Self-Compassion and Self-Criticism in Trainee Mental Health Professionals: Feasibility and initial outcomes of a new Compassion-Focused intervention for trainee Psychological Wellbeing Practitioners

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Thesis declaration form

I confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signature:

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Date: 17/08/2022

1 Overview

Compassion within healthcare services has been of growing interest in the literature. The strenuous and pressurised nature of healthcare systems has been identified as a key factor that can compromise the provision of compassionate care and psychological wellbeing in healthcare professionals. Cultivating self-compassion within this population and in particular mental health professionals, has been indicated as a potential self-care resource and means of enhancing the three flows of compassion: compassion towards the self, towards others and from others. A further empirical exploration of this area of the literature, forms the focus of this tripart thesis.

Part one is a systematic literature review examining the efficacy of self-compassion interventions for healthcare professionals. The findings of seventeen quantitative studies were synthesised, which indicated that a range of interventions were effective in enhancing self-compassion, and enhancing other facets of wellbeing in healthcare professionals. Key methodological limitations of the studies were discussed and recommendations for future research and reviews were proposed.

Part two reports the findings of a pilot study examining the feasibility and initial outcomes of a novel compassion-focused intervention for trainee Psychological Wellbeing Practitioners (TPWPs). Quantitative data was collected and analysed to assess feasibility and pre-post intervention change in self-compassion, self-criticism, self-reassurance, mental wellbeing, social comparison, beliefs about emotions, stress and external and internal shame. Feasibility was demonstrated in relation to the incorporation of the intervention into the course curriculum for TPWPs, however, there were significant levels of participant attrition at follow-up time points. That said, of the data collected, initial outcomes showed that self-compassion, helpful beliefs about emotions, mental wellbeing and external and

internal shame significantly improved pre-post intervention, with gains in self-compassion being maintained at two-month follow up. Interestingly however, adherence to follow-up exercises were not associated with improvements in outcomes. Study limitations were discussed and future directions for research were proposed to build on the preliminary findings identified. This study was conducted as part of a joint research project with another Doctorate in Clinical Psychology trainee at University College London (Gibbons, 2021). A description of our independent contributions to the research study are detailed in the joint project declaration form (see Appendix 1).

Part three is a critical appraisal summarising reflections on psychological interventions for healthcare professionals within the context of personal and professional development and a theoretical framework of personal practice (PP). Challenges encountered and practical and ethical considerations made whilst conducting the empirical study in the context of the COVID-19 pandemic are also reflected upon and discussed.

2 Impact Statement

Part one of this thesis provides an updated systematic review of self-compassion interventions conducted with healthcare professionals (HCPs) nationally and internationally. This review supports the findings of previous reviews and builds on existing knowledge by highlighting that though a range of interventions are efficacious in enhancing self-compassion and other areas of wellbeing in HCPs, compassion-focused interventions appear to be the optimal choice. This is because out of all the interventions reviewed, compassion-focused interventions consistently produced significant gains in these outcomes. Amongst the studies reviewed, very few reported on interventions that were short-term in their duration, highlighting a gap in the literature for equally as efficacious brief, self-compassion interventions, as compared to medium-to-long-term alternatives. This review provides a clear rationale for the further development and empirical investigation of brief self-compassion interventions for HCPs, particularly given the existing strain on their time and resources. In addition, the review provides recommendations for future researchers to utilise active-control designs to compare the efficacy of different types of self-compassion interventions (e.g., mindfulness-based versus compassion-focused), in order to empirically test the observational findings identified in this review and build on the evidence-base for this area of research. It is hoped that key stakeholders and leaders within healthcare can utilise this review to identify interventions that are both feasible to implement with their staff as well as effective. This is important, in light of the evidence suggesting its role in enhancing staff wellbeing and consequently, the provision of compassionate care.

The second part of this thesis, empirically examines the feasibility and initial outcomes of a brief, curriculum-embedded compassion-focused intervention for trainee mental health professionals (namely, trainee Psychological Wellbeing Practitioners; TPWPs). Preliminary findings indicate that this intervention was

feasible in relation to the delivery of the intervention within the curriculum of the TPWP course programme, and was effective in enhancing self-compassion, wellbeing and helpful beliefs about emotions, and reducing external and internal shame pre-to-post intervention. This research contributes to the very limited evidence-base for brief, compassion-focused interventions for trainee mental health professionals and provides novel insights into the feasibility and efficacy of this type of intervention, when delivered within a curriculum-based model. Whilst the findings from this empirical study are only preliminary (due to the considerable impacts of the COVID-19 pandemic on the study, i.e., participant attrition resulting in a small sample size), they provide a good rationale for the replication and implementation of the compassion-focused intervention in the post-COVID era, particularly with the aim to further enhance its feasibility. This will directly enhance the evidence base for this area of research. It is hoped that preliminary findings and future research resulting from this study, will build confidence amongst key healthcare leaders in utilising such interventions to support the wellbeing of trainee mental health professionals (MHPs), in a way that embodies compassion and supports the notion that self-care is not solely the responsibility of professionals, but also of organisations (Bamonti et al., 2014).

Finally, it is hoped that the contextualisation of compassion-focused interventions for MHPs within an existing framework for personal practice (PP; Bennett-Levy & Finlay-Jones, 2018) in the critical appraisal, will aid the integration of such programmes into plans for the personal and professional development of MHPs in training nationwide. The PP model helpfully illustrates ways in which psychological interventions for trainee mental health professionals can enhance personal wellbeing, as well as therapeutic skill, which is beneficial to the overall improvement of professional practice within the mental health field and MHPs' personal and professional quality of life. In addition, reflections on the practical and

ethical considerations made throughout the empirical study, provide insights on ways to continue with research in the context of an extreme population level event.

Table of Contents

Overview ..... **ii**

Impact Statement ..... **iv**

Acknowledgements ..... **xii**

Part 1: Literature Review **1**

1 Abstract 2

2 Introduction 3

2.1 Self-compassion 3

2.2 Self-compassion in healthcare professionals 5

2.3 Interventions enhancing self-compassion 6

2.4 Previous reviews of self-compassion interventions 7

3 Aims of this review 8

4 Method 10

4.1 Search Strategy 10

4.2 Inclusion and Exclusion Criteria 10

4.3 Measure of self-compassion 11

4.4 Synthesis of studies 12

5 Results 12

5.1 Results of Search Strategy 12

5.2 Study characteristics 14

5.2.1 Location of studies 27

5.2.2 Study setting 27

5.2.3 Sample demographics 27

5.2.4 Design and sampling 28

5.2.5 Occupational field 28

5.3 Intervention characteristics 28

5.3.1 Types of interventions 29

5.3.2 Duration 33

5.3.3 Facilitators 33

5.3.4 Format and delivery 34

5.3.5 Home assignments 35

5.4 Intervention outcomes 35

5.4.1 Questionnaires 35

5.4.2 Self-compassion outcomes....46
5.4.2.1 Compassion interventions....46
5.4.2.2 Mindfulness interventions....47
5.4.2.3 Other interventions....48
5.4.3 Wellbeing outcomes....49
5.4.3.1 Compassion interventions....52
5.4.3.2 Mindfulness interventions....53
5.4.3.3 Other interventions....54
5.5 Quality of studies....54
5.6 Study limitations....58
6 Discussion....66
6.1 Limitations of the review....68
6.2 Recommendations....69
7 Conclusions....71
8 References....72
Part 2: Empirical Paper....87
1 Abstract....88
2 Introduction....90
2.1 Benefits of compassion in healthcare....91
2.2 Self-compassion in healthcare....91
2.2.1 Self-compassion and shame....92
2.2.2 Self-compassion and self-criticism....93
2.3 A focus on mental health professionals....94
2.4 Cultivating compassion in trainee mental health professionals....95
2.4.1 Compassionate Mind Training....95
2.5 Rationale for the current study....96
3 Aims and hypotheses....97
4 Method....99
4.1 Procedure....99
4.2 Study design....100
4.2.1 Impact of COVID-19....103
4.2.2 Revised study design....103
4.3 Intervention....106
4.4 Recruitment and participants....107
4.5 Measures....109
4.5.1 Demographics....109

4.5.2 Feasibility 109
4.5.3 Self-report questionnaires 109
4.6 Sample size 112
4.7 Data analyses 112
4.8 Attrition 114
5 Results 114
5.1 Feasibility 114
5.1.1 Recruitment 114
5.1.2 Data completion and participant attrition 114
5.1.3 Intervention delivery and facilitation 115
5.1.4 Adherence to follow-up exercises 115
5.2 Relationship between self-compassion and wellbeing, beliefs about emotions, external and internal shame, self-criticism, self-reassurance, social comparison and stress 116
5.3 Initial outcomes on the effectiveness of the compassion-focused intervention on self-compassion, wellbeing, beliefs about emotions, external and internal shame, self-criticism, self-reassurance, social comparison and stress 118
5.4 Relationship between practice frequency of follow up exercises and self-compassion, wellbeing, beliefs about emotions, external and internal shame, self-criticism, self-reassurance, social comparison and stress 124
5.5 Practice recording diary outcomes 125
6 Discussion 128
7 Limitations and future research 134
8 Conclusions 136
9 References 138

Part 3: Critical Appraisal 153

1 Introduction 154
2 Personal practice in therapists 154
2.1 Developing a theoretical understanding of self-compassion 156
3 Conducting research in the context of the COVID-19 pandemic 157
3.1 Adapting the study design 158
3.2 Change of intervention delivery format 160
3.3 Participant engagement in the evaluation study in light of issues of power, consent and privacy 161
4 Concluding remarks 162

5 References 164

Appendices **168**

1 Appendix 1: Joint project declaration form 169

2 Appendix 2: Quality Scoring of Quantitative Studies (QualSyst) manual 172

3 Appendix 3: Ethics approval form 181

4 Appendix 4: Participant information sheet 184

5 Appendix 5: Participant consent form for evaluation study 189

6 Appendix 6: Outcome measures for evaluation study 192

7 Appendix 7: Practice recording diary 200

8 Appendix 8: Debrief sheet 202

List of Tables

Part 1: Literature Review

Table 1. Overview of the 17 studies included in the review 15

Table 2. Measures administered and outcomes reported for the studies included in the review 37

Table 3. A summary of the effects of all 17 interventions on other measures of wellbeing 50

Table 4. QualSyst quality assessment of studies included in the review 56

Table 5. Summary of the main limitations and QualSyst quality scores of studies included in the review 59

Part 2: Empirical Paper

Table 1. Participant demographics 109

Table 2. Data completion rates and participant attrition T1-T3 115

Table 3. Diary completion, downloads and mean practice frequency of follow-up audio exercises 116

Table 4. Spearman's Rho correlations between self-compassion and wellbeing, external and internal shame, beliefs about emotions, self-criticism, self-reassurance, social comparison and stress 117

Table 5. Pre-workshop, two-week and two-month follow up outcomes for SCS-SF, WMWBS, ES, IS, EISS, BES, Inadequate Self, Hated Self, Reassured Self, SCS and PSS 119

Table 6. Spearman's Rho correlations between practice frequency and self-compassion, wellbeing, external and internal shame, beliefs about emotions, self-criticism, self-reassurance, social comparison and stress at T2.....125

Table 7. Frequencies and mean outcomes of compassionate mind practice recording diary 127

List of Figures

Part 1: Literature Review

Figure 1. Flowchart of systematic search strategy.....13

Part 2: Empirical Paper

Figure 1. Modified CONSORT flow diagram for non-randomised stepped-wedged control design 102

Figure 2. Revised TPWP recruitment strategy for pre-post evaluation study ...105

Figure 3. Number of TPWPs at all time points in the evaluation study.....108

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Part 1: Literature Review

Self-compassion interventions for healthcare professionals: A Literature Review

1 Abstract

Aims: The psychological wellbeing of healthcare professionals is of increasing interest, with strenuous and tightly resourced working environments negatively affecting their mental health. Researchers have been exploring factors which can play a role in enhancing health care professional wellbeing, particularly self-compassion. This review therefore focuses on summarising and evaluating literature exploring interventions for healthcare professionals focused on enhancing self-compassion and wellbeing.

Method: A systematic review and narrative synthesis were conducted. Systematic searches of PsycINFO, Medline, Cinahl and Web of Science identified 16 relevant articles (reporting on 17 interventions) published between January 2017 and October 2021. A quality assessment of these papers was conducted using the QualSyst tool.

Results: Interventions varied in their core characteristics, but were largely either compassion-focused, mindfulness-focused or yoga based. All except two interventions, were effective in enhancing self-compassion (with approximately half showing medium-large effect sizes) and other measures of wellbeing (including mindfulness, mental health and stress).

Conclusions: A range of interventions were observed to be effective at enhancing self-compassion and wellbeing in healthcare professionals. However, methodological limitations related to study design, sampling and sample size limit the generalisability of findings. Further research utilising more robust study designs and larger samples would be beneficial to confirm findings. In addition, exploration of how acceptable these interventions are to healthcare professionals would be key to incorporate.

2 Introduction

Healthcare professionals are subject to the ongoing challenge of providing high quality care, often within highly strenuous, finite-resourced and demanding healthcare settings, whilst also looking after their own wellbeing. Research has examined the psychological wellbeing of healthcare workers (including clinical and non-clinical staff e.g., administrative) and highlighted issues such as stress, burnout, job dissatisfaction (Yang et al., 2015; Leiter & Schaufeli, 1996; Shanafelt et al., 2012; Shanafelt et al., 2015), anxiety (Gao et al., 2012) and depression (Weinberg & Creed, 2000; Givens & Tjia, 2002) as prevalent amongst this population. These have been exacerbated by the COVID-19 outbreak (Çelmeçe & Menekay, 2020; Londoño-Ramírez et al., 2021), further highlighting the vulnerability of healthcare workers to stress, psychological distress and burnout, in the face of uncertain and rapidly changing professional, personal and global contexts.

Several factors have been identified as contributing to compromised wellbeing in healthcare professionals. These include high workload, low staffing and resources (Stucky et al., 2009; Mossialos et al., 2015), the emotional demands of the work and effort-reward imbalance (Bakker et al. 2000; Ramussen et al., 2015). The presence of such factors can lead to emotional exhaustion (Shanafelt et al., 2012), reduced achievement motivation (Schaufeli & Greenglass, 2001), less job satisfaction (Myhren et al., 2013) and empathic distress (Klimecki & Singer, 2012), all of which are likely to compromise healthcare professionals' ability to provide safe and compassionate care to others, receive compassion and practice self-compassion (Gilbert et al., 2014). As a result, there has been growing interest in how to promote wellbeing in healthcare professionals, and self-compassion has been identified as one tool to aid this.

2.1 Self-compassion

Compassion refers to an open and non-judgemental stance towards to the suffering of others and having a desire to ameliorate it (Neff, 2003). Relatedly, self-compassion is the practice of being open and responsive to one's own personal distress during times of suffering, with kindness, understanding and non-judgement (Neff, 2003).

Self-compassion encompasses six components. These components represent the positive and negative aspects of three main dimensions: mindfulness versus over-identification, self-kindness versus self-judgement and common humanity versus isolation (Neff, 2003). Mindfulness enables individuals to engage in the present moment with openness and curiosity, without the exaggeration or over-identification with negative aspects of oneself or experiences. Self-kindness entails being understanding, kind and warm towards oneself, rather than adopting harsh self-judgement of one's flaws and shortcomings. Common humanity enables individuals to foster the understanding that suffering and failure is a part of the shared human experience, rather than feeling isolated or alone in one's struggles and imperfections.

Over the last decade, a considerable amount of research has explored self-compassion as a construct and its role in enhancing wellbeing (Neff & Germer, 2019). Much of this research has utilised the self-report Self-Compassion Scale (SCS; Neff, 2003), which assesses the positive and negative aspects of self-compassion and the construct overall. Researchers have questioned the appropriateness of the use of SCS total score to measure compassion, due to the three negative subscales being more strongly correlated with psychopathology than the positive subscales (López et al., 2015). However, Neff et al. (2020) states that this finding is in keeping with the self-compassion model, as the SCS is a multidimensional measure, and it is not uncommon for subscales to differ in how they predict changes in other outcomes. Empirical evidence shows that compassionate self-responding (CS; reflected in the positive subscales) and

uncompassionate self-responding (UCS; reflected in the negative subscales) work in tandem (Neff et al., 2019). Further to this, empirical evidence shows that there is utility in using the self-compassion subscales to understand the mechanisms behind the overall construct as well as the global score, which provides a summary score of a balanced system of six interrelated components (Neff et al., 2019; Neff et al., 2020). The total SCS score can therefore be utilised to explore the relationship between self-compassion and other measures of wellbeing in ways that are both summative and concise. This is particularly useful when evaluating interventions that teach self-compassion.

Meta analyses have shown that typically, self-compassion is positively associated with overall psychological wellbeing (Zessin et al., 2015) and negatively associated with stress, anxiety and depression, with a large effect size (MacBeth & Gumley, 2012). Additional research has highlighted that self-compassion is positively associated with indicators of positive psychological functioning such as optimism, happiness, positive affect (Neff et al., 2007) and mindfulness (Hollis-Walker & Colosimo, 2011). Higher levels of self-compassion have also been shown to positively influence one's relationships with others, through increased compassion for others (Condon et al., 2013) and altruism and forgiveness (Neff & Pommier, 2013). This suggests that self-compassion can be a potential resource for relating to oneself and others in more helpful and adaptive ways, particularly when under stress and may enhance wellbeing overall.

2.2 Self-compassion in healthcare professionals

Considering the above, research has more recently begun to explore the utility of self-compassion amongst healthcare professionals as a resource to manage the stressors and high demands of their work, as well as provide a buffer against the earlier mentioned psychological difficulties they are vulnerable to. Self-compassion has been shown to promote resilience within this population (Olson et al., 2015) which is positively associated with mental health (Olson & Kemper, 2014),

increasing coping strategies and resources to manage stress (Leary et al., 2007), promoting healthy self-care practices (Horan & Taylor, 2018) and reducing levels of stress, burnout and compassion fatigue (Olson & Kemper, 2014; Durkin et al., 2016; Beaumont et al., 2016). In addition, self-compassion has been shown to enhance empathy (Fulton & Cashwell, 2015) and is negatively associated with self-judgement (Germer & Neff, 2013). These findings suggest that self-compassion could be a useful resource with which to equip healthcare professionals, in order to help them manage the demands of their roles.

2.3 Interventions enhancing self-compassion

Beneficially, self-compassion can be taught as a skill and cultivated with practice (Neff & Germer, 2019). Increasingly, studies have been conducted to assess the impact of interventions aimed at enhancing self-compassion, on a range of wellbeing outcomes, and specifically within the healthcare professional population.

Research has shown that a range of interventions, whether teaching self-compassion more implicitly (e.g., mindfulness programs, yoga) or explicitly (e.g., mindful self-compassion training) can lead to gains in self-compassion. For example, mindfulness training programs such as mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1990) and mindfulness based cognitive therapy (MBCT; Segal et al., 2002) have been shown to increase self-compassion (Duarte et al., 2016; Rimes & Wingrove, 2011; Shapiro et al., 2005), in addition to increasing physical and psychological health. A meta-analytic review of randomised control trials of self-compassion interventions (i.e., with an explicitly taught self-compassion core focus, such as mindful self-compassion, compassion-focused therapy and compassion cultivation training programs) across a range of populations, showed significantly large increases in self-compassion and reductions in mental health difficulties, with medium to large effect sizes (Ferrari et al., 2019). Furthermore, mind-and-body and yoga-based interventions have also been shown to enhance

self-compassion and other outcomes such as self-regulation, mindfulness and stress, in both the general and healthcare professional populations (Bond et al., 2013; Gaiswinkler & Unterrainer, 2016; Gorvine et al., 2019; Hewett et al., 2011; Patel et al., 2018).

2.4 Previous reviews of self-compassion interventions

Earlier reviews of self-compassion interventions in healthcare professionals have focused on self-compassion as a construct and the effects of different types of interventions on this population. Boellinghaus et al. (2014) reviewed the effectiveness of mindfulness and loving-kindness interventions in cultivating self-compassion and other-focused concern in healthcare professionals. They found that both types of interventions were able to increase self-compassion in this population, but findings for other-focused concern were mixed (perhaps partially due to ceiling effects). Wasson et al. (2020) reviewed the effectiveness of solely mindfulness-based interventions in improving self-compassion in healthcare professionals and found them to be effective for trainees and qualified staff. Sinclair et al. (2017) reviewed the construct of self-compassion and the effectiveness of interventions that purported to increase self-compassion. The authors questioned the construct of self-compassion (particularly in relation to its measurement) but highlighted that the majority of interventions that taught and measured self-compassion led to significant increases in the construct and other measures of wellbeing such as mindfulness, resilience and personal achievement. A significant limitation of the studies included in the review was that none of them measured the impact of self-compassion on patient care, which would be important given that self-compassion is of particular interest due to its ability to enhance compassionate care. They recommended that future studies more reliably include this in their evaluation of interventions, to inform greater understanding of the association between self-compassion and the delivery of compassionate care.

Despite critique, it is clear that self-compassion interventions are empirically supported and have produced various gains in psychological wellbeing in the general and healthcare population (Ferrari et al., 2019; Neff et al., 2019; Neff et al., 2020). Given that interventions with a range of different theoretical orientations have been shown to be effective, healthcare professional teams have an array of options from which to choose, should they wish to deliver an intervention to their staff teams. It must be acknowledged however, that many of the above interventions can be time-consuming and require a lot of resources. As such, an exploration of the characteristics of existing interventions (e.g., duration, format, home practice requirements) and their effectiveness, may be of use to healthcare professional teams. This is because it will enable them to consider the demands that implementing such interventions would place on the workforce, and whether they can produce considerable gains in self-compassion and wellbeing, which will aid their decision-making.

3 Aims of this review

This review will focus on providing an updated narrative synthesis of all interventions that aim to enhance self-compassion (e.g., mindfulness-focused, compassion-focused, yoga etc.), from 2017 onwards. This will build on findings summarised in the latter half of Sinclair et al.'s (2017) review, examine intervention effectiveness in light of key intervention characteristics (e.g., theoretical orientation, duration, format) and provide critique on the significant methodological limitations found across the studies. This is with the aim to assist key stakeholders/healthcare leaders, to assess which interventions might be most feasible to implement for busy, tightly-resourced healthcare professionals (trainee and qualified, alike) in need of more support to carry out their caring roles.

Specifically, this review will aim to address two main questions:

1. What interventions have been conducted with healthcare professionals that aim to increase self-compassion and what are the key characteristics of these interventions?

2. Were these interventions effective at increasing self-compassion and other measures of wellbeing?

4 Method

4.1 Search Strategy

Four electronic research databases (PsycINFO, Medline, Cinahl and Web of Science) were searched to identify eligible studies published between January 2017 and October 2021. The following search terms were used: Wellbeing, “Well-being”, “well being”, profession*, therapist*, practitioner*, trainee*, training, “health care”, psycholog*, psychiat*, “mental health” and “compassion”. The search terms were linked together using the Boolean terms AND and OR in various combinations. “Compassion” was used as a search term as opposed to “self-compassion” as this ensured that papers with either key word would be captured in the search, thus minimising the risk of any relevant papers being missed. The subject headings “wellbeing”, “professional personnel” and “treatment” were combined with key words where the research database allowed.

Results were extracted (n = 709) and duplicate references were deleted (n = 239). A total of 470 papers were screened using titles and abstracts and irrelevant papers were removed (n = 432), leaving 38 papers for which full text copies were obtained. An additional set of relevant papers were identified by reviewing the reference lists of full-text papers and relevant review papers identified in the initial search (n = 9). All of these papers (n = 47) were assessed in detail against the inclusion and exclusion criteria.

4.2 Inclusion and Exclusion Criteria

For studies to be included in this review they had to:

i. be published in a peer-reviewed academic journal between January 2017 and October 2021

ii. be written in English

iii. include healthcare professionals (defined as, any trainee, qualified or clerical staff working within healthcare settings with direct clinical or social patient contact) over 18 years of age
iv. report on an intervention study (i.e., experimental and quasi-experimental, uncontrolled pre-post-test design) that is focused broadly on healthcare professional wellbeing and
v. measure self-compassion as a dependant variable using the original or adapted versions of Self-Compassion Scale (SCS; Neff, 2003).

Studies were excluded from this review if they:

i. did not use any version of the SCS (Neff, 2003) as a measure of self-compassion
ii. only used a sub-scale of the SCS (Neff 2003)
iii. included an intervention that did not focus on healthcare professional wellbeing more broadly (i.e., interventions adapted for professionals with physical health difficulties)
iv. studied a mixed research population (i.e., health professionals and patients)
v. unpublished dissertations or studies and
vi. were qualitative or case studies.

4.3 Measure of self-compassion

As previously stated, the SCS (Neff, 2003) is the most widely used measure of self-compassion as a construct within research to date (Tóth-Király & Neff, 2021). This measure was included in the inclusion criteria for this study, to allow for consistent comparison between studies.

The SCS is a 26-item measure in which answers are given on a five-point Likert scale (1 = almost never to 5 = almost always). The measure has six-subscales: self-kindness, self-judgement, common humanity, isolation, mindfulness

and over-identification. The subscales self-judgement, over identification and isolation are reverse coded and the sums of subscales totalled to reflect the individual's overall level of self-compassion (with higher scores indicating higher levels of self-compassion). This measure has shown good reliability and validity in individuals aged 14 and upwards (Neff, 2003; Neff, 2016). Subsequent versions of the SCS have been developed such as the Self-Compassion Scale Short-Form (SCS-SF; Raes et al., 2011), which contains 12 of the original 26 items and has been shown to have a near perfect correlation with the SCS. The Self-Compassion Scale-Youth (SCS-Y; Neff, 2021) is also highly correlated with the SCS and is a reliable and valid measure of self-compassion in early adolescents.

4.4 Synthesis of studies

Due to the heterogeneity across studies in relation to their participant characteristics, study designs, type and format of interventions delivered and reporting of outcomes on the SCS, a systematic narrative synthesis was undertaken for this review.

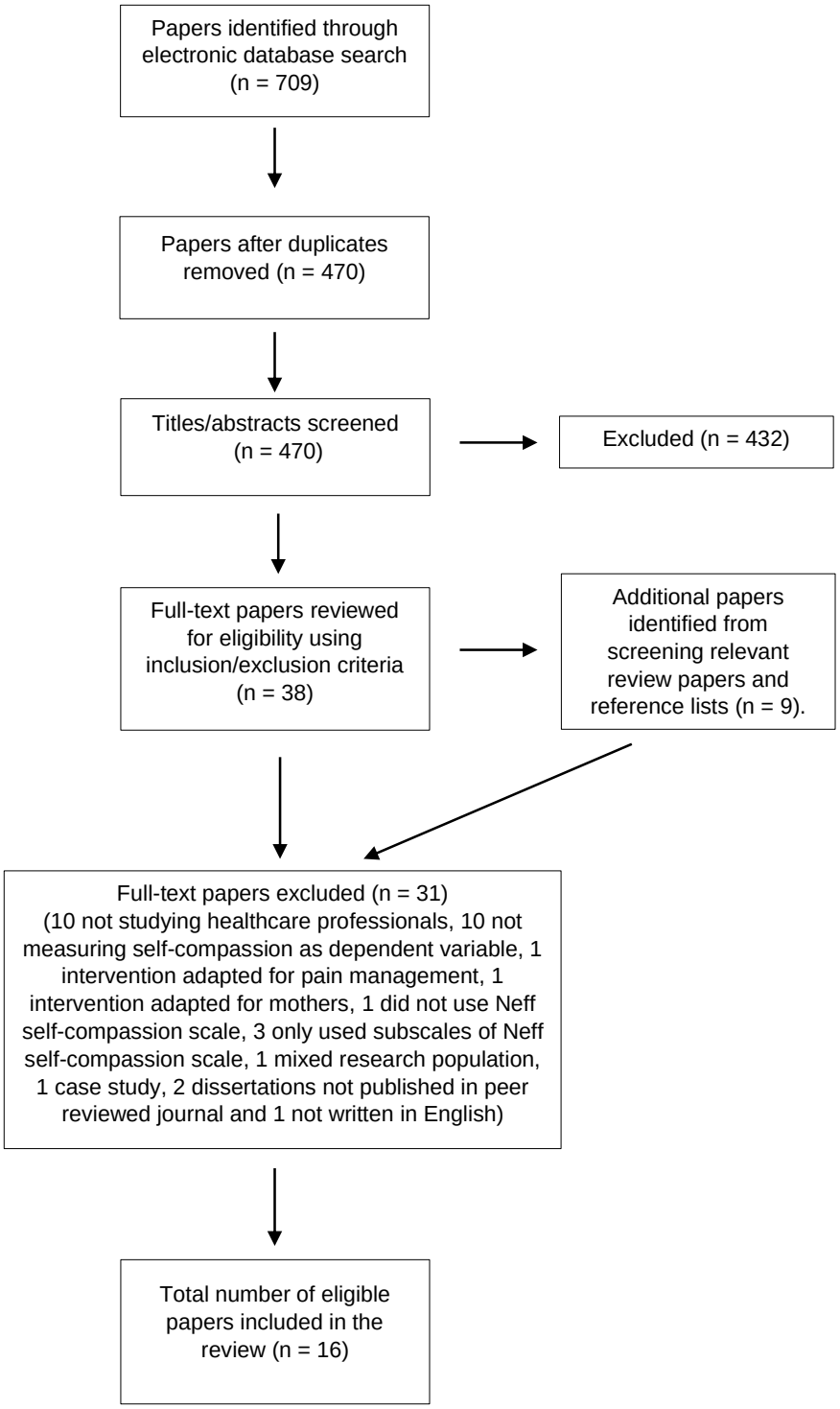
5 Results

5.1 Results of Search Strategy

An illustration of the systematic search undertaken, and studies excluded from this review is shown in Figure 1.

Figure 1.

Flowchart of systematic search strategy



5.2 Study characteristics

A total of 16 research papers, reporting on 17 studies, all published between January 2017 and October 2021 were included in this review. A summary of the studies is described in Table 1 below.

Table 1.
Overview of the 17 studies included in the review

Author (year)	Study*	Setting and sample	Intervention details*	Home practice*	Format of delivery	Total intervention duration	Intervention facilitator(s)
Bluth, Lathren, Silbersack Hickey, Zimmerman, Wretman and Sloane (2021)	Pre-post intervention study with follow up (no control) examining the feasibility, acceptability, and initial outcomes of self-compassion training to address certified nursing assistants stress and well-being.	USA in 3 high quality nursing homes Certified nursing assistants N = 30; 29 female, 1 male, mean age 49 years (NB initial treatment sample of N = 39, completers of N = 30. Completers were participants who did the pre-post outcome measures, no minimum session attendance requirement noted in the paper)	Two versions of interventions implemented: 1. Mindful Self-Compassion (MSC) training: 8 x 2.5hr weekly sessions. Sessions included the following topics: Discovering mindful self-compassion; Practising mindfulness; Practising lovingkindness; Discovering your compassionate voice; Living deeply; Meeting difficult emotions; Exploring challenging relationships; Embracing for your life. 2.Mindful Self-Compassion program for Healthcare Communities: 6 x 1hr weekly sessions. Sessions included the following topics: What is self-compassion; Practising self-compassion; Discovering your compassionate voice; Self-compassion and resilience; Self-compassion and burnout; Going forward.	Participants were encouraged to practice newly learned skills at home and were provided with a website where audio recordings of meditation practices could be accessed. No use of recording diary reported	Face-to-face Group; 3 groups of 7 to 13 participants	For nursing home 1 doing MSC = 8 weeks For nursing home 2&3 doing MSC for health care communities = 6 weeks	Two certified MSC instructors.

Delaney (2018)	Observational mixed-methods pilot study (no control) evaluating the effect of a Mindful Self-Compassion (MSC) intervention on nurses' compassion fatigue, resilience and lived experience of the effect of training.	Ireland in Irish Health Service Nurses N = 13; all female, mean age 44 years (NB initial treatment sample of N= 18, completers of N = 13. Completers were participants who attended all 8 sessions)	Mindful Self-Compassion (MSC) program. 8 x 2.5hr weekly sessions + a half day retreat. Topics covered in sessions were not described in paper.	Participants were provided with four practice CDs of formal and informal practices that they could use whilst at work and encouraged to practice them daily No use of recording diary reported	Face-to-face Group; 1 group of 13 participants	8 weeks	Trained MSC teacher and fully accredited therapist/mental health professional.
Fendel, Aeschbach, Goritz and Schmidt (2020)	Observational pre-post intervention study (no control) to assess the feasibility of a novel mindfulness program for personal and work-related wellbeing.	Germany in a major hospital Resident physicians N = 9; 5 female, 4 male, mean age 33.2 years (NB initial treatment sample of N = 9, completers of N = 9. Completers were participants who attended 4 or more sessions)	Mindfulness program based on Mindfulness Based Stress Reduction (MBSR) tailored to resident physicians. 8 x 135-minute weekly sessions + a 6hr full day retreat. Sessions included the following topics: Mindfulness and Mußе (feelings of liberation from pressure); Dealing with barriers and subjective perception of time; Dis-identification; Stress; Acceptance; Mindfulness and patient contact; Self-care; Enhancing meaning in work and mindfulness as part of life.	Participants were encouraged to practice mindfulness in their everyday routines (e.g., feeling one's feet while walking down the hospital corridor, feeling one's hands during hand disinfection). No use of recording diary reported	Face-to-face Group; 1 group of 9 participants	8 weeks	Two highly experienced and trained MBSR instructors.

Gozalo, Tarres, Ayora, Herroro, Kareaga and Roca (2017)	Longitudinal intrasubject pre-post intervention study (no control) evaluating the effect of a mindfulness training program on the levels of burnout, mindfulness, empathy and self-compassion among healthcare professionals.	Spain in an Intensive Care Tertiary Hospital Physicians, nurses and nursing assistants N = 32; 27 female, 5 male, mean age not reported, although 96% of participants were over 35 years old (NB initial clinical session sample of N = 53, completers of N = 32. Completers were participants to attended the clinical session and mindfulness program)	Mindfulness program. 1 x clinical session + 8 x 5-8 minute weekly audio exercises The clinical session included an explanation of the practice of mindfulness, its principles, usefulness and scientific evidence, and two brief practices were carried out. **Following this session, participants who opted into the mindfulness program were added to a WhatsApp group and received the following:* Weekly audio exercises (sent every Monday, with explanations), based on the following topics: Theoretical and practical introduction to mindfulness; Formal practices (1) Knowing attention and internal anchoring inbreathing; Formal practices (2) Attention to the body; Formal practices (3) Attention to thoughts; Informal practices; Knowing techniques in movement; Knowing the potential in emotional regulation; Introduction to compassion.	Participants received daily practice reminder messages in the form of a motivating phrase, image or video related to the topic being addressed that week No use of recording diary reported	Face-to-face Group; 1 group of 32 participants + remote exercises (via WhatsApp group chat)	8 weeks	Physician with a masters in Mindfulness, Meditation and Relaxation.

Knaak, Sandrelli and Patten (2021)	Pre-post intervention study (no control) to evaluate the effects of a Trauma and Resiliency Informed Practice (TRIP) program on healthcare provider wellbeing and client care.	Canada in Fraser Health Mental Health and Substance Misuse Service Mental health and substance misuse staff; nurses, physicians, allied health, medical/lab technician, social services, counsellor, outreach/support worker N = 79; 58 female, 20 male, mean age 41.8 years (NB initial treatment sample / number completed details not described in paper)	Trauma and Resiliency Informed Practice (TRIP) program. 1-day workshop The learning objectives of the program were to: Define psychological and social trauma; Become familiar with the effects of trauma how trauma can be activated and/or intensified by triggers; Skills to manage trauma including compassion-led strategies that support resiliency. *Planned post-workshop coaching and support was unable to go ahead due to the COVID-19 pandemic.*	None reported	Face-to-face Group; 3 groups of 24, 25 and 30 participants	1 day workshop	Instructors/ training not specified.
Mathad, Pradhan and Sasidharan (2017)	Randomized waitlist control trial evaluating the effectiveness of a yoga intervention to reduce stress and enhance psychological wellbeing among nursing students.	India in the Kempegowda Institute of Nursing General Nursing and Midwifery students N = 80 (intervention, 40; control, 40); all female, mean age 19.65 years for intervention group and 19.35 years for control group. (NB initial treatment sample of N = 50, completers of N = 40, although no minimum session attendance	Yoga intervention based on the integrated approach to yoga therapy (IAYT). 8 x 5, 1hr sessions per week + a monthly lecture and meditation session. Sessions included the following: Basic instructions; Breathing practices; Loosening practices; Sun salutation; Asanas (postures); Quick Relaxation Technique (QRT);	None reported	Face-to-face Group; 1 yoga group of 40 participants and 1 waitlist control group of 40 participants	8 weeks	Instructors/ training not specified.

		requirement noted for completers).	Pranayama; Yogic games (Krida yoga); Meditation; Lecture session				
Neff, Knox, Long and Gregory - Study 1 (2020)	Quasi-experimental study (control) with follow up examining the efficacy of a Self-Compassion for Healthcare Communities (SCHC) program for enhancing wellbeing and reducing burnout among healthcare professionals.	USA in a children's hospital Nurses, physicians, social workers, ancillary services, therapeutic services and others N = 58 (intervention, 25; control, 33); 50 female, 8 male; mean age 42.95 years (NB initial treatment sample of N = 25, completers of N = 24. Completers were participants who attended at least four out of six sessions)	Mindful Self-Compassion program for Healthcare Communities 6 x 1hr weekly sessions. Sessions included the following topics: Introduction to the concept of self-compassion and research on the topic dispelling common misgivings about self-compassion; Introduction to self-compassion practices; Motivating oneself with compassion rather than self-criticism; Strategies for dealing with difficult emotions; Caregiving fatigue and taught the practice "Compassion with Equanimity"; Core values as caregivers and information on the continued practice. Participants were sent email reminders of what they learned in the previous session between each session.	Participants were invited to practice self-compassion when difficulties arose at work, instead of being assigned homework.	Face-to-face Group; 2 groups of 11 and 14 participants.	6 weeks	Two experienced MSC instructors.

Neff, Knox, Long and Gregory - Study 2 (2020)	Quasi-experimental study (control) with follow up examining the efficacy of a Self-Compassion for Healthcare Communities (SCHC) program for enhancing wellbeing and reducing burnout among healthcare professionals.	USA in a children's hospital Nurses, physicians, social workers, ancillary services, therapeutic services and others N = 23; 22 female, 1 male, mean age 37.57 years (NB initial treatment sample of N = 23, completers of N = 23. Completers were participants to attended at least three out of six sessions)	Mindful Self-Compassion program for Healthcare Communities 6 x 1hr weekly sessions. Sessions included the following topics: Introduction to the concept of self-compassion and research on the topic dispelling common misgivings about self-compassion; Introduction to self-compassion practices; Motivating oneself with compassion rather than self-criticism; Strategies for dealing with difficult emotions; Caregiving fatigue and taught the practice "Compassion with Equanimity"; Core values as caregivers and information on the continued practice. Participants were sent email reminders of what they learned in the previous session between each session.	Participants were invited to practice self-compassion when difficulties arose at work, instead of being assigned homework.	Face-to-face Group; 1 group of 23 participants	6 weeks	Two experienced MSC instructors.
Romcevich, Reed, Flowers, Kemper and Mahan (2018)	Pre-post intervention pilot study with follow up (no control) evaluating the feasibility of a brief Mind-Body Skills Training for resident wellness.	USA in large children's hospital Residents N = 10; 7 female, 3 male, mean age 29 years (NB	Mind-Body Skills Training (MBST). 2 x 1hr online MBST modules + 4 x 1.5hr weekly basic skills sessions with optional informal, peer-led	Participants were encouraged to make a "mindfulness plan" for continuing skills practice.	Online 1:1 + Face-to-face	4 weeks	A resident with 5 years informal meditation/ mindful movement experience.

		initial treatment sample of N = 10, completers of N = 10, although no minimum session attendance requirement noted for completers. Participants were also placed in a low, medium or high dosage groups based on module and class participation for analysis)	maintenance sessions (for 6 months). Participants were asked to complete at least 2 of 8 modules: Introduction to relaxation response; Relaxation response – clinical, cognitive, emotional effects; Introduction to mindfulness; Mindful breathing; Autogenic training; Loving-kindness meditation; Mindfulness in everyday life; Gratitude meditation. Skills sessions included the following topics: Introduction to mindfulness, meditation myths and tips and breathing meditation; Benefits of mindfulness, reaction vs response, body-scan meditation and barriers to practicing; Autogenic training, loving-kindness and self-compassion meditation, empathy vs compassion and guided imagery; Mindfulness in everyday life (eating, walking), moving meditation (yoga, tai chi), gratitude meditation and individual plan for practice		Group; 1 group of 10 participants		
Sanso, Galiana, Cebolla,	Pre-post intervention pilot study (no control) to assess the initial	Spain at the Amadip-Esment Foundation	Cultivating Emotional Balance (CEB) program.	Participants were assigned meditation and	Face-to-face	10 weeks	Physician certified in teaching CEB, a

Oliver, Benito and Ekman (2017)	feasibility of a Cultivating Emotional Balance (CEB) training for professional caregivers.	Professional caregivers of patients with intellectual disabilities N = 19; 18 female, 1 male, mean age 40.47 years (NB initial treatment sample of N = 26, completers of N = 19. Completers were participants who attended at least 8 out of 10 sessions)	10 x 4hr weekly sessions + a 2hr final session. Sessions included the following topics: Cultivating attentional balance: concentration training; mindfulness training and cultivating emotional balance: recognizing one's emotions; understanding one's emotional patterns; recognising emotion in others.	emotion exercises for homework No use of recording diary reported	Group; 1 group of 19 participants		psychologist and meditation trainer experienced in conducting and assessing interventions.
Scarlett, Altmeyer, Knier and Harpin (2017)	Pre-post intervention study with follow up (no control) evaluating the effects of Compassion Cultivation Training (CCT) on healthcare workers.	USA in Sharp Memorial Hospital Physicians, nurses, mental health professionals, physical therapists and others N = 62; 50 females, 12 males, mean age 51.23 years (NB initial treatment sample of N = 119, completers of N = 62. Completers were participants who completed pre-post outcome measures, there was no minimum session attendance requirement noted in this paper)	Compassion Cultivation Training (CCT). 8 x 2hr weekly sessions. Topics covered in sessions were not described in paper.	Participants were encouraged to complete daily formal (20-minute) and informal meditation practices outside of sessions. No use of recording diary reported	Face-to-face Group; 1 group of 62 participants	8 weeks	Instructors/ training not specified.

Schanche, Vøllestad, Binder, Osnes, Visted, Svendsen and Sørensen (2020)	Pre-post intervention pilot study (no control) assessing the effects of a brief and intensive mindfulness intervention on measures of wellbeing, clinical competence and cognition in clinical psychology students.	Norway at University of Bergen Clinical psychology graduate students N = 27; 17 female, 10 male, mean age 23.12 years (NB initial treatment sample of N = 28, completers of N = 27. Completers were participants who attended all 3 sessions)	Mindfulness intervention adapted from Mindfulness-Based Cognitive Therapy (MBCT, for a non-depressed population). 2 x 2.5hr weekly sessions + a 6hr silent day retreat. Topics covered in sessions were not described in paper.	Participants were given access to sound recordings of formal mindfulness practices to aid approximately 1hr of daily home practice between the group sessions. No use of recording diary reported.	Face-to-face Group; 1 group of 27 participants	2 weeks	Two trained and experienced mindfulness instructors.
Slayter, Craigie, Heritage, Davis and Rees (2017)	A non-randomized, waitlist control design study with follow up, investigating the effectiveness of a brief Mindful Self-Care and Resiliency (MSCR) intervention for nurses.	Australia in a public teaching tertiary hospital Nurses N = 91 (intervention, 65; control, 26); 61 female, 6 male, 24 non-specified, mean age 47.57 years (NB initial treatment sample of N = 65, completers of N = 65, although 3 participants discontinued the program. There was no minimum session attendance requirement noted for completers)	Mindful Self-Care and Resiliency (MSCR) intervention. 1 x full day educational workshop (consisting of 4 x 1.5hr sessions) + 3 x 1.75hr weekly follow-up sessions. The workshop included: two sessions of education about compassion fatigue resiliency and two sessions introducing participants to mindfulness concepts and basic practices. Mindfulness sessions (5 in total) were based on the following themes: autopilot; staying present;	Participants were encouraged to complete formal (10-25 minute) and informal mindfulness practices daily. No use of recording diary reported	Face-to-face Group; 3 groups of 19 to 23 participants	4 weeks	Clinical psychologist experienced in delivering MSCR.

			allowing/letting be; thoughts as thoughts; review. Participants were also given a manual including educational materials about compassion fatigue, its causes and skills to build compassion fatigue resiliency (the five "antibodies").				
Suyi and Meredith (2017)	Pre-post intervention study with follow up (no control) examining the effects of a mindfulness program in reducing stress and burnout and increasing mindfulness and compassion in mental health professionals.	Singapore at the Institute of Mental Health Nurses, occupational therapists, doctors/psychiatrists, psychologists/counsellors social workers, case managers, pharmacists and researchers N = 37; 30 female, 7 male, mean age not reported although 81% participants were aged 25-45 years old (NB initial treatment sample of N = 44, completers of N = 37. Completers were participants who attended at least 4 out of 6 sessions)	Mindfulness program based on Mindfulness-Based Stress Reduction (MBSR). 6 x 2hr weekly sessions. Sessions included the following topics: Welcome and introduction to practice; Perception and engaging with practice; Awareness of being stuck in one's life and how to get unstuck; Reacting and responding to stress, exploring perceptions and thoughts; Mindful communication in stressful situations; Cultivating kindness toward self and others.	Participants were asked to practice 30 minutes of formal meditation daily. Recordings of guided meditations were given to participants to use during home practice. Participants were also encouraged to apply mindfulness in their everyday lives. No use of recording diary reported	Face-to-face Group (NB there were 3 groups although number of participants in each group not noted in paper).	6 weeks	Certified MBSR instructor and a certified mindfulness-based cognitive therapy instructor.

Verweij, Ravesteijn, van Hooff, Lagro-Janssen and Speckens (2020)	Randomized waitlist control trial evaluating the effectiveness Mindfulness-Based Stress Reduction (MBSR) for residents.	The Netherlands in a Medical University Hospital Residents from medical, surgical and primary care disciplines N = 148 randomised to intervention group, N = 80 and control group N = 68, 130 female, 18 male, mean age 31.2 years (NB of the intervention group, intention to treat sample of N = 71, and of these, N = 68 were completers. Completers were participants who received the full protocol)	Mindfulness-Based Stress Reduction (MBSR). 8 x 2.5hr weekly sessions + a 6h silent day retreat. Sessions included the following topics: Recognising automatic behaviour; Influence of perception; Recognising boundaries; Awareness of stress; Mindful response to stress; Communication; Work-life balance; Week 8 lasts the rest of your life.	Participants were instructed to complete 45minutes of daily practice at home. No use of recording diary reported	Face-to-face Group; multiple groups of 8 to 16 participants	8 weeks	All trainers met the requirements of good practice guidance for teaching mindfulness-based courses.
Watts, O'Connor, Johnson, Breen, Kane, Choules, Doyle, Buchanan and Yuen (2021)	Observational pre-post intervention pilot study with follow up (no control) evaluating the feasibility of a novel-mindfulness based compassion training intervention for health professionals providing end-of-life (EOL) care.	Australia at a public hospital and not-for-profit organisation EOL care health professionals; nurses/nursing assistants, social worker, speech pathologist, doctors, occupational therapists, counsellors/psychologists, chaplain and end-of-life doula N = 31; 30 female, 1 male, mean age = 42.3 years (NB initial treatment sample of N = 31, completers of N= 31. Completers were	Mindfulness-based compassion training (informed by Mindfulness-Based Stress Reduction, Compassion Cultivation Training and Mindful Self-Compassion programs). 6 x 1hr weekly sessions (+ an additional 30 minutes during the first and last session to complete outcome measures) Sessions included the following topics: Introducing mindfulness and compassion; Exploring mindfulness and	Participants were assigned formal and informal mindfulness and compassion practices to complete at least 15 minutes per day. Participants were given a home practice manual (including practice log) outlining theory and research into mindfulness and compassion	Face-to-face Group; 2 groups of 10 and 21 participants	6 weeks	Experienced mindfulness and compassion-based program facilitator.

		participants who attended at least 5 out of 6 sessions)	compassion; Receiving compassion; Self-compassion; Compassion for others; Establishing compassionate self.	training in the healthcare context and web-based, guided practices.			
Yela, Gomez-Martinez, Crego and Jimenez (2020)	Pre-post intervention pilot study (with a high and low adherence group comparison) evaluating the effects Mindful Self-Compassion programme delivered to clinical and health psychology students as part of their postgraduate education.	Spain at the University of Salamanca Psychologists attending postgraduate courses in clinical and health psychology N = 61; 54 female, 7 male, mean age 25.6 years (NB initial treatment sample of N = 61, completers of N= 61, although no minimum session attendance requirement noted for completers. Completers were divided into low and high adherence groups based on median adherence/compliance to training; 50% threshold)	Mindful Self-Compassion (MSC) programme. 8 x 2.5hr weekly sessions. Sessions included the following topics: Introduction to self-compassion; Practising mindfulness; Practising Meditation; Practising compassion; Clarifying personal values; Managing difficult Emotions; Transforming interpersonal relationships; Coping with life issues	Participants were assigned weekly tasks, which usually consisted of completing formal meditation exercises and informal practices previously learned at each session No use of recording diary reported	Face-to-face Group; number of groups and participants in each group not noted in paper.	8 weeks	Clinical psychologist with specialised training in the MSC protocol, assisted by a co-therapist for group management tasks.

Note: *Information provided in the study, intervention details and home practice columns of this table are detailed as they appear in the named research papers.

5.2.1 Location of studies

The majority of studies were conducted in western countries (n = 12): Seven in Europe, six in North America, two in Asia and two in Australia. Whilst it is known that compassion and mindfulness interventions have some of their roots in eastern traditions, more recent programs have been developed in the west within a scientific paradigm and adapted to be secular in their nature (Neff & Germer, 2019; Kirby, 2017; Williams & Kabat-Zinn, 2013). As such, it is difficult to conclude whether the interventions summarised in this review, would be as effective for healthcare professionals working in eastern healthcare establishments, as they may be for their western counterparts. This limitation should be considered if applying this reviews' findings to non-western healthcare workers.

5.2.2 Study setting

Studies took place in a range of settings and were typically either at a place of work for healthcare professionals or formal education/training establishments. Eight studies took place in large hospitals, two in teaching hospitals, three at universities/colleges, two in mental health services, one at nursing home(s) and another at an establishment for individuals with intellectual disabilities.

5.2.3 Sample demographics

The total number of participants across studies was 731; sample sizes ranged from nine to 148. All studies reported on the gender of participants, with the majority of participants being female across all studies and two having recruited solely female participants (Delaney, 2018; Mathad et al., 2017). The mean age of participants ranged from 19.35 to 51.23 years. Only five studies reported the ethnicity of the participants recruited. In three of these studies, the majority identified as white (Neff et al., 2020 – study 1; Neff et al., 2020 – study 2; Scarlett et al., 2017). In another study, the majority identified as black/African American (Bluth et al., 2021) and in another, Chinese (Suyi & Meredith, 2017). The demographic data available shows that males were significantly underrepresented across the studies.

In addition, the significant underreporting of ethnicity does not allow for any conclusions to be drawn on the representativeness of the study population, in relation to the general healthcare professional population on this area of difference.

5.2.4 Design and sampling

Studies largely implemented uncontrolled experimental designs (n = 11). Eleven studies used within-subject pre-post designs. Two studies used randomised control designs (Mathad et al., 2017; Verweij et al., 2020). Three studies used quasi-experimental study designs (Neff et al., 2020 – study 1; Neff et al., 2020 – study 2; Slayter et al., 2017) and one study used an observational mixed-methods design (Delaney, 2018). All studies recruited volunteers to participate in their interventions using convenience sampling. Two studies subsequently randomized participants to treatment and control conditions (Mathad et al., 2017; Verweij et al., 2020). The predominant use of convenience sampling is likely to have introduced a significant self-selection bias, particularly across uncontrolled and quasi-experimental studies.

5.2.5 Occupation field

All participants worked in healthcare settings and were from a wide range of professions. The majority were qualified or student practitioners from the nursing field (i.e., nurses/nursing assistants/nursing students), physicians and resident physicians. The remaining range of professionals included mental health and substance misuse staff, ancillary staff, psychologists and licenced counsellors, psychiatrists, pharmacists, social workers, occupational therapists, physical therapists, speech pathologists, professional caregivers of patients with intellectual disabilities, researchers and an end-of-life care doula and chaplain. In one of the studies, a small percentage of healthcare administrative staff also participated in intervention (Scarlett et al., 2017).

5.3 Intervention characteristics

A range of interventions were implemented in the studies. Key distinctions between the interventions can be found in their main theoretical components (e.g.,

compassion, mindfulness) and in their implementation of either standardised, manualised programs or adapted programs. Across the literature there is an acknowledgement that though largely efficacious, standardised interventions such as Mindful Self-Compassion (MSC) and Mindfulness Based Stress Reduction (MBSR) are time-intensive, typically involving two to three-hour sessions over a course of eight weeks. In addition, some include retreats (e.g., six hours) and all include the assignment of home practice (20-60 minutes daily). Considering the busy time schedules of healthcare professionals, interventions in this review were typically modified from standardised protocols to improve the feasibility and acceptability of interventions for this population.

Initially, this section will outline key characteristics of all the interventions including type of intervention, format/delivery, facilitator training and homework assignments. Following this, the effectiveness of interventions will be summarised in two broad categories: self-compassion outcomes and wellbeing outcomes. Whilst some studies also assessed the acceptability of interventions (N = 6; Bluth et al., 2021; Delaney, 2018; Fendel et al., 2020; Knaak et al., 2021; Romcevich et al., 2020; Watts et al., 2021), this will not be discussed in this review. Commentaries on intervention outcomes will include reference to key intervention characteristics. This is for the purpose of highlighting the efficacy of interventions in improving self-compassion and other areas of wellbeing, across a range of theoretical orientations, formats and durations.

5.3.1 Types of interventions

Most interventions either had a core compassion and/or a mindfulness component.

The nine interventions with a core compassion component were: Mindful self-compassion (MSC; Bluth et al., 2021; Delaney, 2018; Yela et al., 2020), the Mindful Self-Compassion program for Healthcare Communities (SCHC; Neff et al., 2020 – study 1; Neff et al., 2020 – study 2; Bluth et al., 2021), Compassion

Cultivation Training (CCT; Scarlett et al., 2017), a mindfulness-based compassion training (Watts et al., 2021) and a Cultivating Emotional Balance program (CEB; Sanso et al., 2017). Whilst Bluth et al. (2021) implemented two types of compassion interventions, they analysed and reported the outcomes collectively. As such, references to compassion-interventions in the outcome sections to follow, will report on the findings of eight studies as opposed to nine interventions.

MSC (developed by Neff & Germer, 2013) and SCHC (developed by Neff et al., 2020) are mindfulness-based self-compassion interventions that specifically aim to enhance self-compassion. These programs utilise mindfulness to bring loving-awareness to ones' difficult experiences, as a basis for individuals to bring loving-awareness and kindness to themselves (self-compassion; Neff & Germer, 2019). MSC programs included in this review (Bluth et al., 2021; Yela et al., 2020; Delaney, 2018) adhered to the standard protocol of eight two-and-a-half hour sessions a week, over a course of eight weeks, but they did not include the typical half-day retreats. Sessions included formal (e.g., mediation) and informal (e.g., during everyday life) exercises, discussion time and the assignment of homework practices. SCHC is an official brief adaption of the MSC program for healthcare communities, which utilises informal self-compassion practices only and encourages professionals to practice skills as difficulties arise whilst at work, in place of traditional homework. Three studies (Neff et al., 2020 – study 1; Neff et al., 2020 – study 2; Bluth et al., 2021) implemented the standard SCHC program, delivered for one hour a week (during working hours), over a course of six weeks.

CCT (developed by Jinpa, 2010) aims to cultivate compassion more broadly (i.e., self-compassion, compassion for others and receiving compassion) using interactive exercises, discussion time and formal meditation (in session and for homework). One study (Scarlett et al., 2017) implemented this intervention, for two hours a week, over a course of eight weeks, as per standard protocol.

CEB (developed by Kemeny et al., 2012) is a mindfulness and compassion-based program that aims to reduce difficult emotional experiences with oneself and others, and enhance emotion regulation skills. Session topics broadly focus on cultivating attentional and emotional balance using didactic teaching, group discussion and guided meditation both in session and for homework. One study (Sanso et al., 2017) delivered this intervention as per the protocol; four hours a week (plus a two-hour final session), over a course of ten weeks.

The mindfulness-based compassion training (delivered in the Watts et al., 2021 study) was a bespoke intervention which drew upon the structure and contents of MBSR, CCT and MSC. The intervention was reflective and interactive, including educational material and formal and informal mindfulness and compassion meditations (in session and for homework). Sessions were one hour a week, over a course of six weeks.

Seven interventions were mindfulness-based: MBSR (Verweij et al., 2020), a mindfulness program adapted from MBSR (Fendel et al., 2020; Suyi & Meredith, 2017), a mindfulness program adapted from Mindfulness-Based Cognitive Therapy (MBCT; Schanche et al., 2020), the Mindful Self-Care and Resiliency program (MSCR; Slayter et al., 2017), Mind-Body Skills Training (MBST; Romcevich et al., 2018) and a mindfulness training program (Gozalo et al., 2017). Mindfulness interventions such as MBSR and MBCT (typically delivered in a face-to-face, group format) aim to cultivate a mindful state and utilise formal (e.g., breathing, body scan) and/or informal (e.g., mindfulness in daily life) practices to do so. These mindfulness practices are used to help individuals cultivate an observant, accepting and compassionate attitude toward their own internal experiences, including body sensations, emotions and thoughts. Three studies implemented MBSR (developed by Kabat-Zinn, 1990); one as per standard protocol (eight, two-and two-and-a-half-hour weekly sessions with a silent retreat; Verweij et al., 2020), one adapted for resident physicians (Fendel et al., 2020) and another adapted to a six week, one-

hour a week intervention (without a silent retreat; Suyi & Meredith, 2017). One study adapted the original eight-week MBCT program (developed by Segal et al., 2013) to a two-week intervention, comprised of two-and-a-half-hour weekly sessions, a six-hour silent retreat and daily homework assignments, for a non-depressed population of healthcare professionals (Schanche et al., 2020).

MSCR (developed by Craigie et al., 2016) is a four-week intervention that integrates principles and practices from MBCT, and compassion fatigue prevention and resiliency education. Sessions included a full-day workshop and three one-hour-and-forty-five-minute sessions per week. This intervention was delivered as per the standardised protocol by Slayter et al. (2017).

Two mindfulness interventions were delivered either partially or fully-remotely. MBST (developed by Kemper et al., 2015) is an online program including twelve, one-hour modules that aim to help individuals become more mindful and resilient in the face of stress. Romcevich et al. (2018) piloted an adapted version of this intervention whereby participants completed at least two online MBST modules and three in-person peer-led training groups over a course of four weeks (plus optional maintenance sessions over period of six months). Gozalo et al. (2017) piloted a remote mindfulness program consisting of daily (five-to-eight-minute) practices over a course of eight weeks, sent via a WhatsApp group.

The remaining interventions were a Trauma and Resiliency Informed Practice workshop (TRIP; Knaak et al., 2021) and a yoga intervention (Mathad et al., 2017). TRIP aims to reduce the impact of past and present trauma and increase resiliency, using Trauma-Informed Practice (TIP) principles and mindful self-compassion and compassion satisfaction tools. The yoga intervention implemented by Mathad et al. (2017) is informed by the integrated approach to yoga therapy (IAYT; Nagarathna & Nagendra, 2003) that aims to restore balance in physical mental and emotional health through various yogic exercises and lectures.

Generally, all interventions included topic-based sessions, with a theoretical introduction to the main component(s) of the intervention (e.g., self-compassion, mindfulness) and practical/experiential in session exercises. The contents of all interventions are summarised in Table 1.

5.3.2 Duration

The overall length of interventions varied across the studies and ranged from one-day to ten weeks. One study delivered an intervention lasting ten weeks (Sanso et al., 2017), eight lasting eight weeks (Bluth et al., 2021; Delaney, 2018; Fendel et al., 2020; Gozalo et al., 2017; Mathad et al., 2017; Scarlett et al. 2017; Verweij et al., 2020; Yela et al., 2020), four lasting six weeks (Neff et al., 2020 – study 1; Neff et al., 2020 – study 2; Suyi & Meredith, 2017; Watts et al., 2021), two lasting four weeks (Romcevich et al., 2018; Slayter et al., 2017), one lasting two weeks (Schanche et al., 2020) and a one day workshop (Knaak et al., 2021). The duration of individual sessions generally ranged from one to two-and-a-half hours, with the exceptions being the one-day workshop (duration not specified; Knaak et al., 2021) and Gozalo et al.'s (2017) intervention comprising of five to eight-minute guided practices. Given that the majority of interventions spanned across several weeks, it will have required participants to make a longer-term commitment to attending sessions in order to gain full treatment benefits. Though largely empirically supported, interventions of this nature are therefore likely to have taxing implications on healthcare professionals' time and as a result, workforce resources.

5.3.3 Facilitators

Of the 14 studies that reported on the training of program facilitators, 13 had formal training in delivering the interventions (Bluth et al., 2021; Delaney, 2018; Fendel et al., 2020; Gozalo et al., 2017; Neff et al., 2020 – study 1; Neff et al., 2020 – study 2; Sanso et al., 2017; Schanche et al., 2020; Slayter et al., 2017; Suyi & Meredith, 2017; Watts et al., 2021; Verweij et al., 2020; Yela et al., 2020). One facilitator did not have formal training, though they did have informal experience in

meditation and mindful movement (Romcevich et al., 2018). Interventions were led by between one and three facilitators. In the nine instances where there were co-facilitators, they either also had specialist training in the intervention (Bluth et al., 2021; Fendel et al., 2020; Neff et al., 2020 – study 1; Neff et al., 2020 – study 2; Schanche et al., 2020), a theoretically similar intervention (Suyi & Meredith, 2017), mediation training (Sanso et al., 2017) or at the very least held a professional qualification (e.g. psychologist, accredited therapist/mental health professional; Delaney, 2018; Sanso et al., 2017) or had experience in group management tasks (Yela et al., 2020).

The professional identities of facilitators (where specified) included physicians/residents (Gozalo et al., 2017; Romcevich et al., 2018; Sanso et al., 2017), psychologists/clinical psychologists (Sanso et al., 2017; Yela et al., 2020; Slayter et al., 2017) and an accredited therapist (Delaney, 2018). Three studies did not specify whether facilitators had formal training (Knaak et al., 2021; Scarlett et al. 2017; Mathad et al., 2017). The training requirements to deliver interventions for self-compassion appear to be high and require an advanced level of skill and/or experience. This is beneficial for treatment fidelity and adherence to protocols. However, this may limit the scope for wide scale roll out of these interventions, if there are limited trained facilitators available.

5.3.4 Format and delivery

The majority of interventions (n = 15) were delivered in a solely face-to-face, group format. One study conducted their intervention in a mixed, face-to-face and online format (Romcevich et al., 2018) and another solely remotely (Gozalo et al., 2017). For group interventions, group sizes ranged from seven (Bluth et al., 2021) to 62 (Scarlett et al., 2017), excluding Yela et al. (2020) who did not report this information. As evidenced in the literature, delivering these interventions in a group format is effective and beneficial for participants and may have been useful in

offsetting the costs for facilitator training and allowing allocated time for professionals to complete interventions.

5.3.5 Home assignments

Homework appears to be an integral part of interventions that aim to increase self-compassion, as it encourages participants to apply learned techniques to their everyday lives. Thirteen interventions assigned homework, all of which were mindfulness and compassion oriented. The two remaining compassion interventions (SCHC; Neff et al., 2020 – study 1; Neff et al., 2020 – study 2) specifically encouraged participants to practice techniques whilst working, as opposed to setting homework. Seven interventions assigned formal and informal mindfulness/meditation practices, five of which provided access to guided audio recordings (Delaney, 2018; Schanche et al., 2020; Suyi & Meredith, 2017; Watts et al., 2021; Yela et al., 2020). Six other studies assigned mindfulness/mediation exercises, but did not specify the formality. Two came with guided audio recordings (Bluth et al., 2021; Gozalo et al., 2017) and four did not specify this information (Fendel et al., 2020; Romcevich et al., 2018; Sanso et al., 2017; Verweij et al., 2020). For the nine studies that reported on homework duration, practice ranged from five minutes to one hour and participants were encouraged to complete exercises daily.

Only one study reported that they provided participants with a home practice log (Watts et al., 2021). In this study, 74% of participants returned their practice log at the end of the intervention, but the extent to which participants practiced the exercises outside of the sessions was not reported.

5.4 Intervention outcomes

5.4.1 Questionnaires

All studies used a form of the Self-Compassion Scale (SCS; Neff 2003). Nine used the full SCS (Delaney, 2018; Gozalo et al., 2017; Mathad et al., 2017; Neff et al., 2020 – study 1; Neff et al., 2020 – study 2; Romcevich et al., 2018; Sanso et al.,

2017; Schanche et al., 2020; Yela et al., 2020), seven used the Self-Compassion Scale-Short Form (SCS-SF, Neff 2011; Fendel et al., 2020; Knaak et al., 2021; Scarlett et al., 2017; Slayter et al., 2017; Suyi & Meredith, 2017; Verweij et al., 2020; Watts et al., 2021) and one used the Self-Compassion Scale-Youth (SCS-Y, Neff 2021; Bluth et al., 2021). The SCS-Y was utilised with the adult population in Bluth et al.'s (2021) study, as it provided participants who had English as their second language with an easier to understand version of the original SCS measure.

A total of 51 other measures of wellbeing were administered across the studies. These included measures of compassion, mindfulness, stress, work-related wellbeing, psychological wellbeing, burnout and resilience. All reported outcomes are summarised in Table 2.

Table 2.
Measures administered and outcomes reported for the studies included in the review

Study	Measures	Main findings
Bluth et al. (2021)	Self-compassion: Self-Compassion Scale- Youth (SCS-Y) Other outcomes: Approaches to Dementia Questionnaire (ADQ), Perceived Stress Scale (PSS), PROMIS Depression Scale-Short Form, Maslach Burnout Inventory-Human Services (MBI-HSS) Feasibility and acceptability questions were included. Measures were administered pre-intervention (T1), post intervention (T2) and at three month (T3) and six month (T4) follow up.	Self-compassion outcomes: • Significant increase in self-compassion T1 (mean = 3.04) - T2 (mean = 3.72). Effects were maintained at T3 (mean = 3.82) and T4 (mean = 3.79). Effect size (*d*) = 1.17 Other well-being outcomes: • Significant improvement in attitudes towards dementia T1-T2 and T1-T4 (but not T1-T3) • Significant decreases in stress and depression T1-T2. Effects were maintained at T3 but not T4. • Significant decrease in depersonalisation (subscale of the MBI) T1-T2. Effects were not maintained at T3 or T4. • No significant improvement in emotional exhaustion or personal accomplishment (subscales of the MBI). Adherence: • Overall, 94% of participants (30 out of 32) who attended the first session completed the program. • 95% of classes were attended and 66.7% of participants attended all classes. • For the 8-week program, all participants attended at least 7 out of 8 sessions and 50% of participants attended all 8 sessions. For the 6-week program, all participants attended at least 5 out of 6 sessions and 75% of participants attended all 6 sessions. • On average, participants in both programs reported completing 2 days of formal and 2 days of informal home practice per week.
Delaney (2018)	Self-compassion: Self-Compassion Scale (SCS) Other outcomes: Freiburg Mindfulness Inventory (FMI), Professional Quality of Life (ProQOL), Connor-Davidson Resilience Scale 25 item (CD-RISC-25) Acceptability questions were included.	Self-compassion outcomes: • Significant increase in self-compassion T1 (mean = 2.87) - T2 (mean = 3.57). Effect size (*d*) = 1.28 Other well-being outcomes: • Significant increases in mindfulness, compassion satisfaction and resilience T1-T2. • Significant decreases in compassion fatigue (burnout and secondary traumatic stress) T1-T2.

	Measures were administered pre-intervention (T1) and post intervention (T2).	
Fendel et al. (2020)	Self-compassion: Self-Compassion Scale Short-Form (SCS-SF) Other outcomes: Hair cortisol, PSS, General Health Questionnaire (GHQ-12), Copenhagen Burnout Inventory (CBI), FMI, Subjective Time Questionnaire (STQ), Irritation Scale (IS), Effort Reward Imbalance questionnaire (ERI-16), Thriving at Work Scale, Faces Scale, Jefferson Scale of Physician Empathy (JSPE). Feasibility and acceptability questions were included. Measures were administered pre-intervention (T1) and post intervention (T2)	Self-compassion outcomes: • Significant increase in self-compassion T1 (mean = 2.57) – T2 (mean = 3.18). Effect size (*d)* = 1.21 Other well-being outcomes: • Significant increase in mindfulness and decrease in irritation • Small/medium sized improvements in hair cortisol, stress, mental health, expansion of time and time pressure (STQ), work-related burnout, effort-reward ratio, thriving at work, physician empathy and job satisfaction. • No substantial improvement in personal burnout, client-related burnout and change in the feeling of routines (STQ). Adherence: • All participants completed the intervention and attended at least five out of nine sessions (mean = 6.44) • On average, participants reported spending 13.49 minutes (SD = 16.02; median = 10) on home practice each day during the 8-week program. Integration: • On a scale of 1 (never) to 5 (every day), participants reported use of learned techniques in everyday life (mean = 3.78) and planned to do so in the future (mean = 4.11).
Gozalo et al. (2017)	Self-compassion: SCS Other outcomes: MBI-HSS, Five Facets of Mindfulness Questionnaire (FFMQ), Jefferson Empathy Scale (JSE).	Self-compassion outcomes: • Significant increase in self-compassion T1 – T2 (means difference = 3.72). NB individual mean scores were not reported in paper. *(on average all professional categories showed increase in self-compassion but statistical significance was only reached among physicians)*. Effect size not available Other well-being outcomes:

	Measures were administered pre-intervention (T1) and post intervention (T2)	• Significant decrease burnout subscale emotional exhaustion (all professional categories) and increase in personal achievement (physicians only). • No global change in mindfulness but significant increase in observe and non-react facets and decrease in non-judging and awareness facets. • No change in empathy. Adherence: • On an informal basis, two thirds of participants reported following the practices proposed. However, homework was not formally monitored.
Knaak et al. (2021)	Self-compassion: SCS-SF Other outcomes: Opening Minds Provider Attitudes Towards Opioid use Scale (OM-PATOS), ProQOL, 5-item ad hoc measure of perceived resiliency skills Acceptability questions were included. Measures were administered immediately pre-intervention (T1) and post intervention (T2)	Self-compassion outcomes: • No significant increase in self-compassion T1 (mean = 3.30) - T2 (mean = 3.44). Only significant improvement observed in two subscales; self-kindness and over-identification. Effect size (*d*) = 0.21 Other well-being outcomes: • Significant increase in resiliency skills and compassion fatigue (burnout) • No significant change in compassion satisfaction and compassion fatigue (secondary traumatic stress) • No significant increase stigma to opioid use. However, when split into two groups, those with higher T1 scores showed significant reductions in stigma.
Mathad et al. (2017)	Self-compassion: SCS Other outcomes: FMI, Connor-Davidson Resilience Scale 10 item (CD-RISC-10). Satisfaction with Life Scale (SWLS), JSE, PSS	Self-compassion outcomes: • Significant increase in self-compassion for intervention group compared to control group T1 (intervention group mean = 3.03; control group mean = 3.22) - T2 (intervention group mean = 3.19; control group mean = 3.18). Effect size (*d*) = 0.43 Other well-being outcomes: • Compared to control group, intervention group showed a significant increase in mindfulness.

	Measures were administered pre-intervention (T1) and post intervention (T2)	• Significant decrease in physician empathy; no significant increase in intervention group but significant decrease in waitlist control group. • No significant improvements in resilience, perceived stress and satisfaction with life.
Neff et al. (2020) -Study 1	Self-compassion: SCS Other outcomes: Cognitive and Affective Mindfulness Scale-Revised (CAMS-R), Santa Clara Brief Compassion Scale (SCBCS), Depression, Anxiety and Stress Scale (DASS-21), ProQOL, Interpersonal Reactivity Index (IRI) Measures were administered two weeks pre-intervention (T1), two weeks post intervention (T2) and at 3-month follow-up (T3; intervention group only)	Self-compassion outcomes: • Significant increase in self-compassion for intervention group compared to control group T1 (intervention group mean = 3.01; control group mean = 3.19) - T2 (intervention group mean = 3.48; control group mean = 3.23). Effects were maintained at T3 for the intervention group (mean = 3.61). Effect size (*d*) = 0.61 Other well-being outcomes: • Compared to control group, intervention group showed significant increases in mindfulness and compassion satisfaction and decreases in stress T1-T2. Effects were maintained at T3. • Significant decrease in depression in intervention group T1-T2 (with effects maintained at T3), but not when compared to controls. • No significant changes in compassion for others (marginal), anxiety or personal distress. Moderation effects: • Participants who started the intervention low in self-compassion showed significantly larger increases in self-compassion compared to those initially high in self-compassion. They also showed significantly larger decreases in depression. Adherence: • 1 participant attended 1 session and 24 participants attended at least 4 out of 6 sessions.
Neff et al. (2020) -Study 2	Self-compassion: SCS Other outcomes: CAMS-R, SCBCS, DASS-21, ProQOL, Maslach Burnout Inventory (MBI) Measures were administered two weeks pre-intervention (T1)	Self-compassion outcomes: • Significant increase in self-compassion T1 (mean = 3.08) - T2 (mean = 3.70). Effect size (*d*) = 0.94 Other well-being outcomes: • Significant increases in mindfulness, compassion for others, compassion satisfaction and personal accomplishment T1-T2. • Significant decreases in compassion fatigue (secondary traumatic stress and burnout), depression, stress and emotional exhaustion (burnout) T1-T2. • No significant change in depersonalisation (marginal) and anxiety.

	and two weeks post intervention (T2)	Moderation effects: • Participants who started the intervention low in self-compassion showed significantly greater increases in self-compassion compared to those initially high in self-compassion. They also showed significantly larger reductions in depersonalisation. Adherence: • 2 participants attended 3 out of 6 sessions and 21 participants attended at least 4 out of 6 sessions.
Romcevich et al. (2018)	Self-compassion: SCS Other outcomes: Brief Resilience Scale (BRS), MBI, PSS, CAMS-R Feasibility and acceptability questions were included. Measures were administered pre-intervention (T1), post intervention (T2) and at six month (T3) follow up.	Self-compassion outcomes: • No significant increase in self-compassion T1 (mean = 38.6) -T2 (mean = 39.9). Effect size (*d*) – 0.35 • Significant decrease in self-compassion T1 (mean = 40.1) - T3 (mean = 38.5). Other well-being outcomes: • Significant improvements in personal accomplishment, stress and resilience T1-T2. • Significant improvements in depersonalisation and mindfulness T1-T3. • Marginally significant decreases in emotional exhaustion T1-T3. No significant change T1-T2. Dosage groups: • Participants were divided into 3 groups based on the total combined dosage of module and class experiences; low dose category (total dosage = 0-4; N = 3), medium dose category (total dosage = 5-8; N = 3) and high dose category (total dosage = 9-12; N = 4). • Low dose participants showed no improvement in self-compassion scores and in some cases, reductions in self-compassion. However, they showed general improvement on all other measures T1-T2. • No medium dose participants completed measures at all 3 time points and they showed a mixture of improvement and worsening of scores on the various outcome measures over time. • High dose participants' self-compassion scores were frequently unchanged and rarely improved. Data completion varied across time points, with some improvement, stability and worsening of scores on the other outcome measures over time. Overall adherence: • 70% of participants completed at least 3 in person sessions and 2 online modules (mean = 2.8 sessions per participant) • Of the 8 online modules, completion rates per participants ranged from none to all (mean = 4.3 modules per participant) • Participants spent approximately 10 to 15 hours on sessions and modules combined over 4 weeks.

Sanso et al. (2017)	Self-compassion: SCS Other outcomes: FFMQ, Experiences Questionnaire (EQ), Professional Self-Care Scale (PSCS), Brief Symptom Questionnaire-49 items Measures were administered immediately pre-intervention (T1) and six weeks post intervention (T2)	Self-compassion outcomes: • Significant increase in self-compassion T1 -T2. (NB self-compassion total score means not reported in paper). Effect size (η2) = .723 Other well-being outcomes: • Significant increases in mindfulness (marginal), decentralisation, global self-care and decreases in emotional distress T1-T2.
Scarlett et al. (2017)	Self-compassion: SCS-SF Other outcomes: Toronto Mindfulness Scale (TMS), Copenhagen Burnout Inventory (CBI), Brief Index of Affective job Satisfaction (BIAJS), Interpersonal Conflict Scale (ICS), Fears of Compassion Scale (FOCS) Measures were administered immediately pre-intervention (T1), post intervention (T2) and at one month follow up (T3). *(NB measures were also administered in the middle of the course, although this data was not reported in the analysis)*	Self-compassion outcomes: • Significant increase in self-compassion T1 (mean = 3.14) – T2 (mean = 3.63). Effects were maintained at T3 (mean = 3.70). Effect size (*d*) = 0.78 Other well-being outcomes: • Significant increase in mindfulness and job satisfaction (marginal) T1-T2. Effects were maintained at T3. • Significant decreases in fear of self-compassion and giving compassion T1-T2 (with effects maintained at T3). Fear of receiving compassion decreases over time, but changes were not significant. • No significant decreases in burnout or interpersonal conflict T1-T3

Schanche et al. (2020)	Self-compassion: SCS Other outcomes: Rumination-Reflection Questionnaire (RRQ-Rum), State-Trait Anxiety Inventory (STAI), Difficulties in Emotion Regulation Scale (DERS), FFMQ, cognitive performance tests: Revised Attention Network Test (ANT-R) and Delis-Kaplan Executive Functions System (D-KEFS; the colour-word interference/Stroop task) Measures were administered two weeks pre-intervention (T1) and two weeks post intervention (T2)	Self-compassion outcomes: • Significant increase in self-compassion T1 (mean = 20.10) – T2 (mean = 21.96). Effect size *(d)* = 0.81 Other well-being outcomes: • Significant decreases in rumination, anxiety, difficulties regulating emotions and increases in mindfulness. • Significant increase in executive control on both cognitive tests and cognitive flexibility, as measured by the D-KEFS Stroop task. No change on cognitive alerting and cognitive orienting subtests (ANT).
Slayter et al. (2017)	Self-compassion: SCS-SF Other outcomes: ProQOL version 5, DASS-21, CD-RISC-10, General Self-Efficacy Scale (GSES), WHO Five Well-being Index (WHO Five) Measures were administered pre-intervention (T1), post intervention (T2) and at 6 month follow up (T3)	Self-compassion outcomes: • For the intervention group only, there was a significant increase in self-compassion T1 (mean = 3.18) - T2 (mean = 3.38). Effects were maintained at T3 (mean = 3.46). Effect size (η2) = 0.35 • No significant change in self-compassion for intervention group (T1 mean = 3.18; T2 mean = 3.38) compared to control group (T1 mean = 3.23; T2 mean = 3.23). Effect size (η2) = 0.1 Other well-being outcomes: • Compared to control group, intervention group showed significant decreases in compassion fatigue (burnout) and depressed mood T1-T2. Effects were maintained at T3. • Significant increase in compassion satisfaction T1-T2 (marginal) and subjective quality of life T1-T2 (with effects maintained at T3) in the intervention group, but not when compared to controls.

		• No significant change in compassion fatigue (secondary traumatic stress), resilience and general self-efficacy within or between intervention and control group. Adherence: • 20 (45%) participants attended all six sessions, 5 (32%) attended five sessions and 3 (6%) attended four sessions.
Suyi and Meredith (2017)	Self-compassion: SCS-SF Other outcomes: FFMQ, Compassion Scale (CS), PSS, Oldenburg Burnout Inventory (OLBI) Measures were administered pre-intervention (T1), post intervention (T2) and at three month follow up (T3)	Self-compassion outcomes: • Significant increase in self-compassion T1 (mean = 36.57) -T2 (mean = 40.0). Effects were maintained at T3 (mean = 41.5). Effect size (*d*) = 0.49 Other well-being outcomes: • Significant increases in mindfulness (observe, describe non-judge and non-react facets) T1-T2. Effects were maintained at T3. • Significant increase in compassion T1-T2. Effects were not sustained at T3. • Significant decrease in stress T1-T2. Effects were not sustained at T3. • No significant change in exhaustion and disengagement
Verweij et al. (2020)	Self-compassion: SCS-SF Other outcomes: MBI-HSS, Pen State Worry (PSWQ), Survey Work-Home Interaction Nimjen (SWING), FFMQ, Mental Health Continuum-Short Form (MHC-SF), JSPE, medical errors (questions developed by Prins etal, 2009) Measures were administered immediately pre-intervention (T1) and post intervention (T2)	Self-compassion outcomes: • Significant increase in self-compassion for intervention group (T1 mean = 3.9; T2 mean = 4.3) compared to control group (T1 mean = 3.8; T2 mean = 3.9). Effect size (*d*) = 0.35 Other well-being outcomes: • Compared to control group, intervention group showed significant increases in mindfulness and perspective taking (empathy) and decreases in worry T1-T2. • Significant increase in personal accomplishment in intervention group only (T1-T2) • No significant improvements in personal accomplishment, emotional exhaustion, depersonalisation, work-home interference, positive mental health, empathy (compassionate care and standing in the patient's shoes) or medical errors for intervention group compared to control group T1-T2. Moderation effects: • Participants who started the intervention with high levels of emotional exhaustion showed greater reductions in emotional exhaustion. . • Gender did not moderate the intervention effect.

Watts et al. (2021)	Self-compassion: SCS-SF Other outcomes: Mindful Attention Awareness Scale (MAAS), MBI-HSS, ProQOL, DASS-21 Feasibility and acceptability questions were included. Measures were administered immediately pre-intervention (T1), post intervention (T2) and at 8-week follow up (T3).	Self-compassion outcomes: • Significant increase in compassion T1 (mean = 3.18) - T3 (mean = 3.47, but no significant change between T1 (mean = 3.18) - T2 (mean = 3.36) and T2 (mean = 3.36) - T3 (mean = 3.47) Effect size (d) = 0.3 Other well-being outcomes: • Significant decrease in anxiety T1-T3, but no significant change T1-T2 or T2-T3. • Significant decrease in compassion fatigue (burnout) T1-T2 and T1-T3. Significant increase T2-T3. • Significant decrease in emotional exhaustion T1-T2 and increase T2-T3. No significant change T1-T3. • Significant increase in compassion satisfaction T1-T2 and T1-T3. No significant change T2-T3. • No significant change in depression, stress, compassion fatigue (secondary traumatic stress), depersonalisation, personal accomplishment or mindfulness. Adherence: • 77% of participants attended 5 or more sessions. 16% attended 3 or fewer sessions. • 74% of participants returned a homework practice log at T2.
Yela et al. (2020)	Self-compassion: SCS Other outcomes: FFMQ, The Beck Depression Inventory (BDI-II), STAI, The Psychological Well-Being Scales Measures were administered pre-intervention (T1) and post intervention (T2)	Self-compassion outcomes: • Significant increase in self-compassion for high adherence group (T1 mean = 3.11; T2 mean = 3.43) compared to low adherence group, whose scores remained stable over time (T1 mean = 3.17; T2 mean = 3.23). Effect size (*d*) = 0.69 Other well-being outcomes: • Significant increase in mindfulness for both low and high adherence groups T1-T2. Greater increases in mindfulness for high adherence group. • Slight decrease in psychological wellbeing for low adherence group T1-T2. Significant increase in psychological wellbeing for high adherence group T1-T2. • No change in depression or anxiety for low and high adherence groups. Adherence: • High adherence group (n = 30) on average, completed 71.83% of the intervention. • Low adherence group (n = 31) on average, completed 19.67% of the intervention. • Higher levels of MSC programme adherence were associated with greater improvements in self-compassion (*r* = .46), mindfulness (*r* = .39) and psychological wellbeing (*r* = .43) T1-T2.

5.4.2 Self-compassion outcomes

5.4.2.1 Compassion interventions:

All compassion focused interventions led to significant increases in self-compassion. Four had large effect sizes (Bluth et al., 2021; Delaney, 2018; Neff et al., 2020 – study 2; Sanso et al., 2017), one a medium-large effect size (Scarlett et al. 2017), two medium effect sizes (Neff et al., 2020 – study 1; Yela et al., 2020) and one a small effect size (Watts et al., 2021).

Only one study assessed the effects of the intervention in comparison to a waitlist control group (Neff et al., 2020 – study 1). For the intervention group, increases in self-compassion were significant when compared to control group and there was no significant change in self-compassion for the waitlist control group. Despite the self-selection of participants recruited for this study, this finding suggests that treatment effects were not solely due to self-interest in learning about self-compassion. Yela et al. (2020) conducted a within group comparison of changes in self-compassion for low and high adherence groups, using a threshold of 50% compliance to the intervention. Significant increases in self-compassion were observed for the high adherence group pre-post intervention but for the low adherence group, self-compassion scores remained stable overtime. This finding suggests that higher levels of participation in the MSC program was associated with greater gains in self-compassion.

In four out of the five studies that had follow ups, effects were maintained (Bluth et al., 2021 at three and six months; Neff et al., 2020 – study 1 at three months; Scarlett et al., 2017 at one month). One study (Watts et al., 2021) did not show significant improvements in self-compassion immediately post-intervention, however significant gains were observed at 8-week follow-up. As there was a consistent increase in self-compassion over time in Watts et al.'s (2021) study, the non-significant effects observed immediately post-intervention could have partly

been due to insufficient power to detect small effects (as a result of the small sample size used).

All compassion interventions were in a face-to-face, group format and lasted for either six weeks (one hour a week), eight weeks (two or two and a half hours a week) or ten weeks (four hours a week). Findings suggest that briefer, six-week interventions (e.g., SCHC) were just as effective in increasing levels of self-compassion in health professionals as the eight (e.g., MSC, CCT) and ten-week (e.g., CEB) interventions. The exception to this was Watts et al.'s (2021) six-week mindfulness-based compassion training which yielded significant, but comparatively small increases in self-compassion.

5.4.2.2 Mindfulness interventions:

All mindfulness interventions led to significant increases in self-compassion pre-post intervention, except for MBST (Romcevich et al., 2018). Two had large effect sizes (Fendel et al., 2020; Schanche et al., 2020), one a small-medium effect size (Suyi & Meredith, 2017) and three small effect sizes (Verweij et al., 2020; Slayter et al., 2017; Romcevich et al., 2018). The effect size for one study was unavailable (Gozalo et al., 2017). Two of these interventions assessed changes in self-compassion in intervention groups compared to control groups. In Verweij et al.'s (2020) study, the intervention group showed significant increases in self-compassion when compared to control group. Slayter et al.'s (2017) intervention showed significant increases in self-compassion in the intervention group, but these effects were not significant when compared to the control group. In the two studies that had follow ups, effects were maintained (Slayter et al., 2017 at six months; Suyi & Meredith, 2017 at three months). All except one intervention (Gozalo et al., 2017) was delivered in a face-to-face group format. The length of these interventions varied between two and eight weeks and most sessions were between two and two-and-a-half hours in duration. In addition, three out of four MBSR informed interventions included a six-hour silent day retreat.

Romcevich et al.'s (2018) MBST did not lead to significant improvements in self-compassion as mentioned above. They conducted separate analyses on participants who engaged in the intervention in high versus low doses. Low-dose participants showed no improvement in self-compassion over time and high-dose participants' self-compassion scores rarely changed or improved. At follow up, MBST participants showed a significant decrease in self-compassion six months post intervention, which indicates that this intervention was not effective in improving or maintaining self-compassion over a long-term period. The small sample size and low participation rates in this study are key limitations that are likely to have contributed to the small, non-significant effects observed.

Overall, findings appear to show that the short, remote mindfulness program (Gozalo et al., 2017) was competitive in producing gains in self-compassion when compared with the longer interventions, although the size of its effect could not be ascertained. In addition, the significantly large gains in self-compassion observed for the two-week adapted MBCT intervention (Schanache et al., 2020), were competitive with the effects observed from Fendel et al.'s (2020) eight-week MBSR intervention. This suggests that a range of formats, durations and types of mindfulness intervention can be effective in increasing self-compassion in healthcare professionals. However, a significant limitation for all but two studies, is the lack of control groups to compare findings to. As a result, it is not possible to conclude that effects observed were solely attributable to the interventions delivered.

5.4.2.3 Other interventions:

The yoga intervention (Mathad et al., 2017) also led to significant increases in self-compassion pre-post intervention compared to controls, with a small-medium effect size. The TRIP workshop (Knaak et al., 2021) did not lead to a significant change in global self-compassion, though there were significant improvements in the self-kindness and over-identification subscales. A key limitation of this study,

was the fact that support and coaching sessions that were due to form part of the intervention, were unable to go ahead due to the COVID-19 pandemic. As a result, the effectiveness of the full intended intervention cannot be established, particularly in improving self-compassion. It may therefore be useful for the authors to revisit use of the TRIP intervention in its full intended form, to ascertain its utility for this population. Neither of these interventions had a long term follow up, with latter study's lack of follow up data being due to the high rates of participant attrition that resulted from the COVID-19 pandemic.

5.4.3 Wellbeing outcomes

All studies administered and evaluated other measures of wellbeing and improvements on these outcomes varied. Overall pre-post intervention outcomes are illustrated in Table 3 and subsequently, summarised below. In Table 3, the psychological wellbeing category includes outcomes such as depression, anxiety, overall psychological wellbeing and mental health. The work-related wellbeing category includes measures of professional quality of life (namely, compassion satisfaction and compassion fatigue, secondary traumatic stress and burnout), job satisfaction and professional self-care. Whilst burnout is a work-related phenomenon, it has been included in the table under a separate column to capture other measures of burnout (outside of that which is assessed under compassion fatigue). These measures include the Oldenburg Burnout Inventory (OLBI) which assesses burnout according to levels of exhaustion and disengagement and Maslach's Burnout Inventory (MBI), which assesses burnout according to levels of emotional exhaustion, depersonalisation and personal accomplishment. As previously stated, full details of outcome measures used can be found in Table 2.

Table 3.
A summary of the effects of all 17 interventions on other measures of wellbeing

References	Other measures of wellbeing						
	Mindfulness	Stress	Burnout	Resilience	Psychological wellbeing	Work-related wellbeing	Others
Bluth et al. (2021)		🟢	🟡		🟢		Approaches to dementia 🟢
Delaney (2018)	🟢			🟢		🟢	
Fendel et al. (2020)	🟢	🟢	🟡		🟢	🟢	Irritation 🟢, empathy 🟢, subjective experiences of time 🟡, cortisol 🟢
Gozalo et al. (2017)	🟡		🟡				Empathy 🔴
Knaak et al. (2021)				🟢		🟡	Attitudes to opioid use 🟡
Mathad et al. (2017)	🟢	🔴		🔴			Empathy 🔴, life satisfaction 🔴
Neff et al. (2020) - Study 1	🟢				🟡	🟢	Compassion for others 🟡, Personal distress 🔴
Neff et al. (2020) - Study 2	🟢		🟡		🟡	🟢	Compassion for others 🟢

References	Other measures of wellbeing						
	Mindfulness	Stress	Burnout	Resilience	Psychological wellbeing	Work-related wellbeing	Others
Romcevich et al. (2018)	🟢	🟢	🟡	🟢			
Sanso et al. (2017)	🟡				🟢	🟢	Decentralisation 🟢
Scarlett et al. (2017)	🟢		🔴			🟡	Fears of compassion 🟡
Schanche et al. (2020)	🟢				🟢		Rumination 🟢, emotion regulation 🟢, cognitive performance 🟡
Slayter et al. (2017)		🔴	🟢	🔴	🟡	🟡	Self-efficacy 🔴
Suyi and Meredith (2017)	🟢	🟢	🔴				Compassion for others 🟢
Verweij et al. (2020)	🟢		🟡		🟡	🔴	Empathy 🔴, medical errors 🔴
Watts et al. (2021)	🔴		🟡		🟡	🟡	
Yela et al. (2020)	🟢				🟡		

Key: red = no significant improvement in outcomes; amber = partial or marginally significant improvement in outcomes; green = significant improvement in outcomes

5.4.3.1 Compassion interventions

All except one (Watts et al., 2021) of the compassion focused interventions with mindfulness as an outcome, showed significant improvements in this measure. In addition, the majority of interventions led to significant improvements in at least one form of psychological wellbeing, namely global wellbeing (Delaney, 2018; Neff et al., 2020 – study 1; Yela et al., 2020) or depression (Bluth et al., 2021; Neff et al., 2020 – study 1). Significant improvements were not observed in the two studies that measured anxiety (Delaney, 2018; Neff et al., 2020 – study 1). In the six studies that assessed burnout and/or other measures of work-related wellbeing, partial improvements were observed in professional quality of life (compassion satisfaction and compassion fatigue, secondary traumatic stress and burnout; Neff et al., 2020 – study 1; Neff et al., 2020 – study 2; Watts et al., 2021), professional self-care (Sanso et al., 2017), job satisfaction (Scarlett et al., 2017) and burnout (as measured by emotional exhaustion, depersonalisation and personal accomplishment; Bluth et al., 2021; Neff et al., 2020 – study 2; Watts et al., 2021). Only two studies measured compassion for others; one showed significant improvements in this outcome (Neff et al., 2020 – study 2) and the other was marginally significant (Neff et al., 2020 – study 1). Other individual interventions led to improvements in the following outcomes: approaches to dementia (Bluth et al., 2021), stress (Watts et al., 2021), fears of compassion toward self and others (Scarlett et al. 2017) and decentralisation and emotional distress (Sanso et al., 2017). Amongst the four studies that had follow ups (Bluth et al., 2021; Neff et al., 2020 – study 1; Scarlett et al. 2017; Watts et al., 2021), effects were maintained for mindfulness, job satisfaction, depression, compassion satisfaction and fears of compassion towards self and others. In summary, compassion focused interventions were reliably able to increase mindfulness, in addition to some aspect of psychological and work-related wellbeing pre-post intervention, with some gains being sustained at follow up.

5.4.3.2 Mindfulness interventions

All mindfulness interventions led to significant increases in mindfulness, except Gozalo et al.'s (2017) mindfulness program. Four studies led to partial improvements in burnout (Fendel et al., 2020; Gozalo et al., 2017; Verweij et al., 2020; Romcevich et al., 2020) and one study did not lead to any significant reductions in burnout (Suyi & Meredith, 2017). In terms of other areas of work-related wellbeing, one study led to partial improvements in compassion fatigue and satisfaction (Slayter et al., 2017) and another study led to improvements in effort-reward ratio, thriving at work and job satisfaction (Fendel et al., 2020). One intervention measured and led to increased levels of compassion for others (Suyi & Meredith, 2017). Four studies assessed measures of stress and/or other measures of psychological wellbeing (e.g., depression, anxiety); three led to significant improvements in stress (Fendel et al., 2020; Romcevich et al., 2020; Suyi and Meredith, 2017), two in depression (Slayter et al., 2017) and rumination (Schanche et al., 2020), two in anxiety (Schanche et al., 2020) and worry (Verweij et al., 2020) and one in mental health (Fendel et al., 2020). Three studies measured empathy and two led to partial increases in this outcome (Fendel et al., 2020; Verweij et al., 2020). Three interventions led to significant improvements in other outcomes such as, cognitive functioning (executive control; Schanche et al., 2020), difficulties regulating emotions (Schanche et al., 2020), resilience (Romcevich et al., 2018) and subjective experiences of time and hair cortisol levels (Fendel et al., 2020).

In the three studies that had follow ups, effects were maintained for stress (at three months; Suyi & Meredith, 2017), burnout, depression and compassion satisfaction (at six months; Slayter et al., 2017) and depersonalisation, mindfulness and emotional exhaustion (at six months; Romcevich et al., 2018). Whilst there is a large amount of variability in the use and improvement in wellbeing outcomes, it is clear that gains in wellbeing extend beyond increased levels of self-compassion for mindfulness interventions.

5.4.3.3 Other interventions

Both interventions (TRIP, Knaak et al., 2021; yoga, Mathad et al., 2017) measured resilience, but significant improvements were only observed for the TRIP intervention. In addition, the TRIP intervention led to partial improvements in compassion fatigue (burnout), but changes in compassion satisfaction, secondary traumatic stress and overall attitudes to opioid use were not significant. Whilst there was no overall improvement in attitudes to opioid use, further analysis showed that participants with higher baseline scores of stigma towards opioid users did show significant reductions in this outcome by the end of the intervention. The yoga intervention (Mathad et al., 2017) led to significant improvements in mindfulness, though not in perceived stress or satisfaction with life. In addition, a significant decrease in physician empathy was observed pre-post intervention, when compared to control group. This suggests that improvements in other areas of wellbeing for these interventions were small, compared to the number of outcomes evaluated. However, interventions were able to produce change in outcomes particularly relevant to their contents e.g., mindfulness for the yoga intervention and resilience for the TRIP intervention.

5.5 Quality of studies

The quality of the studies included in this review were assessed using the QualSyst (Kmet, Lee & Cook, 2004). The QualSyst is comprised of two scoring systems; one for qualitative research and the other for quantitative research. This tool was selected for its relevance and good inter-rater reliability in simultaneously assessing a variety of quantitative study designs. As the included studies were quantitative in nature, the quantitative items were used (see Appendix 2). Each study was scored on a scale of 0 - 2 on a set of 14 items, based on the extent to which they met the specified criteria (0 = No; 1 = Partial; 2 = Yes). Items that were not applicable to the study being reviewed were marked as “n/a” and as such, were excluded from the calculation of the overall quality rating. Items assessed the

degree to which study objectives were appropriate and sufficiently described, subjects, study design, outcome and/or exposure measures, sample size, analyses conducted, controls for confounding and results and study conclusions reported. A quality score for each study was calculated by summing the score of the relevant items and dividing this by the total possible score (e.g., 28 – (number of “n/a” x 2)). A summary of the individual scores and quality ratings for each study is provided in Table 4. The quality ratings for studies ranged from .68 – .90, which indicates that the quality of studies was fairly high overall.

Table 4.
QualSyst quality assessment of studies included in the review

Study	QualSyst criteria item scores (0, 1, 2, n/a)*														Quality score (0-1)**
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Bluth et al. (2021)	2	2	1	2	n/a	n/a	n/a	2	1	2	1	0	2	2	.77
Delaney (2018)	2	2	1	2	n/a	n/a	n/a	2	0	2	2	0	2	2	.77
Fendel et al. (2020)	2	2	1	2	n/a	n/a	n/a	2	1	2	0	0	2	2	.72
Gozalo et al. (2017)	2	2	1	2	n/a	n/a	n/a	2	1	2	0	0	2	2	.72
Knaak et al. (2021)	2	2	0	2	n/a	n/a	n/a	2	1	2	0	0	2	2	.68
Mathad et al. (2017)	2	2	1	2	1	n/a	n/a	2	2	2	0	2	2	2	.83
Neff et al. - Study 1 (2020)	2	2	1	2	n/a	n/a	n/a	2	2	2	2	1	2	2	.90
Neff et al. – Study 2 (2020)	2	2	1	2	n/a	n/a	n/a	2	1	2	0	0	2	2	.72
Romcevich et al. (2018)	2	1	1	2	n/a	n/a	n/a	2	1	2	0	0	2	2	.68
Sanso et al. (2017)	2	1	1	2	n/a	n/a	n/a	2	1	2	2	0	2	2	.77
Scarlett et al. (2017)	2	1	1	2	n/a	n/a	n/a	2	2	2	0	0	2	2	.72
Schanche et al. (2020)	2	1	1	2	n/a	n/a	n/a	2	1	2	0	1	2	2	.72
Slayter et al. (2017)	2	2	1	2	0	n/a	n/a	2	1	2	1	1	2	2	.75

Study	QualSyst criteria item scores (0, 1, 2, n/a)*														Quality score (0-1)**
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Suyi & Meredith (2017)	2	2	1	2	n/a	n/a	n/a	2	1	2	1	1	2	2	.81
Verweij et al. (2020)	2	2	1	2	2	n/a	n/a	2	1	1	2	2	2	2	.87
Watts et al. (2021)	2	2	1	2	n/a	n/a	n/a	2	1	2	2	0	2	1	.77
Yela et al. (2020)	2	2	1	2	n/a	n/a	n/a	2	2	2	0	0	2	2	.77

*2 = Yes, 1 = Partial, 0 = No, N/a = Not applicable

**Quality score calculated by summing the score of the relevant items and dividing this by the total possible score (e.g. 28 – (number of "n/a" x 2))

5.6 Study limitations

All studies in this review were assessed for their design and methodological limitations. A summary of the main shortcomings, in addition to study quality scores are summarised in Table 5.

Table 5.
Summary of the main limitations and QualSyst quality scores of studies included in the review

Study	QualSyst Quality Score (0-1)	Study limitations
Bluth et al. (2021)	.77	Small sample size (N = 30) No control group Potential self-selection bias Limited generalisability due to homogeneity and high quality of nursing homes and sample characteristics (majority middle aged, black/African American and highly experienced) Intervention held in the daytime and therefore inaccessible to night-shift staff Data attrition at follow ups (N = 29 at three months; N = 26 at six months)
Delaney (2018)	.77	Very small sample size (N = 13) No control group Potential self-selection bias No follow up
Fendel et al. (2020)	.72	Very small sample size (N = 9), preliminary results to be interpreted with caution. Potential self-selection bias No control group Limited generalisability due to self-selection of participants No follow up
Gozalo et al. (2017)	.72	Small sample size (N = 32) No control group Potential self-selection bias - participants volunteered based on interest in intervention and some knew about practices before they were performed Limited generalisability – majority female sample, lack of participation of younger professionals from establishment Home practice was not recorded formally so commitment to intervention could not be rated. No follow up Generative (working with difficult emotions and self-compassion) practices were most difficult for participants to grasp as the concepts were not well known and may have required teaching in more depth before practices could be performed

Study	QualSyst Quality Score (0-1)	Study limitations
Knaak et al. (2021)	.68	No control group No long-term follow up analyses of data due to high attrition of survey responses Several sessions and post intervention support/coaching cancelled due to COVID-19 Ceiling effects on the OM-PATOS made it difficult to understand full impact of intervention on stigma reduction to opioid use
Mathad et al. (2017)	.83	No active control group Randomization mentioned but method was not described in paper (true randomization cannot be ascertained) Potential self-selection bias Self-report measures used for data collection No follow up
Neff et al. - Study 1 (2020)	.90	Quasi-experimental comparison groups were small (both groups N < 34) No random assignment to groups No active control group so cannot be clear that benefits of group participation are attributable to intervention Potential self-selection bias due to interest in program Limited generalisability – majority of participants were white and female Follow up data for control group was excluded from analyses, as they had been reading about self-compassion and learning practices from their colleagues (no longer neutral controls)
Neff et al. – Study 2 (2020)	.72	Small sample size (N = 23) No control group Potential self-selection bias due to interest in program Limited generalisability – majority of participants were white and female No follow up
Romcevich et al. (2018)	.68	Small sample size (N = 10) No control group Lack of formal training of the peer resident facilitator Potential self-selection bias e.g. participation based on self-interest, incentives/lecture credits given for participation Low uptake of post-intervention maintenance sessions (only two participants attended the first two sessions) Low participation in full intervention Lack of maintenance of improvement in several outcomes at follow up

Study	QualSyst Quality Score (0-1)	Study limitations
Sanso et al. (2017)	.77	Small sample size (N = 19) Potential self-selection bias No control group Potential self-selection bias Limited generalisability e.g., participants recruited from one establishment No follow up
Scarlett et al. (2017)	.72	No control group Limited generalisability e.g., sample came from hospitals/clinics in one geographical area, lack of demographical diversity (predominantly white females) Potential self-selection bias Potential burnout floor effects No formal measure of the effects of home practice on outcomes Non-specific focus of healthcare worker recruited for the study
Schanche et al. (2020)	.72	Small sample size (N = 27) No control group Potential self-selection bias – participants interested and willing to invest time (condition of participation in intervention) enrolled in the study No assessment of therapist competence and its effect on outcomes No direct measure of how mindfulness impacts on therapeutic and interpersonal competency No follow up
Slayter et al. (2017)	.75	No active control No control data at six month follow up Potential self-selection bias (e.g., participants enrolled in earlier groups may have had more interest in the intervention than latter groups) Conducted in a single setting No random allocation of participants to conditions Lack of sufficiently large sized groups in each condition (inflated risk of type 2 errors)

Study	QualSyst Quality Score (0-1)	Study limitations
Suyi & Meredith (2017)	.81	Small sample size (N = 37), underpowered to estimate influence of attendance and homework practice on outcomes No control group No random sample (selection bias) Potential experimental and social desirability bias due to author being the main program facilitator Limited generalisability – lack of demographic diversity (i.e., predominantly Chinese females), participants were from the same institution and specifically mental health professionals
Verweij et al. (2020)	.87	No active control group Limited generalisability – residents were from single medical university hospital, men and residents from surgical specialities were underrepresented in study Potential self-selection bias Self-report measures used subject to bias Secondary outcomes (namely, all outcomes expect for emotional exhaustion) were not adjusted for multiple testing, which inflated the risk of type II errors. No follow-up
Watts et al. (2021)	.77	Small sample size (N = 31) and power to detect small effects No control group Self-report measures may be subject to bias Potential self-selection bias – individuals interested in self-compassion may have been more likely to enrol Limited generalisability – predominantly female sample and staff involvement in EOL and palliative care varied No threshold criterion for assessing acceptability of intervention
Yela et al. (2020)	.77	No control group Limited generalisability e.g., males underrepresented in study, potential self-selecting bias Self-report measures introduced risk of bias e.g., social desirability, errors in recall Single-item (self-report) adherence measure used to differentiate groups was not standardised; this presents potential reliability and bias issues Low commitment to programme for some participants (low adherence participants on average, complied with less than 20% of MSC programme) Low data available for some analyses No follow up

A key limitation for the majority of studies were their small sample sizes, which has been a common shortfall of self-compassion intervention studies, raised in previous reviews. This compromises the generalisability of findings, particularly due to several studies being underpowered to detect effects and thus, the risk of type II errors being inflated. It could be argued that large effect sizes observed for significant improvements in self-compassion and other measures of wellbeing, could be attributed to the effectiveness of the interventions delivered despite the above limitation. However, larger effect sizes have been found to be common in small samples (Dechartres et al., 2013). As such, there is a need for studies investigating the impact of interventions on self-compassion in healthcare professionals, to be replicated using more robust study designs and larger samples in order to confirm findings.

Another significant limitation (also raised in previous studies/reviews) is that the majority of studies used uncontrolled experimental designs. For the studies that did include controls, none of them were active. Without a control group, it is possible that improvements in self-compassion and wellbeing were as a result of non-specific effects of the interventions. The lack of active controls (in the four studies that used a waitlist control groups) has meant that it has not been possible to determine whether treatment benefits were specific to interventions delivered. It was also not possible to establish whether those interventions were as efficacious as other known treatments or forms of support (e.g., peer support groups), in increasing self-compassion and overall wellbeing. However, given the risk of indirect harm to control groups who receive no intervention, particularly in instances where an empirically supported and potentially beneficial intervention is being offered, the lack of use of waitlist control groups is an ethical and reasonable decision. Nonetheless, the lack of true randomization to intervention and waitlist control groups, in all but one study, may have compromised the comparability of both groups, owed to

selection bias and a lack of complete control for known and unknown confounding variables.

All studies utilised convenience sampling in the recruitment of participants and as a result, the risk of self-selection bias was a profound limitation. Typically, participants were provided with information about the intervention and in some cases details as to its benefits, prior to volunteering to participate in the studies. As such, factors such as program interest, willingness to devote time and prior knowledge and/or experiences of intervention exercises, are likely to have affected which types of individuals chose to participate in these interventions and consequently, left results prone to bias. Walach et al., (2014) highlighted that mindfulness-based interventions are seemingly more effective if participants chose to engage. This would support the use of self-selection in recruitment strategies for such interventions and even deem it as preferable, in order to enhance the likelihood that full intended treatment effects are gained and seen (Burton et al., 2017). However, it must be acknowledged that self-selection bias does make it difficult to generalise the findings of these studies to a wider population of healthcare professionals. This is particularly relevant as healthcare professionals' commitment and time to engage in time-consuming interventions, may be hindered by the pressures they face to manage increasing workloads and become more efficient and productive, often at the expense of their personal and professional values, patient care and self-care (National Academies of Medicine, 2019). It would be useful for future studies to employ other types of sampling strategies (e.g., random sampling) to aid in more representative samples of healthcare professionals being recruited to these in these kinds of intervention studies.

Another limitation was the overrepresentation of females across the studies. This limitation is typical for self-compassion and mindfulness interventions, as indicated by meta-analyses highlighting that typically, over 75% of participants are female (Ferrari et al., 2019; Khoury et al., 2015). Various factors could be

contributing to the underrepresentation of males in these intervention studies. These include the possible overrepresentation of females in healthcare overall (e.g., 76.7% of NHS staff are female; NHS England, 2022), the underrepresentation of males in particular specialities (e.g., palliative care; Orellana-Rios et al., 2018) and the societal and culturally informed gender barriers that impact on interest in self-compassion interventions amongst males overall (Yarnell et al., 2019). Further research would be beneficial to explore these issues, to identify which strategies could help to improve male uptake of interventions that aim to increase self-compassion.

Whilst most of the interventions from this review led to improvements in self-compassion pre-post intervention, just over half of the studies did not have long-term follow ups. As a result, it is unclear whether gains in self-compassion were maintained over an extended period of time for the majority of studies in this review. In addition, participants were lost to follow up in a few of the studies that did have follow ups. Whilst it is not untypical to lose participants in this way, it highlights potential issues with intervention engagement and dropout rates, for which in-depth exploration is beyond the scope of this review.

Finally, engagement in homework assignments was not monitored across the majority of studies. As a result, the extent to which the nature and duration of homework practice (e.g., formal and/or informal) contributed to improvements in self-compassion and other wellbeing outcomes cannot be ascertained. Carmody and Baer (2008) found that duration of home practice predicted improvement on wellbeing outcomes, more so than class/session time. Neff and Germer (2013) found that shorter, informal exercises were just as effective in learning self-compassion as formal meditation (as is included in more extended compassion and mindfulness interventions). Given that findings on the role of homework practice in treatment outcomes is varied, it may be beneficial for future studies to include

homework practice as an independent variable, to explore its relationship with gains in self-compassion and other areas of wellbeing.

Whilst the studies included in this review provide some evidence as to the benefit of a wide range of interventions in improving self-compassion and other areas of wellbeing in healthcare professionals, findings must be considered in light of the above limitations.

6 Discussion

This review explored and summarised the findings of 17 studies, which evaluated the effects of interventions on self-compassion and other areas of wellbeing in healthcare professionals. Overall, the findings suggest that a range of interventions, namely compassion-focused, mindfulness and a yoga intervention (n = 15) were effective in increasing self-compassion and other areas of wellbeing in healthcare professionals, with approximately half showing medium (n = 2) to large effects (n = 6). In addition, all interventions were able to produce varying degrees of gains in other areas of wellbeing such as mindfulness, psychological wellbeing (e.g., global mental health, depression, stress), work-related wellbeing (burnout, compassion satisfaction and fatigue, job satisfaction) and compassion for others. This supports the findings of previous studies and reviews (Boellinghaus et al., 2014; Duarte et al., 2016; Ferrari et al., 2019; Sinclair et al. 2017; Wasson et al., 2020) and adds further evidence that a range of interventions can support the wellbeing of healthcare professionals, in more ways than self-compassion. This is beneficial to healthcare organisations who may be interested in investing their (limited) resources into implementing these kinds of interventions.

It was of note that interventions with a core compassion component consistently produced the largest gains in self-compassion when compared to mindfulness and other interventions. Compassion-focused interventions may therefore be a superior choice when looking for reliably effective and empirically

supported interventions that increase levels of self-compassion in healthcare professionals. In addition, given that all compassion-focused interventions explicitly taught self-compassion or compassion more globally, this pattern of findings may provide further insight into the benefits of teaching compassion in this way in comparison to implicit methods, as is done in mindfulness and yoga interventions (Neff & Germer, 2019). As it stands however, this summative finding is purely observational and not empirically tested. As such, future research comparing the effectiveness of two active interventions in increasing self-compassion and wellbeing in healthcare professionals (i.e., compassion-focused versus mindfulness-focused interventions or implicit versus explicitly taught compassion interventions), would be beneficial to empirically test deductions from this narrative review.

As previously stated, a reasonable concern regarding the implementation of self-compassion interventions is the demands they place on busy and tightly resourced healthcare workforces (Neff et al., 2020). Although the majority of effective interventions in this review were either six or eight weeks in duration it is particularly valuable that a brief two-week adapted MBCT program, was as effective in increasing self-compassion when compared to longer-term interventions (e.g., six, eight and ten weeks in duration) and compassion interventions that explicitly taught self-compassion. The adapted MBCT therefore seems to be the most promising short-term treatment option to offer healthcare professionals amongst those reviewed. This intervention may be particularly attractive to healthcare staff and organisations that are unable to commit to more medium-to-long-term interventions. Additionally, the remote mindfulness program (Gozalo et al., 2017) may also offer an alternative treatment option that is attractive for its replacement of hourly to two-hourly, face-to-face sessions with five eight-minute daily exercises that can be completed remotely at any time, on an individual basis. Previous research has highlighted that online interventions can be effective in enhancing self-compassion (see Ferrari et al., 2019; Sinclar et al., 2017 reviews). However, there was a

significant lack of online and remote interventions enhancing self-compassion in this review and so future research would be beneficial to implement and evaluate the effectiveness of more of these types of interventions for healthcare professionals.

Interestingly, the only two interventions that did not lead to increases in self-compassion were adapted, shorter-term interventions (TRIP, 1 day workshop; MBST, four-weeks). MBST also adopted a peer led format rather than formally trained facilitator format. This finding could suggest that though more time consuming, standardised and well-established interventions with trained facilitators (perhaps enhancing treatment fidelity), are more efficacious in producing gains in self-compassion and other areas of wellbeing amongst healthcare professionals. However, both studies had several methodological limitations that are likely to have compromised findings (e.g., data attrition, incomplete intervention implemented, low participation rates, small sample size etc.). It is therefore unclear how much of the treatment ineffectiveness could have been accounted for by intervention duration versus other factors.

It is important to re-state that all the studies had methodological limitations. The majority of studies were conducted in western countries, used uncontrolled experimental designs, significantly underreported ethnicity and had an underrepresentation of males across studies. In addition, most studies had small sample sizes, all used volunteers (introducing a significant self-selection bias), few studies included follow ups and there was a consistent lack of monitoring of homework assignments in all but one study. Notwithstanding, the majority of interventions summarised in this review at the very least provide confirmatory evidence as to the effectiveness of a variety of interventions in improving self-compassion and other areas of wellbeing in the healthcare professional population. Further research with more robust research designs and larger sample sizes would be beneficial in future to confirm these findings.

6.1 Limitations of the review

This paper aimed to summarise a systematic review of the literature reporting on the effectiveness of interventions, that aim to enhance self-compassion in healthcare professionals. Having focused only on papers with quantitative outcomes, qualitative papers exploring healthcare staff experiences of such interventions were not reviewed, limiting the ability to fully contextualise and understand the quantitative findings described. In addition, this review did not explore feasibility issues, such as program adherence and attrition, in detail. Furthermore, this review only includes papers published in English, which means that studies conducted in non-English speaking countries may not have been captured, thus potentially limiting our understanding of self-compassion interventions across wider a range of settings.

It is also important to acknowledge that the initial screening, assessment of articles against the inclusion / exclusion criteria and methodological quality assessments were carried out independently by the author. Though, the search strategy was devised in in-depth consultation with a librarian and the articles for inclusion were discussed with my supervisor prior to the final shortlist.

6.2 Recommendations

As previously stated, the significant geographical and methodological shortcomings of the majority of studies included in this review, compromise the generalisability of findings. This shortcoming may have been exacerbated by the exclusion of papers written in languages other than English, although only one study was excluded for this reason. Future directions for research should aim to confirm and expand the generalisability of findings, by utilising more robust research designs (e.g., randomized controlled trials) with larger sample sizes and active controls (e.g., implicit versus explicit self-compassion training, short vs. medium-term interventions), and examine the effects of interventions in countries in the eastern hemisphere. This would be to assess whether findings are applicable in healthcare professionals and organisations across different countries and cultures. In addition,

whilst there are general challenges in recruiting males to self-compassion interventions, empirical studies should aim to employ/pilot recruitment strategies e.g., targeted posters, snowballing methods, to increase male engagement in these studies.

The absence of many empirically evaluated brief interventions (e.g., one-hour, half-day, full-day) that aim to increase self-compassion, also highlight a gap in the literature of shorter-term interventions that could be available and effective for use. This shortcoming also applies to the general lack of effective online interventions being piloted amongst healthcare professionals. This would be a beneficial future direction for studies to take and explore in further detail, as it is likely that healthcare leaders who are interested in supporting the development of self-compassion in their healthcare workers, may be interested in effective short-term interventions, particularly where resources are limited.

It is important to re-iterate that whilst the majority of interventions from this review were effective from the perspective of outcomes (e.g., self-compassion, wellbeing), the acceptability of interventions was not explored. As such, future studies would benefit from reporting on participant experiences of interventions (e.g., in terms of duration, contents) in order to ascertain which interventions are more accepted amongst healthcare professionals, as this is likely to have implications on intervention uptake and engagement.

Whilst some studies provided some information on attrition and program adherence (N = 9), only two studies assessed its association with treatment outcomes and an in-depth exploration of this was unable to be conducted within this review. It would be useful for intervention studies to evaluate the relationship between program adherence and treatment effectiveness more reliably and for future reviews to explore and summarise these findings. In addition, the significant lack of formal homework monitoring across studies, means that this review was unable to comment on the extent to which adherence to home practice affected

intervention outcomes. A review by Vettese et al. (2009) highlighted that relatively few studies formally monitored and analysed the association between the mindfulness homework practice and clinical outcomes, and of the studies that did, only half demonstrated support for the benefits of home practice. As such, it would be beneficial for future self-compassion intervention studies to include formal and validated homework monitoring tools (e.g., recording diaries, homework practice logs) in their data collection and analyses, in order to gain a sense of how integral homework is or is not, to treatment effectiveness.

Finally, only three intervention studies measured compassion for others as an outcome, two of which led to positive gains. As previously stated, research suggests that highly strenuous and demanding healthcare environments can compromise the wellbeing of healthcare professionals and their capacity to provide compassionate care (Panagioti et al., 2018; Shanafelt et al., 2015). However, there was a consistent underuse of outcomes assessing compassion for others amongst the studies reviewed, as was previously raised as a critique in Sinclair et al.'s (2017) review. Future studies would therefore benefit from including this outcome in their intervention evaluations, not only to further understand the association between self-compassion and compassion for others, but also to explore if there are additional ways to measure the impact of both qualities on patient care and whether self-compassion and compassion for others is related to patient outcomes.

7 Conclusions

This review explored and summarised the effects of a range of interventions aiming to increase self-compassion and / or other areas of wellbeing in healthcare professionals. Overall, findings from this review support pre-existing evidence and highlight the utility of various types of interventions in increasing self-compassion and wellbeing in healthcare professionals. Though, compassion-focused trainings appear to be the superior intervention option in producing these outcomes.

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Part 2: Empirical Paper

Self-Compassion and Self-Criticism in Trainee Mental Health Professionals: Feasibility and initial outcomes of a new Compassion-Focused intervention for trainee Psychological Wellbeing Practitioners

1 Abstract

Aims: Compassion is paramount to high-quality, patient-centred delivery of healthcare services. However, shortages of resources and pressurised working conditions form barriers to healthcare staff being able to provide compassionate care. Mental health professionals in particular (trainee and qualified alike), are vulnerable to experiencing high levels of self-criticism and low levels of self-compassion and mental wellbeing (Beaumont et al., 2016; De Stefano et al., 2012). Compassion-focused interventions can provide an effective self-care strategy for trainee mental health professionals, by enhancing their self-compassion, self-reassurance and reducing their self-critique in the face of rigorous academic work and clinical training (Beaumont et al., 2017; Gilbert & Procter, 2006). This study therefore aims to examine the feasibility and initial outcomes of a compassion-focused intervention embedded within the training programme of Trainee Psychological Wellbeing Practitioners (TPWPs).

Method: A half day compassion-focused workshop was delivered to a non-random convenience sample of 251 TPWPs in the UK, with additional follow up audio exercises to complete over a two-week period. Pre-intervention (baseline) and post intervention measures (at two-weeks and two-month follow up) were gathered assessing self-compassion, mental wellbeing, beliefs about emotions, social comparison, self-criticism, self-reassurance, external and internal shame and stress.

Results: Findings indicated that the intervention was feasible in relation to the delivery of the intervention within TPWPs' course curriculum. There were however, high levels of participant drop-out at the follow-up points. Self-compassion was significantly correlated with all other outcome measures administered. Significant improvements in self-compassion, mental wellbeing, helpful beliefs about emotions and external and internal shame were observed pre-to-post intervention (with medium to large effects), with significant gains in self-compassion continuing to

two-month follow up. Practice frequency of follow-up exercises were not correlated with improvements in outcomes.

Conclusion: This study provides preliminary evidence as to the feasibility and initial effectiveness of this brief, half-day compassion-focused workshop in enhancing self-compassion, mental wellbeing, helpful beliefs about emotions and reducing overall external and internal shame in this professional group. However, due to significant study limitations that arose in the context of the COVID-19 pandemic lockdown (i.e., participant attrition and thus small sample size), a replication of this study will be beneficial to continue an assessment of the feasibility of the compassion-focused intervention for TPWPs, to extend the current findings and make further recommendations for practice.

2 Introduction

Compassion is defined as an openness to the suffering of oneself and others, with a desire and efforts to relieve it (Gilbert, 2005). It is proposed that there are three directional flows of compassion; compassion for others, compassion from others and self-compassion (Gilbert et al., 2017). Compassion is considered paramount to the high-quality, patient-centred delivery of health services and has been placed at the forefront of health policy and training in the last decade (Department of Health and NHS Commissioning Board, 2012; NHS England, 2014a). Such policies have been developed in response to detailed investigation and review of serious failings in care delivery (Francis, 2013; Parliamentary and Health Care Ombudsman, 2011) and outline frameworks such as the six C's (care, compassion, competence, communication, courage and commitment; Department of Health and NHS Commissioning Board, 2012) as a value standard for healthcare workers.

Despite these value standards, it is of note, that healthcare professionals face the ongoing challenge of providing compassionate care within highly pressurised and finite-resourced systems (National Academies of Medicine, 2019). There has been growing concern about their capacity to do this, without compromising their own wellbeing and consequently, the quality of patient outcomes (Panagioti et al., 2018; Shanafelt et al., 2012). Lama and Thupten (1995) stated that in order to provide compassionate care to others, individuals must develop a compassionate stance towards themselves. A lack of this in the face of stress has been associated with poor health behaviours (e.g., failure to take breaks, working longer hours, poor and irregular eating habits, substance misuse) and psychological outcomes (such as stress, anxiety and depression) amongst healthcare professionals (Egan et al., 2018; Fernandes et al., 2013; Neff, 2003; Timmins et al., 2011).

2.1 Benefits of compassion in healthcare

Considering the above, research has increasingly explored the benefits of cultivating compassion within healthcare professionals through training and education, as means to improve the safety and health of staff and patients (Raab, 2014; Sinclair et al., 2017). Identified benefits include improved mental health (Beaumont & Hollins Martin, 2015), physical health (e.g., effective immune system, low blood pressure and cortisol levels; Cosley et al., 2010; Lutz et al., 2008), reduced levels of burnout and compassion fatigue (Figley, 2002; Klimecki & Singer, 2012) and enhanced overall psychological wellbeing (Neff & Germer, 2013). From an organisational and patient outcomes perspective, compassion aids patient recovery, giving them a greater sense of control over their health (van der Cingel, 2011), enables person-centred care (Riggs et al., 2014), improves the relationship between patients and professionals (Cherlin et al., 2004; Bensing et al., 2013) and enhances staff engagement and patient experience, particularly when compassion is modelled by healthcare leaders (Cochrane et al., 2019).

2.2 Self-compassion in healthcare

Self-compassion in particular has been associated with a range of positive outcomes for healthcare staff and patient wellbeing (Neff, 2009). Self-compassion is described as a form of “self-to-self relating” that embodies a kind and understanding stance towards one’s own suffering, seeing it as part of the shared human experience (Neff, 2003). It can be applied to self in the face of difficult and painful experiences, evoked through personal shortcomings or failures, or external issues (e.g., excessive demands, difficulties in relationships, trauma, loss) that are outside of one’s control (Neff & Germer, 2019). Gilbert’s (2010) affect regulation systems model explains that for humans there are at least three types of core emotion regulation systems; the threat and protection system, the drive resource-seeking and excitement system and the affiliative/soothing and safeness system. Importantly, self-compassion helps to activate the soothing system (associated with

feeling content, safe and soothed), which interrupts stimulation of the threat system (associated with feeling angry, anxious, disgusted and a motivation to self-protect/seek safety) and drive system (associated with feeling driven, excited, energetic and a desire to purse resources). When these three systems are out of balance i.e., as a result of the threat and drive systems being over-stimulated, this can lead to psychological distress (Gilbert, 2010).

Self-compassion has therefore been indicated as a potential self-care tool and protective factor against the negative impacts of highly stressful healthcare environments (Clevenger, 2019; Montero-Marin et al., 2016; Neff, 2003), with enhanced levels of self-compassion promoting improved psychological wellbeing and life satisfaction (Neff & Germer, 2019), perceived happiness (Benzo et al., 2017), self-care (Nelson et al., 2018; Mills, Wand & Fraser, 2018), resilience (Delaney, 2018), compassion for others (Condon et al., 2013; Mills et al., 2017) and lower levels of stress (Mahon et al., 2017). Self-compassion has also been inversely associated with the constructs of shame and self-criticism, which are known to increase vulnerability to compromised wellbeing and psychological difficulties (Gilbert & Procter, 2006).

2.2.1 Self-compassion and shame

Shame-prone individuals have difficulties with creating a self-compassionate frame of mind and activating their soothing system in the face of failure and setbacks (Gilbert & Procter, 2006). Tightly-resourced, ressurised and complex healthcare environments may unfortunately provide increased opportunities for shame-based experiences within health professionals e.g., due to increased risk of involvement in medical errors (Sirriyeh et al., 2010) and moral distress (Corley et al., 2001). Shame has been described to have two main components; external and internal shame. External shame is characterised by thoughts and feelings that the self is viewed negatively by others, with feelings of anger, contempt and/or views that they possess unattractive attributes, that leave them susceptible to external

rejection or attacks (Gilbert & Andrews, 1998). Internal shame is characterised by focus on the self, with feelings and evaluations of the self as bad, flawed or inadequate (Lewis, 2003). The experience of shame can create very hostile and threatening inner thoughts and feelings about the self, as well as hostile living environments and interactions, making it difficult for the individual to feel safe or become soothed (Gilbert & Procter, 2006). Self-compassion offers an antidote to these feelings of threat and can thus reduce individuals' susceptibility to the psychological difficulties associated with shame (e.g., depressive rumination, Cheung et al., 2004 & self-criticism, Gilbert & Miles, 2000).

2.2.2 Self-compassion and self-criticism

Self-criticism is a key component of internal shame that elicits a form of self-loathing and self-directed hostility (Gilbert & Proctor, 2006). High levels of self-criticism are associated with high levels of compassion fatigue (Ondrejková & Halamová, 2022), burnout, and reduced psychological wellbeing. It is also a predictor of depression in healthcare professionals (Beaumont et al., 2016; Brewin & Firth-Cozens, 1997; Murphy et al., 2002). Self-critical individuals have a heightened preoccupation with how they compare with others socially (their "social rank"), due to concerns of criticism and rejection, which can lead to perfectionism (as a means to meet others' standards and avoid rejection/criticism; Dunkley et al., 2006). Self-criticism has been found to develop from a range of sources including a lack of schema and memories of others as helpful, soothing and supportive (arising from insecure attachment; Mikulincer & Shaver, 2004), disapproval from others (Baldwin, 2005) and safety/self-protection strategies in the face of hostile others (Gilbert & Andrews, 1998). Whilst the origins and functions of self-criticism vary, self-criticism is strongly associated with an inability to be self-compassionate and self-soothe in the face of shame-focused threat (Gilbert et al., 2006). Thus, efforts to increase self-compassion and self-reassurance as an antidote to self-critique in healthcare

professionals, appears to be a valuable resource and buffer against mental health problems in this population (Beaumont, 2016).

2.3 A focus on mental health professionals

Mental health professionals, trainee and qualified alike, face a number of distinctive personal and professional issues that put them at particular risk of the above-mentioned shame, self-critique, low self-compassion and reduced wellbeing (Beaumont et al., 2016; Beaumont et al., 2017; De Stefano et al., 2012). These include working with clients with high levels of distress, suicidal thoughts or self-harming behaviours and having to manage ethical issues related to risk, confidentiality and patient disclosures, in a timely manner (De Stefano et al., 2012; Reeves & Dryden, 2008; Wheeler et al., 2004). Anxieties around making ethical decisions under time pressure, may also lead to self-criticism and fears of incompetence (Wheeler et al., 2004). In addition, for therapists in training, supervision can exacerbate feelings of anxiety, fear of negative judgement (external shame) and self-criticism (internal shame), and consequently, lead to non-disclosures (Beaumont et al., 2017; Farber, 2006). Some trainee student therapists also experience anxiety around developing their professional identities and compare themselves unfavourably to peer colleagues, which negatively affects their training experiences (Beaumont & Martin, 2016; Jacobsson et al., 2012).

In relation to self-criticism and shame, trainee therapists who are self-critical may possess a pervasive desire to sustain high standards of practice and prevent or correct mistakes (Gilbert et al., 2004). When this cannot be achieved, it can lead to self-punishment and further de-valuation (Gilbert et al., 2004). Self-criticism is known to be associated with a lifetime risk of depression (Murphy et al., 2002) and unfortunately, 25-41% of trainee therapists report having experiences of depression, low-self-esteem and difficulties adjusting to work (Brooks et al., 2002). In contrast, individuals with higher levels of self-compassion experience enhanced empathic concern for others (Neff & Pommier, 2013), lower levels of self-critical judgment and

show a greater willingness to embrace challenge and innovation (Neff et al., 2005). In addition, trainee therapists with higher levels of self-compassion and wellbeing report fewer symptoms of compassion fatigue and burnout (Beaumont et al., 2016). Self-compassion can also increase self-acceptance and self-reflection in supervision, which in turn could enable trainee mental health professionals to make more disclosures in supervision despite perceived flaws (Beaumont et al., 2017). It is therefore unsurprising that interventions aimed at cultivating self-compassion within healthcare professionals have been on the rise in the last two decades (Boellinghaus et al., 2014; Raab, 2014; Wasson et al., 2020). Considering all this evidence, there appears to be utility in enhancing self-compassion within mental health professionals more specifically, particularly during their training journeys.

2.4 Cultivating compassion in trainee mental health professionals

To date, most research on the impact of compassion-focused interventions has focused on healthcare professionals more broadly, with few having been implemented with trainee mental health professionals in particular. Finlay-Jones, Kane and Rees (2016) implemented a six-week online self-compassion cultivation program with psychology trainees, which proved to be both acceptable and effective in enhancing self-compassion and happiness and reducing stress, depression and emotion regulation difficulties. Yela et al. (2020) delivered an eight-week Mindful Self-Compassion (MSC) training to a sample of clinical and health psychologists, which was effective at increasing self-compassion, mindfulness and psychological wellbeing in participants who adhered to the intervention to a high degree. In addition, Beaumont et al. (2017) implemented a three-day Compassionate Mind Training (CMT) workshop with student Cognitive-Behavioural Psychotherapists (CBP), which led to significant increases in self-compassion and reductions in self-critical judgement.

2.4.1 Compassionate Mind Training

CMT has been evidenced as effective in increasing all three flows of compassion (to self, from others and to others) and reducing self-criticism, shame, and depression in clinical and non-clinical populations (Gilbert & Procter, 2006; Matos et al., 2017; Mayhew & Gilbert, 2008), including trainee CBPs (Beaumont et al., 2017).

Compassionate Mind Training (CMT) forms part of Compassion Focused Therapy (CFT), which was originally developed by Professor Paul Gilbert (Gilbert 2000, 2009, 2010) to help clinical populations experiencing low mood and high levels of shame and self-criticism. CFT incorporates explanations of the evolutionary theory and processes underpinning Gilbert's (2009) affect regulation systems model *(see section 2.2 for description),* alongside specific practices that can activate the affiliative/soothing and safeness system. Practices initially aim to cultivate and build compassionate capacities (e.g., through breathing and imagery exercises such as, "soothing rhythm breathing"), before moving on to focus on building and cultivating the "compassionate self" and the "compassionate self" in relation to oneself and others.

2.5 Rationale for the current study

As noted above, despite mental health professionals facing several distinctive personal and professional challenges that put them at particular risk of compromised mental wellbeing, stress, shame, self-criticism and low self-compassion, (Beaumont et al., 2016; Gilbert et al., 2004; De Stefano, et al., 2012), the majority of research on the effectiveness of compassion-focused interventions for healthcare professionals, has focused on staff from non-mental health contexts. In addition, with the knowledge that mental health professional trainees may experience heightened anxiety, self-criticism and self-inflicted pressure to excel without mistakes (Rønnestad & Skovholt, 2003), providing these interventions early during training, to foster a culture and means of enhancing self-care in this population appears pertinent. This is further supported by findings that although

mental health training programmes may emphasise the importance of self-care for trainees, few specifically teach this as part of their curricula (Bamonti et al, 2014; Christopher et al., 2006), resulting in self-care being presented to trainees as their own individual responsibility, rather than a core professional skill within their profession.

3 Aims and hypotheses

In light of the above, this study aims to explore the feasibility and initial outcomes of a new compassion-based workshop (utilising CMT), embedded within the training curriculum of Psychological Wellbeing Practitioners (PWPs) in the United Kingdom (UK). The workshop and procedure are informed by a similar intervention delivered to university students by Matos et al. (2017). It will evaluate the intervention's effectiveness in increasing trainee PWPs' levels of self-compassion, self-reassurance, (helpful) beliefs about emotions, mental wellbeing and (favourable) social comparison, and reducing their self-criticism, stress and external and internal shame.

The evaluation of this workshop was informed by the Medical Research Council's (MRC) guidance for complex interventions (Moore et al., 2015). As advised, the evaluation study utilised both quantitative and qualitative methods to examine the feasibility (delivery and implementation) and acceptability (participant engagement with the intervention, experiences of change etc.) of the compassion-based workshop. This aimed to contextualise and explain intervention outcomes, as well as identify ways to enhance its design and/or replicate it. This thesis is focused on investigating the feasibility and initial outcomes of the evaluation study and will not report on the acceptability aspect of the evaluation study, as this is addressed in another trainee's (Gibbons, 2021) doctoral thesis. The following research questions and hypotheses were put forward concerning the feasibility and initial outcomes of the compassion-focused intervention:

Research questions and hypotheses:

1. Will a new compassion-based workshop intervention, embedded within the training programme for psychological wellbeing practitioners be feasible in relation to the following:
    a) *Recruitment* – to what extent are participants able to be recruited to the evaluation study?
    b) *Data completion and participant attrition* – is it feasible to administer the package of evaluation measures and to what extent are trainees able to complete them? To what extent are participants retained in the evaluation study, through to follow-up?
    c) *Intervention delivery and facilitation* – is the workshop able to be delivered within the allocated curriculum time? Is it feasible to deliver the CMT theory and example exercises in one session (face-to-face and remotely)?
    d) *Adherence to follow-up exercises* – to what extent are trainees able to access and engage with follow-up exercises?
2. Self-compassion will be negatively correlated with levels of self-criticism (inadequate self and hated self), stress and external and internal shame, and positively correlated with mental wellbeing, self-reassurance (reassured self), beliefs about emotions and social comparison.
3. TPWPs will show higher levels of self-compassion, self-reassurance, mental wellbeing, beliefs about emotions and social comparison, and lower levels of self-criticism, stress and external and internal shame pre-to-post intervention.
4. Practice frequency of follow-up exercises will be positively associated with self-compassion, self-reassurance, mental wellbeing, beliefs about emotions and social comparison, and negatively associated with self-criticism, stress and external and internal shame.

4 Method

4.1 Procedure

This study was approved by the UCL Division of Psychology and Language Sciences ethics committee (ethics number: CEHP/2020/578; see Appendix 3). The study was carried out as part of a joint research project with a fellow Clinical Psychology doctoral trainee at UCL (Gibbons, 2021). In collaboration with a PWP course director in England, it was agreed that a newly developed compassion-focused workshop, with follow-up exercises would be delivered to trainees on the course. The course identified a two-an-a-half-hour slot in the teaching timetable of five cohorts of TPWPs, in which the workshop would be delivered, though participation in the evaluation research was voluntary.

Throughout the study, participants were sent a series of emails via their course administrator. Prior to the workshop being delivered, they received information via email about the workshop and evaluation study, including a link to a survey on the online survey platform Qualtrics, to participate in the study. At the start of the workshop, trainees were given time to participate in the evaluation study through the link if they wished to. Upon opening the link, they were provided with an information sheet (Appendix 4) and consent form (Appendix 5). For data anonymity purposes, participants were then asked to generate a unique, non-identifiable code (the first three letters of their mother's maiden name and final three digits of their mobile phone), allowing us to track their data across the different time points. Participants were then directed to complete a set of outcome measures (see Appendix 6) for baseline (T1). The workshop was then delivered (see *intervention* section to follow). Cohorts one and two received the workshop face-to-face, and cohorts three, four and five received it remotely via the online video conferencing platform Blackboard Collaborate, due to COVID-19 restrictions. Immediately following the workshop, participants were sent via email a Qualtrics survey link through which they could download the follow-up guided audio exercises for

independent practice, at least once a day for the two weeks following the workshop. They were also provided with a booklet summarising the content of the workshop (see next section for details). Cohorts one and two received paper booklets, and cohorts three, four and five received an electronic copy of the booklet, again due to COVID-19 restrictions.

One week following the workshop, trainees were sent an email reminder to do the audio exercises. Two weeks following the workshop (T2), another Qualtrics survey link was sent to the trainees which included the same set of outcome measures, a practice recording diary (to quantify their use of the follow-up exercises; see Appendix 7) and a qualitative feedback form, gathering data on their experience of the workshop and follow-up exercises. At the end of the questionnaires, they were redirected to a different survey where they could express interest in taking part in follow-up qualitative interviews completed by (CG; Gibbons, 2021) for their thesis project.

Finally, a further six weeks later, (eight weeks after delivery of the workshop), a third and final Qualtrics survey link was sent to the trainees which contained the same set of outcome measures and practice diary to complete. Participants were then re-directed to a separate survey where they could provide their email addresses if they wished to be entered into a prize draw for a £10, £15 or £25 high street voucher or donation to a charity of their choice. Participants where then provided with a debrief sheet (see Appendix 8).

4.2 Study design

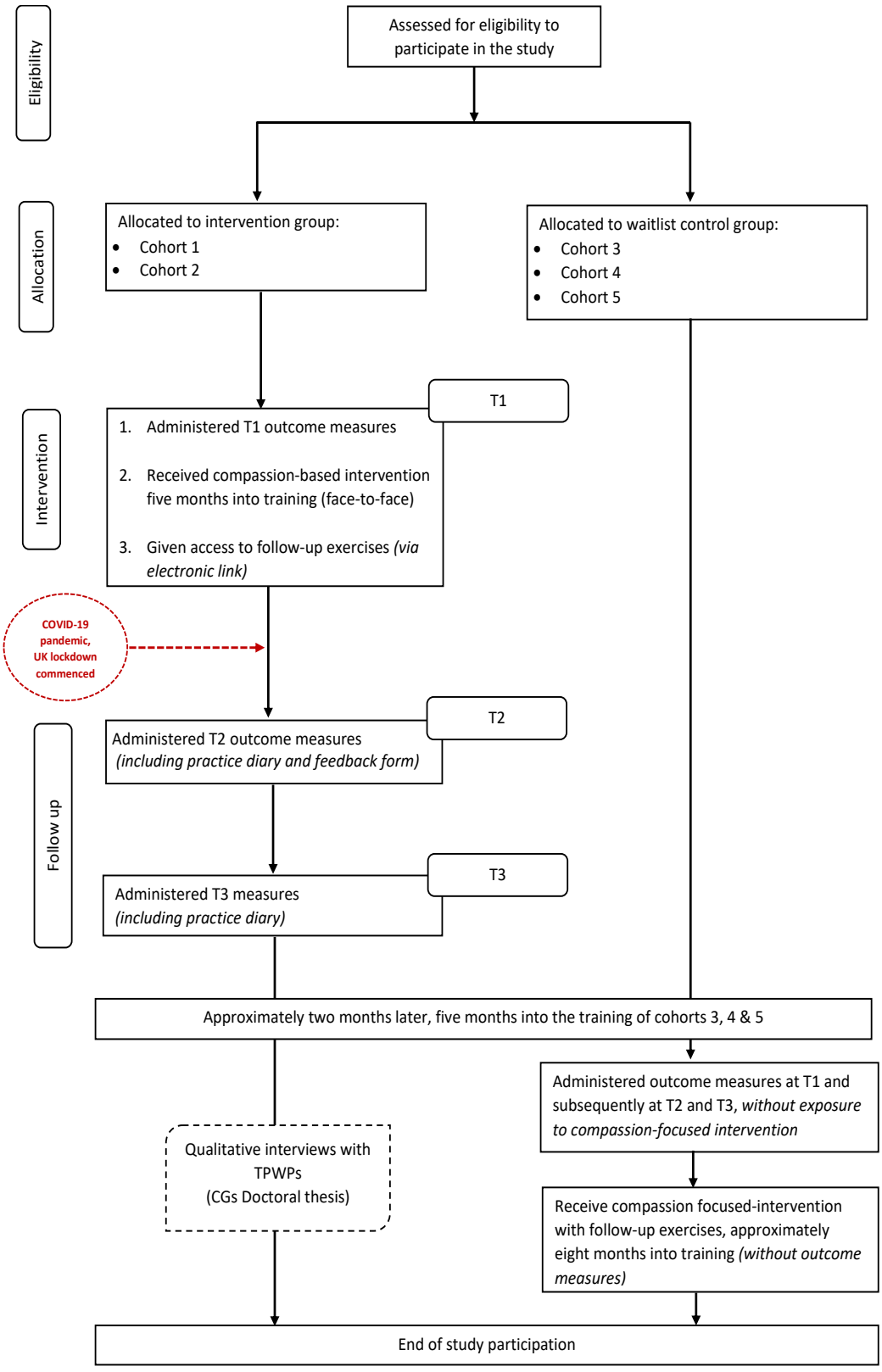
The workshop was delivered to five cohorts of TPWPs at a university in England as part of their teaching programme. The workshops were delivered to cohorts separately; cohorts one and two in March 2020 and cohorts three four and five in November 2020. This study began utilising a non-randomised, stepped-wedge control design, across these five cohorts of TPWPs. Cohorts one and two were assigned to an experimental group and cohorts three, four and five (who

commenced their training approximately five months after the first two cohorts) were assigned to a waitlist control group. The workshop was delivered face-to-face to cohorts one and two, five months into their training. They were invited to take part in the research, completing the outcomes measures at the three time points (T1, T2 and T3). Approximately two months following this, cohorts in the waitlist control group were to be invited to complete the outcome measures (also five months into their training) at the same time intervals: baseline (T1), 2 weeks later (T2) and a further 6 weeks later (T3). The workshop would then have been delivered to these cohorts at the end of their training.

Allocating cohorts to experimental and waitlist control groups in this way was primarily done to accommodate the TPWP curriculum structure (i.e., delivering the compassion-focused workshop to all cohorts starting their training at the same time point in their timetable, for ease of timetable planning by the participating course). It was also hoped that this delivery format would reduce the risk of contamination bias (e.g., by creating separation/minimising the overlap between experimental and waitlist control conditions). This study design would have allowed for the evaluation of the effectiveness of the compassion-focused intervention versus not receiving the intervention. The initial recruitment strategy is illustrated in Figure 1.

Figure 1.

Modified CONSORT flow diagram for non-randomised stepped-wedged control design



4.2.1 Impact of COVID-19

In the week following delivery of the workshops to cohorts one and two, a nationwide lockdown in the UK was enforced due to the COVID-19 pandemic. The participating university immediately halted face-to-face teaching and the TPWP course curriculum was delivered entirely remotely via the online video conferencing platform Blackboard Collaborate. During this period, the evaluation study suffered significantly high levels of participant attrition at T2 and T3 for participants from cohorts one and two (89%). This was indicated by low levels of engagement in follow-up exercises and data completion at follow-up time points. Despite additional email reminders to participants about the evaluation study, encouraging them to engage with follow-up exercises and follow-up data points, participation remained low. As such, we reviewed the study design and recruitment strategy with a research lead in the Department of Clinical, Educational and Health Psychology. We considered how best to reduce demands on the trainees in the control groups that were still due to be invited to participate in the study and receive the workshop, whilst maximising recruitment to the study within the context of the COVID-19 pandemic.

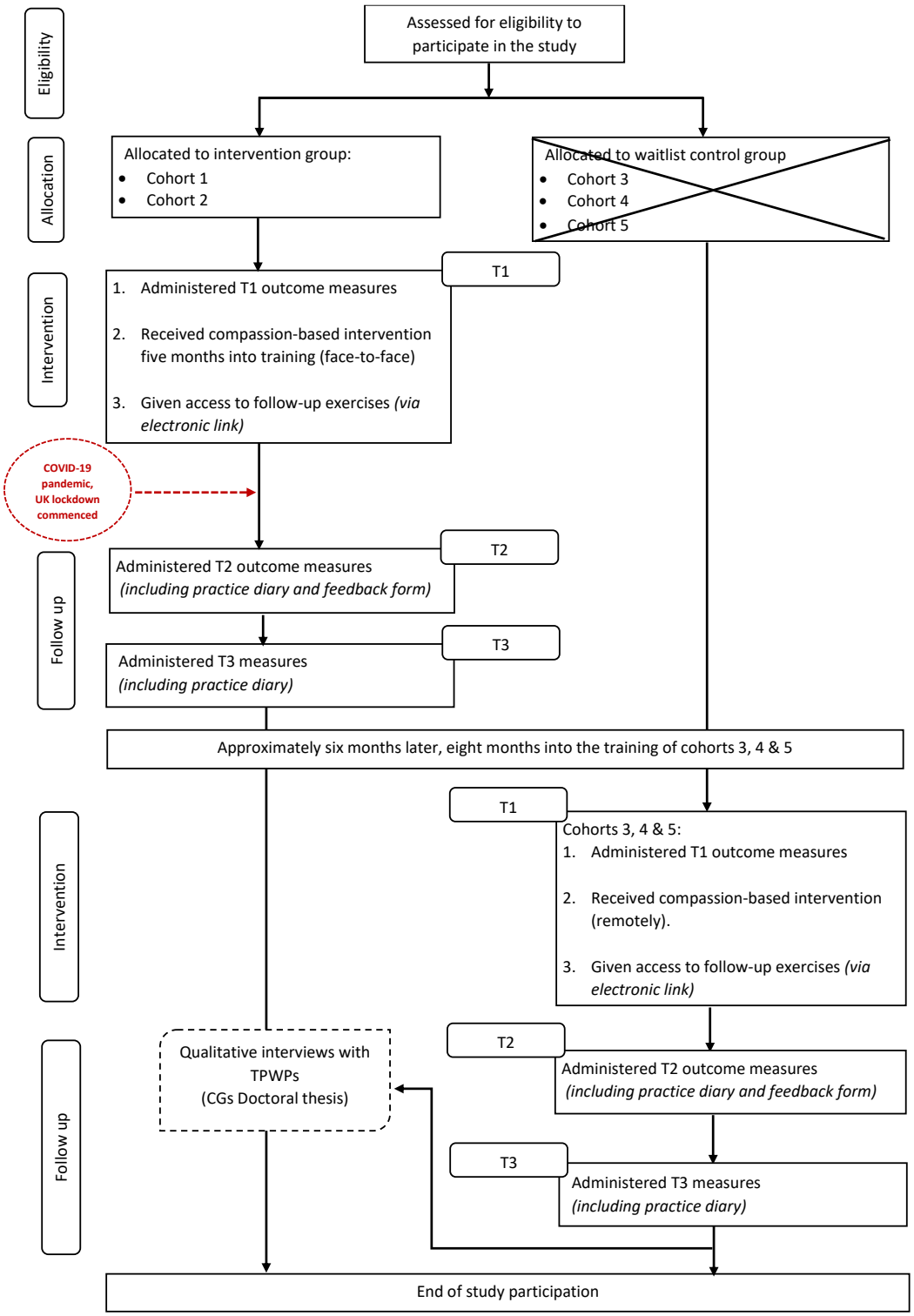
4.2.2 Revised study design

Through discussion, we agreed to the shift focus of the recruitment strategy to obtaining larger amounts of follow-up data, as opposed to including a control group. This decision was made in light of considerations of the additional emotional and course-related demands that may have been on trainees within the context of the COVID-19 pandemic. As such, the study progressed by delivering the compassion-focused workshop, follow-up exercises and outcome measures to cohorts three, four and five, in the same way as was implemented with cohorts one and two, with the exception that the workshops were delivered remotely online due to COVID-19 restrictions. In practice, the study therefore implemented a pre-post study design (with follow up) using data collected from all five cohorts, in two

separate blocks. This study (from recruitment to final follow-up assessment) was conducted over a period of ten months, between March 2020 to January 2021. The revised recruitment strategy is illustrated in Figure 2.

Figure 2.

Revised TPWP recruitment strategy for pre-post evaluation study



4.3 Intervention

The compassion-focused intervention was developed with a group of key stakeholders: Dr Michelle Wilson (MW), Clinical Psychologist (CP) and two trainee CPs (myself and CG; Gibbons, 2021) working under the Clinical, Educational and Health Psychology department at University College London (UCL) and Dr Chris Irons (Clinical Psychologist, from Balanced Minds and Compassion expert). Additional consultation was provided by Dr Marcela Matos (Clinical Psychologist, member of the Compassionate Mind Foundation and lead author of the aforementioned RCT for CMT in the general population and college students).

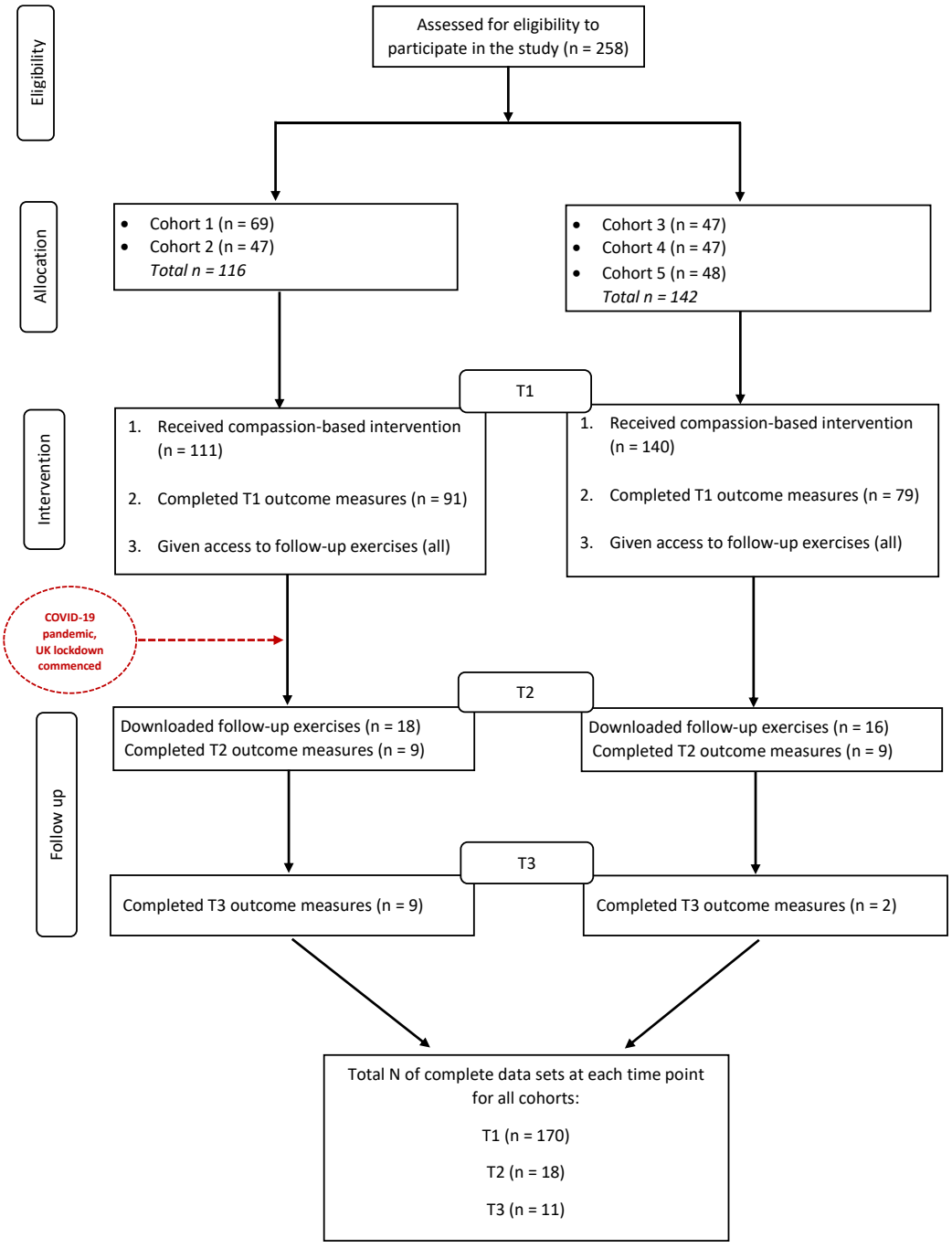
We developed an intervention comprising of a two-and-a-half-hour compassion-focused workshop with a series of follow-up audio exercises, based on the CMT intervention implemented in Matos et al.'s (2017) study. The workshop included an introduction to compassion as a concept, the three emotion-regulation systems, and CMT practices, including the practice of soothing rhythm breathing and cultivating the compassionate self exercise during the session. As part of explaining the theory, examples relevant to the role of TPWPs were used. A supplementary booklet was also developed (again based on that used in the Matos et al., 2017 study) and provided to participants, outlining the theoretical background of CMT, guidance on how to prepare for CMT practices and the actual practices. The follow-up audio exercises were recorded by MW, for use by the participants after the workshop (soothing rhythm breathing, developing the compassionate self, directing compassion to another and directing compassion to the self). The workshop was delivered by MW, who was on hand to answer any questions/queries raised by trainees either during or after the workshop.

4.4 Recruitment and participants

Of the 258 TPWPs across these five cohorts, 251 attended the workshops. A sub-sample of 183 TPWPs consented to participate in this evaluation study and completed the baseline measures. The total number of participants across time points in this study, is illustrated in Figure 3.

Figure 3.

Number of TPWPs at all time points in the evaluation study



Demographic information was collected at baseline and is summarised in Table 1. The majority of participants were female (91%) and aged between 25 and 34 years old (56.8%).

Table 1.
Participant demographics

	n	%
Gender		
Male	15	8.5
Female	160	90.9
Prefer not to say	1	.6
Age range		
20 – 24	59	33.5
25 – 34	100	56.8
35 – 44	13	7.4
45 – 54	4	2.3

Note: Total n = 176, seven participants did not provide demographic information

4.5 Measures

4.5.1 Demographics

In the interest of protecting participant anonymity, limited demographic information was collected on gender and age range at baseline.

4.5.2 Feasibility

To assess feasibility, the following were examined: participant recruitment rates to the evaluation study (%), participant attrition/drop-out rates (%) as indicated by levels of data completion across data time points, intervention delivery and facilitation (i.e., face-to-face versus remote delivery, ease of facilitation, continuity of facilitator) and adherence (%) to the follow-up exercises (as indicated by the % of audio downloads, diary completion and practice frequency).

4.5.3 Self-report questionnaires

Self-compassion scale-short form (*SCS-SF*; Raes et al., 2011). This is a 12-item questionnaire measuring self-compassion. On a five-point Likert scale (“Almost never” to “Almost always”), participants rate how frequently they engage in different ways of self-relating, based on six scales: self-kindness, mindfulness, common

humanity, self-judgement, over-identification and isolation. A total score is achieved by reverse scoring negative subscale items, summing all the items and then computing a total mean. Higher scores indicate greater levels of self-compassion. The SCS-SF is a validated measure that is highly correlated with the long version of the Self-Compassion Scale (SCS, Neff, 2003; r ≥ .97) and has adequate internal consistency (Cronbach's alpha ≥ .86). For this study, the Cronbach's alpha of the SCS-SF was .88, suggesting very good internal consistency.

Warwick-Edinburgh Mental Well-Being Scale (WEMWBS; Tennant et al., 2007). This is a 14-item self-report scale measuring mental wellbeing. Participants rate themselves on feelings and thoughts experienced over the last two weeks on a five-point Likert scale ("None of the time" to "All of the time"). Ratings sum to provide a total score and greater scores indicate higher levels of mental wellbeing. The WEMWBS demonstrates good content validity and internal consistency (Cronbach's alpha .89 in a student sample and .91 in a population sample). The Cronbach's alpha of the WEMWBS for this study was .89, indicating very good internal consistency.

External and Internal Shame Scale (EISS; Ferreira et al., 2020). This is an eight-item questionnaire which measures four core domains of external shame (ES) and internal shame (IS): inferiority/inadequacy, exclusion, criticism and emptiness. Participants rate the frequency of their shame experiences on a five-point Likert-scale ("Never" to "Always") and scores sum to form a total score for ES and IS individually and collectively (the EISS total score). Higher scores indicate higher levels of shame. The EISS is a valid measure with good internal consistency (Cronbach's alpha of .80 and .82 for external and internal shame subscales, respectively and .89 for the EISS total score). The Cronbach's alpha for this study was .75 for ES, .76 for IS and .85 for the EISS total score, indicating acceptable to very good levels of internal consistency.

Beliefs about emotions scale (BES; Rimes & Chandler, 2010). This is a 12-item scale which measures beliefs about experiencing and expressing negative emotions. Participants rate the extent to which they agree with items on a seven-point Likert scale ("Totally agree" to "Totally disagree"), with lower total scores indicating more unhelpful beliefs about emotions. This scale has good validity, sensitivity to change and internal consistency (Cronbach's alpha .91). For this study, the Cronbach's alpha of this scale was .91, which indicates very good internal consistency.

Forms of self-criticising/attacking & self-reassuring scale (FSCRS; Gilbert et al., 2004). This is a 22-item questionnaire measuring the levels of self-criticism and self-reassurance that individuals experience when failures or setbacks are perceived. Using a five-point Likert scale (from 0 - "not at all like me" to 4 - "extremely like me"), participants rate themselves on three subscales describing two forms of self-criticism (feelings of personal inadequacy; the "inadequate self" and the desire to persecute/hurt oneself; the "hated self") and the capability to self-reassure (the "reassured self"). Higher scores indicate greater identification with each form of the "self". The three FSCRS subscales demonstrate good internal consistency; Cronbach's alpha ranged between .82 and .89 for hated-self, .89 and .91 for inadequate-self and .82 and .88 for reassured-self in non-clinical populations. For this study, the Cronbach's alpha was .89 for inadequate self, .84 for hated self and .89 for reassured self, suggesting very good internal consistency for all scales.

Social comparison scale (SCS; Allan & Gilbert, 1995). This 11-item scale measures self-perceptions of social rank and relative social standing. It is comprised of 11 bipolar dimensions, on which participants rate themselves in relation to others along a ten-point scale (i.e., 1 – "incompetent" to 10 – "more competent"). Lower total scores indicate lower self-perceptions of social rank and greater feelings of inferiority. This scale has good internal consistency, with Cronbach's alpha of .90 and .91 with student samples and .88 and .96 with clinical samples. For this study,

the Cronbach's alpha in this scale was .89, indicating very good internal consistency.

Perceived Stress Scale (PSS; Cohen et al., 1983). This ten-item scale measures the extent to which situations are perceived as stressful. Participants rate themselves on a five-point rating scale (0 – "never to 4 – "very often") on situations experienced over the last month. The scale is made up of four positively phrased items and six negatively phrased items. A total score is achieved by reversing the scores of the four positively phrased items and then summing all scale items. Higher scores indicate greater levels of perceived stress. This scale has shown good psychometric properties, validity and adequate reliability (Cronbach's alpha ranging between .75 to .91; Cohen et al., 1983; Cohen et al., 1993). The Cronbach's alpha for the PSS was .75 in this study, suggesting acceptable levels of internal consistency.

*Compassionate mind practice recording diary (*Matos et al., 2017). A nine-item questionnaire assessing the frequency, intensity and nature of participants' compassionate imagery experiences and their overall experience of the follow-up practices. Participants were asked to complete this questionnaire at two-week and two-month follow up.

4.6 Sample size

A priori power analysis was performed using G*Power 3 (Faul, Erdfelder, Lang & Buchner, 2007) to determine an estimated sample size for conducting a paired t-test (two-tailed), using an alpha of .05, power of 0.8 and small-medium effect size (d = 0.46). This effect size was calculated using the mean pre-post scores and standard deviations on the self-compassion scale from Beaumont et al.'s. (2017) study. The suggested total sample size on the basis of this calculation is 40 (matched pairs).

4.7 Data analyses

Data were analysed using SPSS for Windows (version 28). Descriptive statistics were used to examine research question one and practice recording diary data at T2 and T3. As a prerequisite to statistical analyses conducted to test hypotheses one to three, data was examined for adherence to the assumptions of parametric testing. The dependent variables examined for their respective statistical analyses were self-compassion (SCS-SF), self-criticism (FSCRS; comprised of the Inadequate Self, Hated-Self scales), self-reassurance (FSCRS; comprised of the Reassured Self scale), beliefs about emotions (BES), stress (PSS), external (ES) and internal (IS) shame (EISS; total score), mental wellbeing (WMWBS), social comparison (SCS) and T2 Practice Frequency and T3 Practice Frequency.

For correlational analyses conducted to examine hypotheses one and three, linearity between variables were visually assessed using scatter plots, Shapiro Wilk tests of normality, skewness and kurtosis and histograms. Outliers were examined using box plots (Interquartile Range; IQR). As the data did not meet all of the assumptions, Spearman's rho correlations were conducted to test hypotheses one and three. T1 (baseline) data was used to examine hypothesis one. To examine hypothesis three, correlational analyses were only conducted for practice frequency and changes in dependent variables at T2, as mean differences between practice frequency at T2 and T3 were not significant. As per guidance outlined by Cohen (1988) for interpreting Spearman's rho correlation coefficients, r = .10 to .29 was considered small, .30 to .49 medium and .50 to 1.0 large. Correlational analyses were computed using an unadjusted alpha level of $p < .05$. Subsequently, hypothesis one was examined against a Bonferroni-adjusted alpha level of $p < .005$ (i.e., .05 / 10) and hypotheses three, $p < .004$ (i.e., .05 / 11), in order to account for the inflated risk of Type I errors due to the multiple correlational analyses conducted.

Due to insufficient data across T1-T3 (n = 5), repeated measures analysis of variance (ANOVA) tests were too underpowered to test hypothesis two. Alternatively, as data did not meet the assumptions of paired t-tests, Wilcoxon

signed-rank tests were conducted to examine changes in dependent variables T1-T2 (n = 16), T1-T3 (n = 10) and T2-T3 (n = 5). To assess the significance of these statistical tests, this hypothesis was initially tested against an unadjusted p-value of p <.05 (2-tailed) and subsequently, a Bonferroni-adjusted alpha level of p <.017 (2-tailed; i.e., .05 / 3) was applied to account for the inflated risk of type I errors due to the multiple comparisons conducted. Significance at both values were reported, with a specific note on which effects were lost to the Bonferroni correction. Effect sizes (r) were calculated using Wilcoxon signed-rank z values (r = z divided by the square root of the total N of cases; Pallant, 2016). Effect sizes were considered small (r = .1), medium (r = .3) or large (r = .5) based on thresholds stipulated by Cohen (1988).

4.8 Attrition

As the required sample size of 40 (pairs) was not met to examine hypotheses two and three as per the priori analysis, due to significant levels of participant attrition across time points, this study may not have a sufficient power to test these hypotheses. In addition, high levels of participant attrition may have introduced attrition bias into the data set, potentially compromising the representativeness of the studied samples of TPWPs at follow-up time points and consequently, the validity of results pertaining to the initial outcomes of the intervention. As such, the outcomes of statistical analyses only provide preliminary findings as to the initial outcomes of the compassion-focused intervention and must be interpreted in light of the above limitations.

5 Results

5.1 Feasibility

5.1.1 Recruitment

Of the 251 TPWPs that received the compassion-focused workshop, a high proportion of participants were recruited to the evaluation study (N = 183; 71%).

5.1.2 Data completion and participant attrition

Across data time points (T1-T3), there were considerably high levels of participant attrition (93.4%), summarised in Table 2. A small proportion of participants completed their first sets of data at T2 or T3, or dropped out at T1 and re-entered the evaluation study at T3 (all referred to as 'gained at follow up' in Table 2).

Table 2.
Data completion rates and participant attrition T1-T3.

	T1	T2	T3
Total N started Qualtrics survey	183	21	12
Complete data set (%)	170 (92.9%)	18 (85.7%)	11 (91.6%)
Incomplete data set (%)	13 (7.1%)	3 (14.3%)	1 (8.3%)
Lost to follow up (%)	-	167 (84.1%)	16 (76.2%)
Gained at follow up (%)	-	5 (2.73%)	7 (33.3%)
Overall participant attrition rate (%)	-	162 (88.5%)	171 (93.4%)

Inconsistencies in data completion and incomplete data had a considerable impact on pairs of data available for statistical analyses, with only five participants completing data at all three time points. Pairs of data available were somewhat improved between T1-T2 (N = 16 for all except PSS and SCS which was N = 15) and T1-T3 (N = 10), and data completion between T2-T3 was five.

5.1.3 Intervention delivery and facilitation

The workshop was feasibly implemented in the allotted two-and a half hour curriculum slot, for both face-to-face and online (remote) formats. For workshops delivered online, participant engagement was encouraged using Mentimeter (2021), an interactive presentation software. All five workshops were facilitated by one Clinical Psychologist (MW), enhancing intervention fidelity across the cohorts of TPWPs.

5.1.4 Adherence to follow-up exercises

A small proportion of participants (34 out of 183; 18.6%) downloaded the follow up audio exercises (see Table 3). Twenty-two (64.7%) did not complete practice recording diaries at T2 and 27 did not (79.4%) at T3. Twelve additional participants who were not recorded as having downloaded audio exercises, completed practice recording diaries (n = 9 at T2; n = 3 at T3) suggesting that they accessed audios for practice directly via the online Qualtrics survey. Of the total 46 participants that are recorded to have accessed audio exercises, 21 (45.6%) completed practice diaries at T2, 12 (26.1%) at T3 and five at both T2 and T3 (10.9%). The mean practice frequency of audio exercises at T2 was 2.14 and at T3, 2.33 per week, indicating that on average, participants practiced exercises one-two times a week.

Table 3.
Diary completion, downloads and mean practice frequency of follow-up audio exercises

	Audio downloads (%)	Diary completion (%)	Mean practice frequency (SD)
T1	34 (18.6%)	-	-
T2	-	21 (45.6%)	2.14 (0.73)
T3	-	12 (26.1%)	2.33 (0.89)
T2 + T3	-	5 (10.9%).	-

5.2 Relationship between self-compassion and wellbeing, beliefs about emotions, external and internal shame, self-criticism, self-reassurance, social comparison and stress

Hypothesis one proposed that self-compassion would have a negative correlation with self-criticism (inadequate self and hated self), stress and external and internal shame, and a positive correlation with wellbeing, self-reassurance (reassured self), beliefs about emotions and social comparison. Spearman's Rho correlations were computed to examine this hypothesis, using an unadjusted p-

value of p <.05 and subsequently, a Bonferroni adjusted alpha level of p <.005 was applied to account for inflated risk of type I errors.

In line with hypothesis one, Spearman's Rho correlations indicated that self-compassion was significantly negatively associated with self-criticism (inadequate self, r_s = .29, *n* = 171, *p* = .22 and hated self, r_s = .29, *n* = 171, *p* = .22), stress (r_s = -.41, *n* = 170, *p* = <.001), external shame (r_s = -.58, *n* = 173, *p* = <.001), internal shame (r_s = -.61, *n* = 173, *p* = <.001) and overall external and internal shame (r_s = -.64, *n* = 173, *p* = <.001). It was also positively correlated with wellbeing (r_s = .55, *n* = 173, *p* = <.001), self-reassurance (r_s = .68, *n* = 171, *p* = <.001), beliefs about emotions *(*r_s = .68, *n* = 172, *p* = <.001) and social comparison *(*r_s = .44, *n* = 171, *p* = <.001). With the exception of social comparison and stress which were moderately correlated with self-compassion, all other variables showed a strong association with self-compassion. No effects were lost to Bonferroni correction. The direction, strength and significance of correlations is detailed in Table 4.

Table 4.
Spearman's Rho correlations between self-compassion and wellbeing, external and internal shame, beliefs about emotions, self-criticism, self-reassurance, social comparison and stress

Outcomes	Correlation with self-compassion (r_s)
WMWBS	.55§
EISS - ES	-.58§
EISS - IS	-.61§
EISS total score	-.64§
BES	.59§
FSCRS - Inadequate Self	-.77§
FSCRS - Hated Self	-.51§
FSCRS - Reassured Self	.68§
SCS	.44§
PSS	-.41§

Note: *Significant p <.05 (2-tailed); §Significant at Bonferroni-adjusted value of p <.005 (2-tailed) . Abbreviations: WMWBS = Warwick-Edinburgh Mental Well-Being Scale; EISS - ES = External Shame; EISS – IS = Internal Shame; EISS = External and Internal Shame total score; BES = Beliefs about emotions; FSCRS - Inadequate self = Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Inadequate Self subscale; FSCRS - Hated self = Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Hated Self subscale; FSCRS - Reassured

self = Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Reassured Self subscale; SCS = Social Comparison Scale; PSS = Perceived Stress Scale.

5.3 Initial outcomes on the effectiveness of the compassion-focused intervention on self-compassion, wellbeing, beliefs about emotions, external and internal shame, self-criticism, self-reassurance, social comparison and stress

Hypothesis two proposed that TPWPs would show increased levels of self-compassion, wellbeing, self-reassurance, beliefs about emotions and social comparison, and decreased levels of self-criticism, stress and external and internal shame pre-compassion-focused intervention to two-week and two-month follow up. Table 5 outlines the descriptive and inferential statistics for Wilcoxon signed-rank tests conducted to examine changes on all outcome variables across time. As previously stated, statistical tests were conducted using an unadjusted p-value of $p < .05$ and subsequently, a Bonferroni adjusted alpha level of $p < .017$ was applied to account for inflated risk of type I errors. Significance of effects are reported at both thresholds in Table 5 and effects that were no longer significant after Bonferroni correction have been specified in text summaries of the data.

Table 5.
Pre-workshop, two-week and two-month follow up outcomes for SCS-SF, WMWBS, ES, IS, EISS, BES, Inadequate Self, Hated Self, Reassured Self, SCS and PSS

	1. Pre-workshop[a]			2. Two-week follow up[b]			3. Two-month follow up[c]			Difference						Effect size (r)
										1 vs. 2 (*n* = 16)		1 vs. 3 (*n* = 10)		2 vs. 3 (*n* = 5)		
	Median	Mean (SD)	IQR	Median	Mean (SD)	IQR	Median	Mean (SD)	IQR	Z	p	Z	p	Z	p	
SCS-SF	2.75	2.82 (0.73)	1.00	3.17	3.17 (0.66)	0.94	3.67	3.72 (0.47)	0.92	-2.84	.013[§]	-2.81	.005[§]	-2.03	.04*	.50
WMWBS	47.00	45.87 (8.32)	11.50	52.00	51.25 (5.27)	7.00	53.00	53.36 (6.67)	10.00	-2.65	.008[§]	-2.19	.03*	.000	1.00	.36
BES	51.00	51.15 (14.45)	20.75	62.00	60.05 (12.22)	17.75	61.00	59.82 (10.16)	21.00	-3.52	<.001[§]	-1.96	.05*	-.406	.68	.62
EISS - ES	4.00	4.06 (2.60)	4.00	4.00	4.10 (1.94)	3.00	3.00	2.45 (1.37)	1.00	-.53	.59	-1.74	.08	-1.41	.16	.09
EISS - IS	4.00	4.51 (2.76)	3.00	4.00	4.05 (2.01)	3.75	2.00	2.64 (2.16)	2.00	-1.35	.17	-2.37	.018*	-1.13	.26	.24
EISS total score	8.00	8.58 (4.99)	7.00	8.00	8.51 (3.66)	4.75	6.00	5.09 (3.20)	3.00	-1.10	.27	-2.40	.016[§]	-1.46	.14	.19
FSCRS - Inadequate Self	27.00	26.86 (8.61)	14.00	22.00	22.30 (7.03)	9.00	21.00	21.54 (5.68)	10.00	-2.33	.02*	-2.37	.018*	-1.35	.18	.41
FSCRS - Hated Self	7.00	8.60 (4.12)	6.00	6.00	6.60 (1.96)	2.75	7.00	7.45 (3.01)	4.00	-2.16	.03*	-1.34	.18	-.412	.68	.38
FSCRS - Reassured Self	28.00	27.24 (6.46)	10.00	31.00	29.75 (5.68)	8.00	28.00	29.63 (4.48)	4.00	-1.78	.07	-2.02	.04*	.000	1.00	.31
SCS	57.00	55.77 (14.61)	15.00	59.00	57.95 (13.29)	23.00	61.00	60.09 (11.39)	18.00	-.99	.32	-1.35	.18	-1.83	.07	.18
PSS	25.00	24.54 (6.43)	9.00	20.00	21.33 (4.61)	5.50	21.00	21.73 (4.65)	8.00	-1.23	.22	-.102	.92	-1.63	.10	.22

Note: *Significant at p<.05 (2-tailed); [§]Significant at Bonferroni adjusted value of p <.017 (2-tailed). *r* value calculated for pre-workshop to two-week follow up.
Abbreviations: SCS-SF = Self-Compassion Scale Short-Form; WMWBS = Warwick-Edinburgh Mental Well-Being Scale; EISS - ES = External Shame; EISS – IS = Internal Shame; EISS = External and Internal Shame total score; BES = Beliefs about emotions; FSCRS - Inadequate self = Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Inadequate Self subscale; FSCRS - Hated self = Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Hated Self subscale; FSCRS - Reassured self = Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Reassured Self subscale; SCS = Social Comparison Scale; PSS = Perceived Stress Scale.
[a]Pre workshop *n*: SCS-SF (*n*=175); WMWBS (*n*=173); EISS – IS (*n*=173); EISS – ES (*n*=173); EISS (*n*=173); BES (*n*=172); FSCRS - Inadequate Self (*n*=171); FSCRS - Hated Self (*n*=171); FSCRS - Reassured Self (*n*=171); SCS (*n*=171); PSS (*n*=170).
[b]Two-week follow-up *n*: *n* = 20 for all outcomes except SCS (*n*=19); PSS (*n*=18).
[c]Two-month follow up *n*: *n* = 11 for all outcomes.

5.3.1 Self-compassion

A Wilcoxon signed rank test revealed that self-compassion scores were significantly higher at T2 (*Md* = 3.17, *n* = 16) compared to T1 (*Md* = 2.75, *n* = 16), *z* = -2.84, *p* = .013, with a large effect size (*r* = .50). There were also significantly higher self-compassion scores at T3 (*Md* = 3.67, *n* = 10) compared to T1 (*Md* = 2.75, *n* = 10), *z* = -2.81, *p* = .005. Although there were increases in self-compassion at T3 (*Md* = 3.67, n = 5), compared to T2 (*Md* = 3.17, *n* = 5), this was not significant, *z* = -2.03, *p* = .0.4 (significant effect lost to Bonferroni correction).

5.3.2 Wellbeing

A Wilcoxon signed rank test showed that mental wellbeing scores were significantly higher at T2 (*Md* = 52.00, *n* = 16) compared to T1 (*Md* = 47.00, *n* = 16), *z* = -2.65, *p* = .008, with a medium effect size (*r* = .36). Whilst wellbeing scores increased, effects were not significant at T3 (*Md* = 53.00, *n* = 10) compared to T1 (*Md* = 47.00, *n* = 10), z = -2.19, p = .03 (significant effect lost to Bonferroni correction) or at T3 (*Md* = 53.00, *n* = 5) compared to T2 (*Md* = 52.00, *n* = 5), *z* = -.000, *p* = 1.00.

5.3.3 Beliefs about emotions

A Wilcoxon signed rank test showed that helpful beliefs about emotions scores were significantly higher at T2 (*Md* = 62.00, *n* = 16) compared to T1 (*Md* = 51.00, *n* = 16), *z* = -3.52, *p* = .001, with a large effect size (*r* = .62). Helpful beliefs about emotions scores increased at T3 (*Md* = 61.00, *n* = 10) compared to T1 (*Md* = 51.00, *n* = 10), though this was not significant, z = -1.96, p = .05 (marginally significant effect lost to Bonferroni correction). Unexpectedly, scores slightly decreased at T3 (*Md* = 61.00, *n* = 5) compared to T2 (*Md* = 62.00, *n* = 5), though this was not significant *z* = -.000, *p* = 1.00.

5.3.4 External and internal shame

5.3.4.1 External shame

While there was a slight decrease in external shame over time, Wilcoxon signed rank tests revealed that changes in scores between time points were not significant. There was no significant change in external shame T2 (*Md* = 4.00, *n* = 16) compared to T1 (*Md* = 4.00, *n* = 16), *z* = -.53, *p* = .59, with a small effect size (*r* = .09) and there were slight non-significant reductions in scores at T3 (*Md* = 3.00, *n* = 10) compared to T1 (*Md* = 4.00, *n* = 10), *z* = -1.74, *p* = .08 and T3 (*Md* = 3.00, *n* = 5) compared to T2 (*Md* = 4.00, *n* = 5), *z* = -1.41, *p* = .16.

5.3.4.2 Internal shame

Though there was also a slight decrease in internal shame over time, Wilcoxon signed rank tests revealed that changes in scores were not significant. There was no significant change in internal shame scores at T2 (*Md* = 4.00, *n* = 16) compared to T1 (*Md* = 4.00, *n* = 16), *z* = -1.35, *p* = .17, with a small effect size (*r* = .24) and there were slight non-significant reductions in scores at T3 (*Md* = 2.00, *n* = 10) compared to T1 (*Md* = 4.00, *n* = 10), *z* = -2.37, *p* = .018 (significant effect lost to Bonferroni correction) and at T3 (*Md* = 2.00, *n* = 5) compared to T2 (*Md* = 4.00, *n* = 5) *z* = -1.13, *p* = .26.

5.3.4.3 External and internal shame total score

A Wilcoxon signed rank test showed that external and internal shame total scores were significantly lower at T3 (*Md* = 6.00, *n* = 10) compared to T1 (*Md* = 8.00, *n* = 10), *z* = -2.40, *p* = .016, with a small effect size (*r* = .19). Though, reductions in total shame were not significant at T3 (*Md* = 6.00, *n* = 5) compared to T2 (*Md* = 8.00, *n* = 5), *z* = -1.46, *p* = .14 and there was no significant change in scores at T2 (*Md* = 8.00, *n* = 16) compared to T1 (*Md* = 8.00, *n* = 16), z = -1.10, *p* = .27.

5.3.5 Self-criticism and self-reassurance

5.3.5.1 Inadequate Self

There were moderate reductions in inadequate-self scores over time, however, Wilcoxon signed rank tests revealed that changes did not reach

significance. There were moderate, non-significant reductions in scores at T2 (*Md* = 22.00, *n* = 16) compared to T1 (*Md* = 27.00, *n* = 16), *z* = -2.33, *p* = .02, with a medium effect size (*r* = .41; significant effect lost to Bonferroni correction), at T3 (*Md* = 21.00, *n* = 10) compared to T1 (*Md* = 27.00, *n* = 10), *z* = -2.37, *p* = .018 (significant effect lost to Bonferroni correction) and there was a slight non-significant reduction in scores at T3 (*Md* = 21.00, *n* = 5) compared to T2 (*Md* = 22.00, *n* = 5), *z* = -1.35, *p* = .18.

5.3.5.2 Hated Self

Wilcoxon signed rank tests revealed that changes in hated-self scores over time were not significant. There was a slight non-significant reduction in scores at T2 (*Md* = 6.00, *n* = 16) compared to T1 (*Md* = 7.00, *n* = 16), *z* = -2.16, *p* = .03, with a medium effect size (*r* = .38; significant effect lost to Bonferroni correction), no significant change at T3 (*Md* = 7.00, *n* = 10) compared to T1 (*Md* = 7.00, *n* = 10), *z* = -1.34, *p* = .18 and a slight non-significant increase in scores at T3 (*Md* = 7.00, *n* = 5) compared to T2 (*Md* = 6.00, *n* = 5), *z* = -.412, *p* = .68.

5.3.5.3 Reassured self

Wilcoxon signed rank tests showed that changes in self-reassurance scores were not significant across time points. There were moderate, non-significant increases in self-reassurance scores at T2 (*Md* = 31.00, *n* = 16) compared to T1 (*Md* = 28.00, *n* = 16), *z* = -1.78, *p* = .02, with a medium effect size (*r* = .31; significant effect lost to Bonferroni correction), no significant change in scores at T3 (*Md* = 28.00, *n* = 10) compared to T1 (*Md* = 28.00, *n* = 10), *z* = -2.02, *p* = .04 (significant effect lost to Bonferroni correction) and a slight, non-significant reduction in scores at T3 (*Md* = 28.00, *n* = 5) compared to T2 (*Md* = 31.00, *n* = 5), *z* = -.000, *p* = 1.00.

5.3.6 Social comparison

There were small increases in social comparison scores, indicating slightly higher self-perceptions of social rank and social standing over time. However,

Wilcoxon signed rank tests revealed that changes in scores were not significant at T2 (*Md* = 59.00, *n* = 16) compared to T1 (*Md* = 57.00, *n* = 16), *z* = -.99, *p* = .32, with a small effect size (*r* = .18), T3 (*Md* = 61.00, *n* = 10) compared to T1 (*Md* = 57.00, *n* = 10), *z* = -1.35, *p* = .18 or T3 (*Md* = 61.00, *n* = 5) compared to T2 (*Md* = 59.00, *n* = 5), *z* = -1.83, *p* = .07.

5.3.7 Stress

Wilcoxon signed rank tests revealed that there were no significant changes in stress scores over time. There were non-significant reductions in stress at T2 (*Md* = 20.00, *n* = 16) compared to T1 (*Md* = 25.00, *n* = 16), *z* = -1.23, *p* = .22, with a small effect size (*r* = .22) and at T3 (*Md* = 21.00, *n* = 10) compared to T1 (*Md* = 25.00, *n* = 10) overall, *z* = -.102, *p* = .92, however there was a slight non-significant increase in stress scores at T3 (*Md* = 21.00, *n* = 5) compared to T2 (*Md* = 20.00, *n* = 5), *z* = -1.63, *p* = .10.

5.4 Relationship between practice frequency of follow up exercises and self-compassion, wellbeing, beliefs about emotions, external and internal shame, self-criticism, self-reassurance, social comparison and stress

Hypothesis three proposed that the frequency of practice of follow-up exercises would be positively associated with self-compassion, self-reassurance, mental wellbeing, beliefs about emotions and social comparison, and negatively associated with self-criticism, stress and external and internal shame. As previously stated, Spearman's Rho correlations were computed to test this hypothesis using an unadjusted p-value of p <.05 and subsequently, a Bonferroni adjusted alpha level of p <.004 was applied to account for inflated risk of type I errors.

Spearman's Rho correlations computed to examine this indicated that at T2, though all except one of the outcomes (social comparison) showed positive and negative correlation trends in the hypothesised directions, there were no statistically significant relationships between practice frequency and self-compassion before or after Bonferroni correction; self-compassion, r_s = .29, *n* = 20, *p* = .22, wellbeing, r_s =

.25, *n* = 20, *p* = .29, external shame, r_s = -.32, *n* = 20, *p* = .16, internal shame, r_s = -.41, *n* = 20, *p* = .07, external and internal shame (total score), r_s = -.40, *n* = 20, *p* = .08, beliefs about emotions, r_s = .09, *n* = 20, *p* = .68, self-criticism (inadequate self, r_s = -.19, *n* = 20, *p* = .41 and hated self, r_s = -.43, *n* = 20, *p* = .06), self-reassurance, r_s = .17, *n* = 20, *p* = .48 and stress, r_s = -.22, *n* = 18, *p* = .37. Unexpectedly, social comparison showed a small negative, as opposed to positive association with practice frequency, though this was not significant, r_s = -.02, *n* = 19, *p* = .06. The direction, strength and significance of correlations are outlined in Table 6.

Table 6.
Spearman's Rho correlations between practice frequency and self-compassion, wellbeing, external and internal shame, beliefs about emotions, self-criticism, self-reassurance, social comparison and stress at T2

Outcomes	Correlation with T2 practice frequency (r_s)	P value
SCS-SF	.29	.22
WMWBS	.25	.29
EISS - ES	-.32	.16
EISS - IS	-.41	.07
EISS total score	-.40	.08
BES	.09	.68
FSCRS - Inadequate Self	-.19	.41
FSCRS - Hated Self	-.43	.06
FSCRS - Reassured Self	.17	.48
SCS	-.02	.94
PSS	-.22	.37

Note: *Significant at p <.05 (2-tailed); §Significant at Bonferroni adjusted value of p <.004 (2-tailed).
Abbreviations: WMWBS = Warwick-Edinburgh Mental Well-Being Scale; EISS - ES = External Shame; EISS – IS = Internal Shame; EISS = External and Internal Shame total score; BES = Beliefs about emotions; FSCRS - Inadequate self = Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Inadequate Self subscale; FSCRS - Hated self = Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Hated Self subscale; FSCRS - Reassured self = Forms of Self-Criticising/Attacking and Self-Reassuring Scale – Reassured Self subscale; SCS = Social Comparison Scale; PSS = Perceived Stress Scale.

5.5 Practice recording diary outcomes

Feedback from practice diaries completed at T2 were examined to explore participants' engagement with and experiences of follow-up exercises in the two-weeks following the compassion-focused workshop. Overall, the majority of

participants found the exercises quite helpful to very helpful at T2 (76.2%, *n* = 21). Eighty-one percent of participants specified that they recalled acting or feeling as their compassionate self, following the workshop. Participants reported situations in which this occurred which included stressful work situations, therapeutic sessions with clients, whilst completing academic assignments and during breaks or free time as a means to unwind. Participants also rated their experience of follow-up exercises on a range of topics, using a ten-point scale. On a scale ranging from 1 (never) to 10 (a lot of the time) the mean rating for participants acting as their compassionate self was 5.40 (*SD* = 2.09) and feeling as their compassionate self was 5.53 (*SD* = 2.09). In terms of participants' experiences of the powerfulness of compassionate feelings (on a scale ranging from 1 – not powerful at all to 10 – very powerful), the mean rating was 5.14 (*SD* = 2.57). In terms of the level of ease to act as their compassionate selves (on a scale ranging from 1 – not easy at all to 10 – very easy), the mean participant rating was 4.62 (*SD* = 2.29). On scale ranging from 1 (fleeting) to 10 (most of the day), the mean participant rating for the duration of compassionate feelings experienced was 5.05 (*SD* = 1.94) and for the level of comfort experienced from compassionate feelings (on a scale from 1 – not comforting at all to 10 – very comforting) the mean was 6.10 (*SD* = 2.41). Finally, on a scale from 1 (very negative) to 10 (very positive), the mean participant rating on the impact of their compassionate actions was 7.29 (*SD* = 1.85). A summary of practice diary outcomes is detailed in Table 7.

Table 7.
Frequencies and mean outcomes of compassionate mind practice recording diary

	N (%) / Mean (*SD*)
Helpfulness of practices	
Very helpful	3 (14.3%)
Quite helpful	13 (61.9%)
Neither helpful nor unhelpful	4 (19.0%)
Not very helpful	1 (4.8%)
Unhelpful	0 (0%)
Acted or felt as compassionate self	
Yes	17 (81.0%)
No	4 (19.0%)
Frequency of acting as compassionate self	5.40 (*SD* = 2.09)
Frequency of feeling as compassionate self	5.53 (*SD* = 2.09)
Powerfulness of compassionate feelings	5.14 (*SD* = 2.57)
Ease to act as compassionate self	4.62 (*SD* = 2.29)
Duration of compassionate feelings	5.05 (*SD* = 1.94)
Comfort experienced from compassionate feelings	6.10 (*SD* = 2.41)
Impact of compassionate actions	7.29 (*SD* = 1.85)

6 Discussion

This study explored the feasibility and initial outcomes of a curriculum embedded, compassion-focused workshop intervention for TPWPs. Findings provide preliminary evidence that the intervention was feasible in relation to the incorporation of the intervention into the course curriculum of TPWPs, in both face-to-face and online formats. There were though, high levels of participant attrition, low levels of data completion and low levels of access and adherence to follow-up exercises within the context of the COVID-19 pandemic. The main findings in relation to hypotheses were as follows: 1) In support of hypothesis one, self-compassion was significantly correlated with mental wellbeing, self-reassurance, beliefs about emotions, social comparison, self-criticism, stress and external and internal shame, 2) In partial support of hypothesis two, self-compassion, mental wellbeing, beliefs about emotions and total external and internal shame significantly improved pre-post intervention and 3) Contrary to hypothesis three, practice frequency was not significantly associated with self-compassion, wellbeing, beliefs about emotions, external and internal shame, self-criticism, self-reassurance, social comparison and stress.

Of the total number of trainees who could attend the compassion-focused workshop, the majority did. This suggests that there was at least an initial interest and commitment to a brief intervention that could enhance their self-compassion during their training journey. It is also possible that the curriculum embedded model for delivering this intervention, provided a means of self-care that was more accessible to TPWPs within the context of their high levels of clinical and academic demands. In addition, it may also have been the case that the integration of the intervention into the curriculum, communicated a message to TPWPs that facilitating trainee wellbeing was a course priority, as opposed to an individual onus. This may have been a factor that increased intervention uptake (Bamonti et al., 2014;

Christopher et al., 2006). Furthermore, significant correlations between self-compassion and wellbeing, beliefs about emotions, external and internal shame, self-criticism, self-reassurance, social comparison and stress found in this study, confirm the findings of earlier literature (Gilbert et al., 2006; Gilbert & Procter, 2006; Neff, 2003; Neff & Germer, 2013; Sydenham et al., 2017). However, an exploration of the correlation between these outcomes amongst TPWPs specifically, is novel. This finding supports the rationale for the implementation of compassion-focused interventions, and specifically for trainee mental health professionals, as a means to not only enhance self-compassion but the range of other wellbeing outcomes associated with it.

In considering participant retention to the study, it is of note that the commencement of the COVID-19 pandemic and nationwide lockdown may have had a significant impact on TPWPs' ability to engage with the full intervention and evaluation study (namely follow-up exercises and the completion of follow-up measures). This skews our understanding of how feasible it was to recruit and retain participants. Although it is difficult to fully understand the extent to which the COVID-19 pandemic accounted for the issues of participant attrition and low data completion, it will be important for further follow up studies to continue to test the feasibility of this intervention to rectify potential issues of study design and to provide a foundational basis for any future, larger scale evaluations of the intervention's effectiveness. Of particular note, patterns of participant attrition and (though proportionally small) numbers of incomplete data sets at each time point, could highlight issues with the volume of evaluation measures administered. As such, further feasibility testing of this study could trial a shorter package of measures to assess whether this could enhance data completion and participant retention in the evaluation study. In addition, whilst measures were put in place to remind participants to practice follow-up exercises and complete outcome measures (i.e., periodic email reminders), these efforts did not result in a substantial increase in

engagement. This suggests that other means of encouraging participation need to be considered. An alternative way to increase participant engagement in follow-up activities in a further pilot study, could be to include curriculum-embedded follow-up sessions, in which participants can review their levels of practice of follow-up exercises and be provided with opportunities to complete outcome measures on course time. This could also provide participants with opportunities to receive feedback on their outcome measures (i.e., what their scores mean, differences in scores between time points), perhaps increasing their motivation to engage in follow-up exercises further and/or problem solve any possible challenges or difficulties faced when completing exercises independently. As per the MRC guidance (Moore et al., 2015), efforts to examine and enhance the feasibility of the compassion-focused intervention in a further pilot study, particularly with the aim to increase participant retention and the collection of follow-up data, will provide the preparatory work necessary to move on to a more robust examination of the intervention's effectiveness, without findings being undermined by the above issues.

With regards to the initial outcomes of the intervention, it is positive that gains in self-compassion, mental wellbeing, and beliefs about emotions pre-to-two-weeks post intervention and overall external and internal shame pre-intervention to two-month follow-up, survived Bonferroni correction, despite this study's issues of power. The magnitude of effects pre-post intervention for self-compassion and beliefs about emotions were large and for wellbeing, moderate, indicating not only significant but substantial changes in these outcomes. The considerable continuation of gains in self-compassion pre-intervention to two-month follow-up highlight the potential effectiveness of this brief, adapted intervention in successfully targeting the construct (and over an extended period of time). It is likely that the use of a compassion expert to facilitate the workshops delivered across all five cohorts of TPWPs, will have facilitated this positive finding. It is possible that the considerable gains in self-compassion observed two-week post intervention to two-

month follow up, may not have reached statistical significance (at the more stringent Bonferroni adjusted alpha level) due to the low pairs of data available for statistical analyses and thus, insufficient power to detect the effect. Nevertheless, the overall significant gains in self-compassion observed in this study support the earlier findings of Beaumont et al. (2017), who's three-day CMT intervention with student CPBs also led to significant increases in self-compassion and reductions in self-critical judgement, as measured by the SCS (Neff, 2003). Whilst improvements in wellbeing, beliefs about emotions and self-reassurance did not reach significance at the more stringent Bonferroni adjusted alpha level pre-intervention to two-month follow up, it is encouraging that (though only small) increases in these outcomes were still observed at this final time point.

In terms of self-criticism, reductions in the inadequate-self facet of self-criticism only marginally missed significance at the Bonferroni adjusted alpha level, with effects that were moderate in size pre-post intervention. The hated-self facet of self-criticism only showed significance at the unadjusted p-value of .05 pre-to-two-weeks post intervention, with scores returning to the baseline scores at two-month follow-up. A possible explanation for these findings could relate to the nature of training courses for TPWPs, in terms of trainees being subjected to ongoing forms of both external and internal assessment on clinical and academic skills and assignments, and during supervision. As previously stated, therapists in training have been found to exhibit a heightened fear of unfavourable judgement and self-criticism (Beaumont et al., 2017). This coupled with pressurised training and healthcare environments can provide increased opportunities for shame-based experiences e.g., due to increased risks of errors and a strong desire to maintain high standards of clinical and academic work (Gilbert et al., 2004). It is therefore possible that, whilst trainees' capacity to respond to themselves self-compassionately increased considerably over time, in the face of fears of external evaluation and internal shame/self-critique, these gains were not enough to lead to

significant reductions in these outcomes in this study. Research highlights that for self-critical and shame-prone individuals, the ability to cultivate a self-compassionate self-to-self relating style and self-soothe can be challenging (Gilbert & Procter, 2006). This coupled with the fact that practice of follow-up CMT exercises (which are specifically designed to cultivate and build compassionate capacities; Gilbert, 2009) was generally low (i.e., one-two times a week on average), compared to recommended practice (i.e., at least once a day), could provide a possible explanation for the lack of significant changes in self-criticism. However, it is also possible that given the study issues of power and that reductions in these outcomes trended in the hypothesised directions (significant at un-adjusted p values of .05), replicating this study with a larger sample of TPWPs could lead to more significant and perhaps, larger effects being observed.

The lack of significant improvements in social comparison and stress pre-post intervention and at follow-up, was a surprise given the significant gains observed in self-compassion and their relationship to this construct. Stress decreased and favourable social comparison increased pre-to two-weeks post intervention (with small effects). However, scores on these measures increased and decreased respectively at two-week to two-month follow-up. A possible explanation for the increases in stress observed, could relate to the overall context in which the study was conducted (i.e., the COVID-19 pandemic) and/or course specific demands for TPWPs at the two-month follow-up. With regards to increases in unfavourable social comparison, triggers for this could also relate to the course context, whereby challenges faced can lead to increased vulnerabilities to unfavourable social comparison amongst trainees. Namely, TPWPs included in this study participated in interventions at stages in their courses where they were completing and being evaluated on higher amounts of clinical work, and thus may have experienced more opportunities to compare themselves to peers. Again, it is therefore possible that gains in self-compassion, were also not able to maintain

gains in favourable social comparison in this study. Future iterations of this evaluation study may consider if embedding the workshop earlier in training could be of value, to allow trainees more opportunities and time to develop their compassionate skills ahead of these challenges occurring on their course.

Finally, the lack of relationship between frequency of practice of follow-up exercises and improvements in all the outcome measures was also an unexpected finding, contradicting previous research that identified homework practice to significantly predict improvement in wellbeing outcomes, more so than class session time (Carmody & Baer, 2008). As such, the role of personal practice of follow-up exercises in the effectiveness of compassion-focused intervention is unclear. However, it is important to comment on the fact that the average practice of homework exercises amongst TPWPs was not at the daily recommended level, and thus a lack of association between outcomes may have been due to the generally low levels of practice overall. Thus, as a first line action, efforts to enhance further engagement with follow-up exercises e.g., through a follow-up session (as previously mentioned), could be applied in a replication of this study to see whether greater adherence to follow-up exercises yields significant associations and larger improvements in outcomes at follow-up time points. If such efforts did not lead to improvements in a larger sample of TPWPs, then low adherence to follow-up exercises may highlight an issue of feasibility and perhaps the need to re-design of the follow-up exercise aspect of the intervention. This would be to make practice suggestions more viable for TPWPs. However, it is also important to consider the fact that we relied on retrospective, self-report measures of practice frequency, which may have led to biased or inaccurate reporting of levels of practice conducted. As such, an alternative means of both encouraging and tracking practice frequency could be to administer daily practice reminders and also, to request daily practice data from participants to minimise opportunities for measurement errors

(e.g., due difficulties remembering practice frequency over a prior two-week period), which could in turn increase the validity of practice data reported.

7 Limitations and future research

There are several shortcomings of this study that limit the generalisability of findings and the ability to confidently draw conclusions as to the overall feasibility and initial outcomes of the intervention. Firstly, as previously stated, the COVID-19 pandemic context in which the study was conducted significantly compromised our ability to assess the extent to which the intervention was feasible for TPWPs and thus findings may not be generalisable to interventions of the like, being conducted in the post-COVID pandemic lockdown era. It will be important to therefore continue an assessment of feasibility in a subsequent pilot of this study, with a particular focus on increasing participant retention in study and data completion at follow-up time points. As an additional assessment of feasibility in a future pilot of this study, it may also be beneficial to formally assess the fidelity of the compassion-focused intervention itself, in order to examine and draw conclusions as to whether the intended learning is taking place and further contextualise findings. An assessment of intervention fidelity would examine the extent to which TPWPs' theoretical knowledge of CMT theory and confidence in applying the compassion-focused intervention improved over time. Such feedback could be captured through the use of a retrospective pre-post design self-report survey, gathering feedback on TPWPs' perceived changes in theoretical knowledge, confidence and skills pre-to-post intervention. This additional data would enable further insights to be gained and conclusions to be made as to the feasibility of the intervention itself from the perspective of key stakeholders, the TPWPs themselves. Secondly, on the note of stakeholders, another limitation of this research is that the study and intervention was designed solely by the research team and did not include a current TPWP. Whilst the training experiences of the CPs and TCPs in the research team will have

informed the research and intervention design, in a way that hopefully better accommodated the needs of TPWPs, it is possible that the needs and desires of TPWPs were not fully captured in the design and implementation of the study. As such, it will be beneficial to include TPWPs as stakeholders in future developments and iterations of this study, so as to ensure and enhance an equitable balance of power and minimise the risk of any conflicts of interest that could arise from not including participants themselves in the research design and implementation process.

Thirdly, issues of participant attrition (resulting in insufficient sample size/low statistical power to detect effects) and potential attrition bias, may have compromised the representativeness of the sample of TPWPs retained at follow up and thus, the generalisability of findings pertaining to intervention efficacy observed in this study overall. As such, it is difficult to conclude that the findings highlighted in this study represent that of TPWPs in the general population. Whilst it may be insightful to replicate this study with a larger sample of TPWPs to examine whether preliminary findings would be confirmed, as previously mentioned, a continuation of the feasibility testing phase of this study would be the most resourceful and beneficial first line of action, to continue to iron out uncertainties as to the design and implementation of the compassion-focused intervention with TPWPs.. Fourthly, due to the COVID-19 pandemic leading to a re-design of the intended recruitment strategy, we were unable to include a control group with which to compare findings to. As such, it cannot be concluded that preliminary improvements in outcomes observed in this study, were due to the intervention alone. Therefore, inclusion of at least a waitlist-control group would be beneficial to the drawing of stronger conclusions, as to the effectiveness of this intervention in comparison to no intervention, in a replica study.

Finally, it is important to highlight that males were significantly underrepresented in this study and TPWPs were recruited from one university

establishment, which may limit the generalisability of findings. However, the overrepresentation of females in intervention studies such as this, appear to be a trend (e.g., 75% or higher proportions of participants across meta-analyses of self-compassion and mindfulness interventions are female, Ferrari et al., 2019) and has been suggested to be a proportional reflection of genders in healthcare overall, with females making up 76.7% of the NHS workforce (NHS England, 2022). Future directions for research could therefore include the recruitment of TPWPs from other universities in England and increased attempts to recruit male participants to evaluation studies (e.g., through targeted advertisement), including aspects of research that explore the acceptability of such interventions. This would further inform our understanding of their relationship with and views of compassion-focused interventions, given the current gender disparities in participation in this area of research.

8 Conclusions

This study provides preliminary evidence as to the feasibility and initial effectiveness of a novel, compassion-focused workshop intervention, embedded within the curriculum of TPWPs. It is positive that this intervention was feasibly implemented within the course curriculum for TPWPs, and that preliminarily significant gains were observed in self-compassion, wellbeing, beliefs about emotions and overall external and internal shame pre-to-post intervention. It would be beneficial for future research to continue an assessment of feasibility for the compassion-focused intervention, testing the above-mentioned study design changes, particularly aimed at increasing participant retention, data completion and engagement with follow-up exercises. This would also allow for further exploration of the role of practice of follow-up exercises in intervention effectiveness. Despite the shortcomings highlighted, this study provides a good foundational insight into the possible benefits of a brief compassion-focused intervention amongst TPWPs and

supports the rationale to implement interventions of this nature with trainee mental health professionals further.

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Part 3: Critical Appraisal

1 Introduction

This critical appraisal will initially explore the role of personal practice in therapists. This will include reflection on my choice of topic for the empirical research conducted and give insights into aspects of my personal-professional journey that led to an interest in self-compassion as a construct and the value it can have for health care professionals, when they apply it to themselves within the context of their role. It will then outline and provide reflections on the challenges encountered whilst conducting empirical research during the COVID-19 pandemic, referring to key ethical considerations that guided my decision making throughout the research process. To conclude, I will provide closing remarks on how the above developed my skills as a reflective scientist-practitioner and how I hope to take learning forward in my research endeavours as a soon to be qualified, Clinical Psychologist.

2 Personal practice in therapists

Personal practice (PP) as defined by Bennett-Levy and Finlay-Jones (2018), refers to the formal, self-experiential practice of psychological techniques and interventions amongst therapists (on an individual or group basis), that primarily aim to facilitate personal development. Traditional forms of PP include personal therapy (e.g., as is emphasised for psychoanalysts in training), though other forms of PP have emerged particularly over the last decade, including meditation-focused programmes such as mindfulness-based stress reduction (MBSR; Lomas et al., 2018), compassion-focused programmes (Boellinghaus et al., 2013) and self-practice/self-reflection (SP/SR) programmes (Kolts, Bennett-Levy et al., 2018).

Bennett-Levy and Finlay-Jones (2018) have proposed a specific model of Personal Practice (PP) which illustrates the ways in which the PP of psychological interventions and techniques can support therapists' personal, as well as professional development, and training. Their model uses the concept of two

"selves", to frame theoretical ideas: "the personal self" and "therapist self". They propose that the bridge between the two selves is reflection (i.e., flexibly shifting between reflecting on the personal-self and therapist self), which can lead to five key outcomes: enhanced self-awareness, personal development and wellbeing, reflective skills, interpersonal attitudes, beliefs and skills and conceptual and technical skills (Bennett-Levy & Finlay-Jones, 2018).

In support of and building on hypotheses outlined in this model, a qualitative study conducted by Gale et al. (2017) reported on a range of benefits gained by compassion focused therapists, who engaged in the PP of the compassion focused therapy (CFT) model. In summary, PP of CFT enhanced therapists' understanding of and confidence in applying the CFT approach, enabled therapists to anticipate and identify possible solutions for difficulties that clients might encounter whilst applying CFT techniques and also increased their self-compassion and compassion towards others. Similar findings have been observed for therapists engaging in PP of Cognitive-Behavioural Therapy (CBT) and mindfulness-based programs. The PP of these interventions led to increases in self-confidence in using therapeutic approaches, greater clinical use of techniques and empathy for clients (Gale & Schroder, 2014; Waelde et al., 2016), as well as increases in self-compassion and reductions in stress and anxiety (Shapiro et al., 2007). This research highlights the role therefore that self-practice of therapeutic approaches can play in personal and professional development of therapists and builds a clear rationale for it being explored empirically.

When reflecting on my own experiences, I was able to consider how they had shaped and developed my interest in the PP of self-compassion for mental health care professionals. Over the last eleven years, I have worked across a wide variety of healthcare settings (both prior to and during my doctoral training). My experiences of working in differing healthcare settings, have exposed me to a range of challenging professional contexts and organisational climates, within which my

skills as a reflective and reflexive scientist-practitioner have developed. In particular, much of my clinical experience has been gained in climates of organisational change, transformation and review (e.g., tender processes) and in contexts of high-service demand and limited resource. Although these experiences understandably increased my vulnerability to organisational stress, they honed my ability to contain and work with it, whilst taking care of myself and effectively attending to all of my professional responsibilities. I developed an ability, quite early in my career, to practice with a pragmatic understanding of the various challenges and barriers to providing compassionate care to patients that can exist within organisations. That said, these experiences also sparked a curiosity about the skills and attributes that professionals like myself, need to possess to not only survive, but thrive in these contexts and climates, in order to effectively help patients and sustain a career in the mental health field. Though I was familiar with qualities such as resilience, perseverance and tenacity, and although as a concept, self-compassion and being kind to oneself in the face of adversity was also not a foreign notion, I was only formally introduced to self-compassion as a construct during my clinical experiences.

2.1 Developing a theoretical understanding of self-compassion

The affect regulation systems model by Gilbert (2009) provides a theoretical explanation for the role and utility of self-compassion in emotion regulation. Through exploration of this theoretical frame, I became particularly intrigued by the conceptualisation of three types of emotion regulation systems (threat, drive and soothing) and how relating to oneself kindly and self-compassionately can activate the soothing system and create balance between it and the threat and drive systems (which otherwise evoke heightened feelings of fear, anger, anxiety and excitement when over-stimulated). Through the delivery of compassion focused therapy (CFT) in my clinical work, underpinned by the affect regulation systems model; Gilbert, 2000, 2009, 2010) I was able to reflect on the theory. In particular, I was able to

reflect on how the theoretical model could helpfully be used to formulate the impact of external triggers (e.g., uncertain and uncontrollable circumstances, high levels of demands with limited resources or capacity to meet them) and internal triggers (e.g., self-critique, shame), on the activation of threat and drive systems. I also came to appreciate how it then provided a helpful way of considering the role of self-compassion in activating capacities to self-sooth and reducing stress and/or psychological distress, or indeed the risk of it (Gilbert, 2010). Alongside this, I began to consider how this approach and theory could be applied to and utilised by mental health professionals working under high levels of demand and stress and the value it could have in mitigating the impact of this on them. Within the context of all of the above, when the opportunity arose to choose a topic for my major research project, examining how a self-compassionate style of relating to oneself could aid mental health professionals' ability to manage the challenges of their profession was therefore of particular interest. The research conducted has allowed me to add to the literature base around PP, alongside developing my skills in intervention development and delivery. This process has been both enriching and at times challenging, the most considerable of which was conducting research within the context of the COVID-19 pandemic.

3 Conducting research in the context of the COVID-19 pandemic

The COVID-19 pandemic in March 2020 led to various practical and ethical dilemmas concerning the continuation of health research nationally and worldwide. Professional regulatory bodies for psychologists such as the British Psychological Society (BPS, 2020) issued additional guidance to assist researchers to recognise issues of ethical practice and make informed decisions about the proposal and continuance of research during the pandemic. The BPS Code of Human Research Ethics (2014) puts forward four primary principles for conducting research: 1) respect for the dignity, privacy and autonomy of individuals and communities, 2) scientific integrity (concerned with designing and conducting research to a high

standard, to facilitate the development of knowledge and understanding), 3) social responsibility (concerned with the need for research outcomes to be respectful of the dignity and integrity of individuals/communities and contribute to the "common good" in society) and 4) maximising benefit and minimising harm to the mental wellbeing, values and rights of participants. The BPS further contextualised these principles during the COVID-19 pandemic, by prompting researchers to make additional considerations around participants' heightened vulnerabilities to stress and distress (and the potential for particular individuals/groups to be disproportionately impacted by the pandemic), consent (e.g., where considerable changes are made to the way research is conducted) and changing from face-to-face to online methods of conducting research. I used this guidance to aid my thinking on how to adapt the research project in light the of COVID-19 pandemic, in collaboration with the other key stakeholders.

3.1 Adapting the study design

Firstly, as described in the empirical paper, a stepped-wedge (non-randomised) control design was planned for implementation, to allow for a comparison of outcomes for TPWPs receiving the compassion-focused intervention versus those not receiving it. In light of the participant dropout rates following the first two workshops (very early in the first national lock-down), the decision to revise the study design was both a practical and ethical one. From a pragmatic standpoint, it seemed reasonable to revise the recruitment strategy in May 2020, as the data collected was not sufficient to fully examine the feasibility of the compassion-focused intervention. Prioritising the collection of larger amounts of follow up data would also increase the chances of being able to do meaningful statistical analysis on the initial outcomes of the intervention, and so removing the control group would support this. Although these were important considerations, we focused more heavily on the trainees and their experiences during the pandemic, and how keeping the original step-wedge design might impact on them. We focused specifically on

the consideration of the first and fourth BPS Code of Human research principles, regarding respect and maximising the benefit of research to participants and minimising harm (BPS, 2020).

The low levels of response to reminder emails and engagement in the online Qualtrics surveys suggested that whilst research materials would have been highly accessible to the control group in the COVID-19 pandemic (a strength of the research design), placing an additional demand on participants in the remaining cohorts to complete these evaluation measures in that phase of the COVID-19 pandemic lockdown, could have been unhelpful and may also have yielded a similarly low level of responses to follow-up time point data completion. Furthermore, the specialist BPS (2020) guidance pertaining to the ethical principle of respect, outlines that as researchers, we have a duty to be considerate of and sensitive to vulnerabilities in specific individuals and groups, that could lead them to be disproportionately impacted by the pandemic e.g., personally and/or professionally. My understanding of the demands that TPWPs could have been facing, was informed by my own experience of being a trainee clinical psychologist (TCP), who also had to meet clinical and academic demands during the same phases of the pandemic. As such, I was particularly aware of the additional levels of stress and pressures that participants in my study may have been under during the pandemic and used this to reflect and consider ethics in my decisions. Examples of the challenges that I hypothesised TPWPs may have been facing included learning to adapt their clinical practice to solely virtual mediums, being appraised on their newly developed clinical skills remotely, learning academic material via online classrooms (which may have felt more isolating) and managing the blurred demarcations between home and work spaces, which for some trainees, may have compromised their ability to establish a work-life balance and maintain their wellbeing. All of these potential challenges, informed the decision to change the

recruitment strategy, to minimise the demands placed on the remaining cohorts of TPWPs in that phase of the research.

I have also reflected on how making additional considerations of participants' welfare and wellbeing in the implementation of the evaluation study, in the face of COVID-19 pandemic specific challenges, was especially relevant to the research topic area itself. I considered how it provided further opportunities for me as a researcher to model compassion towards TPWPs, in implementing research procedures within the pandemic. Practising compassionately as a researcher was just as much a priority to me as supporting and evaluating the delivery of the compassion-focused interventions, and it was enriching to reflect on that parallel process throughout the research.

3.2 Change of intervention delivery format

In keeping with COVID-19 restrictions, a key adaption made to the research project was the delivery of the compassion-focused workshop online as opposed to face-to-face. Research conducted prior to the COVID-19 pandemic had indicated that delivering interventions online could be a feasible and competitively efficacious alternative to in-person interventions. For example, studies highlighted that delivering online group CBT was feasible and able uphold the same professional standards and outcomes as face-to-face programs (Khatri et al., 2014), and with a range of client groups (Zerwas et al., 2017; Mariano et al., 2019). Similar findings were found with other therapeutic models where online interventions were shown to be superior to guided self-help (Lemma & Fonagy, 2013). These findings provided some support for us changing the delivery format to an online one, though the extent to which they would apply to interventions delivered during the COVID-19 pandemic was hard to ascertain. Queries around the generalisability of these studies related to dissimilarities between characteristics of individuals/groups researched pre-COVID versus during-COVID and differences in the settings and time frames in which the research was conducted. For example, considerable disruptions to participants' daily

lives during the COVID-19 pandemic could have led to increased levels of anxiety, which in turn may have affected their engagement with treatment/interventions (e.g., due to increased levels of inattention, Peyton et al., 2021). Notwithstanding, the findings from my empirical study does provide partial support for the feasibility of delivering a compassion-focused workshop online. Plans to replicate the study will provide helpful insights into the generalisability of study findings to the post covid-era, as well as contribute to the evidence base regarding the efficacy of online interventions for trainee mental health professionals.

3.3 Participant engagement in the evaluation study in light of issues of power, consent and privacy

Discussions concerning ways to increase participant engagement during the evaluation study enabled me to further reflect on potential issues of power in research and how one might make ethically informed decisions relevant to the maximisation of benefits and minimisation of harm to participants (BPS, 2014). The BPS Code of Human Research Ethics (2014) states that power imbalances typically exist between participants and researchers, even where researchers endeavour to minimise it. Guidance also states that psychologists' sensitivity to the potential impact of participant involvement in research, is essential to protecting their mental health, dignity and rights. Embodying this sensitivity in my empirical research procedures involved for example, stating and re-iterating that participation in the evaluation study was entirely voluntary. As is customary, a statement explicitly stating the voluntary nature of the study was included on our consent form and this was repeated verbally and in written correspondence with participants. In addition, we were clear to participants that they had the right to withdraw consent without needing to provide reason and also made it clear that they could withdraw at any point during the study (as is also customary). Due to the embedded nature of the compassion-focused workshop (sending an explicit message to participants that the intervention was course endorsed), we wanted to minimise the risk of participation in

the evaluation being implied as necessary, despite our desires to increase engagement. As such, to create balance between encouraging engagement and promoting participants' right of autonomy, decisions were made to limit the number of additional reminders sent to participants. Research highlights that for students as a research population, issues of consent and privacy are especially important to consider (Egan-Lee et al., 2011). Students may consent to participate in research due to beliefs that it could result in more favourable grades or references (Forester and McWhorter, 2005) or to please staff with which they have a pre-existing positive rapport (Ferguson et al., 2006). In conjunction with this, students may experience concerns about the collection and anonymity of sensitive data (e.g., pertaining to their mental health) via their course establishments, if pressure to participate is perceived (even where this is unfounded; Ferguson et al., 2006). To minimise the risk of these issues, careful considerations were made to ensure clear explanations of data usage, privacy and confidentiality of data collected were conveyed on the information sheet and consent form, which Ferguson et al. (2006) stated could help to minimise participant doubts. Overall, it was both important and beneficial for me to reflect on issues of power, consent and privacy throughout the research process. In addition, studying students/trainees in particular enhanced my understanding of how groups such as this, possess a specific set of vulnerabilities that need to be uniquely and carefully formulated and considered in light of ethics when one is conducting research.

4 Concluding remarks

The COVID-19 pandemic presented various challenges and dilemmas to the design and implementation of my empirical research. This cultivated my ability to think critically, practice reflectively and reflexively, and make thoughtful considerations of ethical guidance whilst conducting research in a novel, global health crisis. Whilst it is difficult to predict the global climate in which empirical

research will take place going forward, my experiences have developed my capacity to think creatively about ways to continue to conduct valuable research, in uncertain and uncontrollable contexts. For example, by adapting research design to incorporate the use of online platforms and tools, to facilitate the investigation of research objectives.

In addition, considerations of confidentiality, consent and power were both insightful and paramount to the devising of research protocols and making decisions about how to engage with a student/trainee population as a researcher, in ways that were sensitive and ethical. Going forward, it is my hope that compassion-focused interventions for trainee mental health professionals can be further implemented, endorsed by training establishments and empirically researched. This will help to further our understanding of the role that they can play in the personal and professional development of mental health practitioners and further the embodiment of compassion within healthcare systems, in ways that support the wellbeing of both patients and professionals.

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