledge.

Findlay, L. C., Girardi, A., & Coplan, R. J. (2006). Links between empathy, social behavior, and social understanding in early childhood. *Early Childhood Research Quarterly*. https://doi.org/10.1016/j.ecresq.2006.07.009

Fink-Samnick, E. (2022). Collective Occupational Trauma, Health Care Quality, and Trauma-Informed Leadership: Intersections and Implications. *Professional Case Management*, *27*(3), 107–123. https://doi.org/10.1097/NCM.0000000000000559

Finlay, L. (2002). Negotiating the swamp: The opportunity and challenge of reflexivity in research practice. *Qualitative Research*, *2*(2), 209–230. https://doi.org/10.1177/146879410200200205

Finney Rutten, L. J., Hesse, B. W., St. Sauver, J. L., Wilson, P., Chawla, N., Hartigan, D. B., Moser, R. P., Taplin, S., Glasgow, R., & Arora, N. K. (2016). Health Self-Efficacy Among Populations with Multiple Chronic Conditions: The Value of Patient-Centered

Communication. *Advances in Therapy*, *33*(8), 1440–1451. https://doi.org/10.1007/s12325-016-0369-7

Fox, R. (2001). Bristol Scandal. *Circulation*, *104*(7), e9014–e9014. https://doi.org/10.1161/hc3201.097067

French, S. D., Green, S. E., O'Connor, D. A., McKenzie, J. E., Francis, J. J., Michie, S., Buchbinder, R., Schattner, P., Spike, N., & Grimshaw, J. M. (2012). Developing theory-informed behaviour change interventions to implement evidence into practice: A systematic approach using the Theoretical Domains Framework. *Implementation Science*, *7*(1), 38. https://doi.org/10.1186/1748-5908-7-38

Freyd, J. J. (1996). *Betrayal trauma: The logic of forgetting childhood abuse.* Harvard University Press. https://www.jjfreyd.com/books

Fultz, A. A., & Bernieri, F. J. (2022). Observer descriptions of the empathic person: A look at the Davis IRI and Hogan empathy scales. *The Journal of Social Psychology*, *162*(1), 26–40. https://doi.org/10.1080/00224545.2021.1985416

Galantino, M. L., Baime, M., Maguire, M., Szapary, P. O., & Farrar, J. T. (2005). Association of psychological and physiological measures of stress in health-care professionals during an 8-week mindfulness meditation program: Mindfulness in practice. *Stress and Health*, *21*(4), 255–261. https://doi.org/10.1002/smi.1062

Galla, B. M., Hale, T. S., Shrestha, A., Loo, S. K., & Smalley, S. L. (2012). The Disciplined Mind: Associations Between the Kentucky Inventory of Mindfulness Skills and Attention Control. *Mindfulness*, *3*(2), 95–103. https://doi.org/10.1007/s12671-011-0083-0

Gambrel, L. E., & Keeling, M. L. (2010). Relational aspects of mindfulness: Implications for the practice of marriage and family therapy. *Contemporary Family Therapy*, *32*, 412–426. https://doi.org/10.1007/s10591-010-9129-z

García-Campayo, J., Demarzo, M. M. P., Navarro-Gil, M., Puebla, M., Herrera-Mercadal, P., Alda, M., & Gasion, V. (2015). Compassion and values-based mindfulness intervention: The mindfulness intervention programme by the University of Zaragoza, Spain, and the Federal University of São Paulo—Unifesp, Brazil. *Actas Espanolas de Psiquiatria*, *43*(Supl. 1), 19–25.

Gillespie, B., Davey, M. P., & Flemke, K. (2015). Intimate Partners' Perspectives on the Relational Effects of Mindfulness-Based Stress Reduction Training: A Qualitative Research Study. *Contemporary Family Therapy*, *37*(4), 396–407. https://doi.org/10.1007/s10591-015-9350-x

Gilmartin, H., Goyal, A., Hamati, M. C., Mann, J., Saint, S., & Chopra, V. (2017). Brief Mindfulness Practices for Healthcare Providers – A Systematic Literature Review. *American Journal of Medicine*, *130*(10), 1219.e1-1219.e17. https://doi.org/10.1016/j.amjmed.2017.05.041

Goehring, C., Bouvier Gallacchi, M., Kunzi, B., & Bovier, P. (2005). Psychosocial and professional characteristics of burnout in Swiss primary care practitioners: A cross-sectional survey. *Swiss Medical Weekly*, *135*(0708), 101–108. https://doi.org/10.4414/smw.2005.10841

Good Practice Guidelines for Teaching MBSR. (2020). Brown University. https://www.brown.edu/public-health/mindfulness/ideas/good-practice-guidelines-teaching-mbsr

Graham-Kevan, N., Brooks, M., Willan, V., Lowe, M., Robinson, P., Khan, R., Stokes, R., Irving, M., Karwacka, M., & Bryce, J. (2015). Repeat Victimisation, Retraumatisation and Victim Vulnerability. *The Open Criminology Journal*, *8*(1), 36–48. https://doi.org/10.2174/1874917801508010036

Greeson, J. M., Toohey, M. J., & Pearce, M. J. (2015). An Adapted, Four-Week Mind–Body Skills Group for Medical Students: Reducing Stress, Increasing Mindfulness, and Enhancing Self-Care. *EXPLORE*, *11*(3), 186–192. https://doi.org/10.1016/j.explore.2015.02.003

Grepmair, L., Mitterlehner, F., Loew, T., Bachler, E., Rother, W., & Nickel, M. (2007). Promoting Mindfulness in Psychotherapists in Training Influences the Treatment Results of Their Patients: A Randomized, Double-Blind, Controlled Study. *Psychotherapy and Psychosomatics*, *76*(6), 332–338. https://doi.org/10.1159/000107560

Grosseman, S., Novack, D. H., Duke, P., Mennin, S., Rosenzweig, S., Davis, T. J., & Hojat, M. (2014). Residents' and standardized patients' perspectives on empathy: Issues of agreement. *Patient Education and Counseling*, *96*(1), 22–28. https://doi.org/10.1016/j.pec.2014.04.007

Grossman, P. (2011). Defining mindfulness by how poorly I think I pay attention during everyday awareness and other intractable problems for psychology's (re)invention of mindfulness: Comment on Brown et al. (2011). *Psychological Assessment*, *23*(4), 1034–1034. https://doi.org/10.1037/a0022713

Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits. A meta-analysis. *Journal of Psychosomatic Research*, *57*(1), 35–43. https://doi.org/10.1016/s0022-3999(03)00573-7

Gu, J., Strauss, C., Crane, C., Barnhofer, T., Karl, A., Cavanagh, K., & Kuyken, W. (2016). Examining the factor structure of the 39-item and 15-item versions of the Five Facet Mindfulness Questionnaire before and after mindfulness-based cognitive therapy for people with recurrent depression. *Psychological Assessment*, *28*(7), 791–802. https://doi.org/10.1037/pas0000263

Handran, J. (2015). Trauma-Informed Systems of Care: The Role of Organizational Culture in the Development of Burnout, Secondary Traumatic Stress, and Compassion Satisfaction. *Journal of Social Welfare and Human Rights*, *3*(2), 1–22. https://doi.org/10.15640/10.15640/jswhr.v3n2a1

Hanley, A. W., Abell, N., Osborn, D. S., Roehrig, A. D., & Canto, A. I. (2016). Mind the Gaps: Are Conclusions About Mindfulness Entirely Conclusive? *Journal of Counseling & Development*, *94*(1), 103–113. https://doi.org/10.1002/jcad.12066

Harrison, L. (2019). Is There a Movement Towards the Acceptance of Mindfulness in Medical Education? An Audit of Mindfulness Activity in UK Medical Schools. *MedEdPublish*, *8*(2), 1–11. https://doi.org/10.15694/mep.2019.000084.1

Hassed, C., de Lisle, S., Sullivan, G., & Pier, C. (2009). Enhancing the health of medical students: Outcomes of an integrated mindfulness and lifestyle program. *Advances in Health Sciences Education*, *14*, 387–398. https://doi.org/10.1007/s10459-008-9125-3

Hattink, B., Meiland, F., Van Der Roest, H., Kevern, P., Abiuso, F., Bengtsson, J., Giuliano, A., Duca, A., Sanders, J., Basnett, F., Nugent, C., Kingston, P., & Dröes, R.-M. (2015). Web-Based STAR E-Learning Course Increases Empathy and Understanding in Dementia Caregivers: Results from a Randomized Controlled Trial in the Netherlands and the United Kingdom. *Journal of Medical Internet Research*, *17*(10), e241. https://doi.org/10.2196/jmir.4025

Heppner, W. L., & Kernis, M. H. (2007). "Quiet Ego" Functioning: The Complementary Roles of Mindfulness, Authenticity, and Secure High Self-Esteem. *Psychological Inquiry*, *18*(4), 248–251. https://doi.org/10.1080/10478400701598330

Hermans, H. J. M. (2008). How to Perform Research on the Basis of Dialogical Self Theory? Introduction to the Special Issue. *Journal of Constructivist Psychology*, *21*(3), 185–199. https://doi.org/10.1080/10720530802070684

Herrando, C., & Constantinides, E. (2021). Emotional Contagion: A Brief Overview and Future Directions. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.712606

Hertz, R. (1996). Ethics, Reflexivity and Voice. *Qualitative Sociology*, *19*(1), 3–10. https://doi.org/10.1007/BF02393245

Hildebrandt, L. K., McCall, C., & Singer, T. (2017). Differential Effects of Attention-, Compassion-, and Socio-Cognitively Based Mental Practices on Self-Reports of Mindfulness and Compassion. *Mindfulness*, *8*(6), 1488–1512. https://doi.org/10.1007/s12671-017-0716-z

Hill, M. R., Goicochea, S., & Merlo, L. J. (2018). In their own words: Stressors facing medical students in the millennial generation. *Medical Education Online*, *23*(1). https://doi.org/10.1080/10872981.2018.1530558

Hodgdon, H. B., Anderson, F. G., Southwell, E., Hrubec, W., & Schwartz, R. (2022). Internal Family Systems (IFS) Therapy for Posttraumatic Stress Disorder (PTSD) among Survivors of Multiple Childhood Trauma: A Pilot Effectiveness Study. *Journal of Aggression, Maltreatment & Trauma*, *31*(1), 22–43. https://doi.org/10.1080/10926771.2021.2013375

Hojat, M., Gonnella, J. S., & Nasca, T. J. (2002). Physician empathy: Definition, components, measurement, and relationship to gender and specialty. *American Journal of Psychiatry*, *9*, 1563–1569. https://doi.org/10.1176/appi.ajp.159.9.1563

Hojat, M., Gonnella, J. S., Nasca, T., & Magee, M. (2003). *Semin Integr Med*, *1*(1), 25–41. https://doi.org/10.1016/S1543-1150(03)00002-4

Hojat, M., & LaNoue, M. (2014). Exploration and confirmation of the latent variable structure of the Jefferson scale of empathy. *International Journal of Medical Education*, *20*(5), 73–81. https://doi.org/10.5116/ijme.533f.0c41

Hojat, M., Louis, D. Z., Markham, F. W., Wender, R., Rabinowitz, C., & Gonnella, J. S. (2011). Physicians' Empathy and Clinical Outcomes for Diabetic Patients: *Academic Medicine*, *86*(3), 359–364. https://doi.org/10.1097/ACM.0b013e3182086fe1

Hojat, M., Mangione, S., Kane, G. C., & Gonnella, J. S. (2005). Relationships between scores of the Jefferson Scale of Physician Empathy (JSPE) and the Interpersonal Reactivity Index (IRI). *Medical Teacher*, *27*(7), 625–628. https://doi.org/10.1080/01421590500069744

Hojat, M., Mangione, S., Nasca, T., Cohen, M. J., Gonnella, J. S., Erdmann, J. B., Veloski, J., & Magee, M. (2001). Development and preliminary psychometrics. *Educ Psychol Meas*, *61*(2), 49–365. https://doi.org/10.1177/00131640121971158

Holden, C. L., Wright, L. E., Herring, A. M., & Sims, P. L. (2021). Imposter Syndrome Among First- and Continuing-Generation College Students: The Roles of Perfectionism and Stress. *Journal of College Student Retention: Research, Theory & Practice*, *25*(4), 726–740. https://doi.org/10.1177/15210251211019379

Holmes, J. (2014). *John Bowlby and attachment theory.* Routledge. https://doi.org/10.4324/9781315879772

Hölzel, B. K., Carmody, J., Vangel, M., Congleton, C., Yerramsetti, S. M., Gard, T., & Lazar, S. W. (2011). Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry Research: Neuroimaging*, *191*(1), 36–43. https://doi.org/10.1016/j.pscychresns.2010.08.006

Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U. (2011). How Does Mindfulness Meditation Work? Proposing Mechanisms of Action From a Conceptual and Neural Perspective. *Perspectives on Psychological Science*, *6*(6), 537–559. https://doi.org/10.1177/1745691611419671

Huberty, C. J., & Morris, J. D. (1989). Multivariate analysis versus multiple univariate analyses. *Psychological Bulletin*, *105*(2), 302–308. https://doi.org/10.1037/0033-2909.105.2.302

Hutcherson, C. A., Seppala, E. M., & Gross, J. J. (2008). Loving-kindness meditation increases social connectedness. *Emotion*, *8*(5), 720–720. https://doi.org/10.1037/a0013237

Ickes, W. (1993). Empathic Accuracy. *Journal of Personality*, *61*(4), 587–610. https://doi.org/10.1111/j.1467-6494.1993.tb00783.x

Ickes, W. (2003). *Everyday mind reading: Understanding what other people think and feel*. Prometheus Books/Rowman & Littlefield. https://psycnet.apa.org/record/2003-88340-000

Ickes, W., Buysse, A., Pham, H., & Rivers, K. (2000). On the difficulty of distinguishing "good" and "poor" perceivers: A social relations analysis of empathic accuracy data. *7*, 219–234. https://doi.org/10.1111/j.1475-6811.2000.tb00013.x

Irving, J., Dobkin, P. L., & Park, J. (2009). Cultivating mindfulness in health care professionals: A review of empirical studies of mindfulness-based stress reduction (MBSR). *Complementary Therapies in Clinical Practice*, *15*(2), 61–66. https://doi.org/10.1016/j.ctcp.2009.01.002

Jackson, E. R., Shanafelt, T. D., Hasan, O., Satele, D. V., & Dyrbye, L. N. (2016). Burnout and Alcohol Abuse/Dependence Among U.S. Medical Students: *Academic Medicine*, *91*(9), 1251–1256. https://doi.org/10.1097/ACM.0000000000001138

Jain, S., Shapiro, S. L., Swanick, S., Roesch, S. C., Mills, P. J., Bell, I., & Schwartz, G. E. R. (2007). A randomized controlled trial of mindfulness meditation versus relaxation training: Effects on distress, positive states of mind, rumination, and distraction. *: A*

Publication of the Society of Behavioral Medicine, *33*(1), 11–21. https://doi.org/10.1207/s15324796abm3301_2

James, C., Davis, K., Charmaraman, L., Konrath, S., Slovak, P., Weinstein, E., & Yarosh, L. (2017). Digital life and youth well-being, social connectedness, empathy, and narcissism. *Pediatrics*, *140*(Suppl 2), S71–S75. https://doi.org/10.1542/peds.2016-1758F

Jeffrey, D. I. (2019). *Exploring Empathy with Medical Students*. Springer International Publishing. https://doi.org/10.1007/978-3-030-11211-0

Joffe, H. (1999). *Risk and 'the Other'*. Cambridge University Press. https://doi.org/10.1017/CBO9780511489846

Jolliffe, D., & Farrington, D. P. (2011). Is low empathy related to bullying after controlling for individual and social background variables? *Journal of Adolescence*, *34*(1), 59–71. https://doi.org/10.1016/j.adolescence.2010.02.001

Kabat-Zinn, J. (1990). *Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain, and Illness*. Random House Publishing Group. Google-Books-ID: iedJAAAAQBAJ

Kabat-Zinn, J. (1994). *Wherever you go, there you are.* New York: Hyperion. Google-Books-ID: 9Y63EAAAQBAJ

Kabat-Zinn, J. (2003). Mindfulness-Based Stress Reduction (MBSR). *Constructivism in the Human Sciences*, *8*(2), 73–83. https://www.proquest.com/docview/204582884/citation/78CF62AC62734DDCPQ/1

Kabat-Zinn, J. (2014). Meditation is not for the faint-hearted. *Mindfulness*, *5*, 341–344. https://doi.org/10.1007/s12671-014-0307-1

Kabat-Zinn, J. (2016). *Body Scan Meditation*. https://www.youtube.com/watch?v=u4gZgnCy5ew&t=2170s

Kelley, K., & Preacher, K. J. (2012). On effect size. *Psychological Methods*, *17*(2), 137–152. https://doi.org/10.1037/a0028086

Khoury, B., Sharma, M., Rush, S. E., & Fournier, C. (2015). Mindfulness-based stress reduction for healthy individuals: A meta-analysis. *Journal of Psychosomatic Research*, *78*(6), 519–528. https://doi.org/10.1016/j.jpsychores.2015.03.009

King, E., Steenson, C., Shannon, C., & Mulholland, C. (2017). Prevalence rates of childhood trauma in medical students: A systematic review. *BMC Medical Education*, *17*(1), 159. https://doi.org/10.1186/s12909-017-0992-2

Kohlenberg, R. J., Tsai, M., Kuczynski, A. M., Rae, J. R., Lagbas, E., Lo, J., & Kanter, J. W. (2015). A brief, interpersonally oriented mindfulness intervention incorporating Functional Analytic Psychotherapy′s model of awareness, courage and love. *Journal of Contextual Behavioral Science*, *4*(2), 107–111. https://doi.org/10.1016/j.jcbs.2015.03.003

Kok, B. E., & Singer, T. (2017). Effects of Contemplative Dyads on Engagement and Perceived Social Connectedness Over 9 Months of Mental Training: A Randomized Clinical Trial. *JAMA Psychiatry*, *74*(2), 126–134. https://doi.org/10.1001/jamapsychiatry.2016.3360

Kramer, G. (2007). *Insight dialogue: The interpersonal path to freedom*. Shambhala Publications. Google-Books-ID: 3DfjSoZgvZ4C

Kramer, G. (2024). *Insight Dialogue Community*. https://insightdialogue.org/interpersonal-mindfulness-program/

Kramer, G., Meleo-Meyer, F., & Turner, M. (2008). Cultivating mindfulness in relation: Insight dialogue and the interpersonal mindfulness program. In S. F. Hick & T. Bien (Eds.), *Mindfulness and the therapeutic relationship* (pp. 195–214). Guilford Press.

https://insightdialogue.org/wp-content/uploads/2012/06/Cultivating-Mindfulness-in-Relationship.pdf

Krasner, M. S., Epstein, R. M., Beckman, H., Suchman, A. L., Chapman, B., Mooney, C. J., & Quill, T. E. (2009). Association of an Educational Program in Mindful Communication With Burnout, Empathy, and Attitudes Among Primary Care Physicians. *JAMA*, *302*(12), 1284. https://doi.org/10.1001/jama.2009.1384

Kunzler, A. M., Helmreich, I., Chmitorz, A., König, J., Binder, H., Wessa, M., & Lieb, K. (2020). Psychological interventions to foster resilience in healthcare professionals. *Cochrane Database of Systematic Reviews*, *2020*(7). https://doi.org/10.1002/14651858.CD012527.pub2

Lahman, M. K. E., Geist, M. R., Rodriguez, K. L., Graglia, P., & DeRoche, K. K. (2011). Culturally responsive relational reflexive ethics in research: The three rs. *Quality & Quantity*, *45*(6), 1397–1414. https://doi.org/10.1007/s11135-010-9347-3

Lamothe, M., Boujut, E., Zenasni, F., & Sultan, S. (2014). To be or not to be empathic: The combined role of empathic concern and perspective taking in understanding burnout in general practice. *BMC Family Practice*, *15*(1), 1–7. https://doi.org/10.1186/1471-2296-15-15

Lamothe, M., Rondeau, É., Malboeuf-Hurtubise, C., Duval, M., & Sultan, S. (2016). Outcomes of MBSR or MBSR-based interventions in health care providers: A systematic review with a focus on empathy and emotional competencies. *Complementary Therapies in Medicine*, *24*, 19–28. https://doi.org/10.1016/j.ctim.2015.11.001

Larson, E. B., & Yao, X. (2005). Clinical empathy as emotional labor in the patient-physician relationship. *JAMA*, *293*(9), 1100–1106. https://doi.org/10.1001/jama.293.9.1100

Lawrence, E. J., Shaw, P., Baker, D., Baron-Cohen, S., & David, A. S. (2004). Measuring empathy: Reliability and validity of the Empathy Quotient. *Psychological Medicine*, *34*(5), 911–920. https://doi.org/10.1017/S0033291703001624

Leahy, C. M., Peterson, R. F., Wilson, I. G., Newbury, J. W., Tonkin, A. L., & Turnbull, D. (2010). Distress Levels and Self-Reported Treatment Rates for Medicine, Law, Psychology and Mechanical Engineering Tertiary Students: Cross-Sectional Study. *Australian & New Zealand Journal of Psychiatry*, *44*(7), 608–615. https://doi.org/10.3109/00048671003649052

Lee, R. M., Draper, M., & Lee, S. (2001). Social connectedness, dysfunctional interpersonal behaviors, and psychological distress: Testing a mediator model. *Social Connectedness, Dysfunctional Interpersonal Behaviors, and Psychological Distress: Testing a Mediator Model.*, *48*(3), 310–318. https://doi.org/10.1037/0022-0167.48.3.310

Lee, R. M., & Robbins, S. B. (1995). Measuring belongingness: The Social Connectedness and the Social Assurance scales. *Journal of Counseling Psychology*, *42*(2), 232–241. https://doi.org/10.1037/0022-0167.42.2.232

Lengacher, C. A., Johnson-Mallard, V., Post-White, J., Moscoso, M. S., Jacobsen, P. B., Klein, T. W., Widen, R. H., Fitzgerald, S. G., Shelton, M. M., Barta, M., Goodman, M., Cox, C. E., & Kip, K. E. (2009). Randomized controlled trial of mindfulness-based stress reduction (MBSR) for survivors of breast cancer. *Psycho-Oncology*, *18*(12), 1261–1272. https://doi.org/10.1002/pon.1529

Leonard, S. R. K., & Willig, C. (2021). The experience of living with very high empathy: A critical realist, pragmatic approach to exploring objective and subjective layers of the phenomenon. *Counselling and Psychotherapy Research*, *21*(1), 52–65. https://doi.org/10.1002/capr.12364

Lindahl, J. (2017). Somatic Energies and Emotional Traumas: A Qualitative Study of Practice-Related Challenges Reported by Vajrayāna Buddhists. *Religions*, *8*(8), 153. https://doi.org/10.3390/rel8080153

Lomas, T., Ivtzan, I., & Fu, C. (2015). A systematic review of the neurophysiology of mindfulness on EEG oscillations. *Neuroscience & Biobehavioral Reviews*, *57*, 401–410. https://doi.org/10.1016/j.neubiorev.2015.09.018

LoSasso, A. A., Lamberton, C. E., Sammon, M., Berg, K. T., Caruso, J. W., Cass, J., & Hojat, M. (2017). Enhancing Student Empathetic Engagement, History-Taking, and Communication Skills During Electronic Medical Record Use in Patient Care. *Academic Medicine*, *92*(7), 1022–1027. https://doi.org/10.1097/ACM.0000000000001476

Luberto, C. M., Shinday, N., Song, R., Philpotts, L. L., Park, E. R., Fricchione, G. L., & Yeh, G. Y. (2018). A Systematic Review and Meta-analysis of the Effects of Meditation on Empathy, Compassion, and Prosocial Behaviors. *Mindfulness*, *9*, 708–724. https://doi.org/10.1007/s12671-017-0841-8

Ludwig, D. S., & Kabat-Zinn, J. (2008). Mindfulness in Medicine. *Jama*, *300*(11), 1350–1352. https://doi.org/10.1001/jama.300.11.1350

Maheswaran, H., Weich, S., Powell, J., & Stewart-Brown, S. (2012). Evaluating the responsiveness of the Warwick Edinburgh Mental Well-Being Scale (WEMWBS): Group and individual level analysis. *Health and Quality of Life Outcomes*, *10*(1), 156. https://doi.org/10.1186/1477-7525-10-156

Maitreyabandhu. (2018). *The Journey and the Guide* (2nd ed.). Windhorse Publications, Cambridge. https://www.brownsbfs.co.uk/Product/Maitreyabandhu/The-Journey-and-the-Guide/9781909314092

Malpass, A., Binnie, K., & Robson, L. (2019). Medical Students' Experience of Mindfulness Training in the UK: Well-Being, Coping Reserve, and Professional Development. *Education Research International*, *2019*, 4021729. https://doi.org/10.1155/2019/4021729

Malpass, A., Sales, K., & Feder, G. (2016). Reducing symbolic-violence in the research encounter: Collaborating with a survivor of domestic abuse in a qualitative study in UK primary care. *Sociology of Health & Illness*, *38*(3), 442–458. https://doi.org/10.1111/1467-9566.12352

Manderscheid, R. W. (2009). Trauma-Informed Leadership. *International Journal of Mental Health*, *38*(1), 78–86. https://doi.org/10.2753/IMH0020-7411380107

Manotas, M., Segura, C., Eraso, M., Oggins, J., & McGovern, K. (2014). Association of brief mindfulness training with reductions in perceived stress and distress in Colombian health care professionals. *International Journal of Stress Management*, *21*(2), 207–225. https://doi.org/10.1037/a0035150

Marks, C., Pearson, J. L., Zúñiga, M. L., Martin, N., Werb, D., & Smith, L. R. (2022). Articulating the Trauma-Informed Theory of Individual Health Behavior. *Stress and Health*, *38*(1), 154–162. https://doi.org/10.1002/smi.3068

Martin-Asuero, A., Queraltó, J., Pujol-Ribera, E., Berenguera, A., Rodriguez-Blanco, T., & Epstein, R. M. (2014). Effectiveness of a Mindfulness Education Program in Primary Health Care Professionals: A Pragmatic Controlled Trial. *Journal of Continuing Education in the Health Professions*, *34*(1), 4–12. https://doi.org/10.1002/chp.21211

Masi, C. M., Chen, H.-Y., Hawkley, L. C., & Cacioppo, J. T. (2011). A Meta-Analysis of Interventions to Reduce Loneliness. *Personality and Social Psychology Review*, *15*(3), 219–266. https://doi.org/10.1177/1088868310377394

Maté, G., & Maté, D. (2022). *The myth of normal: Trauma, illness, and healing in a toxic culture*. Penguin. https://drgabormate.com/book/the-myth-of-normal/

Mathiasen, H. (2006). Empathy and Sympathy: Voices from Literature. *American Journal of Cardiology*, *97*(12), 1789–1790. https://doi.org/10.1016/j.amjcard.2005.12.074

McCambridge, J., Witton, J., & Elbourne, D. R. (2014). Systematic review of the Hawthorne effect: New concepts are needed to study research participation effects. *Journal of Clinical Epidemiology*, *67*(3), 267–277. https://doi.org/10.1016/j.jclinepi.2013.08.015

McCann, L., & Granter, E. (2019). Beyond 'blue-collar professionalism': Continuity and change in the professionalization of uniformed emergency services work. *Journal of Professions and Organization*, *6*(2), 213–232. https://doi.org/10.1093/jpo/joz006

McConville, J., McAleer, R., & Hahne, A. (2017). Mindfulness training for health profession students—the effect of mindfulness training on psychological well-being, learning and clinical performance of health professional students: A systematic review of randomized and non-randomized controlled trials. *EXPLORE*, *13*(1), 26–45. https://doi.org/10.1016/j.explore.2016.10.002

McNaught, K., & Rhoding, C. (2022). Exploring the Factors Influencing Medical Student Engagement with Rural Clinical Placement Opportunities. *Australian and International Journal of Rural Education*, *32*(1), 70–84. https://doi.org/10.47381/aijre.v32i1.312

Mercer, S. W., & Reynolds, W. J. (2002). Empathy and quality of care. *British Journal of General Practice*, *52*(Suppl), S9-12. https://bjgp.org/content/52/supplement/S9.short

Mezirow, J. (2000). *Learning as Transformation: Critical Perspectives on a Theory in Progress. The Jossey-Bass Higher and Adult Education Series*. Jossey-Bass Publishers, 350 Sansome Way, San Francisco, CA 94104. https://eric.ed.gov/?id=ED448301

Micklitz, K., Wong, G., & Howick, J. (2021). Mindfulness-based programmes to reduce stress and enhance well-being at work: A realist review. *BMJ Open*, *11*(3), e043525. https://doi.org/10.1136/bmjopen-2020-043525

Monshat, K., Khong, B., Hassed, C., Vella-Brodrick, D., Norrish, J., Burns, J., & Herrman, H. (2013). "A Conscious Control Over Life and My Emotions:" Mindfulness Practice and Healthy Young People. A Qualitative Study. *Journal of Adolescent Health*, *52*(5), 572–577. https://doi.org/10.1016/j.jadohealth.2012.09.008

Morgan, P., Simpson, J., & Smith, A. (2015). Health Care Workers' Experiences of Mindfulness Training: A Qualitative Review. *Mindfulness*, *6*(4), 744–758. https://doi.org/10.1007/s12671-014-0313-3

Moyano, N., Perez-Yus, M. C., Herrera-Mercadal, P., Navarro-Gil, M., Valle, S., & Montero-Marin, J. (2023). Burned or engaged teachers? The role of mindfulness, self-efficacy, teacher and students' relationships, and the mediating role of intrapersonal and interpersonal mindfulness. *Current Psychology*, *42*(14), 11719–11732. https://doi.org/10.1007/s12144-021-02433-9

Murphy, H., & Lahtinen, M. (2015). 'To me, it's like a little box of tricks': Breaking the depressive interlock as a programme participant in mindfulness-based cognitive therapy. *Psychology and Psychotherapy: Theory, Research and Practice*, *88*(2), 210–226. https://doi.org/10.1111/papt.12041

Neff, K. D. (2003a). Self-Compassion: An Alternative Conceptualization of a Healthy Attitude Toward Oneself. *Self and Identity*, *2*(2), 85–101. https://doi.org/10.1080/15298860309032

Neff, K. D. (2003b). The Development and Validation of a Scale to Measure Self-Compassion. *Self and Identity*, *2*(3), 223–250. https://doi.org/10.1080/15298860309027

Neff, K. D. (2016). The Self-Compassion Scale is a Valid and Theoretically Coherent Measure of Self-Compassion. *Mindfulness*, *7*(1), 264–274. https://doi.org/10.1007/s12671-015-0479-3

Neff, K. D., & Germer, C. K. (2013). A Pilot Study and Randomized Controlled Trial of the Mindful Self-Compassion Program. *Journal of Clinical Psychology*, *69*(1), 28–44. https://doi.org/10.1002/jclp.21923

Neff, K. D., Knox, M. C., Long, P., & Gregory, K. (2020). Caring for others without losing yourself: An adaptation of the Mindful Self-Compassion Program for Healthcare Communities. *Journal of Clinical Psychology*, *76*(9), 1543–1562. https://doi.org/10.1002/jclp.23007

Nembhard, I. M., David, G., Ezzeddine, I., Betts, D., & Radin, J. (2022). A Systematic Review of Research on Empathy in Healthcare. *Health Services Research*, 1475-6773.14016. https://doi.org/10.1111/1475-6773.14016

Neumann, M., Bensing, J., Mercer, S., Ernstmann, N., Ommen, O., & Pfaff, H. (2009). Analyzing the "nature" and "specific effectiveness" of clinical empathy: A theoretical overview and contribution towards a theory-based research agenda. *Patient Education and Counseling*, *74*(3), 339–346. https://doi.org/10.1016/j.pec.2008.11.013

Neumann, M., Scheffer, C., Tauschel, D., Lutz, G., Wirtz, M., & Edelhäuser, F. (2012). Physician empathy: Definition, outcome-relevance and its measurement in patient care and medical education. *GMS Zeitschrift Für Medizinische Ausbildung*, *29*(1), 1–21. https://doi.org/10.3205/zma000781

Newman, B. N., Strickler, J. G., O'Brien, C., Lui, T., & Lynch, M. (2019). Deconstructing perfectionism in college students: Patterns of behavior, emotion, and cognition. *Personality and Individual Differences*, *145*, 106–111. https://doi.org/10.1016/j.paid.2019.03.030

NICE. (2022). *Mental wellbeing at work*. https://www.nice.org.uk/guidance/ng212

Nightingale, S. D., Yarnold, P. R., & Greenberg, M. S. (1991). Sympathy, empathy, and physician resource utilization. *Journal of General Internal Medicine*, *6*, 420–423. https://doi.org/10.1007/BF02598163

Nissim, R., Malfitano, C., Coleman, M., Rodin, G., & Elliott, M. (2019). A Qualitative Study of a Compassion, Presence, and Resilience Training for Oncology Interprofessional Teams. *Journal of Holistic Nursing*, *37*(1), 30–44. https://doi.org/10.1177/0898010118765016

Nosek, M., Gifford, E., & Kober, B. (2014). Nonviolent Communication (NVC) training increases empathy in baccalaureate nursing students: A mixed method study. *Journal of Nursing Education and Practice*, *4*(10), p1. https://doi.org/10.5430/jnep.v4n10p1

Nummenmaa, L., Hirvonen, J., Parkkola, R., & Hietanen, J. K. (2008). Is emotional contagion special? An fMRI study on neural systems for affective and cognitive empathy. *NeuroImage*, *43*(3), 571–580. https://doi.org/10.1016/j.neuroimage.2008.08.014

Oehme, K., Perko, A., Clark, J., Ray, E. C., Arpan, L., & Bradley, L. (2019). A Trauma-Informed Approach to Building College Students' Resilience. *Journal of Evidence-Based Social Work*, *16*(1), 93–107. https://doi.org/10.1080/23761407.2018.1533503

Olmos-Vega, F. M., Stalmeijer, R. E., Varpio, L., & Kahlke, R. (2022). A practical guide to reflexivity in qualitative research: AMEE Guide No. 149. *Medical Teacher*, 1–11. https://doi.org/10.1080/0142159X.2022.2057287

Oman, D. (2015). Cultivating compassion through holistic mindfulness: Evidence for effective intervention. In T. G. Plante (Ed.), *The psychology of compassion and cruelty: Understanding the emotional, spiritual, and religious influences* (pp. 35–57). ABC-CLIO.

http://books.google.com/books?hl=en&lr=&id=7ZN3BgAAQBAJ&oi=fnd&pg=PA35&dq=oman+mindfulness&ots=Ttc1mZlGdk&sig=DrIYJjc7fW5sZ-et9VresWzTRlU

Oman, D., Thoresen, C. E., & Hedberg, J. (2010). Does passage meditation foster compassionate love among health professionals?: A randomised trial. *Mental Health, Religion & Culture*, *13*(2), 129–154. https://doi.org/10.1080/13674670903261954

Omdahl, B. L., & O'Donnell, C. (1999). Emotional contagion, empathic concern and communicative responsiveness as variables affecting nurses' stress and occupational commitment. *Journal of Advanced Nursing*, *29*(6), 1351–1359. https://doi.org/10.1046/j.1365-2648.1999.01021.x

Ong, L. M., de Haes, J. C., Hoos, A. M., & Lammes, F. B. (1995). Doctor-patient communication: A review of the literature. *Social Science & Medicine (1982)*, *40*(7), 903–918. https://doi.org/10.1016/0277-9536(94)00155-M

Paholpak, S., Piyavhatkul, N., Rangseekajee, P., Krisanaprakornkit, T., Arunpongpaisal, S., Pajanasoontorn, N., Virasiri, S., Singkornard, J., Rongbudsri, S., Udomsri, C., Chonprai, C., & Unprai, P. (2012). Breathing meditation by medical students at Khon Kaen University: Effect on psychiatric symptoms, memory, intelligence and academic achievement. *Journal of the Medical Association of Thailand*, *95*(3), 461–469. https://www.thaiscience.info/Journals/Article/JMAT/10971434.pdf

Park, K. H., Kim, D., Kim, S. K., Yi, Y. H., Jeong, J. H., Chae, J., Hwang, J., & Roh, H. (2015). The relationships between empathy, stress and social support among medical students. *International Journal of Medical Education*, *6*, 103–108. https://doi.org/10.5116/ijme.55e6.0d44

Parkman, A. (2016). The Imposter Phenomenon in Higher Education: Incidence and Impact. *Journal of Higher Education Theory and Practice*, *16*(1), 51–60. https://articlearchives.co/index.php/JHETP/article/view/1974

Passalacqua, S. A., & Segrin, C. (2012). The effect of resident physician stress, burnout, and empathy on patient-centered communication during the long-call shift. *Health Communication*, *27*(5), 449–456. https://doi.org/10.1080/10410236.2011.606527

Pavlovich, K., & Krahnke, K. (2012). Empathy, Connectedness and Organisation. *Journal of Business Ethics*, *105*(Suppl 1), 131–137. https://doi.org/10.1007/sl0551-01

Pawade, A. K. (2003). Bristol heart scandal: No coming back. *Annals of Cardiac Anaesthesia*, *6*(2), 110.

Pereira, M. A. D., & Barbosa, M. A. (2013). Teaching strategies for coping with stress – the perceptions of medical students. *BMC Medical Education*, *13*, 50. https://doi.org/10.1186/1472-6920-13-50

Peyton, S. (2017). *Your resonant self: Guided meditations and exercises to engage your brain's capacity for healing*. WW Norton & Company.

Pfadenhauer, P., & Knoblauch, H. (2018). *Social Constructivism as Paradigm?* (1st Edition). Taylor and Francis. https://doi.org/10.4324/9780429467714-1

Phang, C. K., Mukhtar, F., Ibrahim, N., Keng, S.-L., & Sidik, S. Mohd. (2015). Effects of a brief mindfulness-based intervention program for stress management among medical students: The Mindful-Gym randomized controlled study. *Advances in Health Sciences Education*, *20*(5), 1115–1134. https://doi.org/10.1007/s10459-015-9591-3

Praissman, S. (2008). Mindfulness-based stress reduction: A literature review and clinician's guide. *Journal of the American Academy of Nurse Practitioners*, *20*(4), 212–216. https://doi.org/10.1111/j.1745-7599.2008.00306.x

Pratscher, S. D., Rose, A. J., Markovitz, L., & Bettencourt, A. (2018). Interpersonal Mindfulness: Investigating Mindfulness in Interpersonal Interactions, co-Rumination, and Friendship Quality. *Mindfulness*, *9*(4), 1206–1215. https://doi.org/10.1007/s12671-017-0859-y

Pratt, M. G., Sonenshein, S., & Feldman, M. S. (2020). Moving Beyond Templates: A Bricolage Approach to Conducting Trustworthy Qualitative Research. *Organizational Research Methods*, 109442812092746. https://doi.org/10.1177/1094428120927466

Prochazkova, E., & Kret, M. E. (2017). Connecting minds and sharing emotions through mimicry: A neurocognitive model of emotional contagion. *Neuroscience & Biobehavioral Reviews*, *80*, 99–114. https://doi.org/10.1016/j.neubiorev.2017.05.013

Proctor, C., & Wilson, A. (2017). *Mindfulness Approaches—Course Handbook*. Mindfulness Scotland. https://rightdecisions.scot.nhs.uk/media/2112/ms-mbsr-manual-rebuilt-280120.pdf

Querstret, D., Cropley, M., & Fife-Schaw, C. (2018). The Effects of an Online Mindfulness Intervention on Perceived Stress, Depression and Anxiety in a Non-clinical Sample: A Randomised Waitlist Control Trial. *Mindfulness*, *9*(6), 1825–1836. https://doi.org/10.1007/s12671-018-0925-0

Quince, T. A., Kinnersley, P., Hales, J., da Silva, A., Moriarty, H., Thiemann, P., Hyde, S., Brimicombe, J., Wood, D., Barclay, M., & Benson, J. (2016). Empathy among undergraduate medical students: A multi-centre cross-sectional comparison of students beginning and approaching the end of their course. *BMC Medical Education*, *16*(1), 92. https://doi.org/10.1186/s12909-016-0603-7

Quince, T. A., Thiemann, P., Benson, J., & Hyde, S. (2016). Undergraduate medical students' empathy: Current perspectives. *Advances in Medical Education and Practice*, *Volume 7*, 443–455. https://doi.org/10.2147/AMEP.S76800

Raab, K. (2014). Mindfulness, Self-Compassion, and Empathy Among Health Care Professionals: A Review of the Literature. *Journal of Health Care Chaplaincy*, *20*(3), 95–108. https://doi.org/10.1080/08854726.2014.913876

Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the Self-Compassion Scale. *Clinical Psychology & Psychotherapy*, *18*(3), 250–255. https://doi.org/10.1002/cpp.702

Rajput, V., & Rosenberger, R. (2017). Developing self-empathy in medical students and physicians to improve patient outcomes. *MedEdPublish*, *6*, 151. https://doi.org/10.15694/mep.2017.000151

Richards, T. (1990). Chasms in communication: Still occur too often. *BMJ*, *301*(6766), 1407–1408. https://doi.org/10.1136/bmj.301.6766.1407

Richardson, D. A., Jaber, S., Chan, S., Jesse, M. T., Kaur, H., & Sangha, R. (2016). Self-Compassion and Empathy: Impact on Burnout and Secondary Traumatic Stress in Medical Training. *Open Journal of Epidemiology*, *06*(03), 161–166. https://doi.org/10.4236/ojepi.2016.63017

Ridderinkhof, A., de Bruin, E. I., Brummelman, E., & Bögels, S. M. (2017). Does mindfulness meditation increase empathy? An experiment. *Self and Identity*, *16*(3), 251–269. https://doi.org/10.1080/15298868.2016.1269667

Riess, H., Kelley, J. M., Bailey, R. W., Dunn, E. J., & Phillips, M. (2012). Empathy Training for Resident Physicians: A Randomized Controlled Trial of a Neuroscience-Informed Curriculum. *Journal of General Internal Medicine*, *27*(10), 1280–1286. https://doi.org/10.1007/s11606-012-2063-z

Rimmer, A. (2019). F2 career destination report, 2019. *BMJ*, *364*(l523). https://doi.org/10.1136/bmj.l523

Robins, R. W., Fraley, R. C., & Krueger, R. F. (Eds.). (2007). *Handbook of research methods in personality psychology*. Guilford Press.

Rogers, C. R. (1959). A theory of therapy, personality and interpersonal relationships as developed in the client-centered framework. In S. Koch (Ed.), *Psychology: A study of*

a Science. Study 1, Volume 3: Formulations of the person and the social context (pp. 184–256). McGraw Hill. https://www.beeleaf.com/wp-content/uploads/2017/09/rogers_chapter_in_koch-1.pdf

Rogers, C. R. (1962). Toward becoming a fully functioning person. In A. W. Combs (Ed.), *Perceiving, behaving, becoming: A new focus for education.* (pp. 21–33). National Education Association. https://doi.org/10.1037/14325-003

Rosenzweig, S., Reibel, D. K., Greeson, J. M., Brainard, G. C., & Hojat, M. (2003). Mindfulness-Based Stress Reduction Lowers Psychological Distress In Medical Students. *Teaching and Learning in Medicine*, *15*(2), 88–92. https://doi.org/10.1207/S15328015TLM1502_03

Roter, D. L., Stewart, M., Putnam, S. M., Lipkin, M., Stiles, W., & Inui, T. S. (1997). Communication Patterns of Primary Care Physicians. *JAMA: The Journal of the American Medical Association*, *277*(4), 350–356. https://doi.org/10.1001/jama.1997.03540280088045

Rounsaville, B. J., Carroll, K. M., & Onken, L. S. (2001). A stage model of behavioral therapies research: Getting started and moving on from stage I. *Clinical Psychology: Science and Practice*, *8*(2), 133–142. https://doi.org/10.1093/clipsy.8.2.133

Ruppert, F. (2012). *Symbiosis and autonomy: Symbiotic trauma and love beyond entanglements*. Green Balloon Publishing. https://search.worldcat.org/title/820527358

Ruppert, F. (2023). *Self-Encounters and the Intention Method: The practice of IoPT* (1st ed.). Eigenverlag, Ahrensburg, Germany. www.franz-ruppert.de

Saldaña, J. (2021). *The coding manual for qualitative researchers. Sage.* Sage.

Salmon, S. (2003). Teaching empathy: The PEACE curriculum. *Reclaiming Children and Youth*, *12*(3), 167–173.

SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach. (2014).

Santorelli, S., Meleo-Meyer, F., & Koerbel, F. (2017). *Mindfulness-Based Stress Reduction (MBSR) Authorised Curriculum Guide©*. Center for Mindfulness in Medicine, Health Care, and Society (CFM) University of Massachusetts Medical School. https://www.tarkustekool.ee/wp-content/uploads/2021/09/CFM-Teaching-UMass-MBSR-Curriculum-Teaching-Guide-2017-1.pdf

Santos, T. dos, Kozasa, E., Carmagnani, I., Tanaka, L., Lacerda, S., & Nogueira-Martins, L. (2016). Positive Effects of a Stress Reduction Program Based on Mindfulness Meditation in Brazilian Nursing Professionals: Qualitative and Quantitative Evaluation. *EXPLORE*, *12*(2), 90–99. https://doi.org/10.1016/j.explore.2015.12.005

Schell, L. K., Monsef, I., Wöckel, A., & Skoetz, N. (2019). Mindfulness-based stress reduction for women diagnosed with breast cancer. *Cochrane Database of Systematic Reviews*, *3*. https://doi.org/10.1002/14651858.CD011518.pub2

Schernhammer, E. S., & Colditz, G. A. (2004). Suicide rates among physicians: A quantitative and gender assessment (meta-analysis). *American Journal of Psychiatry*, *161*(12), 2295–2302. https://doi.org/10.1176/appi.ajp.161.12.2295

Schonert-Reichl, K. A., Oberle, E., Lawlor, M. S., Abbott, D., Thomson, K., Oberlander, T. F., & Diamond, A. (2015). Enhancing Cognitive and Social–Emotional Development Through a Simple-to-Administer Mindfulness-Based School Program for Elementary School Children: A Randomized Controlled Trial. *Developmental Psychology*, *51*(1), 52–66. https://doi.org/10.1037/a0038454

Schroeder, D. A., Stephens, E., Colgan, D., Hunsinger, M., Rubin, D., & Christopher, M. S. (2018). A Brief Mindfulness-Based Intervention for Primary Care Physicians: A Pilot Randomized Controlled Trial. *American Journal of Lifestyle Medicine*, *12*(1), 83–91. https://doi.org/10.1177/1559827616629121

Schrötter, S., Kropp, P., & Müller, B. (2024). Comparison of empathy profiles of medical students at the start and in the advanced clinical phase of their training. *GMS Journal for Medical Education*, *41*(1). https://doi.org/10.3205/zma001662

Schwartz, R., & Morissette, A. (2021). *No Bad Parts: Healing Trauma and Restoring Wholeness with the Internal Family Systems Model*. Sounds True. https://books.google.co.uk/books?id=qlOzEAAAQBAJ

Schwind, J. K., McCay, E., Beanlands, H., Schindel Martin, L., Martin, J., & Binder, M. (2017). Mindfulness practice as a teaching-learning strategy in higher education: A qualitative exploratory pilot study. *Nurse Education Today*, *50*, 92–96. https://doi.org/10.1016/j.nedt.2016.12.017

Seeliger, H., & Harendza, S. (2017). Is perfect good? – Dimensions of perfectionism in newly admitted medical students. *BMC Medical Education*, *17*(1), 206. https://doi.org/10.1186/s12909-017-1034-9

Segal, Z., Williams, M., & Teasdale, J. (2002). *Mindfulness-Based Cognitive Therapy for Depression: A New Approach to Preventing Relapse*. The Guilford Press. https://psycnet.apa.org/record/2001-05895-000

Segal, Z., Williams, M., & Teasdale, J. (2013). *Mindfulness-based cognitive therapy for depression* (2nd ed.). Guilford Publications. Google-Books-ID: QHRVDwAAQBAJ

Sekhar, P., Tee, Q. X., Ashraf, G., Trinh, D., Shachar, J., Jiang, A., Hewitt, J., Green, S., & Turner, T. (2021). Mindfulness-based psychological interventions for improving mental well-being in medical students and junior doctors. *Cochrane Database of Systematic Reviews*, *12*. https://doi.org/10.1002/14651858.CD013740.pub2

Seo, C., Corrado, M., Fournier, K., Bailey, T., & Haykal, K.-A. (2021). Addressing the physician burnout epidemic with resilience curricula in medical education: A

systematic review. *BMC Medical Education*, *21*(1), 80. https://doi.org/10.1186/s12909-021-02495-0

Seto, A., Young, S., Becker, K. W., & Kiselica, M. S. (2006). *Application of the Triad Training Model in a Multicultural Counseling Course*. https://onlinelibrary.wiley.com/doi/10.1002/j.1556-6978.2006.tb00006.x

Shapiro, S. (2009). The integration of mindfulness and psychology. *Journal of Clinical Psychology*, *65*(6), 555–560. https://doi.org/10.1002/jclp.20602

Shapiro, S., Astin, J. A., Bishop, S., & Cordova, M. (2005). Mindfulness-based stress Reduction for health care professionals: Results from a randomized trial. *International Journal of Stress Management*, *12*(2), 164–164. https://doi.org/10.1037/1072-5245.12.2.164

Shapiro, S., Brown, K. W., Thoresen, C., & Plante, T. G. (2011). The moderation of mindfulness-based stress reduction effects by trait mindfulness: Results from a randomized controlled trial. *Journal of Clinical Psychology*, *67*(3), 267–277. https://doi.org/10.1002/jclp.20761

Shapiro, S., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, *62*(3), 373–386. https://doi.org/10.1002/jclp.20237

Shapiro, S., Schwartz, G. E., & Bonner, G. (1998). Effects of mindfulness-based stress reduction on medical and premedical students. *Journal of Behavioral Medicine*, *21*(6), 581–599. https://doi.org/10.1023/A:1018700829825

Sharma, H. (2022). How short or long should be a questionnaire for any research? Researchers dilemma in deciding the appropriate questionnaire length. *Saudi Journal of Anaesthesia*, *16*(1), 65–68. https://doi.org/10.4103/sja.sja_163_21

Shebuski, K., Bowie, J., & Ashby, J. S. (2020). Self-Compassion, Trait Resilience, and Trauma Exposure in Undergraduate Students. *Journal of College Counseling*, *23*(1), 2–14. https://doi.org/10.1002/jocc.12145

Shireen, H., Khanyari, S., Vance, A., Johannesson, H., Preissner, C., Dor-Ziderman, Y., Khoury, B., & Knäuper, B. (2022). Paying Attention to the Self: A Systematic Review of the Study of the Self in Mindfulness Research. *Mindfulness*, *13*, 1373–1386. https://doi.org/10.1007/s12671-022-01844-4

Shonin, E., Van Gordon, W., & Singh, N. N. (Eds.). (2015). *Buddhist Foundations of Mindfulness*. Springer International Publishing. https://doi.org/10.1007/978-3-319-18591-0

Sibinga, E. M. S., & Wu, A. W. (2010). Clinician Mindfulness and Patient Safety. *JAMA*, *304*(22), 2532–2533. https://doi.org/10.1001/jama.2010.1817

Skosnik, P. D., Chatterton, R. T., Swisher, T., & Park, S. (2000). Modulation of attentional inhibition by norepinephrine and cortisol after psychological stress. *International Journal of Psychophysiology*, *36*(1), 59–68. https://doi.org/10.1016/S0167-8760(99)00100-2

Slonim, J., Kienhuis, M., Di Benedetto, M., & Reece, J. (2015). The relationships among self-care, dispositional mindfulness, and psychological distress in medical students. *Medical Education Online*, *20*(1), 27924. https://doi.org/10.3402/meo.v20.27924

Smith, J., Flowers, P., & Larkin, M. (2009). Interpretative Phenomenological Analysis: Theory, Method and Research. *Qualitative Research in Psychology*, *6*(4), 346–347. https://doi.org/10.1080/14780880903340091

Smith, J., & Nizza, I. (2022). *Essentials of interpretative phenomenological analysis*. American Psychological Association. https://doi.org/10.1037/0000259-000

Smith, R. (1998). All changed, changed utterly. British medicine will be transformed by the Bristol case. *BMJ*, *316*(7149), 1917–1918. https://doi.org/doi: 10.1136/bmj.316.7149.1917

Solhaug, I., Eriksen, T. E., de Vibe, M., Haavind, H., Friborg, O., Sørlie, T., & Rosenvinge, J. H. (2016). Medical and psychology student's experiences in learning mindfulness: Benefits, paradoxes, and pitfalls. *Mindfulness*, *7*(4), 838–850. https://doi.org/10.1007/s12671-016-0521-0

Sollarova, E., & Sollár, T. (2010). The psychologically integrated person and the parameters of optimal functioning. *Studia Psychologica*, *52*(4), 333–338. https://www.proquest.com/openview/be5945ccfbfdf2c09da37a01591bcfd4/1?pq-origsite=gscholar&cbl=75942

Southwick, S. M., & Southwick, F. S. (2020). The Loss of Social Connectedness as a Major Contributor to Physician Burnout: Applying Organizational and Teamwork Principles for Prevention and Recovery. *JAMA Psychiatry*, *77*(5), 449. https://doi.org/10.1001/jamapsychiatry.2019.4800

Spatz, A. (2015, October). Running an experiential course on mindfulness in a UK medical school: Lessons learned. *Poster Presentation*. ICCH conference, New Orleans. https://vbn.aau.dk/ws/files/226682898/ICCH2015_ProgramBook.pdf

Spatz, A., Coulton, G., Luke, R., Mikhaeel, M., & Richards, D. (2014). Feasibility and impact of 3-weeks of mindfulness meditation training for medical students: A description of 3 reflective case studies. *Poster Presentation*. MedEdWorld, Ottawa.

Spatz, A., & Walsh, J. (2019). Five weeks of mindfulness training leads to increases in empathy levels in UK medical students. *ICCH Conference, San Diego, USA*.

Sprang, G., Gusler, S., Eslinger, J., & Gottfried, R. (2023). The Relationship Between Secondary Traumatic Stress and Compassion Satisfaction: A Systematic Literature

Review. *Trauma, Violence, & Abuse*, *0*(0), 1–15. https://doi.org/10.1177/15248380231209438

SPSS Tutorials: One Sample T-Test. (n.d.). Kent State University. https://libguides.library.kent.edu/SPSS/OneSampletTest

Stanley, S. (2012). Mindfulness: Towards a critical relational perspective. *Social and Personality Psychology Compass*, *6*(9), 631–641. https://doi.org/10.1111/j.1751-9004.2012.00454.x

Steffen, P. R., & Masters, K. S. (2005). Does compassion mediate the intrinsic religion-health relationship? *Annals of Behavioral Medicine*, *30*(3), 217–224. https://doi.org/10.1207/s15324796abm3003_6

Stepien, K. A., & Baernstein, A. (2006). Educating for empathy: A review. *Journal of General Internal Medicine*, *21*(5), 524–530. https://doi.org/10.1111/j.1525-1497.2006.00443.x

Stewart-Brown, S., Cader, M., Walker, T., Janjua, S., Hanson, E., & Chilton, A.-M. (2018). Experiences with a universal mindfulness and well-being programme at a UK medical school. *Health Education*, *118*(4), 304–319. https://doi.org/10.1108/HE-10-2017-0053

Stjernswärd, S. (2021). Getting to Know the Inner Self. Exploratory Study of Identity Oriented Psychotrauma Therapy—Experiences and Value From Multiple Perspectives. *Frontiers in Psychiatry*, *12*, 526399. https://doi.org/10.3389/fpsyt.2021.526399

Suchman, A. L. (1997). A Model of Empathic Communication in the Medical Interview. *JAMA: The Journal of the American Medical Association*, *277*(8), 678. https://doi.org/10.1001/jama.1997.03540320082047

Switzer, C. L. (1999). Service learning in a medical school: Psychosocial and attitudinal outcomes [Ph.D., University of Pittsburgh]. In *ProQuest Dissertations and Theses* (304539037). ProQuest One Academic. https://www.proquest.com/dissertations-theses/service-learning-medical-school-psychosocial/docview/304539037/se-2?accountid=17234

Thirioux, B., Birault, F., & Jaafari, N. (2016). Empathy Is a Protective Factor of Burnout in Physicians: New Neuro-Phenomenological Hypotheses Regarding Empathy and Sympathy in Care Relationship. *Frontiers in Psychology*, *7*, 763. https://doi.org/10.3389/fpsyg.2016.00763

Tomlinson, E. R., Yousaf, O., Vittersø, A. D., & Jones, L. (2018). Dispositional Mindfulness and Psychological Health: A Systematic Review. *Mindfulness*, *9*(1), 23–43. https://doi.org/10.1007/s12671-017-0762-6

Treleaven, D. A. (2018). *Trauma-sensitive mindfulness: Practices for safe and transformative healing.* W. W. Norton & Company. Google-Books-ID: medHDwAAQBAJ

Tsai, M., Kohlenberg, R. J., Kanter, J. W., Holman, G. I., & Loudon, M. P. (2012). *Functional Analytic Psychotherapy: Distinctive Features*. Routledge. https://doi.org/10.4324/9780203121153

Turner, R. (2013). A qualitative study examining the experiences of healthcare staff 12 months after their completion of an 8-week Mindfulness Based Stress Reduction course. *Doctoral Thesis*. http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2012787690&site=ehost-live

Uchino, B. N. (2006). Social Support and Health: A Review of Physiological Processes Potentially Underlying Links to Disease Outcomes. *Journal of Behavioral Medicine*, *29*(4), 377–387. https://doi.org/10.1007/s10865-006-9056-5

Vaa Stelling, B. E., Andersen, C. A., Suarez, D. A., Nordhues, H. C., Hafferty, F. W., Beckman, T. J., & Sawatsky, A. P. (2023). Fitting In While Standing Out: Professional Identity Formation, Imposter Syndrome, and Burnout in Early-Career Faculty Physicians. *Academic Medicine*, *98*(4), 514–520. https://doi.org/10.1097/ACM.0000000000005049

Vagle, M. (2018). *Crafting Phenomenological Research.* (2nd edition). Taylor and Francis. https://www.perlego.com/book/1574063/crafting-phenomenological-research-pdf

van Berkhout, E. T., & Malouff, J. M. (2015). The efficacy of empathy training: A meta-analysis of randomized controlled trials. *Journal of Counseling Psychology*, *63*(1), 32–41. https://doi.org/10.1037/cou0000093

Van Dam, N. T., van Vugt, M. K., Vago, D. R., Schmalzl, L., Saron, C. D., Olendzki, A., Meissner, T., Lazar, S. W., Kerr, C. E., Gorchov, J., Fox, K. C. R., Field, B. A., Britton, W. B., Brefczynski-Lewis, J. A., & Meyer, D. E. (2018). Mind the Hype: A Critical Evaluation and Prescriptive Agenda for Research on Mindfulness and Meditation. *Perspectives on Psychological Science*, *13*(1), 36–61. https://doi.org/10.1177/1745691617709589

Van Der Kolk, B. A. (1994). The Body Keeps the Score: Memory and the Evolving Psychobiology of Posttraumatic Stress. *Harvard Review of Psychiatry*, *1*(5), 253–265. https://doi.org/10.3109/10673229409017088

van der Riet, P., Rossiter, R., Kirby, D., Dluzewska, T., & Harmon, C. (2015). Piloting a stress management and mindfulness program for undergraduate nursing students: Student feedback and lessons learned. *Nurse Education Today*, *35*(1), 44–49. https://doi.org/10.1016/j.nedt.2014.05.003

van Dijk, I., Lucassen, P. L., & Speckens, A. E. (2015). Mindfulness training for medical students in their clinical clerkships: Two cross-sectional studies exploring interest and

participation. *BMC Medical Education*, *15*(1), 24. https://doi.org/10.1186/s12909-015-0302-9

van Vugt, M. K., & Jha, A. P. (2011). Investigating the impact of mindfulness meditation training on working memory: A mathematical modeling approach. *Cognitive, Affective, and Behavioral Neuroscience*, *11*(3), 344–353. https://doi.org/10.3758/s13415-011-0048-8

VanCleave, D. S. (2007). Empathy training for master's level social work students facilitating advanced empathy responding [Ph.D., Capella University]. In *ProQuest Dissertations and Theses* (304723061). ProQuest One Academic. https://www.proquest.com/dissertations-theses/empathy-training-masters-level-social-work/docview/304723061/se-2?accountid=17234

Vermeire, E., Hearnshaw, H., Van Royen, P., & Denekens, J. (2001). Patient adherence to treatment: Three decades of research. A comprehensive review. *Journal of Clinical Pharmacy and Therapeutics*, *26*(5), 331–342. https://doi.org/10.1046/j.1365-2710.2001.00363.x

Vich, M., & Lukeš, M. (2018). Development of mindfulness in relational context: Construction and validation of relational mindfulness training (RMT). *Československá Psychologie*, *62*(3), 244–257. https://www.proquest.com/scholarly-journals/development-mindfulness-relational-context/docview/2097438796/se-2?accountid=17234

Vich, M., Lukeš, M., & Burian, J. (2020). Out of sight, out of mind? Exploring the long-term effects of Relational Mindfulness Training (RMT). *Journal of Contextual Behavioral Science*, *16*, 162–171. https://doi.org/10.1016/j.jcbs.2020.04.001

Von Fragstein, M., Silverman, J., Cushing, A., Quilligan, S., Salisbury, H., & Wiskin, C. (2008). UK consensus statement on the content of communication curricula in

undergraduate medical education. *Medical Education*, *42*, 1100–1107. https://doi.org/10.1111/j.1365-2923.2008.03137.x

von Harscher, H., Desmarais, N., Dollinger, R., Grossman, S., & Aldana, S. (2018). The impact of empathy on burnout in medical students: New findings. *Psychology, Health and Medicine*, *23*(3), 295–303. https://doi.org/10.1080/13548506.2017.1374545

Vreeling, K., Kersemaekers, W., Cillessen, L., van Dierendonck, D., & Speckens, A. (2019). How medical specialists experience the effects of a mindful leadership course on their leadership capabilities: A qualitative interview study in the Netherlands. *BMJ Open*, *9*(12), e031643. https://doi.org/10.1136/bmjopen-2019-031643

Wagaman, M. A., Geiger, J. M., Shockley, C., & Segal, E. A. (2015). The Role of Empathy in Burnout, Compassion Satisfaction, and Secondary Traumatic Stress among Social Workers. *Social Work (United States)*, *60*(3), 201–209. https://doi.org/10.1093/sw/swv014

Wallmark, E., Safarzadeh, K., Daukantaitė, D., & Maddux, R. E. (2013). Promoting Altruism Through Meditation: An 8-Week Randomized Controlled Pilot Study. *Mindfulness*, *4*(3), 223–234. https://doi.org/10.1007/s12671-012-0115-4

Warnecke, E., Quinn, S., Ogden, K., Towle, N., & Nelson, M. R. (2011). A randomised controlled trial of the effects of mindfulness practice on medical student stress levels. *Medical Education*, *45*(4), 381–388. https://doi.org/10.1111/j.1365-2923.2010.03877.x

Wästlund, M., Salvesen, K. T., & Stige, S. H. (2023). Clients' experiences with a Trauma-sensitive mindfulness and compassion group intervention: A first-person perspective on change and change mechanisms. *Psychotherapy Research*, 1–15. https://doi.org/10.1080/10503307.2023.2170295

Waters, S. F., West, T. V., Karnilowicz, H. R., & Mendes, W. B. (2017). Affect contagion between mothers and infants: Examining valence and touch. *Journal of Experimental Psychology: General*, *146*(7), 1043–1051. https://doi.org/10.1037/xge0000322

Webster, D. (2010). Promoting Empathy Through a Creative Reflective Teaching Strategy: A Mixed-Method Study. *Journal of Nursing Education*, *49*(2), 87–94. https://doi.org/10.3928/01484834-20090918-09

West, C. P., Dyrbye, L. N., & Rabatin, J. T. (2014). Intervention to promote physician well-being, job satisfaction, and professionalism: A randomized clinical trial. *JAMA Internal Medicine*, *174*(4), 527–533. https://doi.org/doi:10.1001/jamainternmed.2013.14387

West, C. P., Huschka, M. M., Novotny, P. J., Sloan, J. A., Kolars, J. C., Habermann, T. M., & Shanafelt, T. D. (2006). Association of Perceived Medical Errors With Resident Distress and Empathy: A Prospective Longitudinal Study. *JAMA*, *296*(9), 1071. https://doi.org/10.1001/jama.296.9.1071

West, E., Singer-Chang, G., Ryznar, R., Ross, D., Czekajlo, M., Hoang, T., Alson, R., Berbel, G., Moloff, A., Safaoui, M., Nevins, N., & LaPorta, A. J. (2020). The Effect of Hyper-Realistic Trauma Training on Emotional Intelligence in Second Year Military Medical Students. *Journal of Surgical Education*, *77*(6), 1422–1428. https://doi.org/10.1016/j.jsurg.2020.04.020

Wikipedia. (2022). *Harold Shipman*. https://en.wikipedia.org/wiki/Harold_Shipman

Wilkinson, H., Whittington, R., Perry, L., & Eames, C. (2017). Examining the relationship between burnout and empathy in healthcare professionals: A systematic review. *Burnout Research*, *6*, 18–29. https://doi.org/10.1016/j.burn.2017.06.003

Willig, C., & Stainton-Rogers, W. (2017). *The SAGE Handbook of Qualitative Research in Psychology.* (2nd edition). SAGE Publications Ltd. https://doi.org/10.4135/9781526405555

Wilson, H. M. N., Davies, J. S., & Weatherhead, S. (2016). Trainee Therapists' Experiences of Supervision During Training: A Meta-synthesis. *Clinical Psychology & Psychotherapy*, *23*(4), 340–351. https://doi.org/10.1002/cpp.1957

Wilson-Scholin, H. (2020). Why Do NHS Junior Doctors Leave Their Training-Programs in the NHS to Train Overseas? *(Doctoral Dissertation)*. https://dash.harvard.edu/bitstream/handle/1/37365301/WILSON-SCHOLIN-MASTEROFMEDICALSCIENCESTHESIS-2020.pdf?sequence=1

Winders, S. J., Murphy, O., Looney, K., & O'Reilly, G. (2020). Self-compassion, trauma, and posttraumatic stress disorder: A systematic review. *Clinical Psychology and Psychotherapy*, *27*(3), 300–329. https://doi.org/10.1002/cpp.2429

Winter, R., Issa, E., Roberts, N., Norman, R. I., & Howick, J. (2020). Assessing the effect of empathy-enhancing interventions in health education and training: A systematic review of randomised controlled trials. *BMJ Open*, *10*(9), e036471. https://doi.org/10.1136/bmjopen-2019-036471

Wong, E., Mavondo, F., & Fisher, J. (2020). Patient feedback to improve quality of patient-centred care in public hospitals: A systematic review of the evidence. *BMC Health Services Research*, *20*(1), 530. https://doi.org/10.1186/s12913-020-05383-3

Worly, B., Verbeck, N., Walker, C., & Clinchot, D. M. (2019). Burnout, perceived stress, and empathic concern: Differences in female and male Millennial medical students. *Psychology, Health and Medicine*, *24*(4), 429–438. https://doi.org/10.1080/13548506.2018.1529329

Wu, X., Hayter, M., Lee, A. J., & Zhang, Y. (2021). Nurses' experiences of the effects of mindfulness training: A narrative review and qualitative meta-synthesis. *Nurse Education Today*, *100*, 104830. https://doi.org/10.1016/j.nedt.2021.104830

Wündrich, M., Schwartz, C., Feige, B., Lemper, D., Nissen, C., & Voderholzer, U. (2017). Empathy training in medical students–a randomized controlled trial. *Medical Teacher*, *39*(10), 1096–1098. https://doi.org/10.1080/0142159X.2017.1355451

Yamada, K., & Victor, T. L. (2012). The impact of mindful awareness practices on college student health, well-being, and capacity for learning: A pilot study. *Psychology Learning & Teaching*, *11*(2), 139–145. https://doi.org/10.2304/plat.2012.11.2.139

Yang, E., Schamber, E., Meyer, R. M. L., & Gold, J. I. (2018). Happier Healers: Randomized Controlled Trial of Mobile Mindfulness for Stress Management. *The Journal of Alternative and Complementary Medicine*, *24*(5), 505–513. https://doi.org/10.1089/acm.2015.0301

Yarnell, L. M., & Neff, K. D. (2013). Self-compassion, Interpersonal Conflict Resolutions, and Well-being. *Self and Identity*, *12*(2), 146–159. https://doi.org/10.1080/15298868.2011.649545

Yu, C. C., Tan, L., Le, M. K., Tang, B., Liaw, S. Y., Tierney, T., Ho, Y. Y., Lim, B. E. E., Lim, D., Ng, R., Chia, S. C., & Low, J. A. (2022). The development of empathy in the healthcare setting: A qualitative approach. *BMC Medical Education*, *22*(1), 245. https://doi.org/10.1186/s12909-022-03312-y

Zeidan, F., Johnson, S. K., Diamond, B. J., David, Z., & Goolkasian, P. (2010). Mindfulness meditation improves cognition: Evidence of brief mental training. *Consciousness and Cognition*, *19*(2), 597–605. https://doi.org/10.1016/j.concog.2010.03.014

Appendices

Appendix A: Ethical approval letters

19th October 2016

Dear Amy,

Project Title:	**A psychosocial perspective on the relationships between mindfulness, empathy and stress in medical students: a randomised control trial**
Principal Investigator:	**Dr James J. Walsh**
Researcher:	**Amy Spatz**
Reference Number:	**UREC 1617 07**

I am writing to confirm the outcome of your application to the University Research Ethics Committee (UREC), which was considered by UREC on **Wednesday 14 September 2016.**

The decision made by members of the Committee is **Approved**. The Committee's response is based on the protocol described in the application form and supporting documentation. Your study has received ethical approval from the date of this letter.

Should you wish to make any changes in connection with your research project, this must be reported immediately to UREC. A Notification of Amendment form should be submitted for approval, accompanied by any additional or amended documents: http://www.uel.ac.uk/wwwmedia/schools/graduate/documents/Notification-of-Amendment-to-Approved-Ethics-App-150115.doc

Any adverse events that occur in connection with this research project must be reported immediately to UREC.

Approved Research Site

I am pleased to confirm that the approval of the proposed research applies to the following research site.

Research Site	Principal Investigator / Local Collaborator
Respective Universities	Amy Spatz

Approved Documents

The final list of documents reviewed and approved by the Committee is as follows:

UREC application form 3.0

Participant Information sheet 3.0

Participant Consent form 2.0

Debrief Sheet for participants 2.0

Approval is given on the understanding that the UEL Code of Practice in Research is adhered to.

The University will periodically audit a random sample of applications for ethical approval, to ensure that the research study is conducted in compliance with the consent given by the Ethics Committee and to the highest standards of rigour and integrity.

Please note, it is your responsibility to retain this letter for your records.

With the Committee's best wishes for the success of this project.

Yours sincerely,

Fernanda Silva
Administrative Officer for Research Governance University Research Ethics Committee (UREC) Email: **researchethics@uel.ac.uk**

Minor amendments to the original ethical approval following requests from the medical school that the researcher is listed as the PI:

15th December 2016

Dear Amy,

Project Title:	**Randomised Controlled Trial investigating psychosocial aspects of mindfulness training in medical students**
Researcher:	**N/A**
Principal Investigator:	**Dr James Walsh and Amy Spatz**
Amendment reference number:	**AMD 1617 22**
UREC reference no of original approved application:	**UREC 1617 07**

I am writing to confirm that the application for an amendment to the aforementioned research study has now received ethical approval on behalf of University Research Ethics Committee (UREC).

Should you wish to make any further changes in connection with your research project, this must be reported immediately to UREC. A Notification of Amendment form should be submitted for approval, accompanied by any additional or amended documents: http://www.uel.ac.uk/wwwmedia/schools/graduate/documents/Notification-of-Amendment-to-Approved-Ethics-App-150115.doc

Approved Research Site

I am pleased to confirm that the approval of the proposed research applies to the following research site:

Research Site	Principal Investigator / Local Collaborator
Respective Universities	Dr James Walsh and Amy Spatz

Summary of Amendments
• Change of title from: ‘A psychosocial perspective on the relationships between mindfulness, empathy and stress in medical students: a randomised control trial’ to ‘Randomised Controlled Trial investigating psychosocial aspects of mindfulness training in medical students’. • The PhD student, Amy Spatz, is to be named as the Principal Investigator in order to comply with local regulations in the medical schools where data collection is taking place. The supervisor, Dr James Walsh, will be named as the Chief Investigator, maintaining overall responsibility for the study. Minor changes to the data collection: • Mobile phone application will be removed, and instead audio files will be posted in a drop-box. • The original set of audio clips will be available for the students to choose to listen to. For the first group of students (who have already completed the course), they will be asked to estimate their practise time over the five weeks. • Students will not have a focus group during the last session of the course, and instead some of students will be invited to an interview via email, at least one week after the course finishes. • Up to six interviews will be conducted after each iteration of the course. Students will be selected for interview randomly, and not all students will be asked for an interview. • Semi-structured interviews will be conducted and will be similar to the original interview schedule in the UREC 1617 07 application. • The questionnaires are to be administered via Qualtrics software (electronically): 1. The short form of the Five Facets of Mindfulness questionnaire (previously approval was granted for the longer version) (FFMQ; Baer et al., 2006, 2008; Baer, Carmody, & Hunsinger, 2012; Gu et al., 2016) 2. Evaluation questions which review the running of the course have been added at the beginning of the questionnaire. 3. Questions asking students to anonymously report the number of minutes they practised each day for the five weeks were added early on in the post-intervention questionnaire. This is to replace the mobile phone app which was meant to measure the amount of time spent practising automatically.

Ethical approval for the original study was granted on 19 October 2016.

Approval is given on the understanding that the UEL Code of Good Practice in Research is adhered to.

With the Committee’s best wishes for the success of this project.

Please ensure you retain this letter, as in the future you may be asked to provide evidence of ethical approval for the changes made to your study.

Yours sincerely,

Fernanda Silva
Administrative Officer for Research Governance University Research Ethics Committee (UREC) Email: researchethics@uel.ac.uk

Ethics ETH2324-0258: Miss Amy Spatz

Ethics application

30 May 2024

Miss Amy Spatz

[Student number withheld for reasons of confidentiality]

Interpersonal mindfulness, empathy, and the potential role of early

trauma in medical students: A mixed-methods investigation

Psychology

Project details

S1.1 Title of proposed research or consultancy project

Randomised Controlled Trial investigating psychosocial aspects of mindfulness training in medical

students

S1.1.1 Do you wish to change the title of the research/consultancy project?

Yes

S1.1.2 If yes, please add the new research project title here.

Interpersonal mindfulness, empathy, and the potential role of early trauma in medical students: a

mixed-methods investigation

S1.2 UEL Researchers

Miss Amy Spatz

S1.3 Supervisor(s)

Dr James Walsh

Dr Irina Anderson

Prof Cynthia Fu

S1.11 Is the amendment required for a NHS research project?

No

S1.12 If yes, is the amendment to the NHS research project minor or major?

Details of amendment

S2.1 Please indicate the reason for the amendment to your project.

Change of project title

Supporting documents (N/A)

S2.2 Please provide details of the amendment(s) required for your project and the implications for the project
I'm updating the title to more accurately depict the contents

S2.3 If the amendment involves a change to the extension of ethical approval please provide the period of time requested.

S.2.4 Please upload the latest version of your Data Management plan (DMP) S2.5 Please upload the HRA amendment tool for your project.

Changes in the study team

S3.1 Is there a change to University staff member(s) on the project team?

No

S3.2 If yes, please provide details of the University staff member(s).

S3.3 Is there a change to student(s) on the project team?

No

S3.4 If yes, please provide details of the student(s).

S3.5 Is there a change to members of the team outside the University?

No

S3.6 If yes, please provide details of the team.

Ethical issues related to the proposed amendments

S4.1 Are there any specific ethical issues related to the proposed amendment.

No

S4.2 If yes, please provide details of the ethical issues.

Attached files

Spatz-DMP-InterpersonalMindfulness-v.2.docx

Appendix B: Questionnaires the students filled in before and after the intervention

Mindfulness for medics baseline survey

Start of Block: Baseline info & consent

Base info Welcome to the mindfulness for medics trial! Thank you very much for taking the time to answer some important questions before completing your mindfulness course. This survey will take approximately 20 minutes to complete.

Info 2 **Will my participation be confidential?** Any information you provide during the interview will be kept strictly confidential unless you disclose that you are in immediate danger to yourself or someone else. All data gathered as part of the study will be managed in accordance with the Information Commissioner's Office specifications and will not be shared with anyone outside of the research team. At no point will participants' identifying information be stored with the data gathered. Once recorded, data will be stored securely in a password-protected archive.

End of Block: Baseline info & consent

Start of Block: demographics

BID Please generate a unique participation number, beginning with the first initial of your university (S, Q, or I) number of your group (1, 2, or 3, which you were told separately), the initials for your mother's full formal name (i.e., if she goes by Beth but her full name is Elizabeth Ann Jones, use EAJ), followed AJ730. You will be asked to enter this number again at the end of your participation and also at the 3-month follow-up period.

Your unique participation number:
_____

gender Are you (please select the appropriate answer)
O Male (1) O Female (2) O Transgender (3)

age How old are you?
_____

COURSE What type of course are you enrolled on?
O MBBS5/6 (1) O MBBS4 (2) O Other (3)

STUDYYR What year of medical study are you in? (T-year is considered 3rd year for MBBS 5 students and 2nd year for MBBS 4 students, and so on)
O 1st year (1) O 3rd year (3) O 4th year (5)
O 2nd year (2) O BSc year (4) O 5th year (6)

PRIORCOM Approximately how many hours of clinical communication training (either in lectures or small groups) have you completed so far in your course?
O None (1) O 10-20 hrs (4)
O 5 hrs or less (2) O 20 hrs or more (5)
O 5-10 hrs (3)

MMEXP What is your level of experience with mindful meditation (please choose 1 option which seems to fit the best)?
O I am completely new to mindfulness or meditation (1)
O I have read about or studied mindfulness or meditation, but I have never practiced (2)
O I have practiced mindfulness or meditation a few times in the past (3)
O I have practiced mindfulness or meditation over a number of years, but I do not have a regular practise (4)
O I have been practicing meditation on average: More than 1 time per week for less than 1 year (5)
O I have been practicing meditation on average: More than 1 time per week between 1 and 3 years (6)
O I have been practicing meditation on average: More than 1 time per week between 3 and 6 years (7)
O I have been practicing meditation on average: More than 1 time per week over 6 years (8)

MOREMMEXP If you would like to tell us something about your prior experiences with mindful meditation, please do so here

ETHORG How would you describe your ethnic origins?
(The format for this question has been adapted from the UK census)
O White British (1)
O White other (2)
O Black or Afro-Caribbean British (3)
O Black or Afro-Caribbean other (4)
O Asian British (5)
O Asian other (6)
O Any other ethnic group, please specify (7)

you describe your ethnic origins? (The format for this question has been adapted from... != Any other ethnic group, please specify

OTHETH Any other ethnic group:
_____

religion Would you describe yourself as having any religious or spiritual observances?
O Buddhist (1)
O Hindu (2)
O Muslim (3)
O Christian (4)
O Jewish (5)
O Atheist (6)
O Agnostic (7)
O Spiritual but not religious (8)
O Other (please specify) (9)

Skip To: EDUQUAL If Would you describe yourself as having any religious or spiritual observances? != Other (please specify)

OTHERREL Other religious observances:
_____

EDUQUAL What is your highest educational qualification to date? (Tick the appropriate answer)
O GCSE(s)/O-level(s)/CSE(s) (1)
O A-level(s)/AS-level(s) (2)
O Diploma (specify HND, SRN, etc.) (3)
O Degree (specify BA, BSc) (4)
O Postgraduate degree/diploma (specify, e.g., MA, MSc, PgCert, MPhil, PhD) (5)

OCCUPTN What is your current occupation or (if you are not working whilst studying), what w_____

PAROCC What is the current occupation of the primary bread-winner in your parental home (or, what was their most recent occupation?)
_____

MARSTAT What is your current legal marital status? (Tick the appropriate answer)
O Single (1)
O Married (2)
O Divorced/separated (4)
O Widowed

children Do you have any children?
O Yes (1)
O No (2)

Skip To: End of Block If Do you have any children? = No

NOKIDS How many children do you have?
_____

LIVWKID Do your children live with you?
O Yes, more than half the time (1)
O Yes, less than half the time (2)
O No (3)

End of Block: demographics

Start of Block: General intro to validated questions

Quest info The questions in the following sections come from several different validated questionnaires all put together. Usually, you will find that your first instinctual response is the one that is most true for you at the moment. No need to over think the questions. All data is anonymised and confidential. You will also be asked to answer some of these questions again at the end of the 5-week course, and also at three months following the course.
There are quite a few questions remaining, taking around 15 minutes or so.

BSFFMQ1 When I take a shower or a bath, I stay alert to the sensations of water on my body.
O Never or very rarely true (1)
O Rarely true (2)
O Sometimes true (3)
O Often true (4)
O Very often or always true (5)

BSFFMQ2 I'm good at finding words to describe my feelings.
O Never or very rarely true (1)
O Rarely true (2)
O Sometimes true (3)
O Often true (4)
O Very often or always true (5)

BSFFMQ3R I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.
O Never or very rarely true (5)
O Rarely true (4)
O Sometimes true (3)
O Often true (2)
O Very often or always true (1)

BSSFMQ4R I believe some of my thoughts are abnormal or bad and I shouldn't think that way.
O "ever or very rarely true (5)
O Rarely true (4)
O Sometimes true (3)
O Often true (2)
O Very often or always true (1)

BSFFMQ5 When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.
O Never or very rarely true (1)
O Rarely true (2)
O Sometimes true (3)
O Often true (4)
O Very often or always true (5)

BSFFMQ6 I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
O Never or very rarely true (1)
O Rarely true (2)
O Sometimes true (3)
O Often true (4)
O Very often or always true (5)

BSFFMQ7R I have trouble thinking of the right words to express how I feel about things.
O Never or very rarely true (5)
O Rarely true (4)
O Sometimes true (3)
O Often true (2)
O Very often or always true (1)

BSFFMQ8R I do jobs or tasks automatically without being aware of what I'm doing.
O Never or very rarely true (5)
O Rarely true (4)
O Sometimes true (3)
O Often true (2)
O Very often or always true (1)

BSFFMQ9R I think some of my emotions are bad or inappropriate and I shouldn't feel them.
O Never or very rarely true (5)
O Rarely true (4)
O Sometimes true (3)
O Often true (2)
O Very often or always true (1)

BSFFMQ10 When I have distressing thoughts or images, I am able just to notice them without reacting.
O Never or very rarely true (1)
O Rarely true (2)
O Sometimes true (3)
O Often true (4)
O Very often or always true (5)

BSFFMQ11 I pay attention to sensations, such as the wind in my hair or sun on my face.
O Never or very rarely true (1)
O Rarely true (2)
O Sometimes true (3)
O Often true (4)
O Very often or always true (5)

BSFFMQ12 Even when I'm feeling terribly upset, I can find a way to put it into words.
O Never or very rarely true (1)
O Rarely true (2)
O Sometimes true (3)
O Often true (4)
O Very often or always true (5)

BSFFMQ13R I find myself doing things without paying attention.
O Never or very rarely true (5)
O Rarely true (4)
O Sometimes true (3)
O Often true (2)
O Very often or always true (1)

BSFFMQR14R I tell myself I shouldn't be feeling the way I'm feeling.
O Never or very rarely true (5)
O Rarely true (4)
O Sometimes true (3)
O Often true (2)
O Very often or always true (1)

BSFFMQ15 When I have distressing thoughts or images, I just notice them and let them go.
O Never or very rarely true (1)
O Rarely true (2)
O Sometimes true (3)
O Often true (4)
O Very often or always true (5)

BIRIEC1 I often have tender, concerned feelings for people less fortunate than me.
O Does not describe me well (1)
O Describes me slightly well (2)
O Describes me moderately well (3)
O Describes me very well (4)
O Describes me extremely well (5)

BIRIPT1R I sometimes find it difficult to see things from the "other guy's" point of view.
O Does not describe me well (5)
O Describes me slightly well (4)
O Describes me moderately well (3)
O Describes me very well (2)
O Describes me extremely well (1)

BIRIEC2R Sometimes I don't feel very sorry for other people when they are having problems.
O Does not describe me well (5)
O Describes me slightly well (4)
O Describes me moderately well (3)
O Describes me very well (2)
O Describes me extremely well (1)

BIRIEC3 When I see someone being taken advantage of, I feel kind of protective towards them.
O Does not describe me well (1)
O Describes me slightly well (2)
O Describes me moderately well (3)
O Describes me very well (4)
O Describes me extremely well (5)

BIRIPT3 I sometimes try to understand my friends better by imagining how things look from their perspective.
O Does not describe me well (1)
O Describes me slightly well (2)
O Describes me moderately well (3)
O Describes me very well (4)
O Describes me extremely well (5)

BIRIEC4R Other people's misfortunes do not usually disturb me a great deal.
O Does not describe me well (5)
O Describes me slightly well (4)
O Describes me moderately well (3)
O Describes me very well (2)
O Describes me extremely well (1)

BIRIPT4R If I’m sure I’m right about something, I don’t waste much time listening to other people’s arguments.
O Does not describe me well (5) O Describes me very well (2)
O Describes me slightly well (4) O Describes me extremely well (1)
O Describes me moderately well (3)

BIRIPT2 I try to look at everybody’s side of a disagreement before I make a decision.
O Does not describe me well (1) O Describes me very well (4)
O Describes me slightly well (2) O Describes me extremely well (5)
O Describes me moderately well (‘)

BIRIEC5R When I see someone being treated unfairly, I sometimes don’t feel very much pity for them.
O Does not describe me well (5) O Describes me very well (2)
O Describes me slightly well (4) O Describes me extremely well (1)
O Describes me moderately well (3)

BIRIPT5 I believe that there are two sides to every question and try to look at them both.
O Does not describe me well (1) O Describes me very well (4)
O Describes me slightly well (2) O Describes me extremely well (5)
O Describes me moderately well (3)

BIRIEC6 I am often quite touched by things that I see happen.
O Does not describe me well (1) O Describes me very well (4)
O Describes me slightly well (2) O Describes m’ extremely well (5)
O Describes me moderately well (3)

BIRIPT6 When I’m upset at someone, I usually try to "put myself in his shoes" for a while.
O Does not describe me well (1) O Describes me very well (4)
O Describes me slightly well (2) O Describes me extremely well (5)
O Describes me moderately well (3)

BIRIEC7 I would describe myself as a pretty soft-hearted person.
O Does not describe me well (1) O Describes me very well (4)
O Describes me slightly well (2) O Describes me extremely well (5)
O Describes me moderately well (3)

BIRIPT7 Before criticising somebody, I try to imagine how I would feel if I were in their place.
O Does not describe me well (1) O Describes me very well (4)
O Describes me slightly well (2) O Describes me extremely well (5)
O Describes me moderately well (3)

End of Block: 2 IRI subscales

Start of Block: JSPS

JSPS rubric1
Please indicate the extent of your agreement or disagreement with each of the following statements by choosing the appropriate number in the box to the right of the statement. Please use the following 7-point scale (*a higher number on the scale indicates more agreement):*

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

JSPS rubric 2
Please indicate the extent of your agreement or disagreement with each of the following statements by choosing the appropriate
number in the box to the right of the statement. Please use the following 7-point scale (*a higher number on the scale indicates more agreement):*

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

BJSPS

Physicians' understanding of their patients' feelings and the feelings of their patients' families does not influence medical or surgical treatment. (BJSPE1)	▼ 1 (1) ... 7 (7)
Patients feel better when their physicians understand their feelings. (BJSPE2)	▼ 1 (1) ... 7 (7)
It is difficult for a physician to view things from patients' perspectives. (BJSPE3)	▼ 1 (1) ... 7 (7)
Understanding body language is as important as verbal communication in physician- patient relationships. (BJSPE4)	▼ 1 (1) ... 7 (7)
A physician's sense of humour contributes to a better clinical outcome. (BJSPE5)	▼ 1 (1) ... 7 (')
Because people are different, it is difficult to see things from patients' perspectives (BJSPE6)	▼ 1 (1) ... 7 (7)
Attention to patients' emotions is not important in history taking. (IPE7)	▼ 1 (1) ... 7 (7)
Attentiveness to patients' personal experiences does not influence treatment outcomes. (BJSPE8)	▼ 1 (1) ... 7 (7)
Physicians should try to stand in their patients' shoes when providing care to them (BJSPE9)	▼ 1 (1) ... 7 (7)
Patients value a physician's understanding of their feelings which is therapeutic in its own right. (BJSPE10)	▼ 1 (1) ... 7 (7)

Patients' illnesses can be cured only by medical or surgical treatment; therefore, physicians' emotional ties with their patients do not have a significant influence in medical or surgical treatment.' (BJSPE11)	▼ 1 (1) ... 7 (7)
Asking patients about what is happening in their personal lives not helpful in understanding their physical complaints. (BJSPE12)	▼ 1 (1) ... 7 (7)
Physicians should try to understand what is going on in their patients' mind' by paying attention to their non-verbal cues and body language. (BJSPE13)	▼ 1 (1) ... 7 (7)
I believe that emotion has no place in the treatment of medical illness. (BJSPE14)	▼ 1 (1) ... 7 (7)
Empathy is a therapeutic skill without which the physician's success is limited. (BJSPE15)	▼ 1 (1) ... 7 (7)
Physicians' understanding of the emotional status of their patients, as well as that of their families is one important component of the physician-patient relationship. (BJSPE16)	▼ 1 (1) ... 7 (7)
Physicians should try to think like their patients in order to render better care. ISPE17)	▼ 1 (1) ... 7 (7)
Physicians should not allow themselves to be influenced by strong personal bonds between their patients and their family members. (BJSPE18)	▼ 1 (1) ... 7 (7)
I do not enjoy reading non-medical literature or the arts. (BJSPE19)	▼ 1 (1) ... 7 (7)
I believe that empathy is an important therapeutic factor in medical treatment. (BJSPE20)	▼ 1 (1) ... 7 (7)

End of Block: JSPS

Start of Block: PSS

BPSS1 In the last two weeks, how often have you been upset because of something that happened unexpectedly?
O Never (0) O Fairly Often (3)
O Almost Never (1) O Very Often (4)
O Sometimes (2)

BPSS2 In the last two weeks, how often have you felt that you were unable to control the important things in your life?
O Never (0) O Fairly Often (3)
O Almost Never (1) O Very Often (4)
O Sometimes (2)

BPSS3 In the last two weeks, how often have you felt nervous and "stressed"?
O Never (0) O Fairly Often (3)
O Almost Never (1) O Very Often (4)
O Sometimes (2)

BPSS4R In the last two weeks, how often have you felt confident about your ability to handle your personal problems?
O Never (4) O Fairly Often (1)
O Almost Never (3) O Very Often (0)
O Sometimes (2)

BPSS5R In the last two weeks, how often have you felt that things were going your way?
O Never (4) O Fairly Often (1)
O Almost Never (3) O Very Often (0)
O Sometimes (2)

BPSS6 In the last two weeks, how often have you found that you could not cope with all the things that you had to do?
O Never (0) O Fairly Often (3)
O Almost Never (1) O Very Often (4)
O Sometimes (2)

BPSS7R In the last two weeks, how often have you been able to control irritations in your life?
O Never (4) O Fairly Often (1)
O Almost Never (3) O Very Often (0)
O Sometimes (2)

BPSS8R In the last two weeks, how often have you felt that you were on top of things?
O Never (4) O Fairly Often (1)
O Almost Never (3) O Very Often (0)
O Sometimes (2)

BPSS9 In the last two weeks, how often have you been angered because of things that were outside of your control?
O Never (0) O Fairly Often (3)
O Almost Never (1) O Very Often (4)
O Sometimes (2)

BPSS10 In the last two weeks, how often have you felt difficulties were piling up so high that you could not overcome them?
O Never (0) O Fairly Often (3)
O Almost Never (1) O Very Often (4)
O Sometimes (2)

Self-rubric
HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES
Please read each statement below carefully before answering. Below each item, indicate how often you behave in the stated manner, using the following scale:

Almost never				Almost always
1	2	3	4	5

BSELF1R When I fail at something important to me, I become consumed by feelings of inadequacy.
O 1 (5)
O 2 (4)
O 3 (3)
O 4 (2)
O 5 (1)

BSELF2 I try to be understanding and patient towards those aspects of my personality I don't like.
O 1 (1)
O 2 (2)
O 3 (3)
O 4 (4)
O 5 (5)

BSELF3 When something painful happens, I try to take a balanced view of the situation.
O 1 (1)
O 2 (2)
O 3 (3)
O 4 (4)
O 5 (5)

BSELF4R When I'm feeling down, I tend to feel like most other people are probably happier than I am.
O 1 (5)
O 2 (4)
O 3 (3)
O 4 (2)
O 5 (1)

'BSELF5 I try to see my failings as part of the human condition.
O 1 (1)
O 2 (2)
O 3 (3)
O 4 (4)
O 5 (5)

BSELF6 When I'm going through a very hard time, I give myself the caring and tenderness I need.
O 1 (1)'
O 2 (2)
O 3 (3)
O 4 (4)
O 5 (5)

BSELF7 When something upsets me, I try to keep my emotions in balance.
O 1 (1'
O 2 (2)
O 3 (3)
O 4 (4)
O 5 (5)
'

BSELF8R When I fail at something that's important to me, I tend to feel alone in my failure
O 1 (5)
O 2 (4)
O 3 (3)
O 4 (2)
O 5 (1)

BSELF9R When I'm feeling down, I tend to obsess and fixate on everything that's wrong.
O 1 (5)
O 2 (4)
O 3 (3)
O 4 (2)
O 5(1)

BSELF10 When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
O 1 (1)
O 2 (2)
O 3 (3)
O 4 (4)
O 5 (5)

BSELF11R I'm disapproving and judgmental about my own flaws and inadequacies.
O 1 (5)
O 2 (4)
O 3 (3)
O 4 (2)
O 5 (1)

BSELF12R I'm intolerant and impatient towards those aspects of my personality I don't like
O 1 (5)
O 2 (4)
O 3 (3)
O 4 (2)
O 5 (1)

End of Block: Self-Compassion Scale (SCS)

Start of Block: Social Connectedness Scale

BSOCCS1 I feel comfortable in the presence of strangers.

O Strongly Disagree (1)	O Mildly Disagree (3)	O Agree (5)
O Disagree (2)	O Mildly Agree (4)	O Strongly Agree (6)

BSOCCS2 I am in tune with the world.

O Strongly Disagree (1)	O Mildly Disagree (3)	O Agree (5)
O Disagree (2)	O Mildly Agree (4)	O Strongly Agree (6)

BSOCCS3r Even among my friends, there is no sense of brother/sisterhood.

O Strongly Disagree (6)	O Mildly Disagree (4)	O Agree (2)
O Disagree (5)	O Mildly Agree (3)	O Strongly Agree (1)

BSOCCS4 I fit in well in new situations.

O Strongly Disagree (1)	O Mildly Disagree (3)	O Agree (5)
O Disagree (2)	O Mildly Agree (4)	O Strongly Agree (6)

BSOCCS5 I feel close to people.

O Strongly Disagree (1)	O Mildly Disagree (3)	O Agree (5)
O Disagree (2)	O Mildly Agree (4)	O Strongly Agree (6)

BSOCCS6r I feel disconnected from the world around me.

O Strongly Disagree (6)	O Mildly Disagree (4)	O Agree (2)
O Disagree (5)	O Mildly Agree (3)	O Strongly Agree (1)

BSOCCS7r Even around people I know, I don't feel that I really belong.

O Strongly Disagree (6)	O Mildly Disagree (4)	O Agree (2)
O Disagree (5)	O Mildly Agree (3)	O Strongly Agree (1)

BSOCCS8 I see people as friendly and approachable.

O Strongly Disagree (1)	O Mildly Disagree (3)	O Agree (5)
O Disagree (2)	O Mildly Agree (4)	O Strongly Agree (6)

BSOCCS9r I feel like an outsider.

O Strongly Disagree (6)	O Mildly Disagree (4)	O Agree (2)
O Disagree (5)	O Mildly Agree (3)	O Strongly Agree (1)

BSOCCS10 I feel understood by the people I know.

O Strongly Disagree (1)	O Mildly Disagree (3)	O Agree (5)
O Disagree (2)	O Mildly Agree (4)	O Strongly Agree (6)

BSOCCS11r I feel distant from people.

O Strongly Disagree (6)	O Mildly Disagree (4)	O Agree (2)
O Disagree (5)	O Mildly Agree (3)	O Strongly Agree (1)

BSOCCS12 I am able to relate to my peers.

O Strongly Disagree (1)	O Mildly Disagree (3)	O Agree (5)
O Disagree (2)	O Mildly Agree (4)	O Strongly Agree (6)

BSOCCS13r I have little sense of togetherness with my peers.

O Strongly Disagree (6)	O Mildly Disagree (4)	O Agree (2)
O Disagree (5)	O Mildly Agree (3)	O Strongly Agree (1)

BSOCCS14 I find myself actively involved in people's lives.

O Strongly Disagree (1)	O Mildly Disagree (3)	O Agree (5)
O Disagree (2)	O Mildly Agree (4)	O Strongly Agree (6)

BSOCCS15r I catch myself losing a sense of connectedness with society.

O Strongly Disagree (6)	O Mildly Disagree (4)	O Agree (2)
O Disagree (5)	O Mildly Agree (3)	O Strongly Agree (1)

BSOCCS16 I am able to connect with other people.

O Strongly Disagree (1)	O Mildly Disagree (3)	O Agree (5)
O Disagree (2)	O Mildly Agree (4)	O Strongly Agree (6)

BSOCCS17r I see myself as a loner.

O Strongly Disagree (6)	O Mildly Disagree (4)	O Agree (2)
O Disagree (5)	O Mildly Agree (3)	O Strongly Agree (1)

BSOCCS18r I don't feel related to most people.

O Strongly Disagree (6)	O Mildly Disagree (4)	O Agree (2)
O Disagree (5)	O Mildly Agree (3)	O Strongly Agree (1)

BSOCCS19 My friends feel like family.

O Strongly Disagree (1)	O Mildly Disagree (3)	O Agree (5)
O Disagree (2)	O Mildly Agree (4)	O Strongly Agree (6)

BSOCCS20r I don't feel I participate with anyone or any group.

O Strongly Disagree (6)	Mildly Disagree (4)	O Agree (2)
O Disagree (5)	O Mildly Agree (3)	O Strongly Agree (1)

Starting a conversation with a stranger (BFREQBEHV1)	▼ 1 (1) ... 5 (5)
Telling a group of people about something you have experienced (BFREQBEHV2)	▼ 1 (1) ... 5 (5)
Asking someone to explain something you have not understood (BFREQBEHV3)	▼ 1 (1) ... 5 (5)
Telling someone who has justly criticised you that he / she is right (BFREQBEHV4)	▼ 1 (1) ... 5 (5)
Joining in the conversation of a group of people (BFREQBEHV5)	▼ 1 (1) ... 5 (5)
Maintaining your own opinion against a person who has a very pronounced opinI (BFREQBEHV6)	▼ 1 (1) ... 5 (5)
Asking someone whether you have hurt him / her (IEQBEHV7)	▼ 1 (1) ... 5 (5)
Giving your opinion to a person in authority (BFREQBEHV8)	▼ 1 (1) ... 5 (5)
Saying that you are sorry when you have made mistake (BFREQBEHV9)	▼ 1 (1) ... 5 (5)
Going up to someone in order to make their acquaintance (BFREQBEHV10)	▼ 1 (1) ... 5 (5)
Asking someone to show you the way (BFREQBEHV11)	▼ 1 (1) ... 5 (5)
Admitting that you know little Iut a particular subject (BFREQBEHV12)	▼ 1 (1) ... 5 (5)

BCOMBEHV Please continue to rate how UNCOMFORTABLE you feel about the following on a scale of 1-5 (if 1 means not all uncomfortable and 5 is extremely uncomfortable)?

Starting a conversation with a stranger (BIBEHV1)	▼ 1 (1) ... 5 (5)
Telling a group of people about something you have experienced (BCOMBEHV2)	▼ 1 (1) ... 5 (5)
Asking someone to explain something you have not understood (BCOIHV3)	▼ 1 (1) ... 5 (5)
Telling someone who has justly criticised you that he / she is right (BCOMBEHV4)	▼ 1 (1) ... 5 (5)
Joining in the conversation of a group of people (BCOMBEHV5)	▼ 1 (1) ... 5 (5)
Maintaining your own opinion against a person who has a very pronounced opinion (BCOMBEHV6)	▼ 1 (1) ... 5 (5)
Asking someone whether you have hurt him / her (BCOMBEHV7)	▼ 1 (1) ... 5 (5)
Giving your opinion to a person in authority (BCOMBEHV8)	▼ 1 (1) ... 5 (5)
Saying that you are sorry when you have made a mistake (BCOMBEHV9)	▼ 1 (1) ... 5 (5)
Going up to someone in order to make their acquaintance (BCOMBEHV10)	▼ 1 (1) ... 5 (5)
Asking someone to show you the way (BCOMBEHV11)	▼ 1 (1) ... 5 (5)
Admitting that you know little about a particular subject (BCOMBEHV12)	▼ 1 (1) ... 5 (5)

The Post-Intervention repeated the same validated questionnaires as above, without all the demographics. The below questions were included only on the post-intervention questionnaire:

Intro The following questions are related to how you felt about the course and what your mindfulness practise consisted of. Please feel free to be very honest. Your responses are anonymous, and this work will benefit from anything constructive you might want to add. There are some multiple-choice questions and some with free text. Anything you might be able to offer will help.

SSC Were you participating in this mindfulness course as part of a Student Selected Component?
O Yes (1)
O No (2)

SATISF How satisfied do you feel with the 5-week mindfulness course that you participated in?

O Extremely satisfied (10)	O (6)	O (3)
O (9)	O (5)	O (2)
O (8)	O (4)	O Extremely dissatisfied (1)
O (7)		

Eval2 How would you rate the following elements of your 5-week Mindfulness course:

	Excellent (5)	Good (4)	Average (3)	Below Average (2)	Poor (1)
Quality of the teaching (QUALTEACH)	○	○	○	○	○
Usefulness for you now (USENOW)	○	○	○	○	○
IO)	○	○	○	○	○
Written course materials (MATERIALS)	○	○	○	○	○
Organisation (ORG)	○	○	○	○	○
Length of the course (5-weeks) (LGTHCOURSE)	○	○	○	○	○
Length of the sessions (2 hours) (LGTHSESSIONS)	○	○	○	○	○

COMMENTS Would you like to share any comments or provide any suggestions?
_____

RECSTUDENTS How likely are you to recommend this particular course to other students?

O Extremely likely (10)	O (6)	O (3)
O (9)	O (5)	O (2)
O (8)	O (4)	O Extremely unlikely (1)
O (7)		

RECPATIENTS How likely are you to recommend mindfulness to patients once you are qualified?

O (9)	O (5)	O (2)
O (8)	O (4)	O Extremely unlikely (1)
O (7)		

MOSTUSEFUL What was the most useful aspect of the course for you and why?
_____

LEASTUSEFUL What was the least useful aspect of the course for you and why?
_____

SESSIONS How many of the group mindfulness sessions were you able to attend?
O 1 out of 5 sessions (1)
O 2 out of 5 sessions (2)
O 3 out of 5 sessions (3)
O 4 out of 5 sessions (4)
O 5 out of 5 sessions (5)

Q148 The following questions relate to the home practice you engaged in outside of the scheduled sessions. The first questions are related to you' weekly FORMAL practices involving listening to an audio guide to practise a body scan, breath sounds and thoughts meditation, or mindful yoga. The second set of questions are related to your INFORMAL practices engaging mindfully in daily activities such as cooking, eating, showering, brushing your teeth or walking.

There's no need to specify here which activities you were practicing, but if you could take a moment to review any notes you made about your time spent on weekly practices that would be ideal. Please state the approximate time in minutes only rather than hours and minutes. This will aid analysis. If you are unable to access any records for your home practise, please simply estimate the minutes spent meditating, based on the following timings:

The body scan was approximately 15 minutes
The mindful yoga recording was approximately 8 minutes (although you might have done mindful stretching on your own also)
The breath meditation was approximately 8 minutes
The sounds and thoughts meditation was approximately 8 minutes
There was also a 3-minute breathing space offered as a suggestion.
The above would all be considered 'Formal' mindfulness practices.

_____
INFORMPRACT2 Approximately how many minutes did you spend INFORMALLY practising mindfulness in your own time between session 2 and session 3?_____

INFORMPRACT3 Approximately how many minutes did you spend INFORMALLY practising mindfulness in your own time between session 3 and session 4?
_____

FORMPRACT4 Approximately how many minutes did you spend INFORMALLY practising mindfulness between session 4 and session 5?
_____

FORMPRACT5 Approximately how many minutes did you spend INFORMALLY practising mindfulness in the week after session 5?

_____'_____

INFORMALPRACTINFO Would you like to add any anything about practising informally?
_____'_____

FUTUREPRACT How much practice do you intend to–engage in over the next 3-months? Please choose one or two statements below that most closely describe your intentions. (It's ok to pick more than one answer).

O Some formal mindfulness every day, for 15 minutes or more (7)
O Some INFORMAL mindfulness each day, even if it's only for a few minutes (6)
O Once or twice a week - around 10-15 minutes formal practice (5)
O Now and then (practicing formally a few times each month) (4)
O Rarely (practicing formally a few times each month (4)
O Practicing informally from time to time (2)
O I don't think practising is really going to be something I'll get around to doing at all in the next few months. (1)

FUTUREPRACTINFO Would you like to add anything else about your intentions to practise during the next few months?

_____

Appendix C: Home meditation practice instructions for both groups

Week 1:

1. Practice either the 45-minute body scan by Jon Kabat-Zinn (available on YouTube), or the 15-minute body scan from finding peace in a frantic world 'week 2'. You can find this for free on SoundCloud, or you can purchase the app. Practice the long meditation once or the shorter meditation twice each day (30-45 minutes). https://soundcloud.com/hachetteaudiouk/meditation-two-the-body-scan?in=hachetteaudiouk/sets/mindfulness-a-practical-guide-to-finding-peace-in-a-frantic-world

Week 2:

1. Add in a formal mindful movement practice once a day, or as often as you can fit it in. The 8-minute mindful movement practise from 'finding peace in a frantic world' in week 3 of that program is enough. https://soundcloud.com/hachetteaudiouk/meditation-three-mindful-movement?in=hachetteaudiouk/sets/mindfulness-a-practical-guide-to-finding-peace-in-a-frantic-world
2. Continue to practise the 15-minute body scan from 'finding peace in a frantic world' in week 2 of that programme. Practice it once each day if possible, or as often as you can. https://soundcloud.com/hachetteaudiouk/meditation-two-the-body-scan?in=hachetteaudiouk/sets/mindfulness-a-practical-guide-to-finding-peace-in-a-frantic-world

Week 3:

1. Every other day, practise a 15-minute body scan https://soundcloud.com/hachetteaudiouk/meditation-two-the-body-scan?in=hachetteaudiouk/sets/mindfulness-a-practical-guide-to-finding-peace-in-a-frantic-world followed an 8-minute mindful movement guided meditation https://soundcloud.com/hachetteaudiouk/meditation-three-mindful-movement?in=hachetteaudiouk/sets/mindfulness-a-practical-guide-to-finding-peace-in-a-frantic-world
2. Every other day, practice a breath, sound and thought meditation (two guided meditations one after another) https://soundcloud.com/hachetteaudiouk/meditation-four-breath-and-body?in=hachetteaudiouk/sets/mindfulness-a-practical-guide-to-finding-peace-in-a-frantic-world and https://soundcloud.com/hachetteaudiouk/meditation-five-sounds-and-thoughts?in=hachetteaudiouk/sets/mindfulness-a-practical-guide-to-finding-peace-in-a-frantic-world

Week 4:

1. Practise 2 x 8 mins sitting meditation every other day – breath, sounds and thoughts. The same ones as last week https://soundcloud.com/hachetteaudiouk/meditation-four-breath-and-body?in=hachetteaudiouk/sets/mindfulness-a-practical-guide-to-finding-peace-in-a-frantic-world

2. Practise a 15-minute body scan (the one we practised in week 2) each day, plus 8 mins mindful movement every other day (on SoundCloud from the 'finding peace in a frantic world' meditation series' or on the app)

Week 5:

1. Practice 15-20 minutes of mindfulness meditation each day. Morning, home transition-times, on public transport or at night when you are winding down are common ways to fit it in.

Appendix D: Face validity analysis of the JSP-S

On the JSP-S, the internal reliability was lower than the other scales in the MBSR group following the intervention in Study Two. This is despite the JSP-S being the longest scale after the s-SIB used in this study, and increased length alone is usually associated with increased α according to Field (2017).

A score of .7-.8 is considered reliable, and the Cronbach's α was .65 for the JSP-S in Study Two, following the intervention. Further inspection on the individual items of the JSP-S and their effects on α was conducted following the procedure suggested by (Field, 2017, p. 826). Items 1, 3, 4, 5 and 8 when removed, would increase the α to above the .65 level that the scale exhibited. These items include:

> #1 Physicians' understanding of their patients' feelings and the feelings of their patients' families does not influence medical or surgical treatment. (reversed)
>
> # 3 It is difficult for a physician to view things from patients' perspectives (reversed)
>
> #4 Understanding body language is as important as verbal communication in physician-patient relationships. (BJSPE4)
>
> # 5 A physician's sense of humour contributes to a better clinical outcome.
>
> #8 Attentiveness to patients' personal experiences does not influence treatment outcomes. (reversed)

When designing a scale and improving reliability, the items which would improve the α ought to be removed. However, the α measure of internal reliability only indicates that items measure similar things, it cannot determine 'whether empathy is being measured or not. On visual inspection alone (face validity), the following items could be prone to reduced scoring following mindfulness courses. In theory, mindfulness is correlated with a reduction in judgemental attitudes. This would also apply to struggles with empathising. Instead of

measuring empathy, or even attitudes or commitments to empathising, these items could be more about judging the person who is meant to be empathising:

3 It is difficult for a physician to view things from patients' perspectives (reversed)

6 Because people are different, it's difficult to see things from patients' perspectives (reversed)

18 Physicians should not allow themselves to be influenced by strong personal bonds between their patients and their family members. (reversed)

Questionnaire developers in previous eras of psychology used to include items of lower face validity in questionnaires if they were associated with one another . However, while idiosyncratic and un-related items may be statistically irrelevant if they are associated together in a large population, such patterns are also situated in time and may evolve. The JSPE was designed 23 years ago (Hojat et al., 2001), and as such the patterns which originally showed internal consistency in the USA may be less relevant worldwide, particularly at a time when technology and media may have changed personality habits or patterns. The following items on the JSP-S do not appear to directly relate to empathy and may be out of date.

5 A physician's sense of humour contributes to a better clinical outcome (it's not necessary to possess much wit or humour in order to empathise, which in fact can be a very serious endeavour)

17 I do not enjoy reading non-medical literature or the arts (although it is considered helpful to develop empathy through reading, and this is not necessarily mutually exclusive. Some students may be quite focused, or may not read much, instead preferring online or digital pursuits. As long as they aren't burnt out, scoring this question negatively won't necessarily indicate a lack of empathy. This question may be outdated).

Upon inspection, the remaining items on the scale appear to be exploring knowledge about the importance, utility, and role of empathy in clinical practice, rather than empathic capacity or ability. For example:

> #1 Physicians' understanding of their patients' feelings and the feelings of their patients' families does not influence medical or surgical treatment. (reversed)
>
> #4 Understanding body language is as important as verbal communication in physician- patient relationships.
>
> #8 Attentiveness to patients' personal experiences does not influence treatment outcomes. (reversed)

This scale thus appears to be less related to the inner experience of empathy than other scales such as the IRI (Davis, 1980), although there are also potential problems with using that scale as well. The utility and benefit of measuring attitudes to empathy in the JSP-S seems unclear in an era where medical students are selected for their empathy during the interview process and are routinely taught empathic communication skills throughout medical school in the UK (Von Fragstein et al., 2008).

Appendix E: Descriptives: Before and after deleting four outliers

Descriptive Statistics before deleting four extreme outliers

	N	Minimum	Maximum	Mean	Std. Deviation
Change in FFMQ score	51	-17.00	15.00	3.0980	6.22978
Change in JSP-S score	50	**-37.00**	19.00	-1.3800	9.08664
Change in IRI score	51	-12.00	11.00	1.8627	4.57829
Change in PSS score	51	-9.00	10.00	.4510	5.25857
Change in Self Compassion score (SCS)	51	-10.00	15.00	1.8039	6.00673
Change in Social Connectedness score	50	-14.00	**36.00**	.6800	8.83740
Change in interpersonal behaviour (s-SIB)	48	**-53.00**	20.00	-.1667	13.55577
Valid N (listwise)	47				

Descriptive Statistics after deleting four extreme outliers

(JSP-S, s-SIB, SOCC):

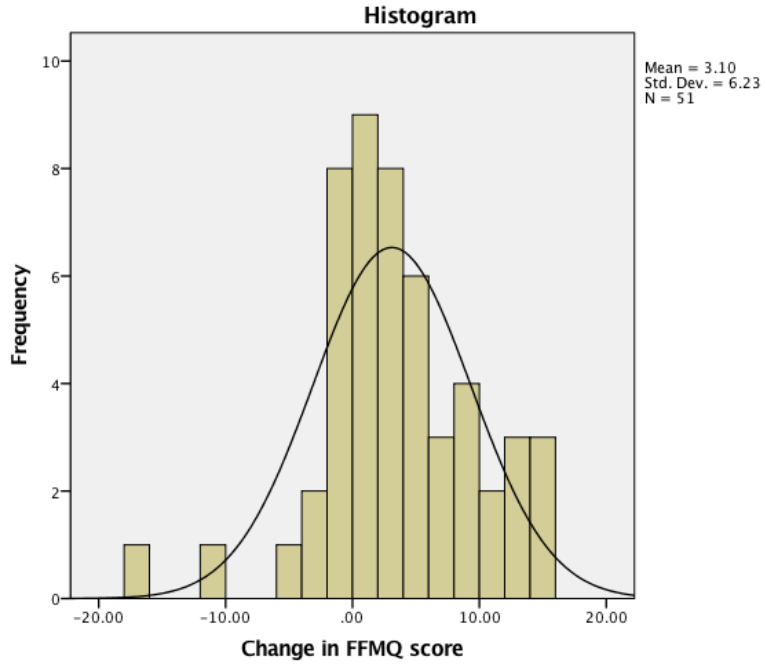
	N	Minimum	Maximum	Mean	Std. Deviation
Change in FFMQ score	51	-17.00	15.00	3.0980	6.22978
Change in JSP-S score	49	-25.00	19.00	-.6531	7.57064
Change in IRI score	51	-12.00	11.00	1.8627	4.57829
Change in PSS score	51	-9.00	10.00	.4510	5.25857
Change in Self-compassion score	51	-10.00	15.00	1.8039	6.00673
Change in Social Connectedness score	49	-14.00	22.00	-.0408	7.29429
Inge in interpersonal behaviour	46	-22.00	20.00	2.0000	8.73817
Valid N (listwise)	44				

Appendix F: Deleting an outlier from FFMQ @ -3.22 standard deviations from the mean

Statistics

Change in FFMQ score

N	Valid	51
	Missing	0
Mean		3.0980
Std. Error of Mean		.87234
Median		3.0000
Mode		1.00
Std. Deviation		6.22978
Variance		38.810
Skewness		-.419
Std. Error of Skewness		.333
KurIis		1.528
Inge		32.00
Minimum		-17.00
Maximum		15.00
Percentiles	25	-1.0000
	50	3.0000
	75	7.0000

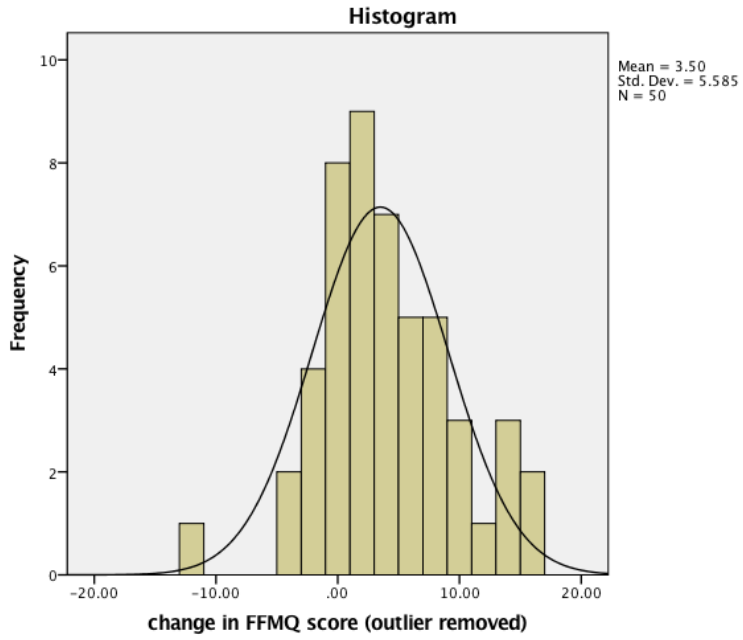


Statistics

change in FFMQ score (extreme outlier removed)

N	Valid	50
	Missing	1
Mean		3.5000
Std. Error of Mean		.78986
Median		3.0000
Mode		1.00
Std. Deviation		5.58515
Variance		31.194
Skewness		.172
Std. Error of Skewness		.337
Kurtosis		.318
Std. Error of Kurtosis		.662
Range		27.00
Minimum		-12.00
Maximum		15.00
Percentiles	25	-.2500
	50	3.0000

75	7.2500


Histogram
Mean = 3.50
Std. Dev. = 5.585
N = 50
Frequency
0
2
4
6
8
10
-20.00
-10.00
.00
10.00
20.00
change in FFMQ score (outlier removed)

Appendix G: Non-significant results from Study Two

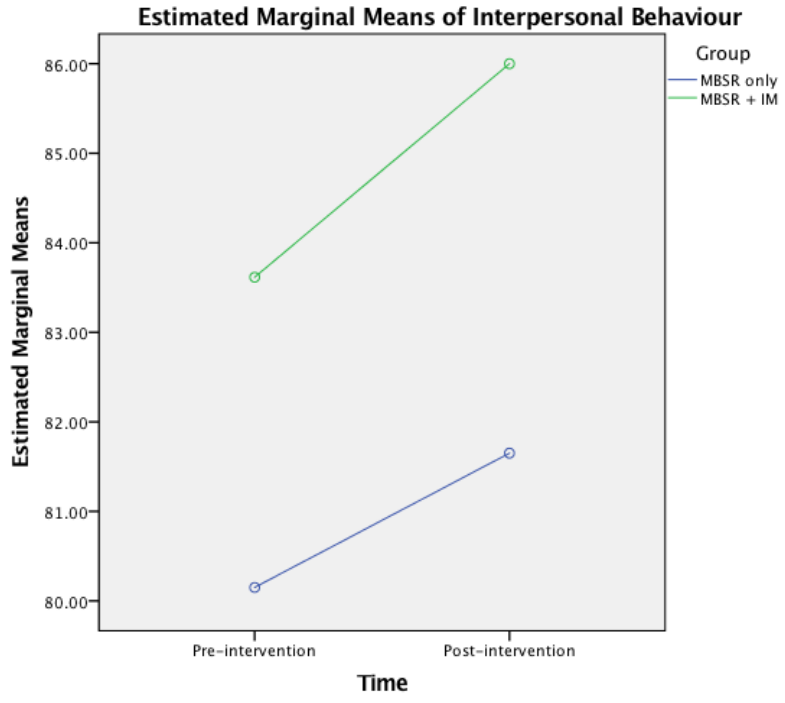
The following results were reported in Table 8, Chapter 5.

Interpersonal behaviour by Group

Interpersonal behaviour levels before the interventions were compared to the results on the same scale following the interventions. The interaction between time and group proved to be non-significant [F (1,49) = 0.11, p = .74], which means that there was no difference in the change in interpersonal behaviour over time between the two groups. There was also no main effect of time [F (1, 49) = 2.19, p = .15]. Meaning, interpersonal behaviour did not change over time for the cohort as a whole. There was no difference in interpersonal behaviours between the two groups either, since the main effect of group proved to be non-significant [F (1, 49) = 0.82, p = .37]. Neither intervention appears to have had any effect on self-reported interpersonal behaviour in this population.

Figure 23

2 x 2 ANOVA Short Scale for Interpersonal Behaviour (s-SIB)



Affective empathy (IRI-EC) and Gender

Effects were not significant over time, and there is no difference between genders. In the literature, other studies show differences between men and women, and how mindfulness sometimes has beneficial effects on women only in regards to mindfulness and self-compassion (de Vibe et al., 2013), but it seems that this intervention did not affect emotional concern in either gender according to the IRI-EC.

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
time	Sphericity Assumed	3.223	1	3.223	.888	.351	.018	.888	.152
	Greenhouse-Geisser	3.223	1.000	3.223	.888	.351	.018	.888	.152
	Huynh-Feldt	3.223	1.000	3.223	.888	.351	.018	.888	.152
	Lower-bound	3.223	1.000	3.223	.888	.351	.018	.888	.152
time * gender	Sphericity Assumed	3.223	1	3.223	.888	.351	.018	.888	.152
	Greenhouse-Geisser	3.223	1.000	3.223	.888	.351	.018	.888	.152
	Huynh-Feldt	3.223	1.000	3.223	.888	.351	.018	.888	.152
	Lower-bound	3.223	1.000	3.223	.888	.351	.018	.888	.152
Error(time)	Sphericity Assumed	177.855	49	3.630					
	Greenhouse-Geisser	177.855	49.000	3.630					
	Huynh-Feldt	177.855	49.000	3.630					
	Lower-bound	177.855	49.000	3.630					

a. Computed using alpha = .05

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
time	Linear	3.223	1	3.223	.888	.351	.018	.888	.152
time * gender	Linear	3.223	1	3.223	.888	.351	.018	.888	.152
Error(time)	Linear	177.855	49	3.630					

a. Computed using alpha = .05

Tests of Between-Subjects Effects

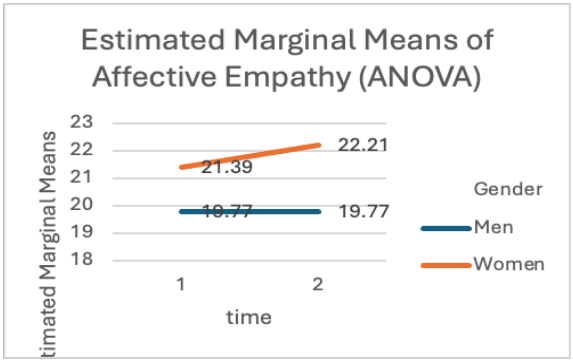
Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Intercept	33480.022	1	33480.022	951.493	<.001	.951	951.493	1.000
gender	80.100	1	80.100	2.276	.138	.044	2.276	.316
Error	1724.155	49	35.187					

a. Computed using alpha = .05

Figure 24

2 x 2 ANOVA Affective Empathy (IRI-EC) by Gender

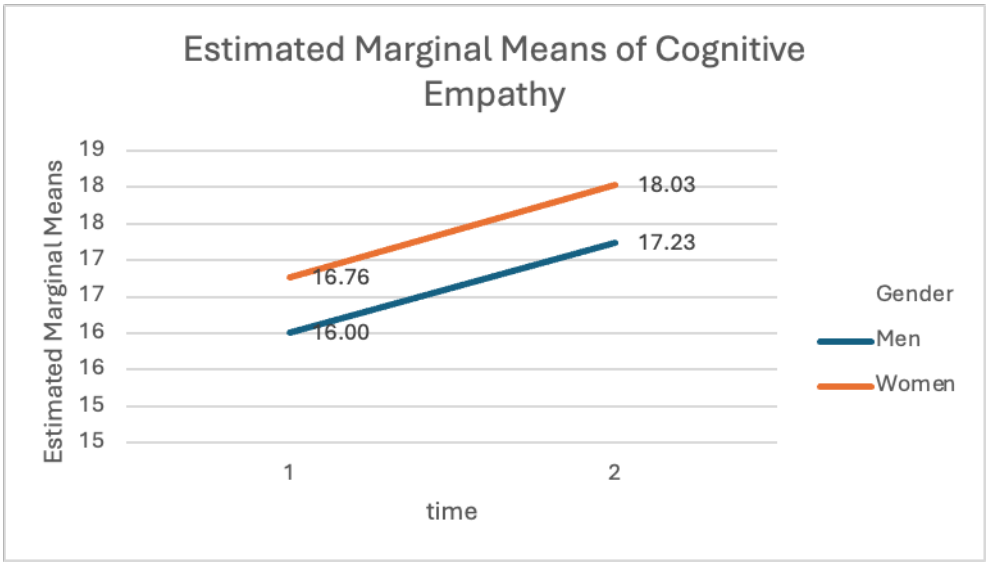


Cognitive empathy (IRI-EC) and Gender

The effects were significant over time for both women and men, and there was no difference between genders.

Figure 25

2 x 2 ANOVA Cognitive Empathy (IRI-EC) by Gender



Appendix H: Initial Noting Phase of Analysis

Interview 12 - George – initial analysis		
Possible themes	Original Transcript	Exploratory comments
	Mature male student on the graduate programme, with a spouse and young children. Participated in Group 2 (IM group). Comes from the British Isles, but not England. Has a history of trauma and has had therapy. Went through a very tough time twice in his life – once in adolescence when he discovered that he had been molested, and again for the past two years due to having two young babies (second one was a 'mistake' that happened too soon to the first), a wife who struggled with post-natal anxiety, a lack of sleep, trying to study, trying to do up a house, battling with perfectionism and feeling as though the marriage might be breaking up etc. Seems to have experienced post-traumatic growth. Very impressed with mindfulness and the effects on his life, having started off very sceptical. Very happy to do the interview, had missed his previous interview slot because he was having his appendix out, and emailed me to tell me he was sorry while he was waking up from sedation! Was very engaged in the sessions, very enthusiastic, and very open in any interaction I've had with him. Seems somewhat classically extroverted, with highly reflective tendencies. Remarkably eloquent. Found that he learned things about himself from the observations of others, and also through talking about his experiences.	
G1) Misunderstanding what mindfulness is, prior to the course G2) Initial scepticism • G3) Prior negative experiences with a mindfulness practitioner	I: So, as we were discussing, I'll do a lot of listening. I'm not going to do any teaching for a change (both chuckling). And, I'll ask follow-up questions, and sort of just try and see if I can get to understand where you are coming from. P: OK. I: OK. Lovely. So, could you tell me about your experiences with mindfulness? P: I can! So, prior to, prior to meeting you and doing the course, I had *heard* of mindfulness, but I hadn't, I mean I hadn't *really* sort of envisioned what it was, or what it meant, or what it did. And, I think I sort of mentioned to you before that my approach was quite cynical at the beginning, because I had a previous boss before I came to medicine, who was Pseudo Buddhist... had practiced mindfulness supposedly, but had remained a very tricky, un-zen, sort of quite a bully in many respects, and had made a lot of people's lives, including my own for quite a long time, quite difficult. So,	Not really understanding what mindfulness is before the course. I'm not sure if he was aware of not knowing what it was ahead, or if he became aware later that he wasn't aware of what this. *He seems to use emphasis a lot. I'm not sure yet what the pattern is, or if there's a particular pattern.* Cynical / sceptical about mindfulness due to difficult experiences with other people who practiced mindfulness in the past. Wanted to give it the benefit of the doubt, but why? Later on he discloses the extreme difficulties he was going through in his relationship, and it appears that he was quite open to trying anything as a means for improving his relationship and home-life (this is a true interpretation, as we didn't get to discuss this directly).
G4) Being open to mindfulness due to difficulties in life		

G5) Surprised about what mindfulness actually involves and does G6) Curiosity and enthusiasm for the workings of his own mind G7) Non-judgementalism towards own development and learning G8) Life-changing effect on interpersonal relationships / home life a) Changes in behaviour - noticed by others G9) Using the **mindful pause** (asking the self 'why') and seeing a profound effect on own behaviour as well as reactions from others G10) Openness to recognising one's (non-intentional) perpetration towards others (? following non-judgementalism which allows for learning by removing defensiveness) G11) Able to see own prior behaviour, and some potential problems more clearly G12) Kindness to the self around damaging behaviour while recognising that it's not helpful. (Reducing defensiveness) G13) When not practicing mindfulness regularly, it's easy	when I sort of saw the mindfulness course I was quite interested in it because I wanted to give it the benefit of the doubt, but with a bit of a history of media mindfulness and firstly when we started going through the course, I realised my idea of what it was, was totally different. I thought it was much more of a sort of therapy, type, conversational talking therapy, as opposed to a focus on how to understand your mind, but also to sort of realise how much it wanders, and wonder how much you could train it. And then as the course went on, it became *really* very interesting to me, partly because I didn't at any point realise that my mind wandered as much as it did. So, that was the first thing that I thought was fascinating, um. The other thing is that it had a massive effect on, certainly my home life, um, my wife practices a little bit through headspace, the app, and, she uses it. And, I think when we both started doing it, so I wasn't using headspace, but I was doing it through the course and was doing both passive and active, and she said that there was like a noticeable difference in my behaviour, but in the way that I would react to things, that previously I had sort of reacted quite quickly to, or quite sharply to... suddenly there was sort of a delay to that, where I would think about why that would make me upset, or the flip of that was if I did get cross or upset about something, I would then apologise *far* quicker, and say oh, I'm *really* sorry I said that, or the reason I said that was because I felt like this. Or, that made me feel a bit like this... whereas I think previously to doing the course, I mean, not to sort of mention his name, I would be quite Trumpian about it I think, I: (Chuckling) P: And, would sort of double down (smiling) in that wonderful human way that we do, and I did far less of that. And, the interesting thing I think since (I haven't been able to do that much mindfulness recently) is that, it's very *easy* to revert back to that [the reactive mode]. And then if you do a bit of mindfulness, you revert back to being a bit more *thoughtful* about your emotions, how you affect other people, but *also* how other people's, you know, how their behaviour affects you (NOTE: commenting on the interpersonal element right away without naming it consciously as such, and without being prompted in any particular way). And yeah, it's been really interesting in that respect, so. I went into it... The abridged version is that I went into it quite cynically, and came out of it thinking wow, that's really quite interesting, and I never *knew* that I behaved in that way, um, or	Came to realise mindfulness was different than he expected. Thought mindfulness was more like conventional talking therapy (which later he discloses he has had some experience with) and realised that this was inaccurate. Realised that mindfulness is really more about how much the mind wanders, and how much you could train it. Something about realising one's own idea of something is quite different from what it actually is… is there an effect from that learning (allowing scepticism and gaining awareness of it in the teaching approach… Mezirow, 2000) *With the emphasis and stressed enthusiasm here, he's expressing that the most important part of what he realised, was something about himself; how his own mind wandered far more than he realised it did.* It strikes me that during this exchange, he is fairly non-judgemental to himself… although a bit self-deprecating and wanting not to appear arrogant at later points… Noticing a delay between stimulus and cross or upset reactions Big effect on his home life (pointed out by wife) Reflecting on the feedback from his wife about how his behaviour has improved. *Here he seems to have made a shift in his thinking and awareness of himself when stressed. He seems to be realising that his reactions have been distressing to the people he loves (re:Trumpian, which evokes a sense of a perpetrator).* His ability to recognise if he's reacted sharply or quickly, or if he's gotten cross or upset has less to do with the other person's actions, and more to do with his own mind, which appears to have permitted him to explain and apologise rather than leaving the other person holding the discomfort of his reaction. This reminds me of the process of healing from trauma whereby the victim begins to realise that the moods and actions of the perpetrator were not their fault, whereas previously, they absorbed the idea from the perpetrator parent that they 'made' them do such and such… so this is like the flip-side, seeing that someone else doesn't every really

to revert back to a less helpful (stubborn) mode G14) When practicing mindfulness it's possible to be more interpersonally aware • G15) Becoming open to the ability to recognise, reflect on and change one's own behaviour G16) Mindfulness is not another form of talking therapy G17) Mindfulness is about getting to know one's own mind. G18) Awareness of the wandering nature of the mind G19) The unexamined mind is constantly in motion	that I could *control* or realise how I behaved in that way. (NOTE: creating space for insight) I: That's quite remarkable. P: Yeah. I: Yeah. P: Um, so yeah, it had a big impact in that respect. [00:04:56] I: Yeah. P: So, I just wish I could do it a bit more often. But (SIB) I: That's a common thing, isn't it? Finding the time, making the time, allowing yourself to take the time, whatever. P: Yeah. Absolutely. A common theme. I: Ok, so fascinating. Could we go back sort of to the beginning then of the course for you, and, is there anything you remember that was like a sort of a turning point, or a moment of hmm, maybe this isn't what I thought it would be, or? Is there anything that sticks out? I know it was a while ago now. P: I think there were two things. The first was, realising that it wasn't a sort of talking therapy. I know that there is, there's part of a *personal* side to it, but actually it was *purely* focussed on that sort of, trying to work out how your mind wandered, and why did it wander? And, I think just the very fact that it wasn't people sat 'round talking about problems or the way they felt, immediately was the first shock of oh well, I've *totally* misjudged this. Um, and because that's what I knew from my previous employer, was that, was what I assumed it was from the way she talked about it. Um, the second thing was, I think very key, and this sort of happened within the first one or two sessions, was that, but then secondly, how, just how quickly my mind wandered. And actually the thing that also amazed me, was that when I *managed* to *control* my mind and stop it wandering, (snapped fingers) the first two sessions I fell asleep, immediately. I: (Chuckling) P: I mean, almost immediately (smiling). And that might be the product of having two small children.	'make' you do something… and he might be beginning that process of starting to see himself more clearly in relation to others, and as a separate person with his own ability to choose his responses. Prior to mindfulness, or when not practicing, he recognises that he used to really double down and make disagreements and issues worse through his own reactions (double arrow model). Following mindfulness, or when practicing again, he's noticing far less doubling down following a disagreement, and far more awareness of how one affects and is affected by others (interpersonal mindfulness, even though he's not actively or consciously practicing IM on an ongoing basis). Noticing that since the mindfulness course ended and he hasn't been able to practise much mindfulness recently, so it's quite easy to fall back into reactive and projecting, slightly perpetrator mode… When practicing more mindfulness, becoming more aware of how you affect others, and also how others affect you. *Interesting that the Interpersonal element is featuring quite heavily in this initial comment from the open question from this participant. It's clearly very important to him (and he was in the interpersonal group). Good quote to illustrate the example succinctly – mindfulness as an empowerment tool due to the insight it affords in how behaviour and reactions can be changed as a result. Realised mindfulness is not the same as talking therapy Realised that mindfulness is focussed on inner awareness of the mind (mind wandering) Realised that he had misjudged what mindfulness is all about

G20) Difficult to maintain present moment awareness at first (falling asleep)	I: I'm sure that must have something to do with it! P: (Chuckling). But, and that changed over the course (falling asleep), um, you know, I was better, I was probably better rested (chuckling), and just yeah, felt like I had a bit more control I: Yeah	Becoming aware of how incredibly quickly his mind wandered. Falling asleep the second he was able to concentrate and control his mind from wandering a bit more. This shows his growing awareness of how difficult it actually can be to be in the present moment, and I note that he seems delighted and curious about the nature of his mind rather than condemning or judgemental towards himself.
G21) With practice, it's possible to maintain present moment awareness for longer (feeling a greater sense of control over being able to remain present).	P: of when I felt sleepy, of not going to sleep. But, that was the sort of fascinating thing, was wow, my mind *really* is chaotic, and not necessarily negative way, but in a goodness, it's busy. And, that was an extraordinary thing to realise. So I: Yeah. You sound like you're very sort of um, *open*, and sort of non-judgementally *curious* about your own mind. (reflection - this was almost a bit of an interruption - this was a bit quick off the mark - he might have gone on to explain more about that).	
G22) Developed a non-judgemental stance towards the chaotic mind, while observing it	P: (SIB) Uh, yeah, I think I am. I've had um, I've had counselling before, for things that happened when I was a lot younger, (SIB) and, I think I've always been, I've always been *open* to the sort of mind, and how it works, and that it's quite a bizarre thing. Um. And, I think mine is quite unpredictable,(SIB) um, and there are certain things, I mean I don't know if this is very helpful, I mean I'm very happy to share it but, I; Yeah. P: But I basically was at one point, when I was about 7 or 8, I was sort of abused, once. I: Oooh (non-verbal empathy)	He didn't fall asleep quite so much as the course progressed – I wonder if this has to do with greater capacity for being present with everything the mind is presenting – and, if this has to do with practice as well as the non-judgemental, kindly quality that tends to emerge in the sessions and in the meditations. Surprised (extraordinary thing to realise) in terms of how busy his own mind tends to be. Seems to have been shocked to realise just how much it wanders. Non-judgemental.
G23) The workings of the mind can be unpredictable G24) **Trauma triggers** can be unpredictable and frightening	P: But just once, and that was sort of fine, and I was sort of too young to really realise what had happened, and I think the *trauma* of it, meant that I just sort of buried it somewhere, and it was *only* when I was a *lot*, lot older that it suddenly just, weirdly, I was watching a film where something like that happened, and then just *suddenly* it was like I had been hit like a train, and it *all* came flooding out. And so my *triggers* in terms of that, in terms of if I *hear* people talking about that, or if I have, there's just one or two things that suddenly sneak up on me, it will suddenly all come out and I will *burst* into tears or whatever it is, um, and so I've always been *acutely* aware that the mind is this sort of phenomenally complex, self-protective to a point, um, *brilliantly* beautiful thing.	This sounds like perhaps his identity and sense of self could be connected to how open he has always been to the mysteries of the mind (which connects to disclosures he makes later on in the interview). *He seems to take a sharp intake of breath when he's saying something that he thinks is particularly poignant?* Expressing some doubt in the functioning of his own mind?

G25) The self-protective mind a) The complex mind b) The beautiful mind => appreciating the mind G26) Avoiding difficult memories or thoughts G27) Not liking how the mind can be unpredictable in throwing up painful events from the past G28) **Fine line between inviting re-traumatisation helpful exploration -** Hesitant to delve too deeply into the mind, yet not fully-avoidant G29) Seeing oneself as somewhat reflective G30) Some hesitation at being able to define one's identity	I: Yeah. (nodding) P: Um, So, I've never been *afraid* of it, but I've also, I sort of know roughly what my limits are with it? And, where I'll go with it and... You know, I don't like the *total* surprises that sometimes it throws up. I: Yes. P: So, I'm quite open about talking about things, I'm also quite open about exploring things. But, I never want to sort of sit down indefinitely once a week and try and un-map my brain. Um, so. But, I'm similarly not sort of anally retentive. I: Yes (softly) P: So that's why, when the mindfulness came along, um (pause) it was really interesting, and why I was like, this is actually quite cool, and not what I thought it would be and, yeah. I: How lovely, yeah. P: And, so, in answer to your question, I'm not... I'm... I guess I quite enjoy being reflective about that sort of stuff. I: Yes, that's sort of something you've always had? P: Well, certainly since all of that stuff sort of cracked, I guess. I: Yes P: I think it's much better to... I never want to go back to that point where you know, sort of, you know, I nearly sort of fell off a cliff uh *mentally*. and, I don't really want to go back there. And, I *know* that, and I know what my signs are and stuff. So, I'm very open about talking about things about that, and I'm very open to exploring how the mind works, but (pause) I similarly don't want to do it too often, because it can be a bit bruising, so. [00:10:57] I: Right. That must have been phenomenally difficult when that happened. P: (SIB) Uh, I think it was. I think the hardest thing was not (pause), I mean, yeah, it was. But, I sort of don't, because it was such an isolated event, um, I just never really thought about it. And, it was only, I think it didn't help that I was going through puberty and all that sort of stuff when I, when it sort of came crashing	Disclosing a traumatic sexual assault and how the memory came flooding back suddenly several years later, and how he gets triggered by talking about that kind of thing. He talks about being vulnerable, and how he sometimes bursts into tears when reminded of the event. Does the fact that he talks about these events 'sneaking up' on him speak to a tendency for him to (naturally) want to try and distract himself from these triggers and from the memories of this traumatic event? Talking about the mind as if it is separate from him – like it does it's own thing, regardless of him and what he wants… expressing a bit of mistrust at the unpredictability of his mind, and not-liking the surprises or delving too deeply Expressing some contradictions in his conceptualisation of himself – open, and likes to explore, but doesn't want weekly psychotherapy to 'unmap' his brain… doesn't really explain why, until later when he talks about it being quite bruising at times to look at his own mind, and talks about how he doesn't like the 'total' surprises that it brings. And so, I wonder if a part of him is trying to communicate that actually there is a little bit of fear over what is lurking under the surface, as tends to happen for most traumatised people. *By anally retentive, I think he means not completely avoidant…*

G31) Frightened of being re-traumatised G32) Wanting to limit and be in control of how deeply one delves into one's own mind (avoidance of trauma - frightened of re-traumatisation?) G33) Delving too deep (therapy?) can be 'too much' G34) Finding one's own mind difficult to understand G35) Trying to work out why the mind 'crashes' – having no vocabulary for re-traumatisation G36) Positive experience with psychological help in the past • G37) Felt amazing after hypnotherapy G38) Trying to work out what is happening in the mind - to avoid trauma responses G39) Curiosity about psychologically therapeutic methods (how or why do I feel so good after hypnotherapy?)	down. And, to go back to the whole reflective thing, one of the, I just knew something wasn't right, and I didn't... I just couldn't understand my thought process. And, there was a counsellor at the school that I went to, and he said look, can I try some hypnotherapy, I was a bit worried about it, because I'd never really done anything like that, and felt, phen.... I had no idea what I'd said - but I felt *phenomenal* afterwards, I: Wow. [00:12:02] P: And, I guess ever since then, when all of that stuff was sort of crashing around, um, and that was *right* at the beginning of trying to work out what on earth was going on, I think that was probably the genesis of being like, goodness me, that was *extraordinary* - how on earth did that make me feel so good. (IB) So, again, a long-winded answer to your question. I: No, that's fascinating. P: Yeah. I: I'm so glad that was available to you at that time. P: I know. Well, I was very lucky, I was very lucky I think. I think the stars sort of aligned when that all happened, I: Yeah P: ... and I got some good help. All that kind of stuff, so yeah. I; Was that the same person that you ended up having some support with, or did you see somebody else? P: No, there was a *different* school counsellor, he was just one of the teachers, but he was just quite holistic, and he was Buddhist as well actually, but *very* different to my previous employer. And, he sort of, by then, it was sort of starting to affect my grades, um and that sort of thing, and the school needed it to be a bit more formal. This was a long time ago, and I think that would never happen now, um. So I then had to go and see THE school counsellor, who sort of came in and did all that. And I saw her for the best part of 2 years, and had a bit of time off school, but then came back and just about passed my exams. (extra deep inhale of breath). So, yeah, that was that. I: That was that. Yes. So, a formative time, and a pressurised time with exams and so on.	*'I guess' I....* Hesitating to show a tendency to enjoy reflections… indicating a lack of knowing who he is? His identity is somewhat in question? In my notes from when I was transcribing, I mentioned that it sounded like he was about to say something about it being better to share or be pro-active or something along those lines before he went on to discuss what he naturally wants to avoid… That sense that he might be falling off a cliff mentally, due to dealing with the trauma, and presumably before he had any support – so, he might have been re-traumatised by the discovery that he was traumatised in the first place… this sounds as if he's aware that he needs to do some sharing in order to not go back to that point, but he's afraid to go too much further because of the unravelling or whatever difficulties he might find there. Relating this to his other comments about thinking mindfulness was therapy, and when he realised it wasn't, how this improved his impression, and how he said talking too much can be 'bruising' – presumably meaning it can be 're-traumatising'… Trying to make sense of the time when he 'nearly fell off a cliff mentally' – referencing the fact that he was going through puberty… saying he 'never really thought about it' – which fits with how little he was aware of in his own mind, in terms of how often and quickly his mind tends to wander and tends to be so busy…. Positive experience with psychological help in the past – feeling phenomenal after a hypnotherapy session.

G40) Positive prior experiences with a Buddhist G41) Positive prior experiences with a psychologist G42) Realising similar traumas have happened to others too G43) Awareness that the mind cannot remain ignorant of its own pain for long G44) The mind can 'crack' open, revealing traumatic experiences a) This happens to others too G45) Therapy can be quite positive G46) Different methods work for different people	P: Yeah, and I think, I think it, I noticed a lot of... So, my brother in law had something similar happen to him when he was younger. Not, the one I was speaking about earlier actually (conversation outside of the interview). But, he (pause), he had a very similar experience, and it happened to him at a very similar time actually, where he suddenly sort of realised all this stuff. And, I wonder if there's an age thing, or if there's a chemical thing, or, I don't know. But, or your mind just gets to a point where it can't (IB) sort of lock that away anymore. [00:14:22] I: Yeah. P: But, it's interesting that it happens. I've known a few people, where at that age, around the sort of 16-17 age, it just gets too much and then (snapping fingers) something cracks and it all comes out. So yeah. But, uh... I: Yeah. Very difficult at the time, but then equally sort of so good that you got it out, and you were able to sort of work on it. And then move forward. P: Yes. Yeah, absolutely, absolutely. So yeah, I'm not adverse to any type of therapy, I think it's all fantastic stuff, and it works for - different ones work for different people. So, yeah. I: Right. Ok, so then you come along, and you're thinking hmm, this woman (boss), it doesn't work for her, and I'm not sure it's going to work for me, and you think it's sort of more group therapy type of stuff, and then you're in the meditations were you? And, the sort of um, P: Yeah. I: Yep... the ones we sort of did towards the beginning of the 5-weeks, and you're noticing with some curiosity how much the mind the wanders, and then how naturally one tends to fall asleep. P: Exactly. So, it was the sort of falling asleep, but then also when that passed, it was then realising, goodness me, my mind is so busy. And, it wasn't *even* sort of deep thought, it's just little things like you know, gosh, I should buy some bread on the way home, or you know like, I need to go and do this, do I need to top up my oyster? It was so scattered (both chuckling) P: .... and, just utterly bizarre, and then when you try to bring it back to just focusing on the	Developing some curiosity around how it was possible that he could feel so much better after a hypnotherapy session… 'trying to work out what on earth was going on' – frantically trying to make sense of a trauma response, and while being supported by therapy, perhaps not being given the vocabulary to increase awareness of this phenomenon. Positive experience with a Buddhist much earlier in life (could this have had a subconscious effect on his openness to mindfulness?). It sounds as though his life was quite seriously disrupted by this difficult period of time when his mental health 'fell off a cliff' and he 'just about passed' his exams. He seems to on some level, believe that the mind wants to be free from the things that happen when younger, and that at a certain point, the mind can no longer lock the trauma away, out of consciousness – at

(awareness of autonomy)	breath or whatever it was, you know you'd have, I'd have it (meaning the focus and the concentration), for a second or two, and then it would go again.... and the hilarity was, was then you would then be talking in your mind, like goodness me, my mind is so busy, I wonder *why* is it so busy? (both laughing) Is there any *reason* it's *so* busy.... (both laughing) P: It's so *hard* to kind of just, neutralise it, um. But uh, but yeah, but eventually, with practice, you can do it. I don't think I'm the kind of person who will *ever* be able to do it *totally*. Um, but if I can get it for a couple of minutes, or a couple of seconds, that's fine, I'm happy with that.	some point, it needs to come out. Showing insight into the workings of his own mind, which stems from early experiences that he started to understand in his teens. The mind cannot avoid experiencing the pain of one's experiences forever He's spoken to others who have experienced a similar emerging awareness of childhood traumas, about the age of 16-17.
G47) Marvelling at the busy mind G48) Noticing the mundane nature of some of one's mind wanderings G49) Humorous observations – evidence of the beginner's mind? G50) Not fully understanding why the mind can be so busy G51) Realising it's not possible to simply turn the mind off G52) Still slightly misunderstanding – thinking anyone can 'totally' turn off the mind G53) Recognising that it takes practice to bring quiet to the mind	I: Yeah. P: So yeah. I: Ok, so 'getting it for a couple of minutes'... what would you experience around that? P: Um, well, I felt very *pleased* actually; I felt very *pleased* and very relaxed. There was a feeling of kind of being in control, which was really *nice*. Um, for people that are control freaks (both chuckling). Like myself.. um. P: Um, but yeah, it *was* really nice. It was a feeling of, ok, I felt very sort of, it's going to sound very bizarre, but I felt very sort of at *one* with my mind, and I guess with my body (taking a slightly dismissive tone, not sure what that is about), um because you're focusing on the breath, so that's quite a sort mechanical, automatic thing. But, you've also sort of moderately tamed this *crazy* thing in the mind that is trying to wander. And, it just feels very, it just felt very (pause) like, just very sort of at one with myself. [00:17:57] Like I suddenly was sort of steering (pause) it, like *I* was kind of in control. I: Hmmm P: There was an awareness that I wasn't [in control] at the same time. There was an awareness that like, this is just that everything is in tune, and you've maybe *orchestrated* it so that all the ships are sailing in *roughly* the same direction.	He appears to be influenced here by my statement that it was good that he was able to sort of work on it… And he appears to be CONTRADICTING WHAT HE SAYS EARLIER ABOUT THINKING MINDFULNESS WAS THERAPY AND BEING GLAD THAT IT WASN'T. I didn't pick this up at the time. Now having re-read this and listened to it a few times, it sounds like what he was trying to say is that he came to mindfulness during a fairly difficult time, and he was *willing* to go into some kind of therapy thing if that was going to help, but equally that he was *relieved* by the fact that he didn't have to delve too far deeply into his own psyche, which part of him welcomes and marvels at, and perhaps another part of him is quite wary about / somewhat fearful about. And, he seems very pleased to have developed greater awareness of his mind, without having to 'unmap' it… it sounds as though he feels mindfulness is a gentler way to get to know himself without the risk of re-traumatisation, even though he doesn't have that vocabulary himself.
G54) Feeling proud and pleased with brief experiences of present-moment	I: Chuckling P: And, it might be that the wind changes direction or that one of them veers off fairly soon, and that's ok, but for now, just sort of	He seems to be aiming to make this a humorous interaction, aims to please, to charm etc… a common trauma reaction… And, it seems as though this reaction of

or 'thoughtless' awareness G55) Feeling a greater sense of agency / control around the ability to induce present moment awareness G56) Present moment awareness can be very pleasant: a) A feeling of 'being at one' with one's mind. b) A feeling of taming the wandering G57) A feeling of steering, of being almost in control (recognising that it's not *actual* control) G58) A sense of relaxing and releasing control G59) A feeling of being in tune with oneself G60) Accepting that the mind will wander and states of mind are transitory G61) Experiencing some peace? G62) Present moment awareness occurred during formal meditations G63) Present moment awareness did not happen during informal meditations	realising that for now, everything is *sort* of in, flowing in the same direction, was a really nice feeling. I: Hmm. P: So yeah. It was very good, and I got that *most* from the meditations. Um, I never, I think mostly from... very rarely did I get it when I'd be brushing my teeth and trying to think about the process of that (INFORMAL MEDITATION Practice), or you know, trying to minimise, and that might be just my circumstances. That might just be, you know, a parent that's trying to get two kids out the door at the same time as themselves, etc. I: Yeah. P: Um, So yeah. I: Yeah. Fascinating. So, during the meditations and getting a sort of like a peaceful, at one, sort of moment or two. And then what happens around that, in terms of... does that create a desire for *more* of that? Or, am I putting something on it? P: No, not at all. Absolutely, it *definitely* creates a desire to do more. I think mindfulness itself, I felt, was quite an addictive thing actually, once you had that, you kind of wanted to do it more. I think it was hard, it was quite *hard* to do. And I think the thing that I found (pause), was that *if,* if you were able to get rid of *all* of the annoying barriers in your life, such as time or whatever it was, that just meant you couldn't dedicate x amount of minutes to studying mindfulness, I *don't* see, I mean, I would be doing it for sure. I think the problem is, for me personally, is just those barriers are *continually* there. I: Of course, yes. P: Um. And, if it's, uh, we're quite good at sort of (my wife and I) trying to make time to do things like that. But, it's *just* so difficult. I: Of course. P: And, I think that would be the only thing that I would say, is that, you know, if in an ideal world, if there wasn't that sort of time pressure, I know I would be doing if *far* more. It is really addictive. Um, It's a *really* nice feeling that you are able to sort of, not control your mind, but just sort of shush the noise for a bit, and sort of become a bit more at one with your body, and your mind. (QUOTE ABOUT FORMAL	falling asleep or being busy with mundane information is what happened to him in the body scan. It *is* pretty amusing to be talking to yourself in your mind, about your own mind… Speaking about accepting where he's gotten to with the mindfulness practice… accepting the limits and not being able to turn off the mind fully – still thinking he's not the kind of person to do that, and perhaps not appreciating that not many people can, and that he's not so unusual. Categorising himself as a control freak – someone who likes to be in control. Feeling pleased that he 'got' meditation and a few minutes of a neutral mind… Describing the feeling when he's not thinking quite so much as being at one with the mind and body, at one with himself… as if he's at odds with himself the rest of the time… he likens that to a feeling of 'steering' and of being in control while remaining aware that everything is in tune, and that he wasn't actually in control…

	MEDITATION) Um, so yeah, but, I think that's the problem, is that life, *life* gets in the way, and it's all man-made things, it's not a case of you know.. it's all stuff, it's just *stuff*, that's it I: And, I know you've got two small kids, a wife, you're a medical student. I mean, there's quite a lot in that. P: Yeah.	
G64) The feeling of being 'at one' with oneself in the present moment is addictive	I: Um. Yeah. [00:21:30] I mean, what in particular sort of... I mean, *obviously* that's a LOT. But, can you walk us through sort of a typical sort of day, or.... Is there *ever* any time in a day for someone like you?	A description of being in the present moment during a formal meditation, like all your ships are flowing in the same direction for the moment, even if during the next moment, they may not be.
G65) Despite wanting it more, there are many barriers to dedicating the proper time • • • • • • • • • • G66) Time *pressure* is a big barrier (even more than actual time perhaps – is it something about feeling one 'shouldn't' be just lying there??) G67) Reducing the 'noise' G68) Becoming more at one with the body and mind (integration of body and mind?)	P: So, I think there *could* be. It's more (pause), I think it's more about *dedicating* that time, and trying to sort of strip away actually what's important and what isn't. I think everything, this sounds quite nebulous I guess, but everything has importance in some respect, even if it's just sitting and watching tv for an hour or two. Um, so when I was doing the course, a normal day would be waking up anytime from sort of 5 until 7ish I guess. I: That's early. P: Getting kids sorted, with my wife, and then once that was done (they were breakfasted and changed and whatever), I would normally fly out the door, and either cycle or get the train to work, to work I say - to here, to [Medical School], and then I would study sort of fairly relentlessly. Because I, as a parent, we don't (and there are a few of us on the course that are parents), we don't have the luxury of the time that other students have, so when their lectures or their placements finish at 5, 5:30, they can go and do another few hours work, should they so wish, whereas we have to then run home, if not slightly earlier, and then it's the case of usual things, supper, playing a bit, trying to talk to your kids, bath time, bedtime, then tidying up, maybe trying to grab some supper yourself, if you haven't eaten fish fingers for the you know 15th time or whatever it might be. I: Chuckling P: (Smiling) And then, uh, because our mornings are quite unpredictable, we'd normally aim to be in bed by sort of 9, 9:30 because there was just no telling how that night was gonna to go. And, our kids are quite good sleepers, but you can never, my wife and I are just *not* good on no sleep, (IB) so, and we've also, we've earned our stripes in that. We've	Describing how he didn't get that feeling of presence during any of the informal meditation practices. Experiencing the present moment happened during formal meditations and *not* informal ones (about practice) Believing that he found mindfulness to be almost addictive, and yet asserting that time is a huge barrier, perhaps the most important one? NOTE: it strikes me here, that this is a person who is open, and has sought help in the past for traumatic events in his life, and seems to have received some support and help around that, and he's finding these nice moments within formal meditations, and he's enjoying that, and even the thoughts that he's having during the meditations have to do with mundane

G69) Difficulty finding the time and difficulties to find the *will* to practise when there are other leisure activities and distractions that are also important G70) Highly demanding life and schedule G71) Indicating a tendency to 'fly' around getting from one commitment to the next G72) Extra demands of being an engaged husband and parent G73) Healthy self-care G74) Recognising the importance of sleep G75) Prioritising sleep	had two children who, for the first 4 months of their lives were (IB), anarchic, so we're not, we're quite happy to go to bed at 9, and be like if we get 8 hours or we get 10 hours, then that's a bonus. (SIB) So yeah, so that's the thing, is by the time you finish the tidying up, by the time you finish putting everything away, so your house is in some kind of state of normal, (IB) you're then kind of playing with about half an hour of time before you kind of feel like the pressure of bedtime is hovering over you? (SIB) And, it gets a bit easier now, because we're being a bit more rebellious with our time, and so we're watching a bit more tv, (pause) in the time that we should be sort of dedicating to doing a bit more mindfulness. I: Hmm, you also need some fun and some time together and things to talk about. P: Yeah. And, I think that's sort of where maybe it slightly falls down. Should we sit on the sofa and watch stranger things over a glass of wine? O*r* should we maybe do half an hour of mindfulness? And, a lot of time, stranger things will win. There are a lot of times, where, we'll say, well actually, we should do some mindfulness. (IB) But, I think that's a habit we've got out of, as opposed to it's *set* time. I: It's a very short window, there's very little lee-way there. It's really tight. You've *got* to feel like you're sort of enjoying some things as well. P: Yeah, I think that's sort of it, and it's not that mindfulness isn't enjoyable, but I think if you sort of make time for it, it feels more like a *thing*. I: Homework? P: Yeah, exactly, so yeah. But, we would like to do more. I; Yeah. And, during the course, how did it work out to do some practice. P: I did far more for the course. Um, and then it sort of tapered off a bit, and then we found that our relationship, again with two small children, marriage, that kind of thing, it can be a bit tricky sometimes. I: Of course P: And, we found that when things were getting a bit low again, we would do a bit of mindfulness and then there would be a bit of an improvement and that sort of thing, so *that* was	things - from what he's said - and he's getting more out of that, than he is of the informal exercises. And this strikes me as quite opposite and different to the student who had trouble doing the formal meditations, even though she's had therapy, and there was something quite different between the rapport that developed between us. This student was enjoying speaking to me, and was engaged, and emotive and laughing, while the other student had a more monotone voice, and I often wondered if she was ok, and she was quite flat and somehow disengaged, and I remember her being like that in the sessions too... I remembered wondering why she was there - both in the sessions and in the interview. It was like she was shutting down part of herself (perhaps the traumatised part), and it was like she was very focussed on the cognitive element of mindfulness, and she didn't want to *feel* the difficulty of her own trauma - like she hadn't quite acknowledged the severity of how badly she had been treated... it felt like a survivor self and survival strategy that involved numbing and being super hard on herself.... so, perhaps she couldn't do the formal meditations because she would have been faced with that - but, she *could* do the informal ones, because they helped her to gain a sense of control over her wandering mind, and to get a few moments of peace in her day - because of how relentlessly hard she seems to drive herself... just need to really check in her interview whether that is what was coming from it.... Difficulties of finding time in a busy day to practise mindfulness and also about the importance of dedicating time, and by the sounds of things, *wanting* to dedicate time… (bringing in what he was saying earlier about the addictive nature of finding that space where all the ships are going in the same direction for at least a few moments) … I wonder if this is also about a *willingness* to find time, and to want to allow oneself to feel the things that need to be felt if one is to truly 'be' in the present moment.

G76) Feeling some pressure to get to sleep (fear motivated desire to get plenty of sleep based on negative past experiences) G77) Feeling rebellious /guilty over not practicing mindfulness (taking time for passive entertainment pleasures instead) G78) Mindfulness *can* feel like a bit of a chore if you're making a set-time for it. G79) During the course, mindfulness practice came more easily / happened more often G80) When feeling low and doing practice while in the course led to improvements… leads to	quite interesting to do that during the course and then after the course we'd do a bit again, if things were getting a bit like *hectic,* I think we would then do something like that. I: That is fascinating to me, although I'm aware that it's very personal. P: No, it's ok, I'm very happy to talk about it. I: Is there anything that you want to share about that? P: Absolutely fine. So, my wife got quite bad post-natal anxiety after our first child. (IB) We then had our surprise by accident second child, but I think both of us wouldn't have had a second for some time. In truth, I probably wouldn't have had one at all. Um, (pause) but things were r*eally* rocky, really really rocky around that time. This was *way* before the mindfulness course, um, this is during my first year of medical school and a bit before then as well. (SIB). And it was *really* tough, and our relationship took an *absolute* pounding, and we'd had a really good relationship up until that point. We're both very independent people, we both had very independent jobs, and we'd go and do fun things together and then suddenly when E, it was *just,* it was just carnage, absolute carnage. Two quite strong minded people, trying to (IB) fix a problem, of - he had terrible reflux and sleepless nights for the best part of 4 months, (IB) and we just tore chunks out of each other, I think would be the sort of truth of it, (SIB), and our relationship has *sort* of been *slowly* getting better. (IB) It's had some real, I think we had so much that was *lost* during that time, to make up. But what was really interesting, and I sort of alluded to it before, was that I think both of us were so sort of rigid, and the *minute* there was any kind of tension or sore point or whatever, both of us would kind of mount the kind of defences and it would just *always* descend into a bigger fight than it ever needed to be. I: Right. P: And I think the thing that was fascinating, was that she was having talking therapy as well, separately to doing mindfulness through headspace, when I started *doing* the mindfulness *course*, we noticed that our relationship got much, much better. *Because*, we, well certainly, I can only really speak for myself, but um, I found that I was in a *much* better space to sort of manage my... (pause) I sort of could, I could just *see* where my mind was going. So, if something was starting to upset me, I was able	Finding it incredibly difficult to juggle the demands of medical school and life – in this case, with a wife and young children… Prioritising one's needs, including sleep. This reminds me of the many medical students over the years who almost resist going to sleep, and I've noticed this in myself a lot too; even when tired, there can sometimes just be a compulsion to keep doing something else (videos, games, reading etc) until one is so absolutely exhausted so that there is no period of time spent tossing and turning and ruminating over things… which is really what I am avoiding when I avoid putting my head down and inviting sleep. I imagine that sort of compulsion to stay up too late might be part of a trauma response– something about not wanting to be faced with reliving trauma (especially trauma that you have been trapped in, and couldn't escape in childhood) in those moments before sleep and even during sleep itself with nightmares… I wonder if George's healthy prioritising of sleep shows a sign of some healthy self-regard or even love, which may be associated with other positive effects. *It is interesting how he uses the word rebellious to describe his choice to watch a little bit of television instead of meditating. It is also interesting how he uses the phrase – 'the pressure of bedtime*

G81) …an awareness / recognition after the course of when things are getting 'hectic', then it's time to practise again.	to *sort* of take a step back and go, well, *why* is this upsetting me so much? Instead of letting my mind go *crazy*, or rise to the whatever injustice I thought was happening... I *don't* want baked beans, or whatever the stupidity was. And, yeah, I think that was really interesting. It acted as a bit of a buffer I think, in terms of that like, just taking a moment to be like - why. Why am I feeling like this? Why am I *so* cross about this? What is it that (wife's name) has made me so upset. And if I didn't, if I didn't have that buffer, then I was *far* quicker to say afterwards, I'm *so* sorry. Like, the reason that really upset me was because I feel like this,	*is hovering over you.' That is a feeling that I resonate with – the 'shoulds' of being a healthy and productive worker, when sometimes one just wants to 'rebel' and do something one perhaps shouldn't….* Illuminating the dilemma associated with considering whether to make time for mindful meditation, or whether to allow oneself a few guilty pleasures.
G82) Came to the course during a difficult time when marriage was still rocky	and this is how I felt when you say these things, and very calm, and it felt *much* more in control of my sort of emotion, and my, I guess my *mind* than the kind of hot-headed, here we go... So, *that* was fascinating, and she, if she was here now, I'm sure that she would tell you that when I was practicing mindfulness, there was *such* a change in my behaviour, but also in the way that we interacted. And, I would say the same about her, in terms of the mindfulness that she was doing, although it was very, you know, I don't know if it was different to what we did on the course, but just I think both of us at that time, seemed to be practicing mindfulness a bit together, um, but we were both on our own sort of journey with it. But, it just, you know, it just helped us enormously, um. And, there was sort of a legacy with that as well, it *lasted.* It sort of lasted a lot longer, even if we weren't *practicing* we would be in a much better frame of mind to say - when you say that, or when you do that, this is what it makes me feel. And, that we hadn't done anywhere near enough of, if any of, in the first sort of year of you know year of (child's name's) life. And so in that respect, I suddenly was kind of like,	Explaining how a mindfulness practice can feel more like a chore so easily During the course it was easier to find time to practise mindfulness, but the demands of a busy life appeared to take over, especially considering the fact that meditating can sometimes seem like a chore we're meant to do, rather than a nice 'time-out' when we have to squeeze it into our limited leisure time. It sounds like there was a benefit of both the partners having practiced mindfulness, because this sounds a little bit like a joint effort to do it together, including the positive feedback they seem to have provided to one another when they were meditating again.
G83) Prior to mindfulness: rocky relationship resulted in escalation of small tensions into big arguments	*woah*, mindfulness is like, this is really interesting, it's having a really interesting effect on me, and on my relationship, and so. So yeah. I: Fascinating. Thank you so much for sharing that. P: Not at all.	
G84) Relationship vastly improved because *both* partners were doing mindfulness and wife was also having therapy.	I: It sounds like you were both sort of recognising a *need* for something; a different way, through having had a LOT to go through. P: *Yeah*, we put, we *way* too much pressure on ourselves. We had a newborn, we had set ourselves the kind of both semi-perfectionists, set ourselves *loads* of goals that we were *never*	
G85) Recognising the autonomy of	going to achieve, (IB - softer) and we weren't very flexible. We had moved out of flat and	

his partner in her own journey G86) Following mindfulness, he was able to pause between triggers and reactions G87) Some slight self-judgements still present	bought a wreck of a house that we were doing up. We just did, we ticked *all* the boxes. I think actually at one point, we *looked* at the most common causes for divorce, and it was like a sort of tick box of all of the sort of things that we were doing. (both chuckling) And, yeah, we just put *way* too much pressure on ourselves. Um, so *that's* I think why it was so interesting when a year or so, a year and a half down the line, looking at uh, the mindfulness, and being like woah, this is, you know...	There is SO much here, I'm having trouble absorbing it and succinctly interpreting it… Partner experienced post-natal anxiety Surprise unwanted second child *Really* rocky relationship after that Relationship took an absolute pounding
G88) No longer feeling his identity was under threat from a disagreement or loss of temper (?) → being able to admit emotions, transgressions and apologise G89) Less hot-headed and reactive G90) Recognising (non-judgementally) that the mindful pause and respond rather than react credo is a practice, and can't always occur. (IM) G91) If he wasn't able to pause before reacting, he was able to be forgiving enough in himself in order to explain or apologise – rather than 'mounting the defences' G92) The legacy of mindfulness – the effects lasted beyond the course	I: Were you almost burnt out do you think? P: Um, possi.. quite possibly. I think we certainly were on the ropes. There was no, I mean, there was talk of, you know, not necessarily divorce, but there was talk of should we be living together, this is *sort* of untenable. So, we were, we were *really* up against it. That wasn't in a sort of hot-headed moment. That was a sit-down, (softer IB) look, is this *actually* working, and that happened probably 3 times? Um, and, yeah, I think that you know, it was, it wasn't necessarily burn-out, but it wasn't whatever the sort of marriage equivalent of that is, it was definitely close, if not in that area. I: Seems like a block of any way to re-connect to one another and re-understand the other's perspective. P: Yeah. I think that certainly I felt that there was too much that had gone past, and I didn't know how on *earth* we were going to be able to get back from that, given how sort of defensive we both were, and how much we were both doubling down on the causes, and who was right and who was right and who was wrong, (IB) and *all* the classic mistakes that you sort of make when you're going through that sort of stuff. (softer IB) But, somehow, we've sort of come out the other side of it. It's still not perfect now, but it's, it's you know, it's *vastly* improved from where it was. Um, yeah. I: Fabulous. P: I think its. In that respect it was fascinating. It was really, really interesting. (SIB) I: That's really lovely to hear, I'm so pleased. P: I'm very relieved, uh, of course, so uh, so yeah. No, I think it was, it made, and it wasn't even something that I was *aware* of, when I was doing the mindfulness course. It was always (wife's name) who was saying, you're, your	Independent people, independent jobs, did fun things together (perhaps meaning that they didn't really *need* to get to grips much with their darker sides – they could sort of avoid the more troublesome aspects of their own natures in such a relationship – that is, until the children came along. Two strong-minded people trying to 'fix' the problem of the baby not sleeping and having reflux Tore chunks out of each other (earlier he says how important it is to get enough sleep – they seem to have zero patience when tired?) Lost a lot during that time, trying to make it up now Both so rigid, and the *minute* there was tension or disagreements, they would 'mount the defences' and it would descend into a bigger fight than it needed to be. She had talking therapy separately from doing mindfulness with headspace He started the 5-week mindfulness course -> they both noticed that their relationship got much, much better. *Speaking for himself – showing respect for her autonomy… insight into how much the internal world of another is truly knowable…* He could *see* where his mind was going… if something started to upset him, he at least somewhat take a step back and reflect – instead of rising to the sense of injustice…

G93) Perfectionism, over-achievers, burning out…	behaviour has *totally* changed since you've been doing mindfulness. I: Ohhh. P: It's *really* interesting that you, are you getting anything from this, like tell me about how you're, she was *really* interested to know what my *journey* was, um, because I think she was	Pausing between being triggered and reacting on auto-pilot (buffer) *Slightly diminishing his concerns perhaps? Making it seem as though his wants and 'don't wants' are a bit childish? Some insight into the trauma response, from difficulties in childhood?*
G94) Relationship near breaking point	just like, what on *earth* are you taking this sort of crazy pill, like what on *earth* has happened to you. (both chuckling) Um, and I didn't feel like I had *changed* as a person, in a weird way, I sort of felt like I had gone back to the person I felt I was like a long time ago, like quite open, quite happy to put their hand up and be like oh yeah,	Recognising that it's not always possible to pause between trigger and reaction Accepting that he's human and this is a practice Coming to own up to things and apologise for interpersonal transgressions quicker than he would have done previously?
G95) Mindfulness changed his life	sorry about that. (softer IB) And, I had sort of become a person who I didn't really like. And, that was definitely a legacy from my last job as well, which was fairly hideous really. (softer IB) Which is why I was so cynical about mindfulness. I was like, what is this talking therapy that is a sort of home for [Corporate] narcissists to hang out in and make themselves feel better. (Interviewer chuckling). And so yeah, so it was really, it was *really* interesting. I: Fabulous, really great. That's just uh, remarkable, isn't it? P: Yeah, and it's spawned a real interest in it for me, I mean, I haven't been all that able to practise it, but I've been very interested in it in terms of talking about burnout and sort of doctors, and (softer IB) whether there's a role for mindfulness in healthcare, which of *course* there is, but again, it's I guess whether you have the time for it or not.	Feeling less threatened in himself and more able to be forgiving towards himself, thus able to recognise when he has affected someone by his reaction Feeling calm when he would explain and apologise, which gave him a sense of control Big shift in his behaviour (less hot-headed and stubborn). Big shift in their interactions On their own journey but practiced a bit together. There was a bit of a legacy to the practice – even if they weren't practicing, they would be in a much better frame of mind and could communicate with one another far more clearly – in relation to their emotional needs (this makes me realise that these problems must have been one of the reasons he came to the course in the first-place. The issues with him, his wife, and his child(ren) might have meant that he was in a pretty tough place when he decided to brave mindfulness, even if it meant that he would have to endure more therapy…)
G96) Worried about past transgressions and hurts on both sides in the relationship being too deep and difficult to overcome: G97) Both so defensive G98) Both so prone to doubling down G99) Both so prone to self-protectionisms and not being able to empathise or see the other point of view	I; Right, it's a big challenge, that, isn't it. P: So yeah, but I've found it personally very interesting. I: Wonderful. And, speaking of medicine, has there been any effect on your study, in your work? P: I'm I (longer pause) I'm sure there has been, but I haven't, in much the same way that um, with my relationship with (wife's name), I wasn't entirely aware of what was going on, it was more coming from her, and I was like, oh yes, I guess I am thinking a bit more about this, and (SIB), and the way that our course is structured you make you know, a few friends very quickly. They're not necessarily sort of massively deep sort of relationships. I've made, I think there are some fabulous people on my course, but I wouldn't say that I know many of	

	them *really, really* well. Um, I think I know one or two really quite well. I'd certainly class them as good friends, but whether they would be in a	
G100) External feedback about positive behaviour changes	position to turn around and say, do you know what, since you've been doing mindfulness, your work ethic, or whatever has really changed, I don't think they would say that. I'm not sure they would even necessarily notice. [00:38:11] Which makes it quite hard, I guess to answer. Um, I guess I've felt once my home life felt more stable, (Softer IB) I felt I had more clarity and more calmness here, (IB) because that was always the problem during first year was, I never knew whether I was	Putting pressure on themselves – Newborn Perfectionism Doing up a wreck of a house (hasn't mentioned medical studies here, nor what their source of income is, and whether his wife was working…) All the tick-boxes for divorce
G101) Small changes in his behaviour increased the *interest* his wife felt towards him	gonna get a call saying I need to come home right now, or whatever, (softer IB) depending on what mood (wife's name) might be in. And that I think definitely affected my studies, so I think maybe as a secondary thing, yeah, I think it probably really helped me on my course, 'cause	Expressing some wonder and awe at the changes that were possible through mindfulness
G102) He felt he came back to himself and his essence – re-found himself (his true identity) rather than fundamentally changing as a person.	it meant my stuff at home felt calmer, and so probably here was less pressure and less stress. But, I don't know, is the answer. I'm *sure* it did, but I couldn't give you any sort of cast iron... I: No worries. Can we um just look at a little bit, at a few different areas of the course and just reflect on them?	Their marriage appears to have been seriously strained and near to breaking down, having discussed living separately 3 times.
G103) During the struggle, he had become a person he himself didn't like	P: Yeah, yeah, no definitely, I've never done that, so it might be that actually we go oh yeah, well that's funny... I: Well, maybe not, but it might be just interesting to do a little whiz around. So, one	
G104) Not liking oneself but feeling trapped in that is 'hideous'	thing people often talk about is exams. How do you find exam taking in general. I: Ah, I hate, I absolutely loath them. I haven't done them in *such* a long time, since I was at	
G105) Felt so harshly towards himself, he wondered if he was becoming just like these narcissists that he had bad experiences with.	University the first time 'round, which was a good 15 years ago. So, in my first year here, we had a new baby, it was, yeah, it was just like being hit 'round the head. But, I somehow got through them, and then that was *before* the course (mindfulness course), and then this time around, I felt... and actually yeah, I did feel much calmer about them this time around. (long pause) Um, and it was, I felt much more in control, and I felt a lot more organised as well, than I did previously. Um, so that's definitely.	Felt like there were too many hurt feelings in the past, and not sure how to come back from the accusations they had both made to one another. Felt unsure how they were ever going to move forward. (NOTE: I'm getting the impression that the softer intakes of breath are an indication of him being a bit more relaxed. I haven't got an idea why that is - perhaps it was the empathy that I was offering, perhaps it was the admission of the difficulties).
G106) Now interested in mindfulness as a means for helping others deal with burnout. (mindfulness helped him with	That was definitely a change. (IB) And, I guess, I mean I don't know how relevant this is, I was writing my SSC (on mindfulness) in the build-up to all of that, because I was going away over the time that we were doing the sort of SSC dedicated time. (IB) So, I sort of front-loaded all of my work, and I was like, i'm just going to do it then. So, I had done it over the year, and I've	

burnout, so he's keen to help others in turn).	sort of really, I'd had to research loads about it, and I'd practiced a bit as well, and I don't know if that had made a difference, I don't know if it would have done, it probably would have done, sort of subconsciously or not. So yeah, there was a definite difference first pre-mindfulness course and taking exams, but tempered by the fact that there was also a new baby in the mix. And then, post-course (mindfulness) exams, I did considerably better than, I didn't do as well as I wanted to, but I think I'll always feel like that, but I did considerably better than I did the first year. (softer IB) I didn't feel that I was definitely going to fail, whereas the first year I was like, I think I'm going to fail. In the second year and after the mindfulness course, I felt very much like actually no, I would be *really* be disappointed if I failed, I would have to have a *really* bad day in the office. I might not do superbly well, but I feel like I've got a bit more of this under my belt now, and I feel calm about it, and I feel in control.	Not necessarily even aware of the changes that were happening, but someone so close was able to point it out… Partner had a profound interest in his journey with mindfulness due to seeing such profound shifts in his behaviour. The changes he saw in himself made him feel as if he was coming back to his true self, as if he was re-discovering his own true identity
G107) The relationships with friends on the course might not have been deep and authentic enough to enable such personal observations of the changes in his behaviour. The partner relationship is unique	I: Hmm. And, would things be any different for the written's vs the OSCE's. Could we look at that a little bit for a moment? P: So, I feel more vulnerable, well, that's a whole separate conversation... (chuckling) I felt before the exams, far more vulnerable in the written than I did in the OSCE's. Partly because I think the OSCE's are my strong-point. It's talking to people; I have a whole career of that behind me. Um, so, I've *never really* been too worried about the OSCE's. It turns out that I probably need to be a bit more. Because I ended up failing two of the stations, which was (pause) very - one of them was expected and one of them was very unexpected. And, it sort of shook my confidence a bit in that respect. But, I have also spoken to a lot of people who are in a similar boat to me, and I actually need to go and talk to the University just about, I think our wider concerns in that respect, (uh) because it just seems very inconsistent and, in the, I mean basically, the station that I failed that I failed that I felt very comfortable on, was the abdo examination, and it is probably my best, I feel, the one I know best. I'd been on a fantastic surgical placement, uh abdominal, uh a colorectal placement, that year. The teaching I had from this particular surgeon was impeccable. I felt like, if this comes up in the exam, hooray. (IB) And, I was in the same circuit as one of my friends, who the previous year, in the abdominal exam, got 100% and I got 95% or something like that. (IB) So, when it came up, I sort of licked my lips and	Through dealing with a stressful job in the past, plus all of the other stressors he experienced, he feels that he had become someone he didn't really like (and maybe didn't even fully recognise).
G108) Feeling calmer and better at home (fewer traumatic interactions and feeling on edge all the time in a primary relationship), meant he was calmer and steadier at work as well.		Interested in mindfulness as a means of helping other medics prevent burnout, if some time can be found for it

G109) Loathes exams G110) Getting used to exams again after working for several years G111) Calmer in exams post-mindfulness, more settled and organised in terms of thinking, feels more in control (less pulled around by another's instability). G112) Wondering if researching mindfulness ahead of exams also may have had an effect on his performance. • • • • G113) Performed better in exams post-mindfulness G114) Acceptance of the fact that maybe might always feel that he could have done better G115) First year – thought he would fail G116) This year – knew that he would be ok, even on a 'bad day'	thought, fantastic, I can really boost my mark-up here, and we *both* failed it, and we both don't know why. Um, and so that's why we're going to go and you know... There are plenty of sort of examples of that, throughout the year. Not necessarily in that station, but where just people who have practiced together, one ended up getting 80% and one ended up getting 40% and it just seemed a bit arbitrary. So, I think my *confidence* in the OSCE s*ystem* has changed. *That* is a complete aside. I: Well, I mean, but it's a part of your experience, and so it's important. P: I guess so, but I feel like it's eminently fixable, and actually (pause) perhaps I need to understand what it was that they were expecting of us and communicate that to the other graduates. Or, perhaps also let the university know that a *lot* of the graduates are quite worried about this as an examination technique, given now that we're at the sharp end, (IB) where every point makes a difference to where you end up being placed in hospitals (to work). So, that was that, but historically, and I *still* feel that the OSCE is my strong-point, I still am able to go on a ward, without sounding arrogant, um, and get a history from patients that doctors that haven't probably had *time* to get. But, to go into a level of detail, and get suicide histories and things like that they haven't mentioned to anyone else, that actually then does, in once case, completely change the way that they are managed, which was a lovely feeling. I: Yes. P; But, I've always felt like that was my bread and butter, not to be arrogant about it. I; You don't sound arrogant in the slightest, don't worry about that, not even a tiny bit. P: Ok, great. Good. But, uh, in terms of the written paper, yes, that's far more *scary*. Less scary last year, because I felt a bit more prepared and a bit more in control, and a bit calmer about it, and did fine. Certainly didn't set anything on fire, but it was fine. Um, I finished bang average in the year overall, which was, I felt a shame, given how much work I had put in, but similarly was *markedly* better than the previous year, so... (IB) I: Given the many, many challenges of the previous year, that must be quite a relief.	Referring to the need for external observations in order to truly notice the effects and commenting that his friends on the course might not be quite close enough to provide him with the level of observation and feedback that his wife was able to provide. Reflecting on the effect of a calmer personal and home-life, and how this helped him to feel calmer and steadier at university too. This reminds me of the instability of some traumatic parental relationships – never knowing what you're going to find, and always feeling on edge about that

	P: I think it was. So yeah, in terms of the exams, that's sort of how I guess I feel about it.	
G117) Liked talking to people anyways, so always considered OSCE his strong-point.	I: Yeah. And, I'm *really* interested in your um, uh, your, you know, your kind of perspective around what makes the difference for you. What you do, what you think you do differently um, for the patients that allows them to tell you quite, you know difficult things, that don't always get shared. I was wondering if you could reflect on that for a few moments?	Felt calmer in exams as compared to previously – affected by not taking exams in a while (post-graduate course), plus having the struggles with his wife and baby.
G118) Failing 2/16 stations shook his confidence	P: Do you know, I don't really know. I think it, I think it, I mean, I could talk, as I think the hours of this tape will prove, (Interviewer chuckling) I could *talk* the hind legs off a donkey, and I think it's also just... so before, I worked in (non-science, communication-related industry), before coming into this, but St	
G119) Instead of realising that this is quite normal, he wants to change the situation – he wants the university to decide that he didn't deserve to fail the one that he felt confident in. (perfectionism)	George's is very hot on having healthcare experience, and I had to come to St George's. I had an offer from Swansea, but that was, even for a Welshman, there was *no* way that was going to *work* with my family, so it was St George's or bust really, so <u>I had to get this healthcare experience, and I ended up working in an end of life care in the community charity - Marie Curie. And, that was a phenomenal experience, and I ended up doing that for about a year and a half, before doing some pediatric</u> stuff as well. But, *that* I think, talking to people who, and you really sort of follow them through their journey of, being told that that's it... and,	Reflecting that the self-directed research on mindfulness may have also affected him in terms of how he digested the mindfulness practice.
G120) It could be that a mistake was made by an examiner (and he's trusting himself to show that is what he thinks – standing up for himself)	<u>um, being sent home, right through to the kind of the end, and, um, (SIB) and I think if you can sort of listen, and that's the most, I think that is actually it. That is *exactly* what I feel is the sort of nub of getting these things out of people, is just listening. I think if you can show that you can, that you show you are *willing* to listen, and also that you *can* listen, um, I think that really, I think that goes a *huge* way to getting people to open-up. Um, I don't sort of, if it's mental health, I would never ever sort of say oh well, you know, it's interesting, I've suffered... I'd never go on that level, oh you can open up to me, because I've had mental health problems myself or, you know flirted with depression, well had depression and all of that kind of stuff, because I think that cheapens it slightly. I think you *need* to sort of open up to people enough to say, look, you can tell me this stuff, you know, and it's going</u> to be fine. <u>And, I might *even* be able to help you or point you in the right direction of, you know, where you can find help. SIB) Um, and I think *that's it.* *A*nd I sort of feel like if you can *do* that, that the *risk* in medicine and certainly in medical school is that I think you're *trained* to get through the tick box, and you've got your tick-box and your</u>	Noticing some differences in his thinking before and after the mindfulness course in relation to the exams Noticing better exam results post-mindfulness course (with some other influences as well as mindfulness). Finding written exams generally more difficult than oral exams Finding that he relied on his people skills in OSCE, and felt pretty confident in oral exams as a result.
G121) Once his views are empathised with & taken seriously – he decides on his own that he may need to understand what they were		Realising that he might need to think about oral exams a little bit more carefully because he failed two oral / skill based exams and these came as a surprise, shaking his confidence a bit.

expecting, and wants instead for the university to know about how he and other students are feeling about the fairness of the exams. G122) Proud of his communication capabilities especially during sensitive situations G123) Worried about coming across as arrogant G124) Written exams are scarier G125) His identity has formed around being quite a talker, and being humorous and yet also being able to listen and connect well with patients– this was formed pre-mindfulness, but then during a	format of things that you need to get out of things, and I think patients are too wise to it. I think they, I think they just know that what you're after is why you're in. And, I sort of feel like, especially with like GP's and things like that, actually people come in and it's the third thing that they want to talk about the most. And, I just *remember* that when I was at Marie Curie. It was always, you know, you'd come in on a morning, and you'd see someone that you'd seen the night before, and they'd be noticeably changed, and you'd talk to them about the physical stuff and all that kind of jazz, and then they'd talk through what they were upset or whatever, and it was always the *third* thing that they really, well not always, but it was always later down the list, and they would go, (IB) and you know, the medication has brought me up in a rash on my face, and I feel really self-conscious about it, and it's nothing to do with the spectre of death, or it's nothing, well that might be part of it, but it's actually the fact that their grandkids are coming 'round tomorrow, and they've got this massive rash on their face, because the medication has given it to them. And, *that's* the thing; I feel, it's if you *take* the time to go, you can tell me the three or four things, or 5 things if you want, and I'll still listen, and I'll write them down. I don't know, I don't know. I: Hmm. It's tricky to say, isn't it. Especially if it comes quite naturally and it's something that's sort of part of you. It is hard to say. P: I guess I'd never really thought about it, but yeah. I: No, it's fine. Everything you've said, sounds completely you know, right. What about empathy? P: What about, in terms of talking to patients. I: Yeah P: I think that is, I think that's sort of critical, um. I think it's, I think it's *really* important. I think if you can't, so I've just had my appendix out, and one of the doctors tried to uh, take a sort of blood gas, something we are told that we should be regularly doing on the wards. It's *astonishingly* painful. And, I had *absolutely* no comprehension how painful that was for patients. And, I feel like now, you know, if you can put yourself in their shoes and go, do you know, actually, I'm *not* going to rush to give you an ABG, because it *bloody* hurts! And, maybe even saying that to them, I think gets you good brownie points. Um, so that when you do	Gearing up the confidence to advocate for himself, to seek clarity and more feedback, as well as perhaps challenging unfair decisions, if it comes to that. Displaying confidence even when speaking to very vulnerable and distressed patients. (pre-mindfulness by the sounds of things). Proud of his capability to gather such a comprehensive and detailed history, even around suicide etc, which changes the way the patient is treated. Communication is an area that he has always felt competent in.

stressful time he felt he lost who he was to a certain degree, and mindfulness seems to have helped him come back to recognise who he truly is, rather than who he fears himself to be when not coping too well with stress.	come to them and say, look, I actually *do* need to take this, they're like, ok, well, at least he knows how much it bloody hurts, and if he really needs to do it, I guess it might be important. (IB) And so as a medical student, you sort of fail and then you've got to get someone else to do it, so its sort of (inaudible). I; that must be hard, that sort of *learning* space, when you're actually feeling empathic, *and* knowing that actually you do have to learn. That must be really tricky.	Talking about how much calmer he felt in the written exam this year, and also how he performed markedly better this year (post mindfulness)
G126) Greatly enjoyed work experience prior to beginning medical school	P: I actually think it's kind of, I don't really know what the answer is to it, because we *do* have to practise on patients, but there are so many times where, we're expected... so, I'm on sort of AMU and A&E at the moment, and we're expected by doctors to go off and clerk these patients because *they* haven't seen them. So, we'll ask them all the questions, and in theory, we should be examining them as well. (IB) And, there was a lady yesterday, who had *really* bad asthma, and I asked her millions of questions and got this really detailed history, and then I was like, I *should* do an examination now, but I *know* that the registrar is going to come and he's gonna to do *another* examination on her. And, she's really tired, and I thought, I'm just going to just listen to your chest, just in case there's something important that I should report back, and I'm not going to do the whole, you know 10-minute checklist, because I knew that she was going to have *exactly* the same thing done 10 minutes down the line, and it was an unnecessary thing to put the patient through. And I think then it's that thing of, how much do you do for your own learning, and how much do you do to just keep the patient kind of calm and happy and not too stressed? And, I think that's a quite a difficult tight-rope I think to cross.	
G127) Showing you are willing to listen is the best way to help people to share		
G128) Not sharing something about oneself (in a medical context) to get people to open up… (that would cheapen it)		Relying on his own past experience with ill mental health in order to empathise with and connect to patients, but not by directly referring to his own experiences, more in his willingness to be present with their problems and witness them (listen). This sounds as though it was central to his identity pre-mindfulness.
G129) Importance of openness. (open guideline)	I: Yeah, isn't it? It's a very tricky position that you're put in, really.	
G130) Talking about the medical agenda being 'risky' – because it misses too much if you stick to the tick boxes	P: Yeah, and I think it's not, I think the medical school, and student's in general, there's just an expectation that you've got to do it, you've *got* to do it. And, actually, I think quite a lot of time, I know lots of people similar to me just go, (pfft - made a giving up sort of noise), I don't mind if I don't listen to your lungs, and if it means that I don't hear this very rare whatever, then so be it. Because I'm not going to ask you to turn over, if you're in loads of pain, or whatever it might be. I just don't feel comfortable doing that really. There are plenty of people that *are*. And, (pause) and they probably get a lot more out of it, but I sort of wonder if where	(interesting that he got to such a tricky space with his wife, whereby neither of them were listening to one another a few years prior, but it seems as though he might have learnt from that experience)
G131) Patient's don't tend to disclose their biggest concerns right away		

	that's where the people who have *lots* of empathy and are quite good at chatting to people, and those that maybe have slightly less, but are very good at getting what they need from stuff. It's very interesting. But, I don't know.	
G132) Sometimes patient concerns are more about quality of life now	I: Hmm, Is there a role for mindfulness in all of that? P: In terms of? I: Navigating those different pressures?	Explaining the importance of going past the tick box medical agenda, to really exploring the patient agenda, including sometimes somewhat intricate details which affect their quality of life, including those that are not life threatening in any way. (again, he had this point of view prior to mindfulness).
G133) Taking the time to listen to all of a patient's concerns makes a bit difference	P: (IB) Um, (sigh). I think the, the, I think there *undoubtedly* is. Um, I think the, in *my* opinion, the problem is, is that the way that the curriculum for students is set-up, *and* dare I say it that the way that the NHS is set-up for healthcare professionals, is entirely at odds with, with I think the spirit of what most people would be able to get the *most* from mindfulness. And, I think that comes down to a *timing* thing, and I also think it comes down to a (pause), you just need to get this done, because there just aren't enough bodies on the ground, and you *just* need to get on and do it because we need it. Or, you just need to do it as a student because you've just got to learn. You've *got* to do it. And, actually, I think it would be much *better* if people would say, well, you know, if I do, do this, like why would I want to do this, or just take a second, that sort of second that mindfulness affords you, or gives you the ability to kind of slightly reflect on. Um, yeah.	He seems like an experiential learner – remembers something so deeply from his time working with cancer patients over 2 years ago…
G134) Empathising through personal experience as a patient (just how painful certain procedures are, e.g. Blood gas) G135) How astonishing in a way, that until experiencing something similar, the assumption is, that it's probably not that bad in medical culture (trauma survival assumption?) G136) Developing trust through empathy and explanations of what's ahead, and why	It's, I don't think it sort of, it happens. I know it doesn't happen, but also it, I just don't see how it *could* under the current set-up, and I think is a great shame. Because I feel like doctors, maybe nurses as well, but I feel like they could *really* benefit from mindfulness. But, maybe even just some dedicated time to reflection. And, not reflection where the hospital or the senior doctors turn to them and say, you need to reflect, go and reflect. What did you *do* to a patient today that maybe you shouldn't have done. Because it's a negative. And, also it puts *all* of the responsibility onto that person. That person need, In the same way that hospitals have really dedicated training time, you know that's protected time for learning. There is protected time for teaching. There is *zero* protected time for reflection or mindfulness or *any* of that stuff, and yet what I think the doctors and senior doctors and the trusts and medical schools do, is to say that you need to do this in your spare time. But, *when* does a medical professional or a medical student have that? They just don't. And, I think *that* is for me, the issue. Um, and	

G137) Managing the tensions between what the patients really need and what their learning goals are. • • • • • • • G138) Decided to put the patient interests 'first' G139) Managing expectations from the University G140) Not necessarily seeing the importance of putting the patient's needs ahead of the medical / student agenda in terms of becoming a more effective doctor through being like that. The tension	yeah. It's just very difficult to square that circle under the current set-up. And, I feel like the NHS will suffer as a result, because you will get doctors who aren't, who will probably burn out. They won't have the tools with which to say, why am I feeling so stressed? Why am I being so short with patients? Why am I - x, y and z? Um, and medical students the same? You know. *Why* am I feeling so stressed before exams? *Why* does it stress me out every time a senior doctor talks to me? There isn't time to do that. I think it's a great misjudgement on the parts of the hospitals and the teaching, that there isn't. I: Yeah. Fascinating. There's one other thing I'd like to explore your opinion on, if possible, if you have the time. Ooh. Forgive me, we are going on a bit now. We're on to an hour. Maybe a few more minutes? P: Loads of time. I have nothing to do this afternoon, I was going to go back to the ward at 5, so there's absolutely no time pressure for me at all. I: Ok, thank you. I'm just checking this is still working. Yeah, it's still going. P: I've maxed out the time. I: No, it's just that my phone is so old, so I just have this slight panicked feeling about it, and I just want to check that it's all there. (both chuckling) But it is. So, in your groups, you know there were two different groups. And, were you in the second group or the first group, do you remember. Was it sort of at 3 in the afternoon. P: I think it was at 3 in the afternoon. I: Yeah, ok, so then you would have done the Interpersonal, the mindful listening and speaking exercises. P: Yes, we did. Do you know now, I can't quite remember. Oh yes, no I *do* remember. That was really interesting. I: So, you were sort of *sharing* in a structured way, at times, with somebody else in the session. Some things about what you were experiencing, and sort of meditating almost outloud a little bit, in a way. P: So... I thought the most fascinating thing there, was the power of sort of silence, actually. And, the fact that you.... (pause) I wanted... so I think one of the exercises was where I was	Bringing his own experience as a patient into his conceptions of what it's like to be a good doctor, and in terms of how it affects his decision-making around painful procedures (post-mindfulness, but not clear how, if at all his way of thinking was affected in this area by mindfulness) Expressing his impression of the power of verbalising the thinking process, in terms of putting off painful tests until they absolutely must be done, so the patient has a sense of being respected and cared for throughout. Discussing putting the patient's agenda first (tired and unwell patient who could do without two examinations) even though his own learning is also important. Showing a sense of equanimity and balance, as well as acceptance of the situation being as it is, and firmly putting the patient needs first, sounding fairly patient and confident that his learning will be covered too, when appropriate.

of the sometimes traumatising medical agenda to find out or 'do more' at all costs….	listening? And, I wasn't really, well I was *trying* not to ask questions, and fill space and silence, whilst the other person was talking, and disturb their sort of flow. And, it was fascinating, because I got to ask, in my mind there were points where I was sort of asking, I really wanted to ask a question, or I really wanted to go hmmm, and it was really difficult to *not* do that. But, it was also really interesting to see where my mind went, in terms of, wanting to ask *why* that person felt like that. But, in a way, guide or affect the way that their mind, while they were talking, was going to go. And, I think *that* was fascinating for me, because certainly, as a medical student, as a future doctor, I think *actually* you *can* sort of dictate the way that people *talk* about their experiences, by asking certain questions or nodding or, (IB) you know, making little hmmm noises. Or, oh that's interesting. Just an aside, just as a filler. It *can* change the way that people talk about things. And, especially if you're talking to a patient, you know that might change the way they describe something, or it might change this, that and the other and. I thought that was *really* interesting, that if you *just* let someone talk, it goes somewhere slightly different, it goes somewhere different to where you would expect that conversation to end. (IB) So, that was, that was really, really interesting. And also, it was interesting to see what questions I wanted to generate, and wanted to ask at certain points, but didn't. Because, I'm trying to sort of hold it back. So, that was, I thought that was very interesting. Um. And, it sort of, I mean, this is a *gross* comparison, but in my last job as a (role), there were times where if you were having a particularly tricky negotiation over contracts or fees and things, sometimes the most powerful way to sort of get what you wanted, was just to be completely silent on the end of the phone. And so, the (other person's role) or whatever it was, was ranting on the other end about how unfair it was, and how you were going to ruin everything, blah, blah blah blah blah. And if you just didn't say anything. And, at the end, they would be like, are you still there. I'd be like, yeah. Why didn't you say anything, blah, blah blah. And, in the end you would sort of get close to what you wanted, just because you had just been silent. And, I don't know if that was an intimidating thing, or whether it was an ability to let someone completely spill their anger and rage out. I don't know, maybe it was a mixture of the two. But, um, but yeah, it was keeping quiet and sort of nastily getting what you wanted. Or, thinking you were getting what you wanted. And, then in the exercises (interpersonal mindfulness), there was a bit of	
G141) Medical culture at odds with the spirit of mindfulness: a) Pressure to just 'get the job (more investigation etc) done' rather than allowing for self-healing in patients b) Understaffed		Wondering if the empathic students miss out on some learning points because they are more aware of the patients' needs… He hasn't been doing this long enough to understand that the qualities he's embodying are equally as important if not more-so to the health and healing of patients than someone who knows everything about everything…. Unless he's trying to demonstrate some modesty here, and he's perfectly aware of how he comes across….
G142) There could be some benefit for a mindful pause in medicine		
G143) Worried about the lack of time available to practise and even reflect		The medical curriculum and the entire healthcare system is at odds with the spirit of mindfulness due to a shortage of time, and the pressure to get jobs 'done' due a shortage of staff.
G144) Culture where reflection has a negative quality -> mindfulness has an accepting reflective quality		Speaking of the traumatising nature of the healthcare system – the implication being that we 'just' have to get this done, no matter how badly behaved we have to be in order to force it through…
G145) Not any protected time for reflection		Mindfulness might make things so much better in healthcare since it affords you the pace to pause and reflect before acting on auto-pilot.
		There should be protected time to reflect or practice mindfulness, just as there is protected time for learning. It is

G146) Recognising the role of mindfulness in reflection G147) Recognising the danger of burnout for healthcare professionals and medical students – especially if there's no time for reflection G148) IM – difficult to turn off the habit of filling space G149) Rewarding practice when allowing silence G150) Increased awareness of the self while mindfully listening G151) Observing the mind with non-judgemental curiosity while talking to patients, (it was really interesting to see where my mind went). G152) Observing the influence of the medical agenda on patients – they often say what is expected **G153)** When holding back on asking too many questions, the other person provided surprising information, largely unaltered from the influence of the listener's **assumptions.**	an affinity between that. Because you sort of just realise the power of silence if you let this person go off... You know, they really went off somewhere else, that you might not have expected. Um, so yeah, it was really interesting. I don't think that makes much sense what I've just said, but, it was, I remember thinking it's really interesting, this is quite similar to this old def-com 5 tactic of silence. Um, so yeah. I: It makes perfect sense. That makes absolutely perfect sense. And, how would you have felt during those experiences, those exercises? P: How did I feel, what do you mean? I: You know. Um (pause), so, not wanting to *colour* your response in any way, I'm just curious about what you know, what you yourself would have had going on emotionally. P: (IB) So, again, I felt very in control. Because, there was a lot of times where you wanted to fill the silence of what someone was saying, or, you wanted to sort of ask a question, to find out a bit more information. And, actually when you didn't do that, it sort of, and you held it in, it sort of gave you this power of 'wow'. And, I am, again, have, I'm very good at just going hmm, oh, and I fill the silences or say, ask questions to keep people talking, and (IB) actually when you don't do that, it was a bit like sort of controlling the mind (which is what he said about the formal meditations earlier). You were able to sort of go, oh that was interesting, I didn't *do* anything there and I really sort of wanted to, and I was able to hold onto that. Um, and it felt, you just *felt* quite in control. And, I suppose I felt a *little* bit like I did when finally you were able to sort of control the wandering mind (as in formal meditations). It was a feeling of, ah, I've got this, I actually *can* just not fill space, I can actually just listen to someone, like *really* just *purely* listen, and yes, it's not where I thought the conversation would go, and I haven't necessarily, if they were a patient, I haven't necessarily got what I would have wanted perhaps, but, I've, I have just *purely* listened., and that's quite a powerful thing. I: Hmm. And, the effect on them, that you would have noticed? P: Ahh, I think it, so when the people that I did it with, I remember one guy saying, the fact that you didn't say anything, and you didn't nod, I mean I think I maybe sort of nodded very	interesting that he is stating both at the same time, indicating for him, that mindfulness has aided him in his awareness and his reflections The NHS will suffer if doctors who aren't present, and who burn out. Reflecting on the *experience* around the power of silence due to the nature of the exercise encouraging each participant not to say anything and just let the other person talk in the Interpersonal Mindfulness exercise. Wanting to ask a question or say something in particular, but holding back and remaining silent, and in so doing, observe the space for introspection or reflection that this opened up in the speaker. Reflecting on reflexivity and the undue influence that a doctor can exert on a patient by asking things a certain way The conversation goes somewhere slightly different if the listener simply lets the speaker talk Comparing the experience to past experiences around the use of silence in negotiations. Recognising the power of allowing someone to spill their emotions out through talking to someone else who is silent – showing how this can resolve anger (rage) and so on, because the person just gets it out of their system.

G154) The importance of past prior experience in order to recognise and deeply digest the effects of IM G155) The empowering effect IM (open listening) has on patients to encourage and develop their own autonomy G156) Making links between this learning and past similar learning experiences G157) Feeling more in control of own emotions when mindfully listening – practicing observing an impulse to act in a certain way without feeling compelled to follow every impulse. Sounds like the relax and allow guideline G158) Making a link between MBSR meditations and the IM exercises – same skills applied in different ways. G159) Mindful listening puts the other person in a state of flow G160) The freedom it brings when	gently, you know, but it wasn't as sort of 'oh, that's interesting, furious nodding' it was more a kind of, I haven't just completely blanked out here. Um, I think, he, he said, well, I sort of felt like, I could just carry on talking, and I just wanted to carry on going and going, (IB) which was very interesting. Um, whereas, I think, and when we were talking at the end, I sort of said, you know, oh I always really want to ask questions, I'm always really *interested* to ask questions, but that would have cut you off, and it probably would have pointed you down a different direction. And, he said he just really enjoyed the *flow* of having a think himself about what it was he was trying to say. So, I guess that was really interesting. But, yeah. I: Just a space. P: Yeah. I: Hmm. Is that something that comes into your life in any way?[01:08:25] P: Ummm, (long pause) No. (pause) It should do. I: No, not necessarily. P: But I, I think I certainly don't do it on the wards. I, because I sort of, I use a bit of sort of light relief comedy... you know, I like putting people at ease, and if there's something innocuous that I can make them laugh about, then so be it, that's quite a nice thing to build on. And, that is completely the antithesis of pure silence, and sort of listening, but it's quite, I find it quite a reassuring thing to put people at ease. I: Lovely. Yeah. P: But it's, I mean yeah, but it's very different to sort of total silence. Um, and then at home, no probably not enough, um, I guess I ask more about the problems that my wife goes through, um, but I'll generate more of the conversation there. (hesitation) Um, and also I sort of, I don't want to fill the space with what her therapist does. So, when I say 'will you tell me a bit more about that' that sounds a bit 'therapy'. So, no. In short no. I don't do enough of it. I probably should. I: Hmm P: But, and there would definitely be, there would definitely be a space for that. But, at the moment, it doesn't quite work with where I'm	This reminds me of earlier where he's talking about how the person will say the thing that is most upsetting them in the moment and put together, the two comments make me realise that he's really meaning (on some level) that if patients are too influenced by the medical agenda, they don't share the things that are most important to them, and when their agenda and autonomy is squashed, they might find it extra stressful / difficult to take their own health-care on board (quite heavily interpretative on my part here… need to reflect and check it's not too much). Feeling a sense of emotional control during the Interpersonal Mindfulness sessions which was similar for him in the mindful meditations – wanting something different and being able to hold back from that while observing what was happening – 'oh, I've got this'. I think this is a comment on how the impulse to say something or do something in a personal interaction can just be observed; similar to how the workings of the mind were simply observed in the personal meditations. The flow of talking to a present listener allows the speaker to enjoy a sense of flow in terms of what they were trying to say thus discovering more deeply who they are perhaps, who they really are, away from the pressure to be or do something specific for the person in front of them. He states that he doesn't use the mindful listening and speaking skills on the wards at first, and then having thought about it later on, he realises that he has actually used these skills with a patient. This is where the unconscious sometimes becomes conscious only through discussion with an interested other, and the current interview itself is an example of the value of these skills (although on reflection, I'm conscious that I didn't consciously practice the mindful listening and speaking guidelines much as part of the interview, which I currently regret…

someone listens to you in a present and mindful way without interfering too much allows the listener to discover more deeply what they truly want to say – without being thrown off course by the agenda of the other. G161) Recognising that most interactions in medicine do not involve much mindful listening and speaking – most interactions are always coloured by the expectations of the other person in general. G162) At home, there is more of an impulse to influence the conversation – IM doesn't feature too much that he's aware of at this point • G163) Considers that IM might be helpful at home, if he can get over the idea that it might sound too much like therapy (too controlled, not authentic and true to him enough). G164) Sometimes mindful listening and speaking can feel a bit like hard work. G165) Realises that he has used mindful listening	at, and where the various plates spinning are at. (IB). I: Also, it was a very short introduction, wasn't it. It was only a few little bits and pieces, it wasn't a heck of a lot. P: No, but it's an interesting tool, to have realised. And I know. I guess the important thing of it is, is that I know I've got it in my locker, that I *can* do that. Um, and that it's, you know, there's that ability to do that with someone. Actually, I say that. There was a patient the other day... I did a night shift here, in A&E, and there was a patient who came in, who was quite a shy young guy, (IB) and I barely nodded or did or said much at all, I just let him talk. And obviously I had to sort of ask him a few questions, but you know, whilst he was giving me the answers, there wasn't really anything but just listening (SIB). And that was very interesting. He was *definitely* someone that I could do that with. He *definitely* someone who if I had questioned too much, he would probably close up. He was *too* unwell to have a bit of a laugh and a joke with. (SIB) Uh, so, there was *none* of that. So, *then* actually it came into just listening, and obviously ask a few questions, but why he whilst he was answering those, just literally listening, not saying anything. And, I got a really interesting you know, history out of him, so (SIB), so yeah. So I guess, I guess I do use it, I just didn't really think I had. But um, so yeah. (NOTE: Something about his tone gave me the impression he didn't want to talk about this further, but I was wrong, as he came back to it later). I: Fabulous. And then in terms of the sort of self-talk, while you're listening. And the awareness of yourself, while you're hearing and digesting and being present *with* someone else. That was *sort* of part of those exercises, wasn't it. Allowing yourself to stay open to both what was happening with you, *and* what was happening with the other. [01:12:13] P: (SIB) Yeah. And I think that was (pause). It's interesting that, because there's a big connection between sort of stereotyping someone and actually allowing yourself to remain open. That kind of, that, well they're obviously different. But, you know, for example, this young guy, I asked him what the relationship was with his family - you know 'do your parents, you know, do your parents know you're here'. ....Oh no, I think that was it: I said, so is there any illness in your family, starting with your parents. And, I had, in my	and would like to change in the future. I could have left a lot more silence for example…) Reflecting that normally he tends to generate a fair bit of the conversations that he engages in with his wife – he tends to ask her some questions and is conscious that he doesn't want to enter into a therapeutic space with her. He ends by thinking he probably should do more mindful listening and speaking, but he doesn't say why, and I wonder if this is more to please me? He decides that although it could be useful to use mindful listening and speaking at home, that it's not appropriate for him at this time with everything that he is holding (spinning plates). And so I take it to mean that mindful listening and speaking at home might feel like a bit of a chore, like work in some way – which he isn't up for at the moment. Feeling glad that he has mindful listening and speaking in his tool box. It feels empowering to know that he could do mindful listening and speaking, that he is capable of that skill. An example where he seems to have used mindful listening without having fully realised, and upon reflection now, he believes that this may have greatly aided his success in supporting a deeply mentally ill person to share his suicidal thoughts. Reflecting that sometimes when some people are questioned too vigorously, they tend to clam up, and when simply listening, sometimes they share deeply (in this case, sharing suicidal thoughts).

and speaking with a vulnerable patient without consciously realising it at the time, and this was very effective. • G166) The strategies we use don't always become conscious until we reflect about them to someone else (as in IM). G167) Remaining open has benefits in terms of history taking G168) Mindful listening and speaking allows a non-judgemental recognition of times when stereotyping has occurred G169) Recognising when one has stereotyped someone (made an error in communication) is a very uncomfortable feeling – mindfulness heightens the awareness, which allows a more productive rather than defensive response. • G170) Closing oneself off and then opening back up again through recognising it and managing the difficult emotions in the moment (rather than protecting oneself	mind, I had closed off to the fact, because he was young, he looked relatively middle class, and had just sort of stereotyped him I guess, but had closed off in my mind, that he was going to give me an answer of 'no they're both fine' or maybe my Dad has high blood pressure or whatever (SIB) and actually he ended up saying: I have no relationship with my parents. My Dad died, I think of a drug overdose when I was x, and my Mum, I barely see, and etc. And that was a *really* good example of me *not* going along with it, *not* sort of being sort of open to what they were saying. And, it kind of, when that happens, you feel kind of like, ooh, that's obviously really crappy for *you,* and I'm really sorry about that. But also like *oooh, you totally* judged him, and that's quite a weird feeling. That's quite a *nasty* feeling of like, you totally misjudged that situation, and there is a little bell that goes - ding, ding, ding, ding, ding. That wasn't ok. Um, so yeah, I think that's interesting. And, maybe doing the mindfulness course actually has heightened that awareness of, *ooh*, you've closed yourself off there. You've... I guess, in a weird way, I feel like, you've kind of put yourself in a corner and not necessarily, um, and um... and yeah. It's not like, you know I offended him like - oof, you don't know your parents!? But, you know, it's, it's, I think quite an *obvious* thing where someone has that moment of going, oh, I would never have caught that. Um, I certainly feel like you can read people pretty easily when they do that, or when they're a bit surprised by an answer that you give. [01:14:45] I: Yes P: Um. So, yeah, that was quite a recent example of closing myself off and thinking the conversation was going to go in one way, and it didn't. (SIB) I: But then what's interesting is, it sounded like you then just were able to sort of... you went 'oof' in a sort of visceral, almost like there was something in your sort of solar plexus region, that sort of hit you almost. That's how it *looked* to me when you said that. P: Yeah, I think that it's also like, I get this kind of like eeesh, like oooh, like a sort of, not static, but sort of like your hearing goes a bit funny... I: A bit of fuzziness. P: You just become a bit more like *aware* of like the surroundings, I guess you're a bit adrenalised, a tiny bit adrenalised, you're like oooh, gosh, that was a bit awkward. And, it	Reflecting on the connection between stereotyping and remaining open Awareness of multiple different reactions in himself at once – the feeling of empathy (that's really crappy for you) and also the discomfort of realising that he had pre-judged the person. Reflecting on a moment when he had begun to make assumptions and close the conversation and became aware of what he was doing in time to change course. In that moment of making an assumption, he noticed it and re-opened himself to the reality of the patient (not having contact with his parents), staying present (to a certain extent) with what was happening within himself as well as what was happening for the other person as a means of supporting the process of recognising he'd made a mistake and instead of 'doubling down' or saying something judgemental, just simply changing tack and being with the patient where the patient was. Recognising the importance of not trying to bluff your way out of something when you've made the wrong assumption in medicine => authenticity

from even realising a mistake has been made b/c that would be too distressing / traumatising and therefore avoiding problematic ego protection which results in avoidance of the 'truth' in a situation. G171) Making an error in stereotyping (communication) carries an adrenalized response, which is stressful, and tricky to manage, but mindful awareness is a supportive part of the process, allowing the stress response to calm down, and a productive follow-up response to occur G172) You can't (or shouldn't) bluff responses in medicine. G173) The importance of authenticity in effective clinical communication G174) Truthful and authentic answers are comforting and helpful for patients, even when you don't know. G175) Asking the patient – what do	wasn't even awkward, it was just, I had literally gone, young guy, I don't know where his parents are, but maybe they're racing in to try and find him, but you know, he clearly looks quite young. I: Yep. P: And, just could not have been more different. I: So, what then, what happened then? P: So, then I think, then you really, then I think you completely capitulate, and maybe because of my previous job, I became very adept at *not* capitulating. In that, you then sort of compensate, because then you go right... well, you either bluff it. Or you just completely open yourself up and go, Ok, so tell me a bit more about that or whatever. Um, and. I: So, what did you decide, this time? P: I think, in (pause). I think it medicine largely, you *can' t really* bluff it. I think certainly as a medical student, with very little knowledge and experience, you can't bluff it. And I think the *best* thing you can do then is just, you know, in this setting, to go ok, well tell me a bit more about that. Well, I'm really sorry to hear that. Tell me a bit more about what you do know or, do you have any other siblings or (SIB). Or, in a sort of more being grilled by a consultant way, or being grilled by a patient way, when you don't know the answer, saying, do you know what, I just actually don't know the answer to that. I think it's *really* obvious if you bullshit. I think it just, it comes, people can read you *so* easily, and definitely senior doctors, they know immediately. So, (SIB) I've seen people say ok, I'm going to bluff my way out of this and just have *not* been able to, (IB) because they just don't know as much, they're just *not* as experienced as the people asking the questions. I: It sounds like your experience has done you a lot of good in those moments. P: Oh well, I think yeah, probably, but I think that was probably Marie Curie time as well. If someone says, 'what's going to happen' and you don't know the answer for someone who's three days away from dying, and you just have to say 'I don't know' - I can try and find out. Or I've found the other thing that's really useful, is to say 'I actually don't know, what do you think' - If you sort of open it up for them, to sort of explore a bit more, it appeases them in a *much* better way. I mean you can *never* do that to a consultant. (both laughing). I dunno,	Talking about the opposite of authenticity (bluffing or bullshitting) and how obvious it really can be. He developed a mindset around the importance of not bluffing, and of being authentic in the past – through his experience at Marie Curie, and even developed a technique of reflecting back to the person asking a question which is difficult to answer and asking them what they think – presumably as a means of opening up their motives for asking a bit more. Facilitating the person to think, encouraging them to share their own experience, respecting their point of view

you think? It opens them up more. G176) Open to the patient's perspective (exhibiting a humble beginner's mindset). Allows for uncertainty G177) Opening things up and talking about things might help them to understand and know their own feelings for themselves (b/c for him, he's not even conscious of many things until he's saying it or someone else is noticing it).	what do you reckon to this? But, certainly to a patient, whose asking you something slightly existential, or whatever. I: On the edge of what is kind of predictable or knowable. P: Yeah I: Which a lot of health care things are. P: Yeah, so. I actually did *that* the other day with a patient who was asking about side effects with medications. He said, <u>what *is* the side effect of this medication, do you know. And I said... he had said that he was complaining of various things, and I said oh no, I'm afraid I don't know the answer to that. What do *you* think it's done. He said oh, ever since this, actually, since that happened, then this happened, and it *might* be nothing, but. I don't know, but I think it might have its place.</u> I: That sounds extremely helpful for the person. [01:19:08] P: Well, I think it might... I don't know how helpful it was. But <u>I think in a way it gets them to sort of think about things and talk about things, but I don't know.</u> I: Sounds like non-judgementalism in action. P: Yeah? Yeah. I: Well, listen, thank you so much, that has been absolutely fabulous. So fascinating. P: Well, it's been brilliant for me. I have loved it. I should do more of it for sure. But um, but yeah. And it made me very, very interested when I came to write my SSC, because it then was very much like, ok. Interesting. I: What did you do that on? P: So, I did that on, I think the title was something really glib like, stressful medicine, is there a role for mindfulness for the modern health care professional or something. And the evidence is overwhelmingly, of course. But it's also that there are too many things in the way, functionally, and... (SIB) you know, everything. So, you know it's really interesting. (SIB) but yeah, it was really good. I: Thank you so much. P: Not at all, thank you.	<u>He seems to find it helpful to think about things and talk about things, so it sounds as though he imagines they do too.</u>

	I: I really appreciate that.	

Appendix I: Excerpt of second stage of grouping and noting before bracketing

Excerpt of the second stage of grouping and noting, with beginning emerging themes (before bracketing)	
Participant: Catherine	
Quotes	**Themes**
[1a,b] the informal mindfulness I found so helpful, because I felt like I had to be studying all the time, or I was always worried about something. Just sitting down with a cup of tea and just feeling the warmth [00:02:32] through my hands and just noticing those feelings and I think I talked about the [mindful] shower as well. I loved that.	[1a]**Informal mindfulness useful** even when feeling pressure to study all the time so formal practice was hard. [1b]As a **relief from trauma coping mechanisms** (punishing herself through imposter syndrome by feeling she needed to be studying all the time to be good enough), informal mindfulness was a way to get some relief and **connect to what was true and real in the present**
[2a,b]I think that's something that's really stuck for me, through much more than the formal meditations because, I just, I just I kind of.... almost it comes [00:03:02] on automatically slightly now, which is really quite comforting. Even if it's for less than a minute or something. [3]It kind of sounds almost cheesy to say	[2a]Informal **mindfulness became almost automatic** even without much formal solo mindfulness practice - how? IM? [2b]**subconscious use of mindful skills** - like Inesh and George using IM subconsciously. [3]Doubting the legitimacy or **disparaging own experience** - getting in there with a self-disparaging comment before someone else can criticise - this is something she does throughout the interview at the end of sharing something quite personal - she describes elsewhere, how she often wondered if what she was sharing was 'too much' during IM, and I wonder if this is her usual way of signalling some doubt and discomfort in how legitimate her feelings are, and whether it's acceptable to have shared this much. I continually responded with empathy and legitimising her experience, and so this kind of speech reduced a bit, but it still never fully ceased - almost like she still didn't truly trust the connection between us, while simultaneously honouring me with really rich and detailed descriptions of her inner world, which I deeply appreciate.

[4a]I notice now, I think I wrote about (in my essay). I always have my, [4b]I often have a shower at night, and I noticed that I had always [00:34:20] had this position, of this (holding her body with her arms) in the shower, and never ever knew, I never ever ever paid much attention to it before, until we started talking about that kind of thing. Um, and *without fail* in the shower, this (demonstrating holding one arm with the other and hugging herself), this my kind of first position, and I really *like* it actually. I think I did [00:34:50] it, it still is automatic. But I did it automatically before without ever noticing or taking any notice of it. And now, it's actually quite nice? [4c]It's, uh, it's like I'm actually being nice to myself? And not necessarily, just a protective thing, but it's like, a yeah, like a its comfort, it's comforting as well. [3]**But, yeah, it sounds very odd to describe how I stand in the shower.**	[4a]Bringing automatic actions in life to **awareness, in part through the essay** - **interrupting auto-pilot**, and choosing to carry on, but enjoying it more through being conscious of the positive, self-soothing behaviour. [4b]previously automatic **self-comfort and protection (trauma)** [4c]still can't quite BE nice to herself, but approaching that
[4d]There's like [00:40:21] a flash of happiness. It never really lasts long enough to change maybe your *state,* but it just gives you enough to... but they say that often don't they about happiness - that happiness isn't necessarily a state, that it's little moments of.... um, someone said once looking out the window while you're washing up and there's a beautiful scene or [00:40:52] doing something and a song comes on the radio that makes you feel good - You know, happiness is made up of all those little, little things throughout the day or throughout your life. It's not necessarily just a steady thing.	[4d]**Awareness of pleasant experiences even in the midst of burning out** - protective, and indicative of the anomalies in the scores - increasing mindfulness, empathy and self-compassion, but not stress?
[5]I tried to do the mindfulness, which I know is hard anyway, it's not something that's going to come easy, but I really struggled. I had so many worries going on… That I found it was quite overwhelming to be [00:01:31] lying, you know trying to not tackle all of those worries and my personality as well I think - I always struggle with keeping my worries under control, and not letting them take over…. [6]So that was frustrating really actually, because I know how much I need it, and I'm, I really do want to [00:02:02] find time for this in my life, especially with my new job starting.	[5]**Formal Mindfulness practice means facing deeply distressing feelings** we're often trying to avoid feeling and relates to [6]**wanting mindfulness but not wanting it** -> wanting contact with the self but not wanting pain from unresolved trauma as it surfaces and becomes triggered by current events? ([6]**approach avoidance conflict -** two parts of her wanting different things -- *chronic indecision being an indication of trauma according to the NICABM, online training and the Weaver et al., 2020 paper in Zotero*)
Total uncertainty.... So, [5]when I tried to practise formally, it was just yeah... Completely overwhelming.... [7a]But even those realisations are kind of helpful in themselves.... sometimes I don't, I know I worry a lot, but I don't think much more into it. I just often feel.... [7b]I guess slightly ashamed [00:05:06] about how much I worry, because I have come from such a privileged life, because I'm very lucky to be at Medical School, I know people that didn't get in. So... thinking about why I might be finding it difficult to do mindfulness, is quite helpful, because it gives me some sense of, it's okay. [7c]You	[7a]**Self-awareness / realisations / legitimising resistance to mindfulness is helpful**. [7b]Feeling **shame about own suffering** but on the other hand, there's a sense of developing more patience for her own struggles - [7c]**It's ok not to be ok** (like Inesh), with all the other things that we're hard on ourselves for. *Sounds almost like self-compassion, but actually it isn't quite 'normal' to be as overwhelmed as she feels, so does this stop her from getting more help?* [7d]**Normalising a high level of suffering reduces**

do, you *are* trying to juggle all of these things, and [7d]it IS normal to be [00:05:36] worried... which is nice. With all the other things that we're hard on ourselves for.	**self-judgments and shame, but may also lead to inaction and prevent help-seeking?**
I, [8]I tried to do it at home, but I just didn't last very long, because I just didn't want the [overwhelm she mentioned elsewhere] [00:11:09] ... and I knew that you had to get past this unpleasantness. It's the same with anything, often. But yeah, it put me off. So, then I would leave it longer between trying.	[8]**Unpleasant home practice triggers a cycle of doing less home practicing** - triggers avoidance coping strategies. ([6]**approach-voidance conflict**)
[9a]I have [00:14:40] had trouble with sleeping, which I don't normally ever have, and of course you associate that, I know you said a couple of times that mindfulness doesn't have to necessarily be lying down, or things like that, because I would associate the times I was lying awake at night worrying, you know with when I tried to do mindfulness, which I normally always tried to do just lying down. {[9b]what isn't said here, is that she continued to lie down even though she found that association very difficult - it sounds like learned helplessness to keep trying without changing anything to help herself - didn't change to sitting, presumably didn't mention this in the sessions, nor reached out for the help that was offered - another trauma response?}	[9a]associations with other difficult experiences (e.g., lying down struggling to sleep) which increases avoidance of practicing. Yet, didn't make a change to a different position - [9b]**learned helplessness -** carrying on trying something that wasn't working for her, and just avoiding practice, instead of seeking support to help herself get on with it better.
I've had one other person describe it and [10a]it was so nice to hear someone else - maybe one, maybe two where you can get these random feelings of well-being where there doesn't always appear to be a trigger for it? And I heard someone describing it once - she, [00:36:50] - I think there were three of us in the session, and she was describing it and saying do you guys ever get this feeling sometimes when you're just walking along and you're just overwhelmed by this (feeling of wellbeing) and I was like yes, and I've never understood what I thought this is such a bizarre thing like, [10b]I never mentioned it really to anybody else but it's a bit like that. So, [10c]I mean sometimes I do know the trigger, [10d]**sometimes if on very rare occasions that someone's [00:37:20] brushing my hair or something** {sounds like she means that it's rare that she experiences loving physical contact such as brushing her hair}, and you get that sensation of often when people touch my hair {this makes it *seem like it's rare that they touch her hair, but consistent when it happens*}, I get this like lovely feeling that	[10a]**Self-awareness /expanding capacity to notice more - being with another's authentic humanity connects us to ourselves**. [10b]How **common not to share much about everyday experiences,** either positive like this, or negative like Vicky explains. [10c]**Hearing about pleasant, loving sensations in another, helped to connect with similar within**, and she was then able to tap into it more regularly while practicing informal mindfulness on her own. [10d]**Rare to experience loving contact from others**. [10e]**Informal practice simulated sensations from loving contact -** although she doesn't seem to recognise it as love, and calls it well-being

like washes over you, a sense of relaxation. It's a bit like that. Yeah, little tingles of well-being is the only way I can really describe it. I always notice when I did the informal practices which was really amazing, really nice.	
I *really* like those [mindful listening and speaking exercises], because I always tried to um... I think, [11a]**I started doing a counselling course before...**, but I quit halfway through because I suddenly realised medicine was what I wanted. **Lots of things they were talking about, was trying to get you to *really* understand what listening was really about, and I don't think I'd ever really, realised that before {Did she not realise that before the counselling course or not before the IM? I think she means before the counselling course}.** And I always [00:56:09] loved that [about the counselling course] and ever since, I've tried to do that, not always successfully, with my friends or family or whoever.... [11b]it is actually so difficult to *just* listen to what people are saying. And, it's such a *gift* if you can, without jumping in to give advice or to.... I remember that we were talking about it in the [mindfulness] session. So, I really enjoyed those [IM exercises]. I always find them very [00:56:39] valuable, especially with people that you don't know, [12]**because you're often keen to you know, make impressions, or be a *good* participant, or all of that kind of thing. So with all of that [uncertainty and instability] going on as well, it made those exercises harder.** [13b,c]**It was good, to challenge my listening skills and not have to prove that I've got something useful to say or... if that makes sense** [sounding emotional]. (It's as if this is what is at the heart of her imposter syndrome - she's not quite sure if she has anything worth saying, and taking a break from that pressure was a relief)	[11a]**Knowing is not the same as doing (importance of experiential learning)** - it's one thing to know something and another to do it [11b]**Difficult to *just* listen** [12]**Constructed identity is wrapped up in being 'good'.** IM gives you the chance to practise being with the anxiety of feeling as though you have to constantly prove yourself as valuable and worth, and allows. [13b] IM listening improves awareness of, and ability to **begin to let go of the pressure to be 'good' -** not spoken, but implied that this entails some form of being **allowed to 'be' however we are.** (particularly difficult for someone with imposter syndrome, who has developed coping strategies involving **extreme people pleasing at the expense of the self**). [13c]**IM gradually allows re-experiencing vulnerability as safe**
I've always been quite an open person so I don't mind talking.... but again, I guess when you... I guess [14abc]**I'm used to people maybe not being as open as**	[14a]**IM speaking can be uncomfortable at first**. [14br]**Trauma reaction: Am I too much?** (for traumatised parents originally, and then for

I am. So, sometimes with people I don't know, I'm [00:57:39] afraid that it's maybe a bit too much for them, or... I don't know. I don't really know, but I found it slightly more uncomfortable than I would normally probably, [15]**it's [typical content of IM is] more than what I would normally say**.	others too, especially feeling insecure sharing intimately with strangers). [14c]**Expanding comfort zone** - interpreted in combination with next statement about needing not to worry if what she's saying is helpful to other people or not... **IM improves contact with the true self in the present or at least provides insight into a need for more practice with that.** After more practice - once one gets over the discomfort of it, and traumatised people can begin to let down a little bit more of their self-protection guarding mechanisms, to just be more in the moment. I am starting to think this is why it's so scary at first - it's so unusual, and we're so used to being wary of what other people think, while pandering to others so that they don't hurt us (re-traumatise us).... [15]**In IM we share more than we would normally share about our experiences** - (elsewhere some of them state how they've never spoken of certain things, and this makes it seem as though it's not only with strangers, but also with our friends and family
[16a]**I need to just not [00:59:39] [16b]worry about whether what I'm saying is helpful to other people or not..... my whole life, actually would be better, (chuckling) if I just did that. If I just did what was kind of helpful to me. Rather than overrule [myself]**.... [17]We're all guilty of that to certain different degrees, but.... oh, yeah. So that was.... I remember thinking that a lot. And, [18]I remember **in the last few sessions, I managed to really enjoy [01:00:09] it [mindful listening and speaking], because I cared a *little* bit less.** And, [19]**I was just, really *interested* in the material about the listening thing [meaning the full content of what the person was saying]**, and and then I was able to [20, 21]**respond kind of more naturally without worrying what I was saying, whether it's any good or not.**	[16a]A part of her wants to share whatever she wants to share with less self-monitoring and self-censoring, and a part of her is so used to over-ruling her own needs that there is a **barrier between what she wants to do and what she actually does (like 11a)**. [16b]**People pleasing at expense of the self**[17]**Recognising a shared human experience** - she knows she is not alone in this desire to please which results in over-ruling her own needs, but she seems unable to stop it [18]**Enjoying mindfully listening and speaking after self-censoring reduces** over time. [19]When **engaging curiosity while relating**, self-censoring may reduce [20]**Authenticity emerges once self-censoring reduces**. [21]Worrying about what one says and whether it's any good is a burden and reduces ability to be present and authentic (implied).
22I was able to just 'be' like as opposed to... [worrying about what other people were thinking / engaging in constant self-monitoring], and I got to vaguely, 23aI got to know the other people and the kind of things they were saying and, [01:01:13] and then sometimes people would say stuff that wouldn't necessarily make that much sense to me or that I found slightly confusing and I thought but that's okay like, even if I sound like that to them, like I don't think any worse of them.... 3? Like, it's a bit ridiculous [this self-censoring seems a little bit different here, more like she's saying that the fear of them thinking badly of her isn't correct, like she is beginning to recognise that it's not necessary]... So, it	[22] IM introduced the feeling of **just 'being' in the interpersonal sphere (which is particularly tricky after interpersonal trauma)** [23a]becoming aware of **non-judgementally being with / feeling empathy for others** in an intimate sharing of experiences through IM, helps [23b]**reduces judgments towards the self** too. [24]Mindfully relating to others improves **inner relatability between previously disjointed / conflicting parts.** Seeing how things just are for another, helps to see how things just are for oneself- encouraging and allowing greater capacity to 'be' with one's own internal dispute in a different way.

was almost like a little bit of process in my.... [mind]... 24that nice connection, that I understood something in what they were saying, [01:06:46] and I could relate to it. I guess being part of a discussion that was relating is really really nice and just being part of the discussion, that's really interesting.	
... [25]especially when listening, *all* of the needs that are going on... like, am I being a good enough friend? Am I [01:07:16] giving good advice? Am I being non-judgemental, like all of these things - if you actually thought about it, you could never listen!	Interpersonal mindfulness: [25]**toxic self-monitoring impedes the ability to listen**
I remember walking away, and I guess [26]I felt like a bit, [3]again ridiculous, but proud of myself. Because I was able to do it [engage in groups] without like [01:07:47] [26]'stabbing' myself several times because what I thought, what I thought I said wasn't of any use whatsoever to anybody else.	[26]**Self-censoring parts may begin to gently reduce their hypervigilance through IM** [27]**Internal parts can even be violent towards one another when self-censoring**. Interpersonal mindfulness is able to gently allow another possibility other than trauma survival with another person
[28]It's like acceptance almost, [01:08:17] if that makes sense, but not *just* acceptance... it's not like I just want everything I say to be accepted or anything like that, but acceptance as *part* of the discussion in PBL, [28a]because I have something to add, [3, 28b]I guess.	[28]Temporary r**eductions in self-censoring in IM translates into temporary greater confidence in the classroom** [28a]**Beginning to feel some self-worth** but [28b]**still struggling to feel safe to believe and express own self-worth confidently**, even to an empathic listener (me).

Appendix J: Excerpt from long memo

Pre-bracketing: Empathy and IM sections

3. Expanding capacity for empathic understanding

While Jason and Vicky described experiences around shutting down their emotions throughout, before and following the IM course, Ashley and Catherine expressed a primary tendency to over-identify with emotions in others. These are both common survival strategies for surviving trauma as per IOPT, and the participants shared some of the ways that they dealt with this, which were striking in comparison.

3.1. Dealing with high sensitivity to emotions in others

3.1.1. Building a capacity for witnessing pain in others through witnessing pain in the self

In the following segment of the interview, Ashley describes how painful it can be to witness one's own emotions, which is reminiscent of the process of integrating trauma-related pain through IOPT. She supports herself autonomously with her Buddhist meditation practice that she chooses for herself. She illustrates her understanding of her feelings in a non-judgemental way and expresses how natural it is for painful emotions to change on their own when welcomed and observed. This shows a sense of self-understanding combined with a knowledge of the nature of impermanence that she experiences in the felt sense through her practice. In painful moments, she chooses to stay compassionately *with* herself in her pain, rather than distracting, blaming, judging, dissociating, or thinking herself away from it, and understands that this is an ongoing process rather than an instrumental way to 'fix' her emotions.

"you just sit with it [the pain]. And it really is hard the first time, it really is. And you want to.... but every… whatever your emotion is that comes up, and it still happens, I mean, it happens all the time. You sit and you suddenly feel anger coming up. And sometimes you don't even know why? Or sadness... just to see the sadness. *I always think of*

my, I come from [a mountainous European country.] I always see myself a bit as a mountain and it's a well-known meditation analogy that you're a mountain, and ***the emotions are like clouds passing over you and I often feel like a mountain, not made of stone, but it just feels sort of grounded as you sit on your mat and you feel sadness coming up or anger or grief or whatever it is. And you just sit there open with your breath and emotion just washes really over you and you don't engage with it. You see it for what it is. And you don't go off in your thoughts and follow it and try and figure out what it is, but you see it for what it is that sadness or this grief. You label it if you want, and the cloud passes over the mountain and then maybe the next cloud and the next but after a while..."***

Below she explains that she reached the deep level of self-witnessing through silent retreats which allowed for the space and time for her to experience her intense feelings as they truly are. Her experience of a long-term Buddhist meditation practice thus appears to be working to help her see herself clearly. As such, in welcoming all aspects of herself, she may be growing in contact with her true self (identity) as highlighted in IOPT.

"If you're sitting for a longer period of time [on a silent retreat] for two or three weeks after a while, I really found initially it's very intense: the thoughts, the emotions - there's a lot and, and after a while it just starts to clear? And you get into that deep calmness and calm and emotions just stopped coming up so rapidly or the thoughts or...."

Ashley explains what it is like to be working to temper a tendency to become over-identified with another person's distress and reduce her tendency to rescue people as a 'helper.' Her experience of a deepening sense of self-acceptance, even while feeling intense emotions, appears to translate into a similarly deep tolerance for feeling emotional empathy with someone else in distress as a separate person. Her practice allows her to remain clear enough in herself, that her emotions don't become entangled with those of the person she wishes to support. She notices her own tendency to try and rescue the other, and is compassionate towards herself in that, without succumbing to the impulse which would take

her away from herself, and perhaps not be so helpful for the other person as well. She speaks of making progress in this effort to look after herself first, which implicitly acknowledges that this is not always straightforward, particularly for those who have learned to be helpers or people pleasers as a means of surviving trauma. IOPT theory explains the origins of this rescuing approach as a trauma survival strategy, and Ashley seems to be starting to resolve it. Mindfulness and Buddhist theory and practice seem to have allowed Ashley to reach a similar conceptualisation of her experience, without the specific trauma explanation.

"I just, I think I'm quite an empathic person? Like if somebody's sad, like I can really feel that and then I want, I think I've become a lot better, not to be a helper. I think I've gotten out of that, but simply to be present, because sometimes it's not about helping, but just to be there, to bear witness, we call it in Buddhism, and I think for me that, that was very helpful, especially when I was younger to learn that, and then just when I did a lot of research in um, [00:13:01] I was in Africa, I was in India, Asia and just in the field work we actually, to just be with people. Many of these people have just give experienced horrendous things - trauma. I'm a psychologist by background so literally not to try and help them, but to just be there with them to bear witness, I think often helps heal. And, to be with suffering I think helps us feel a lot better, and I do think that people tell me that as feedback, that I think I have a capacity to be with suffering to just sit there with them and bear witness, and I think that can sometimes be really helpful. I think even then, I think sometimes it's even just to sit there, I think sometimes there are just times where you have to look after ourselves first. Before we can really be there to bear witness…. Maybe it's... (pause) ***you see the empathy... you just see it for what it is. I don't know. But for me, empathy means you are there with a person in their suffering with them? You sit with them, but you're not, you don't let yourself be like dragged under by it? Because otherwise you're not of help to the person.***

You just stay in the moment, in the present... And then you let go and then you're with the next person who is suffering, and you sit with them.

Ashley has a long-standing Buddhist meditation practise, and she attributes her empathic understanding towards herself and others to this work. She also openly shares her frustration with the listening aspect of IM, as it's a departure from the usual aims of her practice and took some getting used to. She talks about how challenging and yet also useful she found it to practise being present with others, and shows acceptance towards her own frustration, which is strengthening her ability to be with herself, and meet her own needs when being with others, rather than rescuing or helping at her own detriment.

"and the [mindful] talking, I found that quite challenging at the beginning. I just find it challenging to listen and understand what a person is saying but then simultaneously I should be focusing on my breath, because I'm used to silence and just to, to be with my breath and that helps me to get deep. If you have a monotonous noise which you often have wherever you meditate, to say a car is outside or so, you just you immediately just switch it off. I think with somebody talking and you have to understand and listen and then follow that, I did find that quite tricky so that changing of the attention to the other person and to also a little bit yourself. [I would notice] Emotions. I would get really angry. I mean by angry, I just got really awww.... I wished they would just shut up.... Yeah, frustration, exactly, not anger. But then I saw it, I saw that I'm just frustrated about it. And then you just let go of it and after a while, it's fine... but I think it's a good.... It's good practice in itself. They only say everything is good practice, in a sense? You then come back to yourself, and you just sort of have to see about what do I need now? What do you what is good for me in this moment? It, does that actually help or is it becoming unhelpful?"

3.1.2. Building a capacity for connecting with the authentic self, through mindful empathy with others (?)

Catherine shows immense self-awareness despite going through an incredibly stressful time, even to the point of burnout. She speaks of not being able to practise formally, but she can find comfort in moments of informal mindfulness practice. She is dealing with a tendency to experience emotional contagion among other problems such as severe imposter syndrome. She appears to struggle without a true sense of identity as a means of surviving probable childhood trauma (according to signs of this from the IOPT perspective) which she doesn't seem to be aware of as such. She has no formal solo mindfulness practice, and as such is very different from Ashley. She feels very overwhelmed by the distress of others, which seems connected to her understandable inability to remain as a witness to her own emotions due to their overwhelming nature. A sense of gratitude and wonder carries her through at times, as well as her will and her love of learning. She is, however, very similar to Ashley in that she is prone to over-identifying and feeling acutely what others feel. Without a deep mindfulness practice nor the ability to be with her own self and emotions through a clear connection with her true self, this struggle is distressing and requires much energy in terms of thinking about boundaries rather than just feeling naturally where they are.

"I struggle with so many of my feelings myself, that I can't bear for other people to go through the same thing. Like, if I see them going through something, I feel like I know that kind of... obviously you never *know* someone else's suffering, but I know *enough* about that, that I can't.... I *hate* to see it in other people because, (pause) I just feel things really strongly. It's kind of natural? I do worry about it. I've got to be careful with my boundaries because I do get so emotionally attached or invested in stuff. I've got to be careful. (pause) But I love

that part too. Like I love... patients are so incredibly.... they're so trusting. Um, the trust that they have in you, is just so humbling.

Through the IM practice Catherine experiences a sense of becoming aware that she's not judging others for similar behaviours she notices and tends to judge privately in herself. This translates into just beginning to gently witness some aspects of herself through the safety of the relational practice, without being utterly overwhelmed as she feels in the solo meditation practice. As a result, at least temporarily, she experiences a relaxation in her critical self-monitoring, and authentically speaks what arises. She allows herself to just 'be' a little bit with her own feelings and share it without as much concern about how she comes across, at least temporarily. Through witnessing some aspects of the internal experiences of another, within the safety of the IM exercises, and supportive group, provides her with beginning to be able to experience safety in connecting with *herself.* This is a new experience for her. Catherine is not able to maintain the effects, unlike George and Inesh or Ashley, who are all practicing mindfulness, and seem to have begun to face their trauma in their own way. However, she has appreciated this new experience, and can choose for herself what she wants to do with it, as a means of supporting the development of some healthy autonomy within herself. She is really thinking a lot about how she should be, rather than expanding her capacity to feel things as they are…. So, despite her positive experience in the class, she's not feeling her authentic self. This thinking must have a protective component – it must keep her from being too overwhelmed by her feelings? It's interesting that she was able to have such a positive experience with IM despite this, and it's very memorable for her, even 6-8 months afterwards… so, she must have been quite present for that…

I need to just not worry about whether what I'm saying is helpful to other people or not..... my whole life, actually would be better, (chuckling) if I just did that. If I just did

what was kind of helpful to me. Rather than overrule *.... We're all guilty of that to certain different degrees, but.... oh, yeah. So that was.... I remember thinking that a lot. And, I remember* ***in the last few sessions, I managed to really enjoy it [mindful listening and speaking], because I cared a little bit less.*** *And,* ***I was just, really interested in the material about the listening thing,*** *and, and then I was able to* ***respond kind of more naturally without worrying what I was saying, whether it's any good or not… I was able to just 'be'*** *like as opposed to... [worrying about what other people were thinking], and I got to vaguely, I got to know the other people and the kind of things they were saying and, and then sometimes people would say stuff that wouldn't necessarily make that much sense to me or that I found slightly confusing and I thought but that's okay like, even if I sound like that to them, like I don't think any worse of them.... Like, it's a bit ridiculous... So, it was almost like a little bit of process in my.... [mind]... that nice connection, that I understood something in what they were saying, and I could relate to it. I guess being part of a discussion that was relating is really, really, nice. And just being part of the discussion, that's really interesting."*

3.2. Dealing with shut down emotions - opening to the possibility of compassionate connections within the self and others

In contrast to Ashley and Catherine, Vicky had to numb her feelings, particularly of anger, as part of her survival strategy since they were not welcome nor accepted in boarding school and possibly also at home where her father's anger may have taken centre stage. She appears to have had no support in connecting with her own emotions in a healthy way, and below she expresses that she also finds it difficult to feel empathy or compassion for people she is not familiar with (in a symbiotic manner). She relies upon instructions from authority figures and strives to think how to be 'good,' rather than feeling what is right for her - expending cognitive energy in the process. She constructs an identity for herself around pleasing others, and succeeding academically, rather than connecting authentically within

herself. Striving to be good but not knowing how to feel, leaves her with only a cognitive way to experience empathy, because she knows and believes that every person deserves to be cared for and just struggles to know how to do that. Below she describes how she consciously pretends that simulated patients are people who she cared for. In so doing, she cuts off any possibility to genuinely feel compassion for all patients and simulated patients. She decides that no one cares about strangers as much as they care about people close to them as a means of legitimising her cognitive survival strategies, and without awareness that many do indeed care very much for people who are strangers. She does not see that this may be a possibility for her to engage with authentically as well. She's doing the best that she can and finds that there are some rewards from her strategy of pretending to care. However, this does seem like a lot to think about as well as all of the medical information she needs to retain, creating a heavy cognitive load.

"Oh, if this were my mom, how would I want them to be? You know, I'd want the doctor to ask all the right questions so that they don't miss anything. But also, I'd want them to be nice to her, because she's my mom and I care about her. Um, so I tried to do that with each patient, well each mock patient and it really, really, helped. I think it made me more focused and yeah, so I think, I don't know, sometimes not seeing people as just strangers because obviously everyone's a person and you know, and they should be cared about as much as you care about your parents, but no one does that. So, if you think oh this person's like my mom, it makes you that so much kinder at the same time."

Due to patterns, she developed through apparent previous trauma, when feeling distressed, the self-connection is broken for Vicky. Only when she is feeling well, can she listen to a longer meditation and enjoy feeling the parts of her body that she is not overly used to, getting closer to her authentic self in her own way. Vicky uses self – criticism and a lack of self-compassion around her own pain – to keep going in the ways that she learned to survive. Below, she describes how she is not able to trust herself, and her gut feeling, and

instead prefers to place her trust in an instructor or other authority. She illustrates how she tends to be aware of her own emotions when under extreme distress, rather than on an ongoing basis, and how feelings of love can be fickle. This affects her ability to understand and empathise with herself and others. All of this mirrors what may have happened to her – having to give up on her own emotions to experience some semblance of safety in childhood and in boarding school. Wanting someone to be there to support her when she is stressed, is the most natural thing, but not knowing how to seek that, having no good example of it, she does not know how to improve her ability to cope with stress and feels confused and stuck. She does not know to name these overwhelming emotions as trauma reactions, through no fault of her own, and her progress with IM is limited as compared to the deeply transformational effects that Inesh and George experienced.

"I don't know. I don't know how you can tell when something is right... I don't know if I trust it [gut] as much. I don't know, I prefer to go by like what I know... Because I think so many times you see that it's wrong.... I feel like the gut... when you start feeling, you're following your gut feeling, it all goes like messy and wrong... [46]*I guess it's also like just* ***your emotions that are not truly reliable****.... because* ***you can like love someone one minute and not the next****... it's like, that, that's not reliable. So, how can you act on your emotions?* ***When one minute they're telling you one thing and the next they're telling you completely the opposite thing….*** *I try to distract myself. I don't stop looking at my phone a hundred times. Um. It's hard. It's really hard, but I always think it's kind of best. Because I feel like I used to very much for you know, respond to my emotions and like when I'm angry shout kind of thing and it always led to like disasters...* ***that's where I find it difficult to draw it [mindfulness] in****. I think it could be helpful, like extremely helpful; especially because it's something that you can do like lying down and stuff. But it's something I'd still need to open up to I guess. Just because in those moments when you're so like stressed out and angry and annoyed and everything, it's so hard to like open up, you know. That's just something I need*

to learn to do I suppose. (pause) But ***I don't know whether the sessions help me to do that because in those sessions I was relaxed ... it's so hard to do by yourself, I guess. Yeah, especially when you're like stressed."***

Vicky seems to have at least briefly touched into a genuine interest in what the others were saying during the IM exercises, benefitting from listening to them open-up while practicing the IM guidelines of pause, relax, open, trust emergence, listen deeply and speak the truth. It seems that through their deep sharing, she is beginning to empathise with people at least cognitively. Thinking other people are 'randoms,' and judging people for their self-induced health problems, as well as struggling to care for strangers fits with a survival strategy of avoiding feelings. Struggling to feel for and care for herself, she also struggles to feel for and care for others. However, through IM, despite her difficulties with emotions, she is beginning to understand the humanity in strangers. Beginning to understand others could be a major step in opening to her own emotions, and therefore eventually, with more meditative of trauma work of her choosing, her true self.

"I guess when you talk to strangers in an intimate way, it makes you realise that they are people rather than just randoms right? ... People with a life behind them, I guess or like a family or a past... I think because, because you open up SO much [in the sessions], you .... find out about the background of people, and you know why they think a certain way, and like why do they do certain things and yeah, it's, it's really... I think it makes you closer to them and more empathetic and kinder in a way.... that's the thing about I guess having a deep relationship or conversation with someone."

Appendix K: Mid-bracketing, themes grouped according to self-knowledge

Experiencing mindfulness through beginning to resolve trauma? Developing self-knowledge... (opening to own self, identity, and emotions)	Recognising the impact of past traumatic or distressing experiences	Openly acknowledging and describing abuse and associated trauma with related emotions		G - 14 At one point, when I was about 7 or 8, I was sort of abused, once...
		Awareness of formative distressing experiences and the link to effects on the self in the present		A - maybe you were in a previous situation, or something happened, and it primed you, and now you're kind of having still these old links from that previous or whatever, I think in every individual case it's different, but I think are you being afraid of being hurt? And that's very human. Or being rejected or, but to just acknowledge it for what it is... It is here and it's very human to have that fear because we are social beings.
		Reaching out for help when needed		I - I wasn't sleeping very well (after exams), and, um, I guess I was feeling much more anxious, and instead of um, I guess pretending like it was all ok, um, and things can continue that way, I um, I

					guess I was more open to the idea that something might not be right, and maybe I should speak to someone about it [disclosed OCD for the first time]
	Beginning to develop an authentic identity based on own emotions, wants and needs	Developing the authentic self	Empathising with (understanding) the self		I - I think I've taken a new appreciation of what my agenda is
					A - that was so helpful for me, to actually think what is it that I need now? What, and not what is it that this and this and this person needs, and I need to remember to do that and that for them... but actually to see, to say, well maybe it's more important that I do this for myself at the moment?
			Identity less defined by outside forces	Exam results do not define the self - disappointments are felt and accepted	G- I finished bang average in the year overall, which was, I felt a shame, given how much work I had put in, but similarly was markedly better than the previous year, so…

					I - I think I do tend to value myself on how others perceive me. There have been times that I've actually thought about it [feedback] for three days, and why did that patient say that I didn't smile enough, like I can't smile in a breast exam... it seems awkward, why did she say that?
				Resolving a survival habit of defining the self through the actions or judgments of others (constructed identity) makes it possible to be more present	I - Once you take out the judgement and the self-criticism, um, for me anyway, I don't have the, I don't have to use that excess energy to think about um, why they might not want to agree to that, or is it a reflection on me, so if you have that empathy and think, that, you know, they might you know, have lots of things going on, and that's ok, and, not taking it as a reflection on me. That's when, I think you have the

					space to just um, be present and not be bogged down by the fact that it's a reflection on you and taking that too harshly. Um, so that does come from empathy
		Allowing difficult feelings / uncovering previously hidden distress			I- Once you sort of take a step back and give yourself the space, and I guess the kindness to actually be true to your emotions, they're much more, the underlying feelings are much more raw….
	Opening, sensing, and feeling mindful	Experiencing the sensing, authentic self			G - (in body scan meditation) I felt very sort of at one with my mind, and I guess with my body, um because you're focusing on the breath, so that's quite a sort mechanical, automatic thing. But you've also sort of moderately tamed this crazy thing in the mind that is trying to wander. And, it just feels very, it just felt very (pause) like, just very sort

					of at one with myself.
		It's ok not to be ok			I - the guided meditations which were actually very helpful, and the things that they say, um, and how they reaffirm that it's ok for things to not be great all the time, and um, that's you know, a part of who we are, and a part of you know, life. I mean, that's the part that really helps.
		Experiencing self-compassion while re-framing difficult thoughts			I - If I'm like half-way on my way somewhere, and I get the thought that I may not have locked my door, I guess it, you know, what I do is start to question, um, and also like challenge that thought. And again, just be kind to myself, that actually I have done it, I'm pretty sure that I have, and I don't have to return home and check, um, and being ok with that. And, not thinking about it until, um, I get back home,

					and the door is locked.
		Engaging the observing self			A - I often feel like a mountain, not made of stone, but it just feels sort of grounded as you sit on your mat, and you feel sadness coming up or anger or grief or whatever it is. And you just sit there open with your breath and emotion just washes really over you and you don't engage with it. You see it for what it is. And you don't go off in your thoughts and follow it and try and figure out what it is, but you see it for what it is that sadness or this grief.
		Emotions change (experiencing impermanence)			A - You label it [emotions] if you want and the cloud passes over the mountain and then maybe the next cloud and the next but after a while...
					I - But of course it doesn't work

					all the time....
	Able to meditate when stressed	Feeling and allowing emotions while meditating			I - 9 previously [to practicing mindfulness] I think they were still there - the same sort of emotions - but I think, the thinking process was different. Once you sort of take a step back and give yourself the space, and I guess the kindness to actually be true to your emotions, they're much more, the underlying feelings are much more raw….
					A - 9 I really found initially it's very intense: the thoughts, the emotions - there's a lot and, and after a while it just starts to clear? And you get into that deep calmness and calm and emotions just stopped coming up so rapidly or the thoughts or.
					I - 10 In times of stress, it's quite tempting to you know, just power through. But, actually just taking that small bit of time out, just

					helps you know, realign yourself, and then you can re-prioritise and think - what do I have to do next?
		Practising becomes a positive means of supporting the self which overcomes the sense of it being a chore as needed			G -I think mindfulness itself, I felt, was quite an addictive thing actually, once you had that, you kind of wanted to do it more. I think it was hard, it was quite hard to do. And I think the thing that I found (pause), was that if, if you were able to get rid of all of the annoying barriers in your life, such as time or whatever it was, that just meant you couldn't dedicate x amount of minutes to studying mindfulness, I don't see, I mean, I would be doing it for sure. I think the problem is, for me personally, is just those barriers are continually there.

					G- 12 We found that when things were getting a bit low again, we would do a bit of mindfulness and then there would be a bit of an improvement and that sort of thing, so it was quite interesting to do that during the course and then after the course we'd do a bit again, if things were getting a bit like hectic
	Opening, sensing and feeling the authentic self interpersonally	Experiencing the observational or sensing self while mindfully speaking or listening to others			G -6 I really wanted to ask a question [during mindful listening or speaking in class], or I really wanted to go hmmm, and it was really difficult to not do that. But, it was also really interesting to see where my mind went, in terms of, wanting to ask why that person felt like that.
					I- I feel like once you've been listened to, um, you know what it actually feels like. Um, because it gives you the space to

					actually delve a bit deeper, and actually talk about how things made you feel, as opposed to just, if you were to have a conversation where things were back and forth, you're just superficial. Whereas, if it's just one-sided and it turns out that one person is speaking at a time, and the other person is wholly listening, you're actually able to go a bit deeper into the feelings and the emotions, and why you think that might be going on.
					A- 7 The mindful pause... I think it just really helps me to first of all not to be afraid. When you sit with people. And, I've learned that before - not to be afraid of silence, but just to be there to sit with people. But, I think what it has helped me, in an interaction, while you're

					talking, say when you take a history with a patient - to just take a moment and sit there checking with myself; checking what our emotions - if it's say a charged emotion, what are the emotions, what are the thoughts?
		Open to experiencing and expressing vulnerability	Experiencing reassurance from sharing vulnerable experiences with others (common humanity)		I - 4 after a while, when I started to talk to other people about it, they're like, oh I saw [a particular therapist] too, and she was really great. Or, um, she was really good, and you realise that actually lots of people see counsellors, and lots of people go to CBT for this and that.
			Accepting flaws in the self and in others		I - we do have these moments where you know, we feel judged, and when we're judgemental.
			Experiencing authenticity as safe		I - 7a I found that a very honest space, where we were able to talk about how we feel, and we were able to bounce you know, ideas

				and feelings off each other.
			Feeling what it's like to misjudge	G - 7 there's a big connection between sort of stereotyping someone and actually allowing yourself to remain open... oooh, you totally judged him, and that's quite a weird feeling. That's quite a nasty feeling of like, you totally misjudged that situation, and there is a little bell that goes - ding, ding, ding, ding, ding. That wasn't ok. Um, so yeah, I think that's interesting. And, maybe doing the mindfulness course actually has heightened that awareness of, ooh, you've closed yourself off there."
			Experiencing self-compassion in relation to the behaviour of others	I - 3 in terms of people pleasing, and being like, if I didn't do something, then I was a failure, because then you just do it out of you know, the feeling of having to do

				it and then you have resentment, and then you don't do things with purpose or meaning, and then it sort of back-fires, because you're not present when you're in those situations. Whereas, if you're kind to yourself, and you're not pleasing people, that's ok, because when you are in the situations that you currently are in, you're much more present. And, you want to do things, because you know, you want to be there. And, you get more out of things. Um, but again, I think it boils down to that kindness to yourself and to your thoughts, um, and to others….
		Experiencing authentic empathy in daily life	Experiencing empathy in contact with the self	• A - 1 You sit with them, but you're not, you don't let yourself be like dragged under by it? Because otherwise you're not of help to the

				person. You just stay in the moment, in the present... And then you let go and then you're with the next person who is suffering, and you sit with them.
			Reducing a tendency to attempt to rescue others from their feelings	• A - If somebody's sad, like I can really feel that and then I want, I think I've become a lot better, not to be a helper.
			Experiencing a reflexive relationship between judging and empathy and self-compassion	• I - 1 I have definitely noticed my sort of judgement levels towards other people um, and their situations, or even just if I don't know their situation, or if I meet them for the first time, just having that open mind, um, has really definitely helped.... so before, I would be slightly more judgemental to the other person's situation, um, and take it more personally, and think, oh, it's just an excuse, or, they're not actually committed, but once you

				have that empathy, which I think you can only have if you're kind to yourself, much more, um, you actually don't have that anxiety or those critical thoughts about yourself, that their action is a reflection on you.
		Transforming interpersonal experience in daily life	Reducing cognitive load through authenticity	• A - I think they [defence mechanisms] can make people tired. I think it's not, it's not acting, it's not consciously a defense mechanism. But I think if you feel it's too much, then I think like if you feel you have like to protect ourselves, like have a fence around us. Which I think some people feel is a good way of not letting things touch you. I think that it's a form of, it's hard to explain, but I think it's just a form of, it can just make you really tired.

			Reducing stress through interpersonal authenticity	• I - It does make you feel lighter. Because you're not carrying the burden of, um, you know, these thoughts, or, just accepting things how they are, you're actually able to vocalise it. Um, and sort of lay out your agenda and be more open and honest. Um, and then it allows the other person to do the same. Um, and I think you can apply that situation to lots of different parts of our life, whether that be relationships, or an OSCE situation, or talking to a patient, or a friend. Um, if we have that sort of kindness to ourselves, and that openness and honesty about how we feel and our thoughts, um and how we are, we can build a more, you know fruitful relationship, um, and just have an over-all more

				agreeable situation.
			• Responding with authenticity rather than reacting on auto-pilot from a trauma survival / ego protection state	G -9 when I started doing the mindfulness course, we noticed that our relationship got much, much better… I found that I was in a much better space to sort of manage my... (pause) I sort of could, I could just see where my mind was going. So, if something was starting to upset me, I was able to sort of take a step back and go, well, why is this upsetting me SO much? Instead of letting my mind go crazy, or rise to the whatever injustice I thought was happening... if I didn't, if I didn't have that buffer, then I was far quicker to say afterwards, I'm so sorry. Like, the reason that

				really upset me was because I feel like this, and this is how I felt when you say these things, and very calm, and it felt much more in control of my sort of emotion, and my, I guess my mind than the kind of hot-headed, here we go...
			• Experiencing lasting effects from the practice, which were not dependent upon regular meditation	G- 10 there was sort of a legacy with that as well, it lasted. It sort of lasted a lot longer, even if we weren't practising, we would be in a much better frame of mind to say - when you say that, or when you do that, this is what it makes me feel...

Appendix L: Table of emerging subthemes

Table of emerging subthemes	
Beginning to recognise the impact of past traumatic or distressing experiences	G - At one point, when I was about 7 or 8, I was sort of abused, once. [...] And I was sort of too young to really realise what had happened, and I think the trauma of it, meant that I just sort of buried it somewhere, and it was only when I was a lot, lot older that it suddenly just, weirdly, I was watching a film where something like that happened, and then just suddenly it was like I had been hit by a train, and it all came flooding out [...] I guess I quite enjoy being reflective about that sort of stuff. Well, certainly since all of that stuff sort of cracked, I guess.
	A - maybe you were in a previous situation, or something happened, and it primed you, and now you're kind of having still these old links from that previous or whatever, I think in every individual case it's different, but I think are you being afraid of being hurt? And that's very human. Or being rejected or, but to just acknowledge it for what it is... It is here and it's very human to have that fear
	I - even if you're upset like, just acknowledging that you're upset and how something makes you feel, I think just gives you a better um, well, just a better understanding really. Um, because it's ok to be upset, and that's a human emotion. Um, but at least you know what's made you upset, and just having... as opposed to being (pause)... if you can, like, if you know what event or what trigger led to what emotion, at least then you know what to avoid, or what your strategy is to avoid that, or how you can over-come it. Um, because like I read somewhere, like awareness is the first step... and, actually that's really true, because if you don't know what's causing you to feel that way, you don't know how to actually go and tackle that... So, it does make everything much more raw.... Um, but then, at least you know you have a goal, and um, what to do about that.
Personally opening, sensing and feeling mindful during formal meditations and in daily life	I - the guided meditations which were actually very helpful, and the things that they say, um, and how they reaffirm that it's ok for things to not be great all the time, and um, that's you know, a part of who we are, and a part of you know, life. I mean, that's the part that really helps.
	A - I often feel like a mountain, not made of stone, but it just feels sort of grounded as you sit on your mat, and you feel sadness coming up or anger or grief or whatever it is. And you just sit there open with your breath and emotion just washes really over you and you don't engage with it. You see it for what it is. And, you don't go off in your thoughts and follow it and try and figure out what it is, but you see it for what it is that sadness or this grief.
	G - [in body scan meditation] I felt very sort of at one with my mind, and I guess with my body, um because you're focusing on the breath, so that's quite a sort mechanical, automatic thing. But you've also sort of moderately tamed this crazy thing in the mind that is trying to wander. And, it just feels very, it just felt very (pause) like, just very sort of at one with myself.
Able to meditate when stressed	G- 12 We found that when things were getting a bit low again, we would do a bit of mindfulness and then there would be a bit of an improvement and that sort of thing, so it was quite interesting to do that during the course and then after the course we'd do a bit again, if things were getting a bit like hectic

	I - 10 In times of stress, it's quite tempting to you know, just power through. But, actually just taking that small bit of time out, just helps you know, realign yourself, and then you can re-prioritise and think - what do I have to do next?
	A- I need my daily meditation just to be grounded, to be in the moment, and not get too stressed about everything being stressed about exams etcetera. I need to work part-time as well because obviously I need to finance my studies, because I'm a bit older. So, it's been quite a lot to to juggle, but you know that it's really just help me being in the present moment. To manage all of these responsibilities (as a mature medical student). Yeah, and not to worry about you know the future and what will be next etcetera.
Opening, sensing, and feeling the authentic self interpersonally (in the sessions)	G - I really wanted to ask a question [during mindful listening or speaking in class], or I really wanted to go hmmm, and it was really difficult to not do that. But it was also really interesting to see where my mind went, in terms of, wanting to ask why that person felt like that.
	A - [I noticed] emotions. I would get really angry. I mean by angry, I just got really awww.... I wished they would just shut up.... Yeah, frustration, exactly, not anger. But then I saw it, I saw that I'm just frustrated about it. And then you just let go of it and after a while, it's fine... [not a nice feeling] but I think it's a good.... It's good practice in itself. They only say everything is good practice, in a sense? [to know whether it's too much or not] is where you then come back to yourself, and you just sort of have to see about what do I need now? What do you what is good for me in this moment? It does that actually help or is it becoming unhelpful? And... And I'm sometimes also not sure if it's because I'm not a native speaker. So, maybe I just need slightly more cognitive energy to actually understand what the other person was actually saying, I don't know.
	I- I feel like once you've been listened to, um, you know what it actually feels like. Um, because it gives you the space to actually delve a bit deeper, and actually talk about how things made you feel, as opposed to just, if you were to have a conversation where things were back and forth, you're just superficial. Whereas, if it's just one-sided and it turns out that one person is speaking at a time, and the other person is wholly listening, you're actually able to go a bit deeper into the feelings and the emotions, and why you think that might be going on.
Experiencing authentic empathy in daily life / work	A - You sit with them, but you're not, you don't let yourself be like dragged under by it? Because otherwise you're not of help to the person. You just stay in the moment, in the present... And then you let go and then you're with the next person who is suffering, and you sit with them.
	G - 7 there's a big connection between sort of stereotyping someone and actually allowing yourself to remain open... oooh, you totally judged him, and that's quite a weird feeling. That's quite a nasty feeling of like, you totally misjudged that situation, and there is a little bell that goes - ding, ding, ding, ding, ding. That wasn't ok. Um, so yeah, I think that's interesting. And, maybe doing the mindfulness course actually has heightened that awareness of, ooh, you've closed yourself off there.
	I - Once you take out the judgement and the self-criticism, um, for me anyway, I don't have the, I don't have to use that excess energy to think about um, why they might not want to agree to that, or is it a reflection on me, so if you have that empathy and think, that, you know, they might you know, have lots of things going on, and that's ok, and, not taking it as a reflection on me. That's when, I think you have the space to just um, be present and not be bogged down by the

	fact that it's a reflection on you, and taking that too harshly. Um, so that does come from empathy
Beginning to develop an authentic sense of identity based on own emotions, wants and needs (rather than being defined or over-identified with particular moods, unduly influenced by what others want, or based on exam results or medicine) The authentic self is separate from what is happening in any one given moment, and is not defined by results, events or moods. A sense of acceptance is becoming the default position - which is most clearly the case for A, who is a long-term meditator	A - that was so helpful for me, to actually think what is it that I need now? What, and not what is it that this and this and this person needs and I need to remember to do that and that for them... but actually to see, to say, well maybe it's more important that I do this for myself at the moment?
	G- I didn't feel like I had changed as a person [after mindfulness], in a weird way, I sort of felt like I had gone back to the person I felt I was like a long time ago, like quite open, quite happy to put their hand up and be like oh yeah, sorry about that. [...] And, I had sort of become a person who I didn't really like [before mindfulness].
	I - If something was out of my way, I'd still go on and do it even though it made me feel slightly, I don't know 'off track' or, not ideal for me, um, and what mindfulness has given me, because, I know how things are making me feel, um, I'm less likely to be kind [to overly try to please the other person], I'm more kind to myself, and actually suggesting, actually I can't do that. Or, I can do this, or how about we do that instead, as opposed to saying yes, I'll do it, and taking on everything, which is where I think I've gone wrong in the past. So this year, I've been um, a bit more um… I've been less afraid to say no.
	I - previously [to practicing mindfulness] I think they were still there - the same sort of emotions - but I think, the thinking process was different. Um, and, I guess, I tried to cover up the real emotion, and continue like things were ok, and not challenge them, or, just continue and pretend I'm happy with things the way they're going, when they might not be. Um (pause), so once you sort of take a step back and give yourself the space, and I guess the kindness to actually be true to your emotions, they're much more, the underlying feelings are much more raw, in that sense.
Opening, sensing, and feeling the authentic self interpersonally (in daily life)	I - It does make you feel lighter. Because you're not carrying the burden of, um, you know, these thoughts, or, just accepting things how they are, you're actually able to vocalise it. Um, and sort of lay out your agenda and be more open and honest. Um, and then it allows the other person to do the same. Um, and I think you can apply that situation to lots of different parts of our life, whether that be relationships, or an OSCE (oral exam) situation, or talking to a patient, or a friend. Um, if we have that sort of kindness to ourselves, and that openness and honesty about how we feel and our thoughts, um and how we are, we can build a more, you know fruitful relationship, um, and just have an over-all more agreeable situation.
	A- The mindful pause... I think it just really helps me to first of all not to be afraid. When you sit with people. And I've learned that before - not to be afraid of silence, but just to be there to sit with people. But I think what it has helped me, in an interaction, while you're talking, say when you take a history with a patient - to just take a moment and sit there checking with myself; checking what our emotions - if it's say a charged emotion, what are the emotions, what are the thoughts?

	G - when I started doing the mindfulness course, we noticed that our relationship got much, much better… I found that I was in a much better space to sort of manage my... (pause) I sort of could, I could just see where my mind was going. So, if something was starting to upset me, I was able to sort of take a step back and go, well, why is this upsetting me SO much? Instead of letting my mind go crazy, or rise to the whatever injustice I thought was happening... if I didn't, if I didn't have that buffer, then I was far quicker to say afterwards, I'm so sorry. Like, the reason that really upset me was because I feel like this, and this is how I felt when you say these things, and very calm, and it felt much more in control of my sort of emotion, and my, I guess my mind than the kind of hot-headed, here we go. [...] there was sort of a legacy with that as well, it lasted. It sort of lasted a lot longer, even if we weren't practising, we would be in a much better frame of mind to say - when you say that, or when you do that, this is what it makes me feel...
Not recognising past traumatic or distressing events nor their impact on the self (not feeling worthy, not trusting etc without reasons from the present and being stuck in old patterns)	V- when I thought I hadn't [passed] I was like, oh, I don't deserve to like look after myself and you just don't want to go out to eat and you don't want to like make yourself food, because you're like, oh, I don't deserve to like be well fed or like whatever
	V - it can get really stressful, but then you can't, you know, get angry and like scream for 20 minutes because then people get really put off and upset…. I learnt not to react to my emotions that way. Um, I guess that's why like in a way, like I close off a little bit just so that I don't burst.
	J - I mean you don't know how damaged you really are or whatever do you, but that's like, I am what I am, so…
	C - Believing in yourself is so hard [...] I read an old school report recently, which I found really interesting, which said something, and it was literally written when I was about 12 years old or something, and it said something along the lines of – she will never do as well - it's quite sweet actually - never do as well in exams as she should, and she fears humiliation above all else. And, I read it, and I was like, oh my gosh. I've not come... I've not moved anywhere, (chuckling) in the last 25 years
Thinking about rather than experiencing mindful presence	V - In those moments when you're so like stressed out and angry and annoyed and everything, it's so hard to like open up, you know. That's just something I need to learn to do I suppose.
	J - 26 Maybe I've thought about it wrong, and the way that you should come out of it is to actually just accept yourself. I should be more just accepting, like, wholly, um…
	C - 19 I need to just not worry about whether what I'm saying is helpful to other people or not..... my whole life, actually would be better, (chuckling) if I just did that. If I just did what was kind of helpful to me. Rather than overrule ....
Unable to meditate while stressed	V - 15 I find that in the moments when I'm most stressed, I just can't [practice]. And, then it kind of degenerates.
	C - 3 I tried to do the mindfulness, which I know is hard anyway, it's not something that's going to come easy, but I really struggled. I had so many worries going on… that I found it was quite overwhelming to be lying, you know trying to not tackle all of those worries

	J - 17 I didn't get on well with the [mindfulness practice] things that were suggested in my own time. if I was doing it, like I thought I was doing it and feeling like it's homework, it's like I didn't wanna… I was like, if I'm feeling like that when I'm doing it - oh just get your homework done, then, like I shouldn't be doing it?
Disconnected from the authentic self / remaining in a constructed identity as part of a survival state	V - it's tricky [the relationship with myself]. I think recently it hasn't been, I don't know. I think it's the stress of like exams and everything, and just all of that. (hmm) It's difficult to be like 'Oh, I'm worth something' [...] you know how people can do BSc's and you need to have the grades to do that obviously, and it's something I wanted to do, but I didn't get it and I just thought oh that's like, you know, that's awful, like I didn't get this BSc and then I thought to myself, I'm still doing medicine. Like it's still worth something, it still has value, and that gives me value. Just because I don't do the BSc, doesn't mean I'm not going to be a good doctor or be, or you know, a good person or someone to value. And, I think that's a very hard thing to do - to tell yourself that even though you fail, like it doesn't mean your value decreases like it's not based on that...
	C - I think it's all around, I guess self-esteem. Imposter syndrome, that kind of thing [...] At least when I'm doing something towards making myself better; a better doctor, like the more I study, the better doctor I'll be, and hopefully overcome the fact that I'm not supposed to be here, or that kind of thing.
	J - for the last kind of like couple of years, I felt very like, I know who I am, I know where I am, where I'm going, like, I've felt like quite uh, grounded. Um, which I definitely hadn't felt previously [...] I think like being a little bit like, older, um and finding my ways to like deal with things; How to like, how to just keep my shit together. Like make sure I'm passing my exams. I had so many fucking resits in (university name removed for confidentiality reasons), I was a bit of a bum, and a stoner, and not where I should have been, and it took me until I was like 23/24 to be able to get to the point where I can have a bit of focus. {passing exams / doing well in school = knowing who he is to him, as part of a constructed identity, so he's ok and worth something as long as he's passing... he at least trusts himself a bit more than Vicky and Catherine do, but he's inauthentic in oral exams and talks about having to pretend and uses a lot of energy to come up with a cognitive way to fool himself into not completely freaking out in oral exams}
Able to practise mindfulness when happy or when it fits with or around external self-defining goals	J- Like breathing, is a nice one, I tried that before my OSCE [exam] actually…. I just sort of took like a couple of minutes like closing my eyes, and taking some slow breaths in and out, and yeah, it was, it was nice. I found it calming, um, so, yeah.
	C - 2 the informal mindfulness I found so helpful, because I felt like I had to be studying all the time, or I was always worried about something. Just sitting down with a cup of tea and just feeling the warmth through my hands and just noticing those feelings and I think I talked about the [mindful] shower as well. I loved that.

	V - when you're relaxed and happy you're like, oh I'll do this [meditate] for my mental health and my [own] good but you know when you're… I think when you're… I get this [...] when I thought I hadn't [passed exams] I was like, oh, I don't deserve to like look after myself and you just don't want to go out to eat and you don't want to like make yourself food, because you're like, oh, I don't deserve to like be well fed or like whatever... it's like that awful thing that you like, Oh, I don't deserve to like look after myself. And, um so it's hard because doing stuff that you know is to look after yourself is just, it's [meditation] just not what you want to do...
Thinking and analysing the self and others (instead of sensing and observing the self and others) in the sessions	V - 23 it's so hard to like open up, you know. That's just something I need to learn to do I suppose. (pause) But I don't know whether the sessions help me to do that because in those sessions I was relaxed ... it's so hard to do by yourself I guess. Yeah, especially when you're like stressed.
	J - 12 I, like as the listener, it's quite difficult to just sit there, especially, so like, when you can tell that the other person isn't necessarily like, like it's reciprocating, like - they don't know you, they.... maybe they're not familiar with those sorts of environments before, and they don't want to be completely open themselves, um, like, so you can definitely sense that.. and, maybe they are the times when you want to interject more, and be a bit more like, um, you know, try and give them feedback and support, to let them know like, oh it's ok, um... yeah, rather than just, yeah, so I'd like feel that as the listener. And, as the talker, I suppose it's like the exact same.
	C - It is actually so difficult to just listen to what people are saying. And, it's such a gift if you can, without jumping in to give advice or to.... I remember that we were talking about it in the [mindfulness] session. So, I really enjoyed those [IM exercises]. I always find them very valuable, especially with people that you don't know, because you're often keen to you know, make impressions, or be a good participant, or all of that kind of thing. So with all of that [uncertainty and instability] going on as well, it made those exercises harder. It was good, to challenge my listening skills and not have to prove that I've got something useful to say or... if that makes sense [sounding emotional].
Moments of interpersonal connection and learning / insight in the sessions	[38]I remember like running out of things to say [during the mindful speaking and listening], or ohhh, so you were meant to not have a conversation, just let them speak. Um, am I right, is that? Yeah, so how did I find it? So, I dunno if it's like because I wasn't that clear on the instructions, or because I didn't like just talking for a minute, or someone talking to me for a minute... (pausing) but I'm yeah, I think that's probably to do with who I'm speaking to, and that trust thing. You've let me speak for so long here, I don't have a problem now talking for like a minute, and being quite um, I think, yeah, quite open. (hesitant). Um, but I suppose that is dependent upon the trust. Um, so, yeah.
	C - 16 in the last few sessions, I managed to really enjoy it [mindful listening and speaking], because I cared a little bit less. And, I was just, really interested in the material about the listening thing, and, and then I was able to respond kind of more naturally without worrying what I was saying, whether it's any good or not… I was able to just 'be'

	V - I found that sometimes I like tried to stop myself from talking to just listen... I know I need to work on that, but I did enjoy like drawing that from the sessions. [...] I guess when you talk to strangers in an intimate way, it makes you realise that they are people rather than just randoms right? … People with a life behind them, I guess or like a family or a past… I think because, because you open up SO much [in the sessions], you .... find out about the background of people, and you know why they think a certain way, and like why do they do certain things and yeah, it's, it's really... I think it makes you closer to them and more empathetic and kinder in a way.
Interpersonal patterns remain mostly unchanged despite moments of self and other connection in the sessions	J - If I go home and my mum's like nagging me about I don't know, help around the house and chores - that kind of thing - um, I know she's like super busy, but I'll like put up a fight potentially, if I'm feeling shit, um, but if I'm not [feeling bad], it would be more like - oh, I understand, like she's stressed, I should not be projecting... um, yeah, I think a lot of it is about projecting your emotions onto other people. Which, like I see a lot of others do, and it's not a trait I like in other people? So, it's not something... I'd like to avoid it if I can, but obviously, it's a... like you can't not like carry all of the stuff around with you, if you're in a mood or whatever. But…
	V - 10 in the session when you're meant to do that [speak and listen mindfully], and you're told to do it, so it's not, it's not weird. But I guess when you're out in the real world, you don't, you don't do that. (she hesitates about what she says in terms of how weird it was to speak and listen mindfully in the sessions, and this seems to be because although she sort of got used to it in the sessions, it was weird / uncomfortable to begin with, and she's not gotten to the point where she can bring it into daily life. She also speaks elsewhere about preferring to be told what to do, and just following instructions, so, in speaking to me, the teacher, she's unlikely to say that it felt weird in the class, but she's basically saying she just did it because she was told to, and as such, she got very little out of it beyond surface insight about listening.)
Inconsistent ability to empathise	J - 2 I can still have a lot to do, but if I'm not sort of over-thinking it, in my bad sort of mental state, then I'm not going to be annoyed at other people for not understanding me - like I'll be more understanding of them
	J - 1 you have so much on, and when you're being like short-tempered, and impatient, and maybe um, like unappreciative... I think it takes like a calm mind to be able to appreciate, and to sort of hold onto those sort of traits [empathy], um, so it, I think it like brings out a better side of you when you're feeling like that, rather when you're feeling more like just stressed.
	J - 1 you have so much on, and when you're being like short-tempered, and impatient, and maybe um, like unappreciative... I think it takes like a calm mind to be able to appreciate, and to sort of hold onto those sort of traits [empathy], um, so it, I think it like brings out a better side of you when you're feeling like that, rather when you're feeling more like just stressed.
	C -12 I've got to be careful with my boundaries, because I do get so emotionally attached or invested
	C - 13 I struggle with so many of my feelings myself, that I can't bear for other people to go through the same thing.
	J - 3a we don't like necessarily always like appreciate the different stresses that we, or they, as individuals, are under.

	V- Oh, if this were my mom, how would I want them to be? You know, I'd want the doctor to ask all the right questions so that they don't miss anything. But also I'd want them to be nice to her, because she's my mom and I care about her. Um, so I tried to do that with each patient, well each mock patient
	J – 3 If you've got like exams on or something, you think other people outside of your bubble, don't necessarily… like family can be like this as well, don't really appreciate the kind of pressure you're under.

Appendix M: Thematic Table with Quotes

Superordinate Themes, themes, and subthemes

Experiencing mindfulness through beginning to resolve trauma (opening to own self, identity, and emotions)	**Experiencing mindfulness through strong trauma survival mechanisms (avoiding own self, identity, and emotions)**
Superordinate Theme 1 - SELF-KNOWLEDGE	
Major Theme 1.1 - Recognition of the impact of past trauma	
Subtheme 1.1a - Acknowledging the impact of past traumatic or distressing experiences on the self	*Subtheme 1.1b - Blaming oneself and not recognising the impact of past traumatic or distressing experiences*
G - At one point, when I was about 7 or 8, I was sort of abused, once. [...] And I was sort of too young to really realise what had happened, and I think the trauma of it, meant that I just sort of buried it somewhere, and it was only when I was a lot, lot older that it suddenly just, weirdly, I was watching a film where something like that happened, and then just suddenly it was like I had been hit by a train, and it all came flooding out [...] I guess I quite enjoy being reflective about that sort of stuff. Well, certainly since all of that stuff sort of cracked, I guess.	V - I used to very much, you know, respond to my emotions and like when I'm angry, shout kind of thing and it always led to like disasters... so like my dad has that. He gets like really angry and then he'll like shout for like 20 minutes and then he's fine.
I - even if you're upset like, just acknowledging that you're upset and how something makes you feel, I think just gives you a better um, well, just a better understanding really. Um, because it's ok to be upset, and that's a human emotion. Um, but at least you know what's made you upset, and just having... as opposed to being (pause)... if you can, like, if you know what event or what trigger led to what emotion, at least then you know what to avoid, or what your strategy is to avoid that, or how you can over-come it. Um, because like I read somewhere, like awareness is the first step... and, actually that's really true, because if you don't know what's causing you to feel that way, you don't know how to actually go and tackle that... So, it does make everything much more raw.... Um, but then, at least you know you have a goal, and um, what to do about that.	J - I mean you don't know how damaged you really are or whatever do you, but that's like, I am what I am, so… […] It's [mindfulness is] still in line with being harsh with yourself, because it's just like tools to get rid of the parts of your character that you don't like. […] I don't like over-sharing and I feel a bit more uh, like it could actually damage to go through that, because and like unpacking boxes that are actually quite nicely put to the side.
A - maybe you were in a previous situation, or something happened, and it primed you, and now you're kind of having still these old links from that previous or whatever, I think in every individual case it's different, but I think are you being afraid of being hurt? And that's very human. Or being rejected or, but to just acknowledge it for what it is... It is here and it's very human to have that fear	C - Believing in yourself is so hard [...] I read an old school report recently, which I found really interesting, which said something, and it was literally written when I was about 12 years old or something, and it said something along the lines of – she will never do as well - it's quite sweet actually - never do as well in exams as she should, and she fears humiliation above all else. And, I read it, and I was like, oh my gosh. I've not come... I've not moved anywhere, (chuckling) in the last 25 years

Major Theme 1.2 - Recognition of a valid, authentic self	
Subtheme 1.2a - Beginning to develop an authentic sense of identity and worth based on own emotions, wants and needs	*Subtheme 1.2b - Disconnected from the authentic self / sense of worth, while remaining in a constructed identity*
G- I didn't feel like I had changed as a person [after mindfulness], in a weird way, I sort of felt like I had gone back to the person I felt I was like a long time ago, like quite open, quite happy to put their hand up and be like oh yeah, sorry about that. [...] And, I had sort of become a person who I didn't really like [before mindfulness].	J - for the last kind of like couple of years, I felt very like, I know who I am, I know where I am, where I'm going, like [...] I think like being a little bit like, older, um and finding my ways to like deal with things; How to like, how to just keep my shit together. Like make sure I'm passing my exams. I had so many fucking resits in (previous university) I was a bit of a bum, and a stoner, and not where I should have been, and it took me until I was like 23/24 to be able to get to the point where I can have a bit of focus.
A - that was so helpful for me, to actually think what is it that I need now? What, and not what is it that this and this and this person needs, and I need to remember to do that and that for them... but actually, to see, to say, well maybe it's more important that I do this for myself at the moment?	V - it's tricky [the relationship with myself]. […] Just because I don't do the BSc, doesn't mean I'm not going to be a good doctor or be, or you know, a good person or someone to value. And I think that's a very hard thing to do - to tell yourself that even though you fail, like it doesn't mean your value decreases like it's not based on that... …. *I guess I feel like I'm quite a perfectionist and like um, yeah, I think I still care a lot about what people think about me... Like even on an escalator, [00:12:31] it sounds ridiculous, but I stand on the right side… And some people don't, and you know I'm like, HOW do you do that? It drives me insane? I guess I'm quite neurotic. (chuckling)*
I - previously [to practising mindfulness] I think they were still there - the same sort of emotions - but I think, the thinking process was different. Um, and, I guess, I tried to cover up the real emotion, and continue like things were ok, and not challenge them, or just continue and pretend I'm happy with things the way they're going when I might not be. Um (pause), so once you sort of take a step back and give yourself the space, and I guess the kindness to actually be true to your emotions, they're much more, the underlying feelings are much more raw […] it does make you feel lighter. Because you're not carrying the burden of, um, you know, these thoughts, or, just accepting things how they are, you're actually able to vocalise it. Um, and sort of lay out your agenda and be more open and honest. Um, and then it allows the other person to do the same.	C - I think it's all around, I guess self-esteem. Imposter syndrome, that kind of thing [...] At least when I'm doing something towards making myself better; a better doctor, like the more I study, the better doctor I'll be, and hopefully overcome the fact that I'm not supposed to be here, or that kind of thing.
Superordinate Theme 2 – DEPTH OF MINDFUL AWARENESS	
Major Theme 2.2 - Capacity to feel mindful	
Subtheme 2.2a - Opening, sensing, and feeling mindful	*Subtheme 2.2b - Thinking about rather than feeling mindful*

A - I often feel like a mountain, not made of stone, but it just feels sort of grounded as you sit on your mat, and you feel sadness coming up or anger or grief or whatever it is. And you just sit there open with your breath and emotion just washes really over you and you don't engage with it. You see it for what it is. And you don't go off in your thoughts and follow it and try and figure out what it is, but you see it for what it is that sadness or this grief.	V - In those moments when you're so like stressed out and angry and annoyed and everything, it's so hard to like open up, you know. That's just something I need to learn to do I suppose.
G - [in body scan meditation] I felt very sort of at one with my mind, and I guess with my body, um because you're focusing on the breath, so that's quite a sort mechanical, automatic thing. But you've also sort of moderately tamed this crazy thing in the mind that is trying to wander. And, it just feels very, it just felt very (pause) like, just very sort of at one with myself.	C - I need to just not worry about whether what I'm saying is helpful to other people or not.... my whole life, actually would be better, (chuckling) if I just did that. If I just did what was kind of helpful to me. Rather than overrule ....
I - the guided meditations which were actually very helpful, and the things that they say, um, and how they reaffirm that it's ok for things to not be great all the time, and um, that's you know, a part of who we are, and a part of you know, life. I mean, that's the part that really helps.	J - Maybe I've thought about it wrong, and the way that you should come out of it is to actually just accept yourself. I should be more just accepting, like, wholly, um…
Major Theme 2.3 - Capacity to meditate	
Subtheme 2.3a - Able to meditate when stressed	*Subtheme 2.3b - Able to practise mindfulness when feeling well or when fitting around goals Unable to meditate when stressed*
G- We found that when things were getting a bit low again, we would do a bit of mindfulness and then there would be a bit of an improvement and that sort of thing, so it was quite interesting to do that during the course and then after the course we'd do a bit again, if things were getting a bit like hectic	V - when you're relaxed and happy, you're like, oh I'll do this [meditate] for my mental health and my [own] good but you know when you're… I think when you're… I get this [...] when I thought I hadn't [passed exams] I was like, oh, I don't deserve to like look after myself and you just don't want to go out to eat and you don't want to like make yourself food, because you're like, oh, I don't deserve to like be well fed or like whatever... it's like that awful thing that you like, Oh, I don't deserve to like look after myself. And um so it's hard because doing stuff that you know is to look after yourself is just, it's [meditation] just not what you want to do [...] I find that in the moments when I'm most stressed, I just can't [practice mindfulness]. And, then it kind of degenerates.
A- I need my daily meditation just to be grounded, to be in the moment, and not get too stressed about everything being stressed about exams etcetera. I need to work part-time as well because obviously I need to finance my studies, because I'm a bit older. So, it's been quite a lot to to juggle, but you know that it's really just help me being in the present moment. To	C - I tried to do the mindfulness [meditation], which I know is hard anyway, it's not something that's going to come easy, but I really struggled. I had so many worries going on… that I found it was quite overwhelming to be lying, you know trying to not tackle all of those worries […] the informal mindfulness I found so helpful, because I felt like I had to be studying all the time, or I was

manage all of these responsibilities (as a mature medical student). Yeah, and not to worry about you know the future and what will be next etcetera.	always worried about something. Just sitting down with a cup of tea and just feeling the warmth through my hands and just noticing those feelings and I think I talked about the [mindful] shower as well. I loved that.
I - In times of stress, it's quite tempting to you know, just power through. But, actually just taking that small bit of time out, just helps you know, realign yourself, and then you can re-prioritise and think - what do I have to do next?	J - breathing, is a nice one, I tried that before my OSCE [exam] actually…. I just sort of took like a couple of minutes like closing my eyes, and taking some slow breaths in and out, and yeah, it was, it was nice. I found it calming, um, so, yeah. […] I didn't get on well with the [mindfulness practice] things that were suggested in my own time. if I was doing it, like I thought I was doing it and feeling like it's homework, it's like I didn't wanna… I was like, if I'm feeling like that when I'm doing it - oh just get your homework done, then, like I shouldn't be doing it?
Superordinate Theme 3 - Interpersonal Connections	
Major Theme 3.1 - Interpersonal connection in sessions	
Subtheme 3.1a - Interpersonal opening, sensing, and feeling (in the sessions)	*Subtheme 3.1b - Momentary interpersonal connection and learning (in the sessions) Thinking about and analysing the self and others*
A - [I noticed] emotions [during the mindful listening and speaking exercises]. I would get really angry. I mean by angry, I just got really awww.... I wished they would just shut up.... [because I was used to meditating alone] Yeah, frustration, exactly, not anger. But then I saw it, I saw that I'm just frustrated about it. And then you just let go of it and after a while, it's fine... but I think it's a good.... It's good practice in itself. They only say everything is good practice, in a sense? [to know whether it's too much or not] is where you then come back to yourself, and you just sort of have to see about what do I need now? What do you, what is good for me in this moment? It does that actually help or is it becoming unhelpful?	(moments) C - it is actually so difficult to just listen to what people are saying. And it's such a gift if you can, without jumping in to give advice or to.... I remember that we were talking about it in the [mindfulness] session. So, I really enjoyed those [IM exercises]. I always find them very valuable, especially with people that you don't know, because you're often keen to you know, make impressions, or be a good participant, or all of that kind of thing. So, with all of that [uncertainty and instability] going on as well, it made those exercises harder. It was good, to challenge my listening skills and not have to prove that I've got something useful to say or... if that makes sense [sounding emotional]. (It's as if this is what is at the heart of her imposter syndrome - she's not quite sure if she has anything worth saying, and taking a break from that pressure was a relief) […] I got to know the other people and the kind of things they were saying and, and then sometimes people would say stuff that wouldn't necessarily make that much sense to me or that I found slightly confusing and I thought but that's okay like, even if I sound like that to them, like I don't think any worse of them […] in the last few sessions, I managed to really enjoy it [mindful listening and speaking], because I cared a little bit less. And, I was just, really interested in the material about the listening thing, and, and then I was able to respond kind of more naturally without worrying what I was saying,

	whether it's any good or not… I was able to just 'be'
G - I really wanted to ask a question [during mindful listening or speaking in class], or I really wanted to go hmmm, and it was really difficult to not do that. But it was also really interesting to see where my mind went, in terms of, wanting to ask why that person felt like that.	(moments) V - I found that sometimes I like tried to stop myself from talking to just listen... I know I need to work on that, but I did enjoy like drawing that from the sessions. [...] I guess when you talk to strangers in an intimate way, it makes you realise that they are people rather than just randoms right? … People with a life behind them, I guess or like a family or a past… I think because, because you open up SO much [in the sessions], you .... find out about the background of people, and you know why they think a certain way, and like why do they do certain things and yeah, it's, it's really... I think it makes you closer to them and more empathetic and kinder in a way. […] the thing that I found difficult wasn't necessarily talking to the person, it was kind of voicing your um feelings and [00:37:10] and you know concrete, concrete like sentences and things that made sense?... And it's nice actually to hear what they say, because then you're like, oh I felt that as well, but I couldn't vocalise it, because I didn't know how to say it?
I- I feel like once you've been listened to, um, you know what it actually feels like. Um, because it gives you the space to actually delve a bit deeper, and actually talk about how things made you feel, as opposed to just, if you were to have a conversation where things were back and forth, you're just superficial. Whereas, if it's just one-sided and it turns out that one person is speaking at a time, and the other person is wholly listening, you're actually able to go a bit deeper into the feelings and the emotions, and why you think that might be going on.	(thinking and analysing) J- I remember like running out of things to say [during the mindful speaking and listening], or, ohhh, so you were meant to not have a conversation, just let them speak. Um, am I right, is that? Yeah, so how did I find it? So, I dunno if it's like because I wasn't that clear on the instructions, or because I didn't like just talking for a minute, or someone talking to me for a minute... (pausing) but I'm yeah, I think that's probably to do with who I'm speaking to, and that trust thing. You've let me speak for so long here, I don't have a problem now talking for like a minute, and being quite um, I think, yeah, quite open. (hesitant). Um, but I suppose that is dependent upon the trust. Um, so, yeah. […]
Major Theme 3.2 – Interpersonal connections in daily life	
Subtheme 3.2a - Opening, sensing, and feeling the authentic self in company	*Subtheme 3.2b - Interpersonal patterns remain mostly unchanged*
I – It does make you feel lighter. Because you're not carrying the burden of, um, you know, these thoughts, or, just accepting things how they are, you're actually able to vocalise it. Um, and sort of lay out your agenda and be more open and honest. Um, and then it allows the other person to do the same. Um, and I think you can apply that situation to lots of different parts of our life, whether that be relationships, or an OSCE (oral exam) situation, or talking to a patient, or a friend. Um, if we have that sort of	V - in the session when you're meant to do that [speak and listen mindfully], and you're told to do it, so it's not, it's not weird. But I guess when you're out in the real world, you don't, you don't do that.

kindness to ourselves, and that openness and honesty about how we feel and our thoughts, um and how we are, we can build a more, you know fruitful relationship, um, and just have an over-all more agreeable situation.	
G – when I started doing the mindfulness course, we noticed that our relationship [with wife] got much, much better… I found that I was in a much better space to sort of manage my... (pause) I sort of could, I could just see where my mind was going. So, if something was starting to upset me, I was able to sort of take a step back and go, well, why is this upsetting me SO much? Instead of letting my mind go crazy, or rise to the whatever injustice I thought was happening... if I didn't, if I didn't have that buffer, then I was far quicker to say afterwards, I'm so sorry. Like, the reason that really upset me was because I feel like this, and this is how I felt when you say these things, and very calm, and it felt much more in control of my sort of emotion, and my, I guess my mind than the kind of hot-headed, here we go. [...] there was sort of a legacy with that as well, it lasted. It, sort of, lasted a lot longer, even if we weren't practicing, we would be in a much better frame of mind to say – when you say that, or when you do that, this is what it makes me feel...	J – If I go home and my mum's like nagging me about I don't know, help around the house and chores – that kind of thing – um, I know she's like super busy, but I'll like put up a fight potentially, if I'm feeling shit, um, but if I'm not [feeling bad], it would be more like – oh, I understand, like she's stressed, I should not be projecting... um, yeah, I think a lot of it is about projecting your emotions onto other people. Which, like I see a lot of others do, and it's not a trait I like in other people? So, it's not something... I'd like to avoid it if I can, but obviously, it's a... like you can't not like carry all of the stuff around with you, if you're in a mood or whatever. But…
A- The mindful pause... I think it just really helps me to first of all not to be afraid. When you sit with people. And I've learned that before – not to be afraid of silence, but just to be there to sit with people. But I think what it has helped me, in an interaction, while you're talking, say when you take a history with a patient – to just take a moment and sit there checking with myself; checking what our emotions – if it's say a charged emotion, what are the emotions, what are the thoughts?	C- I remember walking away [from PBL], and I guess I felt like a bit, again ridiculous, but proud of myself. Because I was able to do it [engage in group discussions] without like 'stabbing' myself several times because what I thought, what I thought I said wasn't of any use whatsoever to anybody else.
Major Theme 3.3 - Experiencing Empathy	
Experiencing authentic empathy in daily life / work	*Inconsistent ability to empathise*
I - Once you take out the judgement and the self-criticism, um, for me anyway, I don't have the, I don't have to use that excess energy to think about um, why they might not want to agree to that, or is it a reflection on me, so if you have that empathy and think, that, you know, they might you know, have lots of things going on, and that's ok, and, not taking it as a reflection on me. That's when, I think you have the space to just um, be present and not be bogged down by the fact that it's a reflection on you and taking	J - you have so much on, and when you're being like short-tempered, and impatient, and maybe um, like unappreciative... I think it takes like a calm mind to be able to appreciate, and to sort of hold onto those sort of traits [empathy], um, so it, I think it like brings out a better side of you when you're feeling like that, rather when you're feeling more like just stressed.

that too harshly. Um, so that does come from empathy	
A - You sit with them, but you're not, you don't let yourself be like dragged under by it? Because otherwise you're not of help to the person. You just stay in the moment, in the present... And then you let go and then you're with the next person who is suffering, and you sit with them.	C - I struggle with so many of my feelings myself, that I can't bear for other people to go through the same thing.
G - 7 there's a big connection between sort of stereotyping someone and actually allowing yourself to remain open... oooh, you totally judged him, and that's quite a weird feeling. That's quite a nasty feeling of like, you totally misjudged that situation, and there is a little bell that goes - ding, ding, ding, ding, ding. That wasn't ok. Um, so yeah, I think that's interesting. And, maybe doing the mindfulness course actually has heightened that awareness of, ooh, you've closed yourself off there.	V- I actually think it's quite nice talking to someone who you don't know at like a deep level because it makes me more empathetic… I just think it's hard to be empathetic with [00:33:38] someone when they're not someone you care about, or they're just some random person and you don't know about their life, and you don't know why they've done something... So 30clike, something that's caused a certain like health problem. Yeah. I find that hard to be empathetic, when someone's like overweight and you're like well and their dad has had a stroke and you're like, well, you know, you're gonna have a stroke as well if you don't lose some weight.