Psychological Flexibility as a Predictor of Professional Quality of Life in Newly Qualified Psychological Therapy Practitioners

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Thesis Abstract

The professional quality of life of psychological therapy practitioners can be conceptualised within a compassion satisfaction and compassion fatigue framework. Compassion fatigue is purportedly separated into two components of burnout and secondary traumatic stress. Compassion fatigue can have detrimental impacts on therapy practitioners, organisations and patient care, whereas compassion satisfaction is associated with positive outcomes. Consequently, there is a need to explore factors that mitigate compassion fatigue and promote compassion satisfaction. This is particularly important for newly qualified psychological therapists who are reportedly at risk of compassion fatigue during the transition from pre- to post-qualified practice.

Psychological flexibility is the central tenet within Acceptance and Commitment Therapy (ACT) and is purportedly a key resilience process that is associated with higher levels of compassion satisfaction and lower compassion fatigue for healthcare professionals generally. However, the evidence base is dominated by cross-sectional research and there is a need to explore these associations over a longitudinal trajectory for healthcare workers and specifically newly qualified psychological therapy practitioners. Therefore, this study aimed to examine whether psychological flexibility prospectively predicts levels of compassion fatigue (inclusive of burnout and secondary traumatic stress) and compassion satisfaction in newly qualified psychological therapy practitioners.

The study employed a prospective cohort longitudinal design whereby fifty-six trainee psychological therapy practitioners (trainee Clinical Psychologists and Cognitive Behavioural Therapists) were recruited to complete an online survey of baseline measures pre-qualification. Participants completed the survey at two further timepoints post-qualification and data collection was completed over eight-months. The survey comprised a demographic questionnaire and measures of psychological flexibility, professional quality of life and wellbeing related to workplace factors.

Multilevel modelling was used to predict levels of compassion satisfaction, burnout and secondary traumatic stress, based on baseline levels of psychological flexibility.

The results revealed that higher prospective levels of psychological flexibility predicted higher levels of compassion satisfaction and lower levels of burnout and secondary traumatic stress across all timepoints. Further analysis also revealed that psychological flexibility as a predictor exhibited causal predominance over professional quality of life as a predictor. However, contrary to theoretical suggestions regarding the buffering role of psychological flexibility, in this instance where time and workplace factors related to workplace wellbeing was found to have a significant detrimental effect on some professional quality of life outcomes, psychological flexibility did not moderate these effects.

Therefore, the study confirmed existing cross-sectional associations between psychological flexibility and professional quality of life for healthcare practitioners and goes further to provide insights regarding psychological flexibility as a prospective predictor of professional quality of life. Given existing evidence from interventional studies with alternative healthcare worker samples, it could be hypothesised that pre-qualification intervention to improve psychological flexibility would lead to positive post-qualification professional quality of life outcomes for therapy practitioners. This may potentially carry positive implications for practitioners, organisations and patient care.

It would be beneficial for future researchers to confirm the aforementioned hypothesis through interventional studies. Furthermore, it may be possible to observe the buffering role of psychological flexibility should future studies impose a longer time series. Finally, it is recommended that further longitudinal research is undertaken to examine similar predictive associations with other healthcare worker samples considering the dominance of cross-sectional research.

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Statement of Contribution

Systematic Review

The systematic review was designed by myself with supervision from Dr Nima Moghaddam. Relevant literature was reviewed by myself with supervision from Dr Nima Moghaddam. Data analysis was conducted by myself with supervision from Dr Nima Moghaddam.

Journal Paper and Extended Paper

The research project was designed by myself with supervision from Drs Nima Moghaddam and Rachel Sabin-Farrell. Feedback on the research idea and proposed project was received from DClinPsy course staff members during a research proposal panel and presentation of the research idea. Trainee Clinical Psychologists' feedback was also gained during the aforementioned presentation. Feedback was further received from DClinPsy course staff through submission of a research protocol and during a research annual review. The research design was refined following this feedback.

Ethical approval was sought by myself with supervision from Drs Nima Moghaddam and Rachel Sabin-Farrell. Relevant literature was reviewed by myself with supervision from Dr Nima Moghaddam. I recruited participants, collected data, scored participant data on study measures and entered the study data for analysis independently. Data analysis was conducted by myself with supervision from Dr Nima Moghaddam.

Small Scale Research Project

The small scale research project was designed by myself with supervision from Drs Nima Moghaddam and David Dawson. Relevant literature was reviewed by myself with supervision from Drs Nima Moghaddam and David Dawson. Data was collected by Drs David Dawson and Nima Moghaddam for an existing research project. Qualitative data was analysed by myself with supervision from Drs Nima Moghaddam and David Dawson.

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SYSTEMATIC REVIEW

Relationship between psychological flexibility and work-related quality of life for healthcare professionals: A systematic review and meta-analysis[1]

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Abstract

Healthcare practitioners' work-related quality of life can be considered within the framework of compassion fatigue and compassion satisfaction. Compassion fatigue can have detrimental impacts for healthcare professionals, whereas compassion satisfaction relates to positive outcomes in 'helping' professions. Psychological flexibility has been identified as a resource that may buffer against compassion fatigue and promote compassion satisfaction. This systematic review aimed to examine associations between psychological flexibility and compassion fatigue and compassion satisfaction in healthcare professionals. Eligible studies were quantitative empirical studies aiming to assess these relationships. Four databases were searched (PsycINFO; Medline; CINAHL; EMBASE) along with reference lists and forward citations of eligible studies. Nine cross-sectional studies were included (2,739 participants from various healthcare professions) and quality appraised using the AXIS tool. Meta-analyses (random effects model) indicated a significant medium negative association between psychological flexibility and compassion fatigue (r = -.40; 95% CIs [-.55, -.29]; Z=-7.94, p = .001) and a significant small positive association between psychological flexibility and compassion satisfaction (r = .29; 95% CIs [.23, .36]; Z = 10.56, p = .001). The significance and magnitude of these associations were robust to sensitivity analyses, undertaken to examine the influence of study heterogeneity on pooled estimates. Despite study variation in terms of measurement, sample size, and professional perspective of the sample, when heterogeneity is reduced following sensitivity analyses, significant associations remained. These findings may carry important implications for ranging healthcare professionals, in terms of the potential relationship between psychological flexibility and work-related quality of life.

[1] A revised version of this review has been published in the Journal of Contextual Behavioural Science: https://doi.org/10.1016/j.jcbs.2021.06.007

Keywords: Psychological Flexibility, Quality of Life, Healthcare, Systematic Review

1. Introduction

The working context for healthcare professionals has been shown to carry high demands, with practitioners often exposed to emotionally challenging circumstances (Dominguez-Gomez & Rutledge, 2009; Holmberg et al., 2019; McCracken & Yang, 2008; O'Mahony et al., 2016; Van Mol et al., 2014). Exposure to the emotional challenges of working directly with service users can lead to detrimental impacts on the quality of life experienced by range of practitioners working within the health sector (Cavanagh et al., 2020; Rossi et al., 2012). Nevertheless, healthcare practitioners also acknowledge a sense of satisfaction or pleasure in alleviating the suffering experienced by those they care for (Okoli et al., 2019; Radey & Figley, 2007).

Both the negative and positive impacts of healthcare work on professionals' quality of life can be understood within the framework of 'compassion fatigue' and 'compassion satisfaction' (Cavanagh et al., 2020; Stamm, 2010). Compassion fatigue has been described as a reduction in client empathy (Adams et al., 2006) and can be divided into two concepts of 'secondary traumatic stress' and 'burnout' (Stamm, 2010). The relationship between burnout and secondary trauma is widely acknowledged, particularly when measured within a compassion fatigue framework (Adams et al., 2006; Cieslak et al., 2014; Figley, 2002a). Nevertheless, despite the cooccurrence of these constructs, research has attempted to highlight the nuances between them (Adams et al., 2006; Cieslak et al., 2014; Figley, 2002b; Sabin-Farrell & Turpin, 2003).

Secondary traumatic stress occurs following exposure to other people's traumatic experiences, leading to symptoms similar to those seen with post-traumatic stress disorder (PTSD) (Figley, 1995). Whereas burnout has been "associated with feelings of hopelessness and difficulties in dealing with work or in doing your job effectively" (Stamm, 2010, p. 13) and is said to comprise "three dimensions of exhaustion, cynicism, and inefficacy" (Maslach et al., 2001, p. 397). Meanwhile, healthcare professionals also experience positive outcomes in relation to their work, which has been conceptualised as compassion satisfaction (Stamm, 2010), defined as "the positive aspects of helping others" (Stamm, 2010, p. 10) along with "the pleasure you derive from being able to do your work well" (Stamm, 2010, p. 12).

Healthcare practitioners, from a range of professions, experience both compassion fatigue and compassion satisfaction in relation to their work (Adams et al., 2006; Craig & Sprang, 2010; Ekundayo et al., 2013; Maslach et al., 2001; McCracken & Yang, 2008; O'Mahony et al., 2016). Compassion fatigue has been shown to have detrimental effects on healthcare professionals, contributing to employee turnover and negative impacts on patient care (Cavanagh et al., 2020; Ducharme et al., 2007; Knudsen et al., 2008; Schaufeli & Bakker, 2004; Vilardaga et al., 2011). As such, there is a need to understand factors that influence professional quality of life, in attempting to mitigate compassion fatigue and improve compassion satisfaction for practitioners working in the healthcare sector (Cavanagh et al., 2020).

A range of external factors have been associated with compassion fatigue within this population, such as professional role (Rossi et al., 2012), workload (Janssen et al., 1999), supervision (Knudsen et al., 2008), and levels of co-worker support (Ducharme et al., 2007). Individual factors including gender (Rossi et al., 2012), age (Craig & Sprang, 2010), years of experience (Craig & Sprang, 2010), and personality factors (Robins et al., 2017) have further been shown to relate to compassion fatigue for healthcare professionals. Although, the influence of professional, demographic, and personality factors appears to be inconclusive and complex (Cavanagh et al., 2020; Robins et al., 2017).

Recently, researchers have considered the relationship between internal psychological processes, such as ‘psychological flexibility’, in contributing to professional quality of life outcomes for healthcare professionals using observational studies (Duarte & Pinto-Gouveia, 2017; Holmberg et al., 2019; Kent et al., 2019; Ortiz-Funea et al., 2020). Psychological flexibility is described as “the ability to contact the present moment more fully as a conscious human being, and to change or persist in behaviour when doing so serves valued ends”(Hayes et al., 2006, p. 7). Importantly, psychological flexibility is the ability to do this despite the experience of distressing or challenging internal experiences, such as thoughts, emotions, physiological sensations, memories, or images (Hayes et al., 2006). Furthermore, psychological flexibility is a malleable factor that is amenable to change, (in contrast with more static factors/correlates of compassion fatigue, such as demographic variables) and forms a central target of contemporary evidence-based cognitive-behavioural interventions; most notably, Acceptance and Commitment Therapy (ACT) (Hayes et al., 2011).

Indeed, ACT interventions designed to improve psychological flexibility have been shown to improve professional quality of life for healthcare professionals (Brinkborg et al., 2011; Gerhart et al., 2016; Reeve et al., 2018). As such, understanding the relationship between psychological flexibility and healthcare professionals' quality of life may have important implications for intervention – and consequentially, for healthcare professionals, organisations, and patient care.

Nevertheless, whilst individual studies have examined the relationship between psychological flexibility and quality of life within a compassion fatigue and compassion satisfaction framework, studies examining this relationship have yet to be systematically reviewed. A review of this literature is important to gain a more coherent understanding of this relationship, not least because the literature indicates healthcare practitioners are already subject to intervention strategies designed to enhance psychological flexibility for the purpose of improving their professional quality of life. Further analytical evidence is needed to examine whether and how psychological flexibility may be implicated in work-related quality of life outcomes for healthcare practitioners. Establishing an association between psychological flexibility and work-related quality of life would consequentially form the basis for more robust testing of causal and manipulable relationships.

Furthermore, there is a discrepancy within the literature in terms of how constructs such as work-related quality of life and psychological flexibility are measured. For instance, when measuring psychological flexibility, most studies utilise the Acceptance and Action Questionnaire (AAQ-II) (Bond et al., 2011) which the authors propose is a valid measure of this construct. However, there have been questions surrounding the psychometric properties of the AAQ-II, for example with regards to the construct validity of the measure (Francis et al., 2016; Tyndall et al., 2019; Wolgast, 2014). As such, this review aims to consolidate the literature in this area and provide a coherent overview of measurement and outcomes in terms of the relationship between psychological flexibility and work-related quality of life for healthcare professionals.

1.1. Purpose and Objectives

The primary aim for this review was to examine and critically appraise the literature exploring the relationship between psychological flexibility and professional

quality of life in healthcare professionals working directly with service users, by addressing the following questions:

1. How is the process of psychological flexibility measured for healthcare professionals within the literature?
2. How are work-related quality of life outcomes, within a compassion fatigue and compassion satisfaction framework, measured for healthcare professionals within the literature?
3. What is the quantitative association between psychological flexibility and work-related quality of life for healthcare professionals?

2. Methodology

2.1. Eligibility Criteria

The inclusion and exclusion criteria are detailed in Table 1. Studies were considered for inclusion if applying a process measure purported to assess psychological flexibility, even if authors referred to this measure in terms of an alternative construct. For instance, the Acceptance and Commitment Questionnaire (AAQ-II) (Bond et al., 2011) is reported to be a global measure of psychological flexibility; however, some studies have used the measure to examine an alternatively defined construct such as 'experiential avoidance', which is often considered to reflect the inverse of psychological flexibility (Wolgast, 2014). Studies were considered for inclusion if the outcome measure was specifically related to all or one aspect of workplace quality of life as defined within a compassion fatigue and compassion satisfaction framework: i.e., compassion fatigue, burnout, secondary traumatic stress, or compassion satisfaction.

Table 1

Eligibility Criteria

Inclusion and Exclusion Criteria	Rationale
Inclusion Criteria	
Primary quantitative empirical studies that explicitly aim to assess the relationship between psychological flexibility and work-related quality of life for healthcare professionals	To be able to adequately answer the question regarding the relationship between psychological flexibility and work-related quality of life. It is also recommended, when conducting a systematic review to, avoid the inclusion of studies using a broad range of methodology (Snyder, 2019; Tranfield et al., 2003)

Inclusion and Exclusion Criteria	Rationale
At least one process measure reported to be a measure of psychological flexibility	To assess the relationship between psychological flexibility and work-related quality of life
At least one outcome measure reported to be a measure of work-related quality of life within a compassion fatigue/satisfaction framework i.e. studies explicitly measuring 'burnout', 'secondary traumatic stress', 'compassion fatigue', or 'compassion satisfaction' or constructs synonymous with these.	To assess the relationship between psychological flexibility and work-related quality of life
Sample population to be healthcare professionals working directly with service users	Population is specific to the question
English language only	Practical reasons due to insufficient resources for translation
Exclusion Criteria	
Grey literature	Only Peer reviewed articles will be included as a minimum threshold for quality standards.

2.2. Search Strategy and Study Selection

A search was conducted by the first author using PsycINFO, Medline, CINAHL and EMBASE. All searches were facilitated by the Ebscohost search engine; except for EMBASE, which was facilitated by Ovid. PsycINFO, Medline and CINAHL were searched on 21 June 2020 and EMBASE searched on 30 June 2020. No date restrictions were applied to the search to optimise the search strategy. Search terms were related to three categories of healthcare professionals, process of psychological flexibility and outcome related to workplace quality of life within a compassion fatigue and compassion satisfaction framework. The main search terms used included ("health* worker*" OR "health* professional*") AND ("psychological flexibility" OR "experiential avoidance") AND ("quality of life" OR "quality of work life" OR "wellbeing") (see Appendix A for full list of search terms and search strategy). Free text search terms were also searched within pre-set PsycINFO index terms, Medline MeSH terms,

CINAHL subject headings and EMBASE map terms (see Appendix A for pre-set terms).

Following the systematic search, all duplicate articles were removed, and the remaining articles were screened by title and abstract using the eligibility criteria. The remaining articles were screened by reviewing the full text and applying the eligibility criteria. Reference lists of the remaining articles were then hand-searched and forward citations were reviewed using the Google Scholar “cited by” function to identify additional eligible articles.

2.3. Data Extraction

The first author was responsible for extracting data from selected papers. The following characteristics were extracted from each article: (a) details of the study including: author, location and design; (b) data collection including: measures of psychological flexibility and professional quality of life measures; (c) participant characteristics including: numbers recruited, demographics, type of healthcare profession; (d) analysis including: method of analysis, effect sizes; (e) key findings.

2.4. Quality Appraisal

The Critical Appraisal Skills Programme (CASP) quantitative checklist for cohort studies (Critical Appraisal Skills Programme, 2018) was chosen to appraise the quality of cohort studies (Appendix. B). The Appraisal tool for Cross-Sectional Studies (AXIS tool) (Downes et al., 2016) was chosen to appraise the quality of cross-sectional studies (Appendix. C). To assess the inter-rater reliability of quality appraisal, a subsample of studies (33%) were randomly selected for double coding by a second reviewer, with any differences of opinion resolved through discussion.

2.5. Data Analysis

The Meta-Essentials workbook (Suurmond et al., 2017) was chosen to conduct the meta-analysis. A meta-analysis was used to examine psychological flexibility related to compassion fatigue and compassion satisfaction.

There is a variation between the use of measures of psychological flexibility and the construct individual authors claim to be measuring. For example the Acceptance and Action Questionnaire (AAQ-II) (Bond et al., 2011) was designed to be a more direct and broad measure of psychological flexibility although some studies use this as a measure of alternative constructs such as ‘psychological acceptance’ or ‘experiential

avoidance'. As such, the authors selected, the measure that is purported to be a measure of psychological flexibility regardless of the construct defined within the individual study.

Where studies reported a range of outcome measures, the authors selected the outcome measure that related to professional quality of life within a compassion fatigue and compassion satisfaction framework. Specifically, any measure purported to (or shown by research to) measure burnout, secondary traumatic stress, compassion fatigue or compassion satisfaction was selected. Where studies use measures that include subscales of overarching concepts e.g. 'depersonalisation' and 'emotional exhaustion' as subscales of burnout (Maslach et al., 1996), an average effect size was calculated across the subscale effect sizes.

The authors conducted a pre-planned subgroup meta-analysis, as a sensitivity analysis, using studies reporting the most commonly used measures of psychological flexibility, compassion fatigue and compassion satisfaction. This was to increase the homogeneity of pooled estimates and allow for comparison between studies using the same process and outcome measures compared with studies using a range of process and outcome measures.

It is anticipated that when examining the relationship between constructs, such as psychological flexibility and professional quality of life, the results will be heterogeneous. This is primarily due to the differences in how psychological flexibility and professional quality of life are defined and measured. The authors also acknowledge that there may be a difference in effect sizes depending on the professional perspective of healthcare professional samples. Therefore, a random effects model (Hedges & Vevea, 1998) was chosen to produce a more conservative estimate accounting for heterogeneity between studies. Effect sizes (r and r_s) and sample sizes were entered to calculate overall effect size estimates (r). In accordance with Cohen's convention, the magnitude of effect for r is classified as small (0.10), medium (0.30) or large (0.50) (Cohen, 1992).

The direction of all effect sizes was converted so the direction of measurement scales was consistent across all studies to facilitate comparisons. Effect sizes were weighted according to the sample size. Heterogeneity between studies was calculated using I^2 which indicates the extent to which the variability between estimates of effect is due

to heterogeneity as opposed to chance (Higgins & Thompson, 2002). The level of heterogeneity for I^2 may be determined as follows: low (25%), moderate (50%) and high (75%) (Higgins et al., 2003). Forest plots were used to depict heterogeneity and effect sizes.

2.6. Sensitivity Analysis

Sensitivity analyses were used to determine the effect of removing studies that were potentially heterogeneous. Following visual inspection of forest plots and funnel plots, outliers were removed. Following quality appraisal, studies that satisfied the lowest number of criteria were also removed.

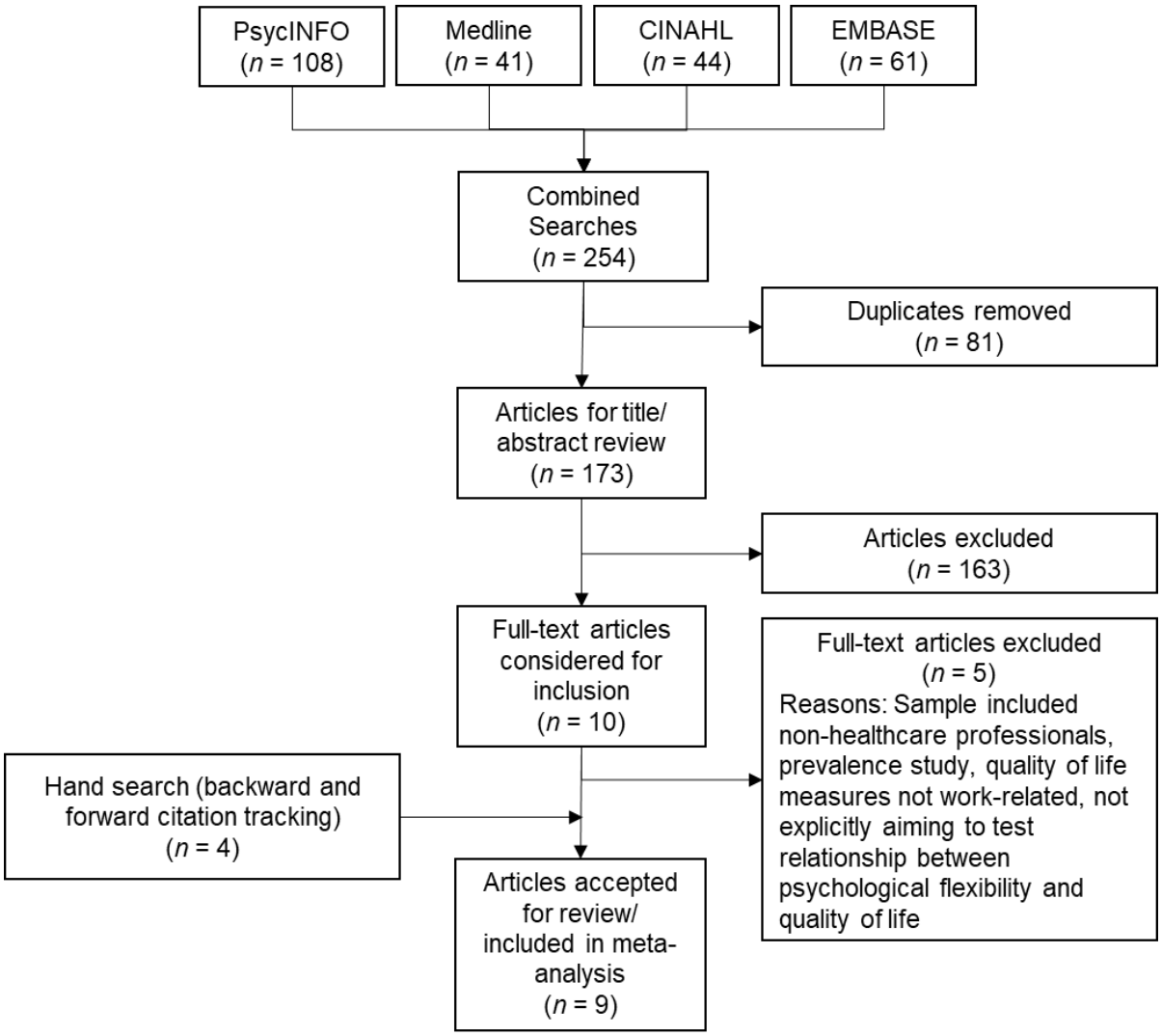
3. Results

3.1. Study Selection

Study selection was carried out by the first author (see Figure 1). Searches identified a total of 254 articles. After removing duplicates, 173 articles remained for screening. A total of 163 articles were deemed ineligible for inclusions through title and abstract screening. The remaining 10 full text articles were screened, and five articles were deemed ineligible for inclusion. One paper used a measure of work engagement (Holmberg et al., 2019) rather than compassion satisfaction, however due to the overlap between these two measures (Sawatzky & Enns, 2012), this paper was included. Forward citations and reference list searchers for the remaining five articles yielded an additional 4 articles eligible for inclusion giving a total of 9 articles for review.

Figure 1

PRISMA Flow Diagram of Selection Process



3.2. Study Characteristics

The characteristics and key findings of studies included in the review are summarised in Table 2.

Table 2

Study characteristics and key findings

[3]Authors and Location	Methodology	Sample Characteristics	Measure of Psychological Flexibility "[4]construct defined in study"	Measure(s) of Workplace quality of life	Summary Points and Key Findings
Duarte & Pinto-Gouveia (2017) Portugal	**Design** Cross-sectional **Quantitative** Questionnaires **Analysis** Correlation & Hierarchical regression	**Profession/s** Oncology nurses (*n* = 221) **Gender** Females (*n*=196) Males (*n*=25) **Age Range** 24-58 years	AAQ-II (Bond et al., 2011) "psychological flexibility"	ProQOL (Stamm, 2010)	Psychological flexibility associated with: Burnout (*r*=-.47**) Secondary traumatic stress (*r*=-.36**) Compassion satisfaction (*r*=.22**)
Holmberg, Kemani, Holmström, Öst & Wicksell (2019) Sweden	**Design** Cross sectional **Quantitative** Questionnaires **Analysis** Correlation	**Profession/s** Total (*n*=184) Nurses (*n*=81) Social Workers (*n*=28) Physicians (*n*=26) Psychologists (*n*=20) Physiotherapists (*n*=7) Mental care takers (*n*=6) occupational therapists (*n*=4)	WAAQ (Bond et al., 2013) "psychological flexibility"	UWES (Schaufeli & Bakker, 2004)	Psychological flexibility Associated with work engagement (r_s=.28***)

[3]Authors and Location	Methodology	Sample Characteristics	Measure of Psychological Flexibility "[4]construct defined in study"	Measure(s) of Workplace quality of life	Summary Points and Key Findings
		Other healthcare workers (*n*=12) **Gender** Females (n=147) Males (*n*=37) **Age Range** 24-64 years			
Iglesias, de Bengoa Vallejo & Fuentes (2010) Spain	**Design** Cross-sectional **Quantitative** Questionnaires **Analysis** Correlation	**Profession/s** Critical care nurses (*n*=80) **Gender** Females (*n*=56) Males (*n*=24) **Age Range** 22-56 years	AAQ (Hayes et al., 2004) "experiential avoidance"	MBI (Maslach & Jackson, 1981)	Psychological flexibility associated with: Depersonalization (burnout subscale) (*r*=-.53**) Emotional Exhaustion (burnout subscale) (*r*=-.51**) Personal Accomplishment (*r*=.24*)
Kent, Hochard & Hulbert-Williams (2019) UK	**Design** Cross-sectional **Quantitative** Questionnaires	**Profession/s** Nurses (*n*=142) **Gender** Females (*n*=124) Males (*n*=18)	AAQ-II (Bond et al., 2011) "experiential avoidance /acceptance"	ProQOL (Stamm, 2010)	Psychological flexibility associated with: Burnout (*r*=-.65***) Secondary traumatic stress (*r*=-.62***) Compassion satisfaction (*r*=.39***)

[3]Authors and Location	Methodology	Sample Characteristics	Measure of Psychological Flexibility "[4]construct defined in study"	Measure(s) of Workplace quality of life	Summary Points and Key Findings
	Analysis Correlation & multiple linear regression	**Age Range** 24-63 years			
Kroska, Calarge, O'Hara, Deumic, Dindo, (2017) US	**Design** Cross-sectional **Quantitative** Survey **Analysis** Bivariate correlation & regression	**Profession/s** Medical students (*n*=240) **Gender** Females (*n*=125) Males (*n*=119) **Age Range** 22-24 years (*n*=60) 25-27 years (*n*=141) 28-30 years (*n*=34) >31 years (*n*=9)	AAQ-II (Bond et al., 2011) "avoidance"	MBI (Maslach & Jackson, 1981)	Psychological flexibility associated with: Depersonalization (burnout subscale)(*r*=-.27**) Emotional Exhaustion (burnout subscale) (*r*=-.44**) Personal Accomplishment (*r*=.27**).
Noone & Hastings (2011) UK	**Design** Cross-sectional **Quantitative** Questionnaires	**Profession/s** Support staff working with adults with intellectual disabilities (*n*=59)	AAQ-II (Bond et al., 2011) "psychological acceptance"	MBI (Maslach et al., 1996)	Psychological flexibility associated with: Depersonalisation (burnout subscale) (*r*=-.15) Emotional Exhaustion (burnout subscale) (*r*=.-40**)

[3]Authors and Location	Methodology	Sample Characteristics	Measure of Psychological Flexibility "[4]construct defined in study"	Measure(s) of Workplace quality of life	Summary Points and Key Findings
		Gender Females (*n*=37) Males (*n*=22) **Age Range** 24-62 years			Personal Accomplishment (*r*=.08).
Ortiz-Funea, Kanter & Arias (2020) Spain	**Design** Cross-sectional **Quantitative** Survey **Analysis** Regression & hierarchical regression	**Profession/s** Total (*n*=269) Psychologists (*n*=228) Psychiatrists (*n*=19) Nurses (*n*=18) Other (*n*=4) **Gender** Females (*n*=218) Males (*n*=51) **Age Range** Not reported	WAAQ (Ruiz & Odriozola-González, 2014) (psychological flexibility)	MBI (Maslach et al., 1996)	Psychological flexibility associated with: Depersonalization (burnout subscale) (*r*=-.25***) Emotional Exhaustion (*r*=-.31***) Personal Accomplishment (*r*=.42***)
Vilardaga, Luoma, Hayes,	**Design** Cross-sectional **Quantitative**	**Profession/s** Addiction Counsellors (*n*=699)	AAQ-II (Bond et al., 2011) (experiential avoidance)	MBI (Maslach et al., 1996)	Psychological flexibility associated with: Depersonalization (burnout subscale) (*r*=-.31**)

[3]Authors and Location	Methodology	Sample Characteristics	Measure of Psychological Flexibility "[4]construct defined in study"	Measure(s) of Workplace quality of life	Summary Points and Key Findings
Pistorello, Levin, Hildebrandt, Kohlenberg, Roget & Bond (2011) US	Questionnaires **Analysis** Sequential multiple regressions	**Gender** Females (*n*=420) Males (*n*=279) **Age Range** *M*=49.7 (no range reported)			Emotional Exhaustion (burnout subscale) (*r*=-.34**) Personal Accomplishment (*r*=.26**)
Yao, Yao, Wang, Li & Lan (2013) China	**Design** Cross-sectional **Quantitative** Survey **Analysis** Correlation	**Profession/s** nurses (*n*=845) **Gender** Females (*n*=805) Males (*n*=40) **Age Range** 18-55 years	AAQ-II (Bond et al., 2011) (psychological acceptance)	MBI (Maslach et al., 1996)	Psychological flexibility associated with: Emotional Exhaustion (burnout subscale) (*r*=-.33***) Depersonalisation (burnout subscale) (*r*=-.42***) Professional Accomplishment (*r*=.29***)

Note: AAQ: Acceptance and Action Questionnaire; AAQ-II: Acceptance and Action Questionnaire II; WAAQ: Work-related Acceptance and Action Questionnaire; ProQOL: Professional Quality of Life Scale; MBI: Maslach Burnout Inventory; UWES: Utrecht Work Engagement Scale.
Only reported effect sizes of *r* or r_s are included to facilitate comparisons.
The direction of all effect sizes has been converted to the same direction to facilitate comparisons. I.e. Psychological flexibility rather than psychological inflexibility.
The following significance indicators are used: *p<.05; **p<.01; ***p<.001.
[3]Only the authors key findings relevant to the review are reported here.
[4]The AAQ-II and variants of the same have been used as a global of measure psychological flexibility however, studies vary in terms of the defined construct that the measure is used to examine. As such, the construct defined in each study has been stated.

3.3. Study Designs

All nine studies used cross-sectional designs.

3.4. Sample Sizes

Sample sizes for included studies ranged from 59-845 (total participants = 2,739).

3.5. Sample Characteristics

The profession most commonly reported were nurses (specific nursing area not specified) (*n* = 1,086) (Holmberg et al., 2019; Kent et al., 2019; Ortiz-Funea et al., 2020; Yao et al., 2013), followed by addiction counsellors (*n* = 699) (Vilardaga et al., 2011). The least commonly reported profession was occupational therapists (*n* = 4) (Ortiz-Funea et al., 2020).

Participant age ranged from 18 to 64 (*M* = 41.48, *SD* = 9.04); however, three studies did not report age minima and maxima (Kroska et al., 2017; Ortiz-Funea et al., 2020; Vilardaga et al., 2011). Two studies did not report a mean age and/or standard deviation (Kent et al., 2019; Kroska et al., 2017; Ortiz-Funea et al., 2020). Across all studies, participants were predominantly female (*M* = 75.58%). None of the studies reported standard deviations for gender.

3.6. Process Measures

All nine studies used one measure of psychological flexibility. Most studies used the Acceptance and Action Questionnaire-II (AAQ-II) (Bond et al., 2011) (*n* = 6). Although Bond et al. defined the AAQ-II as a measure of both experiential avoidance and broader psychological flexibility, the AAQ-II was designed to improve on the AAQ (Hayes et al., 2004) by more directly and broadly measuring psychological flexibility. It was notable that studies varied in how they described and 'used' the AAQ-II. Only one study explicitly described the AAQ-II as a measure of psychological flexibility (Duarte & Pinto-Gouveia, 2017). Three studies used the AAQ-II as a measure of experiential avoidance (Kent et al., 2019; Kroska et al., 2017; Vilardaga et al., 2011) and two studies used the AAQ-II as a measure of psychological acceptance (Noone & Hastings, 2011; Yao et al., 2013). One study used the previous Acceptance and Action Questionnaire (AAQ) (Hayes et al., 2004) as a measure of experiential avoidance (Iglesias et al., 2010). Two studies used the Work-related Acceptance and Action Questionnaire (WAAQ) (Bond et al., 2013) as a measure of psychological flexibility (Holmberg et al., 2019; Ortiz-Funea et al., 2020).

3.7. Outcome Measures

Two studies used the Professional Quality of life Scale (ProQOL) (Stamm, 2010) as a measure of both compassion fatigue and compassion satisfaction (Duarte & Pinto-Gouveia, 2017; Kent et al., 2019). Most studies (*n* = 6) used versions of the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981; Maslach et al., 1996) to measure burnout (one aspect of compassion fatigue) (Iglesias et al., 2010; Kroska et al., 2017; Noone & Hastings, 2011; Ortiz-Funea et al., 2020; Vilardaga et al., 2011; Yao et al., 2013). Holmberg et al. (2019) used the Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2004) as a measure related to compassion satisfaction.

3.8. Quality Appraisal

The AXIS tool (Downes et al., 2016) was chosen to appraise the quality of the included studies as all studies used cross-sectional designs. Level of agreement between reviewers was assessed and, prior to resolving any differences, overall weighted kappa = .84 (‘almost perfect’ agreement). None of the studies satisfied all 20 items of the AXIS tool (see Table 3).

Table 3

Quality appraisal based on the AXIS tool criteria (Downes et al., 2016)

Study	Introduction	Methods										Results					Discussion		Other		Total Items fully satisfied
	1	2	3	4	5	6	7	[5]8	[5]9	10	11	12	13	14	15	16	17	18	19	20	
Duarte & Pinto-Gouveia (2017)	✓	✓	X	✓	✓	✓	N/S	✓	✓	✓	✓	✓	N/S	N/S	✓	✓	✓	✓	✓	✓	16
Holmberg et al. (2019)	✓	✓	X	✓	✓	x	N/S	✓	✓	✓	✓	✓	N/S	N/S	✓	✓	✓	✓	✓	✓	15
Iglesias et al. (2010)	✓	✓	X	✓	✓	✓	N/S	✓	✓	✓	✓	✓	✓	N/S	✓	✓	✓	✓	✓	✓	17
Kent et al. (2019)	✓	✓	✓	✓	✓	✓	N/S	✓	✓	✓	✓	✓	N/S	N/S	✓	✓	✓	✓	✓	✓	17
Kroska et al. (2017)	✓	✓	X	✓	✓	X	N/S	✓	✓	✓	✓	✓	X	N/S	X	✓	✓	✓	✓	✓	14
Noone & Hastings (2011)	X	✓	X	✓	✓	✓	N/S	✓	✓	✓	✓	✓	N/S	N/S	✓	X	✓	X	N/S	N/S	11

Study	Introduction	Methods										Results					Discussion		Other		Total Items fully satisfied
	1	2	3	4	5	6	7	[5]8	[5]9	10	11	12	13	14	15	16	17	18	19	20	
Ortiz-Funea et al. (2020)	✓	✓	X	✓	✓	✓	N/S	✓	✓	✓	✓	✓	N/S	N/S	✓	✓	✓	✓	✓	✓	16
Vilardaga et al. (2011)	✓	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/S	N/S	✓	✓	✓	✓	✓	✓	17
Yao et al. (2013)	✓	✓	X	✓	✓	✓	N/S	✓	✓	✓	✓	✓	✓	N/S	✓	✓	✓	✓	✓	✓	17

Note: Numbers within the table correspond to the following items within the AXIS quality appraisal criteria (Downes et al., 2016): Introduction: **(1)** Were the aims/objectives of the study clear? Methods: **(2)** Was the study design appropriate for the stated aim(s)? **(3)** Was the sample size justified? **(4)** Was the target/reference population clearly defined? (Is it clear who the research was about?). **(5)** Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation? **(6)** Was the selection process likely to select subjects/participants that were representative of the target/reference population under investigation? **(7)** Were measures undertaken to address and categorise non-responders? **(8)** Were the process and outcome variables measured appropriate to the aims of the study? **(9)** Were the process and outcome variables measured correctly using instruments/ measurements that had been trialled, piloted or published previously? **(10)** Is it clear what was used to determined statistical significance and/or precision estimates? (e.g. p values, CIs) **(11)** Were the methods (including statistical methods) sufficiently described to enable them to be repeated? Results: **(12)** Were the basic data adequately described? **(13)** Does the response rate raise concerns about non-response bias? **(14)** If appropriate, was information about non-responders described? **(15)** Were the results internally consistent? **(16)** Were the results for the analyses described in the methods, presented? Discussion: **(17)** Were the authors' discussions and conclusions justified by the results? **(18)** Were the limitations of the study discussed? Other: **(19)** Were there any funding sources or conflicts of interest that may affect the authors' interpretation of the results? **(20)** Was ethical approval or consent of participants attained?

[5] For items 8 and 9 'risk factor' was amended to 'process' in line with the research question examining the process of psychological flexibility as opposed to a particular risk factor.

✓ indicates the appraisal criterion was satisfied; X indicates the appraisal criterion was not satisfied; P indicates the appraisal criterion was partially satisfied; N/S indicates 'not stated'; N/A indicates 'not applicable'.

In terms of study introduction, only one study did not clearly state their aims or objectives (Noone & Hastings, 2011). With regards to methodology, all studies used an appropriate design, defined their target population and used a sample relevant to the target population. All measured process and outcome variables appropriate to the study aims. For all studies, the value that was used to determine statistical significance was clear. All nine described their methodology to enable repetition.

For one study, (Kroska et al., 2017), there was a risk that their selection of participants may have resulted in a non-representative sample as they recruited medical students from a single University. A further study utilised convenience sampling with little sense of those who were not selected (Holmberg et al., 2019). Only one study (Vilardaga et al., 2011) acknowledged the difficulty in addressing non-responders. All studies used measures of psychological flexibility and work-related quality of life that had been trialled or published previously.

In terms of results, all studies adequately described their basic data. Two (Iglesias et al., 2010; Yao et al., 2013) detailed response rates (81.63% and 76.13% respectively) which do not seem to raise concerns regarding nonresponse bias. One (Kroska et al., 2017) detailed their response rate (56.72%) which potentially raises concerns regarding nonresponse bias. Six (Duarte & Pinto-Gouveia, 2017; Holmberg et al., 2019; Kent et al., 2019; Noone & Hastings, 2011; Ortiz-Funea et al., 2020; Vilardaga et al., 2011) did not report data in relation to response rates. None of the included studies provided information regarding non-responders.

All studies were internally consistent with the exception of one study (Kroska et al., 2017) which reported the inclusion of 245 participants with only 240 included for analysis. All studies reported results consistent with planned analyses described in the methodology with the exception of one (Noone & Hastings, 2011) which did not detail a plan for analysis. All studies provided adequate justification for their results within their discussion however, one failed to report their study limitations, funding source, declare any conflict of interest and failed to provide details of ethical approval or participant consent (Noone & Hastings, 2011).

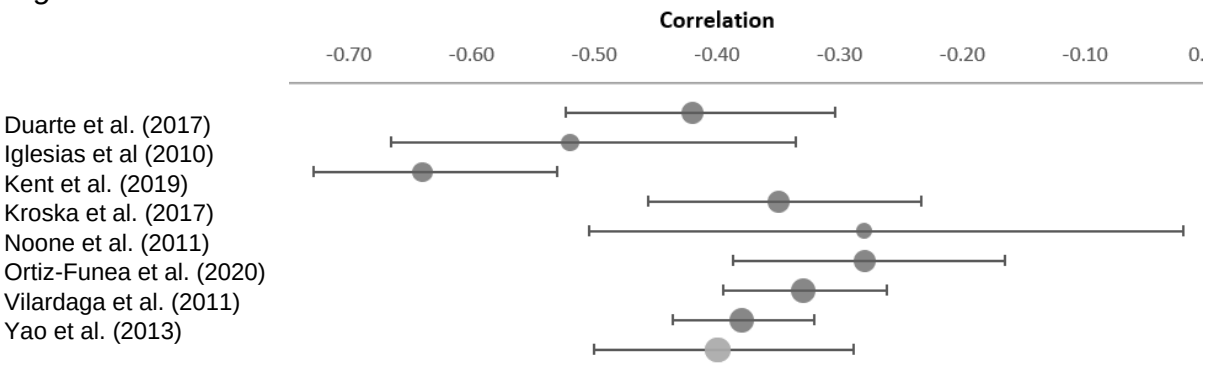
3.9. Meta-Analyses

3.9.1. Psychological Flexibility and Compassion Fatigue. All nine studies used measures of psychological flexibility; however, one study (Holmberg et al., 2019)

did not use an outcome measure of compassion fatigue. As such, eight studies were included in the meta-analysis (2,556 participants) (Figure 2; Appendix D, Table D.1). The results indicated a medium significant pooled effect size estimate (r = -.40; 95% CIs [-.55, -.29]; Z = -7.94, p = .001). Heterogeneity was high (I^2 = 74.36%).

Figure 2

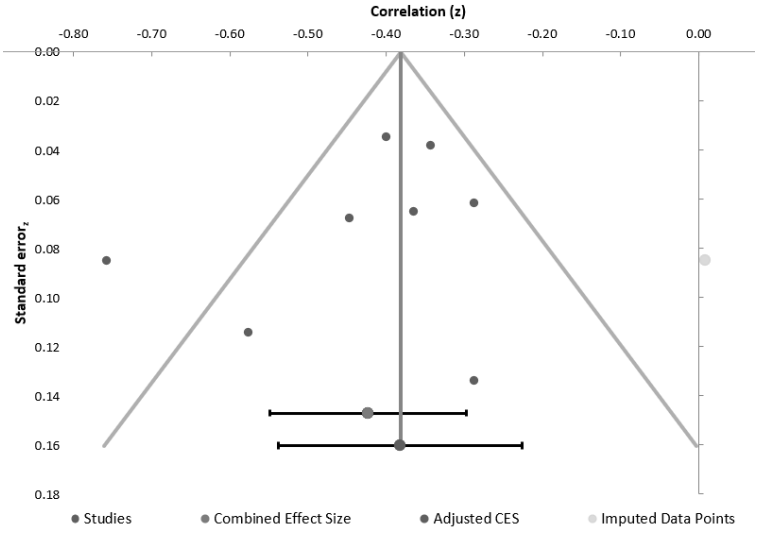
Forest plot for the relationship between psychological flexibility and compassion fatigue



A sensitivity analysis was conducted and one study (Kent et al., 2019) was removed following examination of the funnel plot (Figure 3). A further study (Noone & Hastings, 2011) was removed due to having the lowest quality appraisal score. After removing these studies, a medium significant pooled effect size estimate was found (Appendix D, Table D.2), although the effect size estimate was smaller (r = -.36; 95% CIs [-.43, -.29]; Z = -12.91, p = .001). Heterogeneity was reduced to low-to-moderate (I^2 = 33.89%).

Figure 3

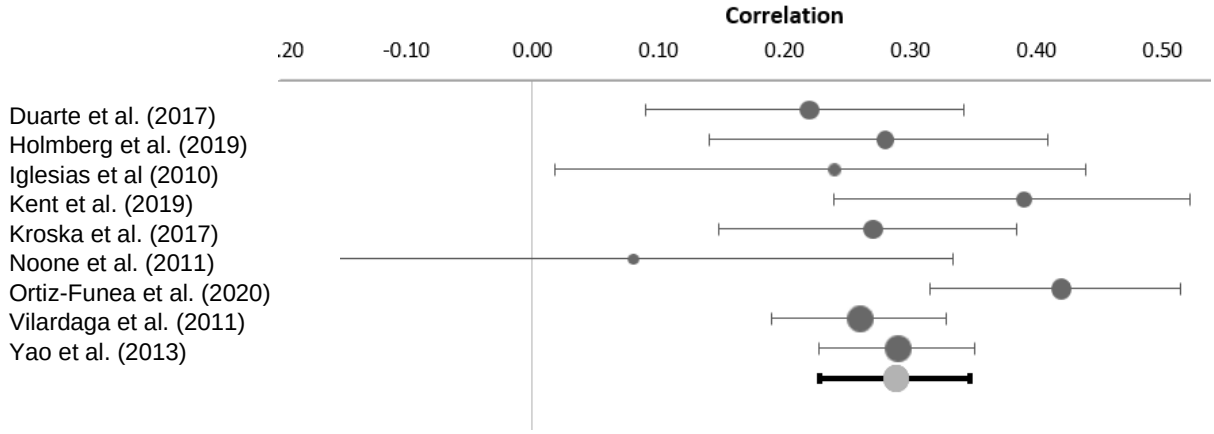
Funnel plot for the relationship between psychological flexibility and compassion fatigue



3.9.2. Psychological Flexibility and Compassion Satisfaction. All nine studies used measures of psychological flexibility and compassion satisfaction and were included in the meta-analysis (2,739 participants) (Figure 4; Appendix D, Table D.3). The results indicated a small significant pooled effect size estimate (r = .29; 95% CIs [.23, .36]; Z = 10.56, p = .001). Heterogeneity was low-to-moderate (I^2 = 36.83%).

Figure 4

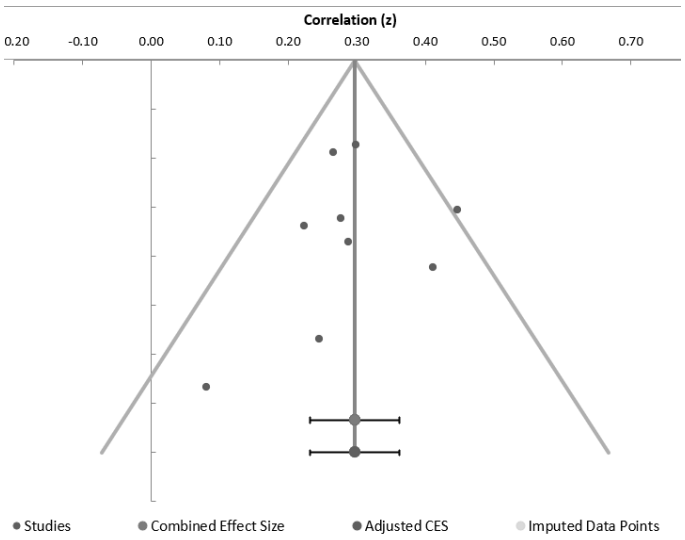
Forest plot for the relationship between psychological flexibility and compassion satisfaction



A sensitivity analysis was conducted and one study (Ortiz-Funea et al., 2020) was removed following examination of the funnel plot (Figure 5). A further study (Noone & Hastings, 2011) was removed due to having the lowest quality appraisal score. After removing these studies, a small significant pooled effect size estimate was found (Appendix D, Table D.4), although the effect size estimate was negligibly smaller (r = .28; 95% CIs [.24, .31]; Z = 17.94, p = .001). Heterogeneity was reduced to low (I^2 = 0.00%).

Figure 5

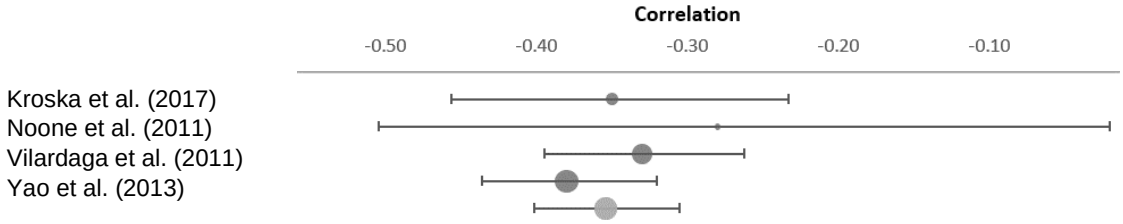
Funnel plot for the relationship between psychological flexibility and compassion satisfaction



3.9.3. Pre-Planned Subgroup Analyses. Four out of nine studies (Kroska et al., 2017; Noone & Hastings, 2011; Vilardaga et al., 2011; Yao et al., 2013) used the same measures of psychological flexibility (AQA-II) and compassion fatigue (MBI) and were included in the meta-analysis (1,844 participants) (Figure 6; Appendix D, Table D.5). The results indicated a medium significant pooled effect size estimate (r = -.35; 95% CIs [-.40, -.31]; Z = -21.32, p = .001). Heterogeneity was low (I^2 = 0.00%).

Figure 6

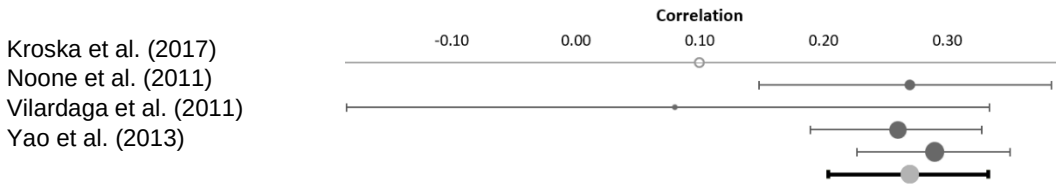
Forest plot for the relationship between psychological flexibility and compassion fatigue in pre-planned subgroup analysis



Four of nine studies (Kroska et al., 2017; Noone & Hastings, 2011; Vilardaga et al., 2011; Yao et al., 2013) used the same measures of psychological flexibility (AAQ-II) and compassion satisfaction (MBI) and were included in the meta-analysis (1,844 participants) (Figure 7; Appendix D, Table D.6). The results indicated a small significant pooled effect size estimate (r = .27; 95% CIs [.20, .33]; Z = -12.62, p = .001). Heterogeneity was low (I^2 = 0.00%).

Figure 7

Forest plot for the relationship between psychological flexibility and compassion satisfaction in pre-planned subgroup analysis



4. Discussion

The review aimed to examine and critically appraise literature exploring the relationship between psychological flexibility and healthcare-professional quality of life addressing descriptive questions about how these variables are being measured within healthcare professionals and an analytic question about their magnitude of association.

4.1. How is Psychological Flexibility Measured Within this Literature?

Most studies included within the review used the AAQ-II which is described as a measure of psychological flexibility (Bond et al., 2011). One study used this to measure psychological flexibility however, others used the AAQ-II as a measure of experiential avoidance or psychological acceptance. Recent research has highlighted questions surrounding the psychometric properties of the AAQ-II, particularly with respect to construct validity (Francis et al., 2016; Tyndall et al., 2019; Wolgast, 2014). This has led to the development of alternative measures (Francis et al., 2016) in an attempt to more accurately capture the process of psychological flexibility. Furthermore, only two studies conducted internal consistency reliability analyses for the AAQ-II. As such, future studies should aim to include internal consistency reliability analyses when using measures of psychological flexibility to provide further clarity around the psychometric properties of the measure and the process measured.

Moreover, three studies chose alternative measures or psychological flexibility. This may explain the higher levels of heterogeneity found within the initial meta-analysis. Whilst heterogeneity was reduced following sensitivity analyses, this was reduced further following the pre-planned subgroup analysis looking at the relationship between psychological flexibility and compassion fatigue using consistent measures.

As such, there is a need for consistency within the literature regarding the construct that authors claim measurement tools to measure, along with consistency in measurement of psychological flexibility. Future authors may wish to consider alternative validated measures of psychological flexibility within this area of research or reach a consensus regarding the construct being measured by commonly used psychological flexibility measures. Without this, reported relationships between psychological flexibility and outcome variables, such as healthcare professional quality of life, may be called into question.

4.2. How is Work-Related Quality of Life Measured Within a Compassion Fatigue and Compassion Satisfaction Framework?

The most consistent measure of professional quality of life was the MBI (Maslach et al., 1996), with six studies using this measurement tool. As with psychological flexibility, measures of professional quality of life vary within the literature, with some studies using alternative tools such the ProQOL (Stamm, 2010), or UWES (Schaufeli & Bakker, 2004).

As with psychological flexibility measures, this may again reflect the level of heterogeneity between studies as indicated by the meta-analysis examining psychological flexibility related to compassion fatigue. Whilst heterogeneity was reduced following sensitivity analyses, this was reduced further following the pre-planned subgroup analysis where studies used consistent measures. However, for the relationship between psychological flexibility and compassion satisfaction, there was no difference in the level of heterogeneity found following the sensitivity analysis compared with the pre-planned subgroup analysis. Therefore, despite including a range of compassion satisfaction measures, heterogeneity was the same when consistent measures were used.

Therefore, the discrepancies between measures of compassion fatigue may impact levels of heterogeneity more than measures of compassion satisfaction. This seems unsurprising considering the nuances between compassion fatigue measures i.e. the MBI does not include a subscale of secondary traumatic stress compared with measures such as the ProQOL. Whilst the MBI has been shown to be a reliable measure of burnout (Maslach & Jackson, 1981; Maslach et al., 1996; Maslach et al., 2001), secondary traumatic stress is said to form part of compassion fatigue along with burnout (Stamm, 2010). Consequently, when examining professional quality of life, it may be helpful for researchers to include measures of both burnout and secondary traumatic stress given healthcare practitioners' experiences of both and the close relationship between these two constructs (Adams et al., 2006; Cieslak et al., 2014; Figley, 2002). Furthermore, authours may expect to find differences in outcomes depending on whether burnout is measured alone or whether subscales of both burnout and secondary traumatic stress are included.

4.3. What is the Relationship Between Psychological Flexibility and Professional Quality of Life for Healthcare Professionals?

With regards to the relationship between psychological flexibility and compassion fatigue, the results indicated a medium significant pooled effect. The significance and magnitude of this association was robust to sensitivity analyses, undertaken to examine the influence of study heterogeneity on pooled estimates. Confidence intervals were also reduced following the pre-planned subgroup analysis, indicating there is a 95 percent chance of a medium effect, particularly when consistent measures of psychological flexibility and compassion fatigue are used. Therefore, the results indicate that healthcare professionals who report higher levels of psychological flexibility also report lower levels of compassion fatigue.

With regards to the relationship between psychological flexibility and compassion satisfaction, the results indicated a small significant pooled effect. Again, when a sensitivity analysis was undertaken to examine the influence of heterogeneity on pooled estimates, the significance and magnitude of this relationship remained. Confidence intervals were also reduced following the pre-planned subgroup analysis, indicating there is a 95 percent chance of a small effect, particularly when consistent measures are used. Therefore, the results indicate that healthcare professionals who report higher levels of psychological flexibility also report higher levels of compassion satisfaction.

Given these associations, it seems that the way healthcare professionals relate to the difficult experiences they encounter as part of their roles may be implicated in professional quality of life. For instance, healthcare professionals who allow themselves to focus on the present situation and move towards their goals, despite encountering distressing or challenging internal psychological experiences, may also experience improved professional quality of life. As such, it is likely that targeting psychological flexibility may be valuable in promoting work-related quality of life for healthcare professionals. As highlighted within the current literature, interventions orientated towards improving healthcare professionals' psychological flexibility seem to have desirable professional quality of life outcomes (Brinkborg et al., 2011; Gerhart et al., 2016; Reeve et al., 2018).

Equally, it could be the case that when healthcare professionals experience compassion fatigue, they may not have the available resources to exhibit psychological flexibility. Conversely, those who are experiencing higher levels of compassion satisfaction may be more able to draw on personal resources including psychological flexibility. Therefore, the associations found within this review should be interpreted with caution as the direction of the relationship between psychological flexibility and healthcare professional quality of life cannot be determined.

It is also important to note that the associations found within this review translate into a small percentage of the explained variance for psychological flexibility associated with compassion fatigue (16%) and compassion satisfaction (8%). As highlighted previously, other external factors have been associated with professional quality of life for healthcare professionals such as; professional role, workload, supervision and levels of co-worker support (Ducharme et al., 2007; Janssen et al., 1999; Knudsen et al., 2008; Rossi et al., 2012). Therefore, whilst improving psychological flexibility within this population may potentially go some way to enhancing their quality of life, training in psychological flexibility should not be considered a panacea and the responsibility for professional quality of life should not be considered as exclusively lying within the individual.

4.4. Quality and Limitations of Included Studies

None of the nine studies satisfied all criteria defined with the AXIS quality appraisal tool. All studies used cross-sectional designs; however, it may be beneficial for future studies to examine the relationship between psychological flexibility and professional quality of life over a longitudinal period. This may be relevant as research for non-healthcare professionals indicates that psychological flexibility may predict professional quality of life outcomes over time (Bryan et al., 2015).

There was a large disparity between study sample sizes and only one study reported power calculations to indicate the required number of participants. Therefore, future studies should aim to justify their participant sample. Six of the included studies also failed to report data in relation to response rates. However, this may be explained by the difficulty in determining numbers of eligible healthcare professionals working within services or the online nature of some studies, as acknowledged by Vilardaga et al. (2011).

Some studies chose to include healthcare professionals from a range of professions, whereas others included professionals working in a single role. This may account for some of the heterogeneity between studies. Participants across the nine studies were predominantly female, which may not be considered a representative sample. However, within the UK National Health Service (NHS), female professionals account for three quarters of healthcare staff (National Health Service, 2018). Therefore, the higher proportion of females may accurately reflect the gender disparity within healthcare sector workers. A wide age range of participants were included across the nine studies which increases the representative nature of the included samples, although some studies failed to report this demographic variable. The reporting of participant demographics is important as a range of demographic variables have been found to influence professional quality of life (Craig & Sprang, 2010; Cunningham, 2003; Rossi et al., 2012). Although, as discussed previously, the influence of demographic factors appear to be inconclusive (Cavanagh et al., 2020).

Finally, one study failed to report their study limitations, funding source or provide a declaration of conflict of interest which raises questions regarding potential bias within this particular study.

4.5. Limitations of the Current Review

There are range of limitations to the present review. Firstly, the review only included primary quantitative empirical studies that explicitly *aim* to assess the relationship between psychological flexibility and professional quality of life for healthcare practitioners. Therefore, it may be possible to conduct a more extensive review and meta-analysis including additional studies that gauged this relationship in the course of addressing other aims.

Studies included a range of healthcare professionals and (outcome and process) measures. As such, the comparability of the studies may be limited and as previously stated, there is a need for consensus in terms of measurement in this area of the literature. Nevertheless, statistical heterogeneity was reduced through removing lower quality studies and sensitivity analysis using consistent measures, rather than limiting the population profession. Therefore, the transferrable nature of psychological flexibility and professional quality of life may be such that healthcare professionals are somewhat comparable for these associations.

Finally, the review included primary correlational studies which used self-report measures. As with any correlational research, it is not possible to establish directionality or infer a cause and effect relationship. As discussed, rather than psychological flexibility predicting/influencing compassion fatigue, it may be feasible that compassion fatigue results in more rigid ways of behaving. Moreover, there may be a common-method bias affecting responses that are gathered at the same time and through the same self-report methods, such that the apparent relationship between psychological flexibility and professional quality of life is artificially inflated.

4.6. Conclusions

Psychological flexibility was found to be significantly associated with compassion fatigue and compassion satisfaction for a range of healthcare professionals. Consequentially, developing practitioners' skills in psychological flexibility may have important implications for healthcare professional quality of life, healthcare organisations, and patient care. However, measures of psychological flexibility and professional quality of life vary within the literature and there is a need for consensus in terms of measurement of these constructs. There is also a need for consistency with regards to measures of psychological flexibility that have sound construct validity. It may be helpful for future researchers to include measures of both burnout and secondary traumatic stress when measuring professional quality of life given that healthcare practitioners experience both of these aspects of compassion fatigue.

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JOURNAL PAPER

Psychological Flexibility as a Predictor of Professional Quality of Life in Newly Qualified Psychological Therapy Practitioners

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Abstract

The professional quality of life of psychological therapy practitioners can be conceptualised within a compassion satisfaction and compassion fatigue framework. Compassion fatigue has detrimental impacts on practitioners, organisations and patient care, whereas compassion satisfaction leads to positive outcomes. Psychological flexibility is purportedly a key resilience process associated with greater compassion satisfaction and lower compassion fatigue for healthcare professionals. However, no existing research has explored this association over a longitudinal trajectory for healthcare workers and specifically newly qualified psychological therapy practitioners. This study aimed to examine whether psychological flexibility prospectively predicts levels of compassion fatigue (inclusive of burnout and secondary traumatic stress) and compassion satisfaction in newly qualified psychological therapy practitioners. Using a prospective cohort longitudinal design, fifty-six trainee psychological therapy practitioners were recruited to complete an online survey at three timepoints pre- and post-qualification over eight-months. The survey comprised a demographic questionnaire and measures of psychological flexibility, professional quality of life and workplace factors. Multilevel modelling revealed that higher prospective levels of psychological flexibility predicted higher levels of compassion satisfaction and lower levels of burnout and secondary traumatic stress across timepoints. This study offers evidence suggesting a predictive association between psychological flexibility and professional quality of life outcomes for psychological therapy practitioners. It may be possible to extrapolate these findings to wider healthcare professions, given existing cross-sectional associations, and to target psychological flexibility to promote better professional quality of life.

Key Words: Psychological Flexibility, Quality of Life, Compassion Fatigue, Compassion Satisfaction

1. Introduction[2]

Psychological therapy practitioners working within UK mental health services are exposed to complex client presentations (Bettney, 2017; British Psychoanalytic Council, 2015; British Psychological Society, 2015; Feinmann, 2020). Unsurprisingly, the prevalence of trauma experiences for service users accessing such services is significantly higher than for people within the general population (Mauritz et al., 2013), meaning psychological therapy practitioners are often exposed to client trauma (Bride, 2004). Trauma is defined as an "emotional response to a terrible event" (American Psychological Association, 2020, p. 1) and can result following exposure to a single threatening event (American Psychiatric Association, 2013; World Health Organisation, 2019) or a series of events, known as 'complex trauma', which is "the experience of multiple, chronic and prolonged, developmentally adverse traumatic events" (Van Der Kolk, 2005, p. 402; World Health Organisation, 2019).

It is widely acknowledged that exposure to client trauma can lead to detrimental effects on the professional quality of life of therapy practitioners (Bride, 2004; Pearlman & Saakvitne, 1995; Sabin-Farrell & Turpin, 2003), including trainee and qualified Clinical Psychologists (Adams & Riggs, 2008; Diehm et al., 2018; Makadia et al., 2017; Millard, 2017; Sutton, 2018), Counsellors (Bride & Kintzle, 2011; Trippany et al., 2004) and Psychotherapists (Pearlman & Saakvitne, 1995). Furthermore, the transition into qualified practice for psychological therapists is a critical period whereby younger and less experienced therapists are at risk of becoming enmeshed with the trauma narratives of their clients (Davies et al., 2021), are reported to become overwhelmed due to the emotional demands of their work and experience higher levels of psychological distress than more experienced practitioners (Bettney, 2017; Brown, 2017; Craig & Sprang, 2010; Rønnestad & Skovholt, 2012). Meanwhile, psychological therapy practitioners also experience fulfilment and pleasure associated with their working practice (Bride et al., 2007; Ekundayo et al., 2013; Stamm, 2010). The negative and positive consequences of therapeutic work on practitioners' professional quality of life can be conceptualised as 'compassion fatigue' and 'compassion satisfaction' respectively (Stamm, 2010)[3].

[2] See Section 1 in the Extended Paper for the Extended Introduction.
[3] See Section 1.1 in the Extended Paper for further discussion on Professional Quality of Life Construct and Terms.

Compassion fatigue is “the formal caregiver’s reduced capacity or interest in being empathic” as a consequence of knowing about others’ traumatic experiences (Adams et al., 2006, p. 103) and can be separated into the concepts of ‘burnout’ and ‘secondary traumatic stress’ (Stamm, 2010). Whilst burnout and secondary traumatic stress commonly cooccur, the nuances between these constructs are highlighted (Adams et al., 2006; Cieslak et al., 2014; Figley, 2002a, 2002b; Sabin-Farrell & Turpin, 2003). Burnout relates to “feelings of hopelessness and difficulties in dealing with work or in doing your job effectively” (Stamm, 2010, p. 13) and purportedly encompasses “three dimensions of exhaustion, cynicism, and inefficacy” (Maslach et al., 2001, p. 397). The prevalence of burnout for psychological therapy practitioners, inclusive of trainee and qualified practitioners, is approximately 55 percent (for a review see Simionato & Simpson, 2018). Secondary traumatic stress involves symptoms similar to post-traumatic stress disorder (PTSD), e.g. heightened arousal, intrusive reexperiencing of trauma accounts and avoidance of emotions and triggers (Bride et al., 2004; Figley, 1995), and occurs following vicarious exposure to trauma (Bride et al., 2009; Cieslak et al., 2014; Diehm et al., 2018; Makadia et al., 2017). 70 percent of UK therapists are reported to be at risk of secondary trauma symptoms (Ekundayo et al., 2013). Meanwhile, compassion satisfaction is defined as “the positive aspects of helping others” (Stamm, 2010, p. 10) and “the pleasure you derive from being able to do your work well” (Stamm, 2010, p. 12), with around half of UK therapists reportedly experiencing an average level of compassion satisfaction (Ekundayo et al., 2013).

Importantly, compassion satisfaction contributes to effective coping and increased self-efficacy (Smart et al., 2014). Conversely, compassion fatigue leads to detrimental consequences for healthcare practitioners, organisations and patient care, such as lower occupational commitment, increased employee turnover and reduced service quality and efficacy (Bride et al., 2009; Bride & Kintzle, 2011; Ducharme et al., 2007; Hunsaker et al., 2015). Therefore, there is a need to identify factors that may improve psychological therapists’ compassion satisfaction and mitigate compassion fatigue as “strategies for improving the resilience and wellbeing of the clinical psychology workforce” are required to “address issues of burnout and low morale and improve the quality of service for service users” (British Psychological Society, 2015, p. 9).

Resilience has been defined as “the process of effectively negotiating, adapting to, or managing significant sources of stress or trauma” (Windle, 2011, p. 163). Literature exploring the theoretical construct of resilience is commonly derived from the developmental psychology field (e.g. Masten et al., 1990; Rutter, 1987). Models of resilience frequently attempt to define individual risk and protective factors, explored in connection with environmental factors (Masten et al., 1990; Werner, 1997). Individual factors associated with compassion fatigue for healthcare professionals include, but are not limited to, age (Craig & Sprang, 2010; Hunsaker et al., 2015), gender (Rossi et al., 2012), ethnicity (Adams & Riggs, 2008), practitioner trauma history (Cunningham, 2003; Pearlman & Maclan, 1995) and years of experience (Craig & Sprang, 2010). External factors, such as, workload (Hinderer et al., 2014; Janssen et al., 1999), colleague support (Ducharme et al., 2007) and clinical supervision (Davies et al., 2021; Knudsen et al., 2008) are also related to compassion fatigue. Furthermore, variables including age (Hunsaker et al., 2015; Wang et al., 2020), gender (Sprang et al., 2007), specialist trauma training (Sprang et al., 2007), years of experience (Hunsaker et al., 2015), profession (Sprang et al., 2007) and management support (Hunsaker et al., 2015) have all been associated with compassion satisfaction.

Despite these associations, the influence of individual and environmental variables on professional quality of life is purportedly complex and findings remain inconclusive (Cavanagh et al., 2020; Robins et al., 2017). Furthermore, the construct of resilience has more recently been considered a ‘dynamic process of adaptation’ that is not limited to childhood development but established across the lifespan (Luthar et al., 2000; Taormina, 2015; Windle, 2011)[4]. One process, suggested to be a key component of resilience, is ‘psychological flexibility’ (Kashdan & Rottenberg, 2010; Waugh et al., 2011), that is “the ability to contact the present moment more fully as a conscious human being, and to change or persist in behaviour when doing so serves valued ends” (Hayes et al., 2006, p. 7)[5]. Psychological flexibility allows individuals to adapt to stressful and emotional circumstances and reduce the negative effects of such circumstances on psychological health and wellbeing (Kashdan & Rottenberg, 2010; Waugh et al., 2011). Therefore, psychological flexibility may enable therapists

[4] See Section 1.2 in the Extended Paper for further discussion on Resilience as Process.
[5] See Section 1.3 in the Extended Paper for an Overview of Psychological Flexibility and Section 1.4 for further details regarding Psychological Flexibility as a Resilience Process.

to act more effectively within the emotionally challenging circumstances of their work, allowing them to remain connected with their clients and continue to pursue the goals of therapy whilst reducing the impact on their own professional quality of life.

Importantly, evidence suggests that psychological flexibility is associated with higher levels of compassion satisfaction and lower levels of compassion fatigue for healthcare professionals (for a review see Garner & Golijani-Moghaddam, 2021) and may predict responses to distress over time (Bryan et al., 2015). Therefore, levels of psychological flexibility may prospectively predict psychological therapy practitioners' professional quality of life over time.

1.1. Summary and Aims[6]

Existing literature demonstrates that psychotherapeutic work is associated with compassion fatigue and compassion satisfaction for psychological therapy practitioners. However, research examining the implications of therapeutic work on newly qualified psychological therapy practitioners' professional quality of life is scarce. Furthermore, there is a need to investigate resilience processes that may improve the professional quality of life of practitioners, particularly newly qualified psychological therapists, as they are at increased risk of burnout and psychological distress. This is especially pertinent within the UK National Health Service (NHS) context, where a reduced workforce of psychological therapy practitioners is facing higher demand for therapeutic intervention and increased pressures to achieve targets (British Psychoanalytic Council, 2015; British Psychological Society, 2015; Brown, 2017).

Whilst psychological flexibility is deemed a key resilience process related to higher levels of compassion satisfaction and lower levels of compassion fatigue, this association is yet to be examined for newly qualified psychological therapy practitioners specifically. Furthermore, within the broader healthcare literature, there is an absence of research exploring this association for healthcare workers over a longitudinal trajectory (Garner & Golijani-Moghaddam, 2021).

A recent review provides some indication of causality, whereby increasing psychological flexibility led to improved psychological wellbeing for care staff (Reeve

[6] See Section 1.5 in the Extended Paper for the Extended Aim.

et al., 2018). Nevertheless, the transition from pre- to post-qualification for psychological therapy practitioners is a critical period associated with negative professional quality of life consequences (Davies et al., 2021), and provides an opportunity to expand on cross-sectional findings by exploring the predictive role of psychological flexibility and to make inferences regarding its relevance in promoting professional quality of life. This is key as a range of research paradigms are required to understand the importance of psychological flexibility for research participants (Cherry et al., 2021).

Consequently, the primary aim of the study was to examine whether psychological flexibility prospectively predicts levels of compassion fatigue (inclusive of burnout and secondary traumatic stress) and compassion satisfaction in newly qualified psychological therapy practitioners. It was hypothesised that higher prospective levels of psychological flexibility would predict lower levels of compassion fatigue and higher levels of compassion satisfaction.

2. Method[7, 8]

2.2. Study Design[9]

The study used a prospective cohort longitudinal design, whereby participants completed an online survey at three separate timepoints over an eight-month period.

2.3. Participants[10]

Fifty-six trainee psychological therapy practitioners (trainee Clinical Psychologists and trainee Cognitive Behavioural Therapists) were recruited. Purposive sampling was used to recruit participants via email advert to UK university training courses. Snowball sampling was also used whereby participants were permitted to forward the study advertisement to other potential participants.

Participants were required to confirm that they met the inclusion criteria, i.e. being students in their final year of training in the UK, due to qualify as a Health and Care Professions Council (HCPC) registered Clinical Psychologist or British Association for

[7] See Section 2 in the Extended Paper for the Extended Method.
[8] See Section 2.1 in the Extended Paper for the Epistemological Position.
[9] See Section 2.2 in the Extended Paper for the Study Design Rationale.
[10] See Section 2.3 in the Extended Paper for further details on Participant Recruitment.

Behavioural and Cognitive Psychotherapies (BABCP) registered High Intensity Cognitive Behavioural Therapist.

A priori sample size calculation was conducted to determine the required study sample[11]. Empirical evidence (from a sample of nursing practitioners within the UK) demonstrates a large association (*r*=.52) between psychological flexibility, compassion fatigue and compassion satisfaction (Kent et al., 2019). It was determined that twenty-six participants would provide sufficient power (80%; with an alpha criterion of .05) to detect a relationship of similar magnitude (.52) in psychological therapy practitioners.

Longitudinal research can incur high attrition rates (Yee & Niemeier, 1996) and previous literature (from a sample of students) indicates a dropout rate of 30% over time (Chemers et al., 2001). Therefore, thirty-eight participants were required at recruitment to satisfy the minimum sample at the final data collection point. Participant numbers exceeded the minimum sample.

2.4. Procedure[12]

Participants were recruited in their final training year, two months prior to training completion. The study advertisement included a link to an electronic survey. Qualtrics was used to host the survey and for data collection. Participants were provided with information about the study, followed by the survey comprising a demographic questionnaire and three existing measures (see section 2.5. 'Materials') and took approximately 20 minutes to complete. Participants were invited to complete the same survey at initial recruitment[13] and two further timepoints (two-months and five-months post-qualification) via participant email addresses provided.

2.5. Materials[14]

2.5.1. Demographic Questionnaire. The demographic questionnaire collected various information such as, participant age, gender, profession, work setting, supervision, level of trauma training and caseload.

[11] See Section 2.4 in the Extended Paper for further details on Sample Size.
[12] See Section 2.5 in the Extended paper for additional details regarding the Procedure.
[13] The terms 'recruitment', 'baseline' and 'pre-qualification' are used interchangeably to refer to the initial pre-qualification data collection point at time 1.
[14] See Section 2.6 in the Extended Paper for the Rational for Materials.

2.5.2. Comprehensive Assessment of Acceptance and Commitment Therapy (CompACT; Francis et al., 2016). The CompACT was the primary process measure of psychological flexibility and is a 23-item measure which has good reliability (*α*=.91; Francis et al., 2016). Items are rated on a seven-point Likert scale ranging from 'strongly disagree' to 'strongly agree', with higher scores relating to greater psychological flexibility. Example items include: 'I act in ways that are consistent with how I wish to live my life' and 'thoughts are just thoughts- they don't control what I do'.

2.5.3. Professional Quality of Life Scale (ProQOL; Stamm, 2010). The ProQOL is a 30-item measure of professional quality of life for 'helping professionals', comprising three 10-item subscale measures of compassion satisfaction (CS), burnout (BO) and secondary traumatic stress (STS). The ProQOL subscales are reported to have good reliability (CS, *α*=.88; BO, *α*=.75; STS, *α*=.81; Stamm, 2010). This was used as the primary outcome measure of professional quality of life. Items are rated on a five-point Likert scale ranging from 'never' to 'very often' with higher scores related to greater compassion satisfaction, burnout and secondary traumatic stress on respective subscales. Example items include: 'I feel connected to others' and 'I am preoccupied with more than one person I [help]'.

2.5.4. Psychological Practitioner Workplace Wellbeing Measure (PPWWM; Summers et al., 2020). The PPWWM is a 26-item measure of perceived workplace wellbeing related to workplace factors and demonstrates good internal reliability (*α*=.92; Summers et al., 2020). The PPWWM was used to control for workplace factors related to professional wellbeing that may influence professional quality of life scores. Items are rated on a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree'. Higher scores relate to greater perceived professional wellbeing. Example items include: 'I feel I can seek support from my colleagues' and 'clinical supervision meets my support needs'.

2.6. Ethics[15]

Ethical approval was obtained via the University of Nottingham research ethics board. Prior to participation, participants were presented with information about the study,

[15] See section 2.7 in the Extended Paper for further details on Ethical Approval and Procedures.

anonymity and the right to withdraw was assured and participants were required to consent to participation. Due to the sensitive nature of the study, participants were provided with links to support agencies and resources within the participant information section.

2.7. Data Analysis[16, 17]

SPSS (IMB Statistics Version 27) was used for all analyses. Assumptions were met for parametric tests and significance was set at $p<.05$.

The relationship between scores on each measure across timepoints was assessed using repeated measures Analyses of Variance (ANOVA) to examine consistency between scores over time. Internal consistency reliability analyses (Cronbach's *α)* were conducted for existing measures at baseline.

Multilevel modelling (MLM) was used to examine whether psychological flexibility predicted professional quality of life over time[18]. MLM specifies a 'base model' and examines residual variance within participants (Level 1) and intercept variance between participants (level 2) over time (Tasca & Gallop, 2009). MLM was therefore considered appropriate given that participants had several measurement outcomes over a longitudinal trajectory. MLM also allowed for pseudo-R^2 statistics to be computed, identifying source variance within the dependent variable when concurrently including different variables at different levels (Nissen-Lie et al., 2010).

Firstly, Pearson product-moment correlations (two-tailed) were conducted, using the robust method of bootstrapping (Efron & Tibshirani, 1994) (1000 samples), to explore whether baseline demographic variables and wellbeing related to workplace factors (PPWWM) were associated with baseline levels of psychological flexibility (CompACT) and professional quality of life outcomes (ProQOL) at baseline and time 3. One-way ANOVAs were conducted for categorical demographic variables. Variables that were significantly associated with both psychological flexibility and professional quality of life were incorporated within the final models to consider their relevance in outcome prediction.

[16] See Section 2.8 in the Extended paper for the Extended Data Analysis.
[17] See Section 2.8.4 in the Extended paper for Data Analysis for Extended Aim.
[18] See Section 2.8.1 in the Extended Paper for further details on Multilevel Modelling Rationale.

Models were built using the following method for all three dependent variables (compassion satisfaction [ProQOL-CS], burnout [ProQOL-BO] and secondary traumatic stress [ProQOL-STS]). First, unconditional base models were run to establish estimates of deviance and variance. Next, time was added and centred at 0 (Time C) so that the initial intercept represented the baseline starting value for each dependent variable, i.e. baseline coded as T0, timepoint 2 coded as T1 and timepoint 3 coded as T2 to represent a linear effect. Checks were then made to explore whether time should be considered a linear or quadratic effect, i.e. a constant change rate or acceleration/deceleration over time. Time C was then added as a random effect to see whether this improved the model-fit.

To explore whether levels of psychological flexibility predicted outcomes on dependent variables, baseline CompACT scores were added as a level 2 predictor. Baseline CompACT scores were grand mean centred (BL CompACT GMC) such that the intercept represented the dependent variable value for someone with the average level of psychological flexibility[19]. To examine whether psychological flexibility buffered the effect of time on professional quality of life, an interaction effect between Time C and BL CompACT GMC was added.

Next, PPWWM scores were added as a level 1 predictor to examine the effect of workplace factors related to wellbeing on the dependent variables. PPWWM scores were person mean centred (PPWWM PMC)[20] to be considered as time varying within participants. To examine whether psychological flexibility buffered the effect of PPWWM scores on the dependent variables, an interaction effect between PPWWM PMC and BL CompACT GMC was added. Finally, predictors were modelled as random effects and autocorrelation was modelled between timepoints to assess whether this improved the models.

Chi-square tests examined whether each step within the overall models for each dependent variable significantly improved the model. Parameters were only retained in subsequent steps if found to make a significant incremental contribution to model-fit. Regardless of significance, Time C, BL CompACT GMC and PPWWM PMC were included in successive models due to a priori interest in time and psychological

[19] See Section 2.8.2 in the Extended paper for further details on Grand Mean Centring
[20] See Section 2.8.3 in the Extended Paper for further details on Person Mean Centring.

flexibility regarding the study aims and workplace factors related to wellbeing as a potential confounding factor.

3. Results[21, 22]

3.1. Participants

Fifty-six participants completed the survey at baseline. Attrition occurred across the three timepoints as anticipated (26% attrition from baseline to time 2 and 10% from time 2 to time 3). Table 4 displays relevant participant demographics. Participants were predominantly female at recruitment (85.7%) and time 3 (92.1%) with a mean age of 32.5 years at time 1 (*SD*=5.90) and 32.3 years (*SD*=5.33) at time 3. Participants were mostly trainee Clinical Psychologists (67.9%) at recruitment and qualified Clinical Psychologists at time 3 (55.3%) working within the National Health Service (NHS) (Time 1 87.5%; Time 3 86.8%). Participants were working with clients with a range of clinical presentations at all timepoints and most received pre-qualification trauma training at University (Time 1 43%; Time 3 30.7%) or their workplace (Time 1 23.7%; Time 3 10.5%).[23]

Table 4

Participant Demographics

Demographic Characteristic	Time 1	Time 2	Time 3
Total Participants (*n*)	56	42	38
Female Gender (%)	85.7	90.5	92.1
Age (*M*)	32.5	32.7	32.3
Profession (%)			
Trainee Clinical Psychologist	67.9	11.9	7.9
Trainee CB Therapist (Level 2)	32.1	23.8	5.3
Qualified Clinical Psychologist	-	45.2	55.3
Qualified CB Therapist (level 2)	-	11.9	31.6
Service (%)			
Independent Provider	5.4	7.1	2.6
NHS	87.5	85.7	86.8
Private Sector	3.6	4.8	5.3
Other	3.6	-	5.3
Work Setting (%)			
Inpatient Services	8.9	9.5	5.3

[21] See Section 3 in the Extended Paper for the Extended Results.
[22] See section 3.4 in the Extended paper for Results of Extended Aim: Exploring Causal Predominance Over Time.
[23] See Section 3.1 in the Extended Paper for Additional Participant Demographics.

Demographic Characteristic	Time 1	Time 2	Time 3
Community Team	19.6	23.8	34.2
Assertive Outreach	1.8	-	-
IAPT	30.4	38.1	34.2
Outpatient/Clinic Setting	7.1	2.4	7.9
Physical Health Hospital	5.4	2.4	2.6
Forensic setting	1.8	-	-
Other	5.4	4.8	-
>1 Setting	19.6	19.0	15.8
Supervision Regularity (%)			
Weekly	94.6	61.9	47.4
Fortnightly	3.6	26.2	28.9
Other[1]	1.8	11.9	23.7
Trauma Training (%)			
University Training Pre-Qualification	43.0	32.5	30.7
Workplace Training Pre-Qualification	23.7	12.3	10.5
Workplace Training Post Qualification	-	1.8	3.5
External Training	6.1	3.5	4.4
NET Training	2.6	0.9	0.9
Trauma Focused CBT	15.8	11.4	12.3
EMDR (Part 1)	0.9	0.9	0.9
EMDR (Part 2)	0.9	0.9	0.9
Client Caseload (%)			
<3	26.8	11.9	5.3
4-6	32.1	21.4	7.9
7-10	19.6	21.4	18.4
11-14	12.5	16.7	26.3
>14	8.9	28.6	42.1
Frequency Clinical Work Addresses Trauma (%)			
Never	-	-	2.6
Rarely	21.4	9.5	7.9
Sometimes	39.3	42.9	55.3
Often	35.7	35.7	28.9
Very Often	3.6	11.9	5.3

Note: *n*=total number; *M*=Mean; CB=Cognitive Behavioural; NHS=National Health Service; IAPT=Improving Access to Psychological Therapies services; NET = Narrative Exposure Therapy; CBT = Cognitive Behavioural Therapy; EMDR=Eye Movement Desensitisation and Reprocessing. Participants were able to select more than one response for 'service', 'work setting' & 'trauma training'.
[1] 'Other' refers to any other regularity, i.e. less than or more than the categories specified within the demographic questionnaire.

There was no significant difference between participant scores across the three timepoints for the: CompACT, $F(2, 62)=.283$, $p=.75$; PPWWM, $F(2,51)=2.292$, $p=.11$; ProQOL-CS, $F(2,62)=3.051$, $p=.05$; ProQOL-BO, $F(2,52)=1.377$, $p=.26$; or ProQOL-STS, $F(2,62)=2.257$, $p=.11$. See Table 5 for mean and standard deviation values for measures across all timepoints.

Table 5

Participant Raw Score Means and Standard Deviations for the CompACT, PPWWM and ProQOL Subscales Across Timepoints

Measure	Time 1	Time 2	Time 3
	M (*SD*)	*M* (*SD*)	*M* (*SD*)
CompACT	103.50 (13.46)	103.05 (15.07)	101.56 (16.20)
PPWWM	100.91 (11.71)	98.76 (11.87)	96.56 (11.60)
ProQOL			
CS Subscale	39.38 (5.10)	39.07 (5.40)	37.75 (5.11)
BO Subscale	21.57 (4.46)	21.50 (4.51)	22.78 (4.84)
STS Subscale	17.93 (3.81)	18.69 (4.69)	18.47 (4.22)

Note: M=Mean, *SD*=Standard Deviation; for ProQOL subscales: CS=Compassion Satisfaction; BO=Burnout; STS=Secondary Traumatic Stress

3.2. Reliability Analyses

Reliability analyses of measures at baseline demonstrated good internal consistency (>.70; DeVellis, 1991) for the CompACT (*α*=.85), PPWWM (*α*=.90), ProQOL-CS (*α*=.89) and ProQOL-BO (*α*=.74). The ProQOL-STS subscale fell slightly below the accepted threshold (*α*=.67), although within the acceptable range for fewer-item scales (>.50; Pallant, 2020).

3.3. Initial Correlations

3.3.1. Demographic Associations with Professional Quality of Life (ProQOL) and Psychological Flexibility (CompACT). Some demographic variables were associated with some ProQOL subscales at baseline and time 3[24]. However, baseline CompACT scores were not significantly associated with any baseline demographic variables (*r* values ranged from .03 to .25; *F* values ranged from .21 to .52; *p* values ranged from .06 to .95). Consequently, no baseline demographics were added to multilevel models.

3.3.2. Workplace Wellbeing (PPWWM) Associations with Professional Quality of Life (ProQOL) and Psychological Flexibility (CompACT). PPWWM scores were not significantly associated with ProQOL-CS or ProQOL-STS scores at baseline or time 3 (Table 6). Higher PPWWM scores at baseline were significantly

[24] See Section 3.2 in the Extended Paper for Baseline Demographic Associations with Professional Quality of Life.

negatively associated with ProQOL-BO scores at baseline and time 3. PPWWM scores were not significantly associated with baseline CompACT scores.

Table 6

Baseline Workplace Factors (PPWWM) Associated with Baseline Psychological Flexibility (CompACT) and Professional Quality of Life (ProQOL) at Baseline and Time 3

	Coefficient (*r*)	SE	CI (lower)	CI (upper)
BL ProQOL-CS	.21	.18	-.18	.52
T3 ProQOL-CS	.24	.14	-.03	.53
BL ProQOL-BO	-.51**	.09	-.69	-.29
T3 ProQOL-BO	-.39*	.13	-.64	-.13
BL ProQOL-STS	-.23	.13	-.47	.05
T3 ProQOL-STS	-.17	.16	-.46	.17
BL CompACT	.12	.13	-.14	.36

Note: BL = Baseline; T3 = Timepoint 3; ProQOL = Professional Quality of Life Scale; CS = Compassion satisfaction; BO = Burnout; STS = Secondary Traumatic Stress; SE = Standard error; CI = 95% confidence intervals.
*p<.05; **p<.01

3.4. Multilevel Models for Professional Quality of Life Variables[25]

3.4.1. Compassion Satisfaction. To establish initial estimates of deviance and variance, an unconditional base model was produced for compassion satisfaction (ProQOL-CS) as the dependent variable. No predictor variables were entered into the model at this stage. The average ProQOL-CS score across all participants and timepoints was 38.76, indicating a moderate level of compassion satisfaction (23-41=moderate compassion satisfaction; Stamm, 2010). Pseudo R^2 revealed that 69% of the variance was attributable to individual differences, therefore supporting the use of multilevel modelling to account for this between-participant variation. See Table 7 for the multilevel model for compassion satisfaction.

Adding time indicated a significant negative effect on compassion satisfaction, $t(83.23)=-2.77$, $p<.01$, with ProQOL-CS scores deteriorating by 0.83 units per timepoint. Pseudo-R^2 indicated that 10% of the variance in compassion satisfaction within participants was explained by this deteriorative trend over time. The addition of

[25] See Section 3.3 in the Extended Paper for details of MLM Assumption Testing.

time also increased the variance between participants. Adding time as a random effect did not significantly improve the model.

Adding baseline CompACT scores as a level 2 predictor indicated a significant positive effect on compassion satisfaction, $t(52.32) = 4.27$, $p < .001$, i.e. participants with higher baseline CompACT scores achieved higher ProQOL-CS scores across all timepoints. The variance within participants increased when baseline CompACT scores were added to the model. Pseudo-R^2 indicated that 32% of the between person variance was explained by accounting for baseline CompACT scores. There was no significant interaction between baseline CompACT scores and time, $t(82.82) = -.08$, $p = .94$, therefore indicating that the deterioration in ProQOL-CS scores over time was independent of baseline CompACT scores and that psychological flexibility did not buffer the observed decrements in compassion satisfaction over time.

Next, PPWWM scores were added to the model as a level 1 predictor, to account for workplace factors related to wellbeing as a time varying, occasion level predictor. PPWWM scores had a significant positive effect on compassion satisfaction, $t(77.71) = 2.657$, $p < .01$. Pseudo-R^2 indicated that 7% of the variance within participants was explained by PPWWM scores. The variance between participants increased with the addition of PPWWM scores (Table 7). There was no significant interaction between baseline CompACT scores and PPWWM scores, $t(77.41) = -.55$, $p = .59$, therefore indicating that the relationship between PPWWM scores and ProQOL-CS scores was independent of CompACT scores.

Modelling the predictors as random effects did not significantly improve the model, therefore there was no value in considering the trajectories as random. Modelling autocorrelation between timepoints indicated that there was no significant relationship between timepoints, and therefore no relevance for modelling autocorrelation in this instance.

Table 7

Multilevel model for Compassion Satisfaction

	Unconditional base model		**Adding Time**		**Adding CompACT scores**		**Adding PPWWM scores**	
Fixed Effects	Coeff.	(se)	Coeff.	(se)	Coeff.	(se)	Coeff	(se)
Intercept	38.76***	.62	39.41***	.67	39.41***	.59	39.25***	.59
Time C			-.83**	.29	-.82**	.29	-.63*	.29
BL CompACT GMC					.17***	.04	.17***	.04
PPWWM PMC							.09*	.03
Covariance Parameters	Variance	(se)	Variance	(se)	Variance	(se)	Variance	(se)
Intercept	18.05***	1.30	18.75***	4.26	12.97***	3.25	13.28***	3.24
Residual	8.21***	4.18	7.42***	1.18	7.54***	1.21	6.93***	1.11
[AR1 Rho]							.24	.29
Fit	-2LL		-2LL		-2LL		-2LL	
	773.491		766.249		750.756		744.051	

Note: Time C = Time Centred; BL CompACT GMC = Baseline CompACT grand mean centred; PPWWM PMC = PPWWM person mean centred; AR1 Rho=Autocorrelation; -2LL = -2 Log Likelihood. **p*<.05; **p<.01, ***p<.001

3.4.2. Burnout. The unconditional base model indicated that the average ProQOL-BO score across all participants and timepoints was 21.79, indicating a low level of burnout (≤22=low burnout; Stamm, 2010). Pseudo R^2 revealed that 63% of the variance was attributable to individual differences. See Table 8 for the multilevel model for burnout.

Adding time indicated that burnout was trending upwards, increasing by .44 units per timepoint, and increased the variance between participants, although the effect was not significant, *t*(85.89)=1.49, *p*=.14. Adding time as a random effect did not significantly improve the model.

Adding baseline CompACT scores indicated a significant negative effect on burnout, *t*(50.81)=-5.21, *p*=<.001, i.e. participants with higher baseline CompACT scores achieved lower ProQOL-BO scores across all timepoints. The variance within participants increased with the addition of CompACT scores. Pseudo-R^2 indicated that

44% of the between person variance was explained accounting for baseline CompACT scores. There was no significant interaction between baseline CompACT scores and time, $t(84.58) = -1.63$, $p = .11$.

Adding PPWWM scores to the model indicated a significant negative effect on burnout, $t(76.82) = -4.11$, $p < .001$, i.e. ProQOL-BO scores were lower when PPWWM scores were higher. Pseudo-R^2 indicated that 18% of the variance within participants was explained by PPWWM scores. The variance between participants increased with the addition of PPWWM scores (Table 8). There was no significant interaction between baseline CompACT scores and PPWWM scores, $t(76.43) = -.22$, $p = .83$, therefore indicating that the negative association between ProQOL-BO scores and PPWWM scores occurred independently of CompACT scores. Modelling the predictors as random effects did not significantly improve the model. There was no significant relationship between timepoints when modelling autocorrelation.

Table 8

Multilevel model for Burnout

	Unconditional base model		**Adding Time**		**Adding CompACT scores**		**Adding PPWWM scores**	
Fixed Effects	Coeff.	(se)	Coeff.	(se)	Coeff.	(se)	Coeff	(se)
Intercept	21.79***	.54	21.44***	.58	21.45***	.49	21.27***	.49
Time C			.44	.29	.44	.29	.17	.28
BL CompACT GMC					-.17***	.03	-.17***	.03
PPWWM PMC							-.13***	.03
Covariance Parameters	Variance	(se)	Variance	(se)	Variance	(se)	Variance	(se)
Intercept	12.68***	3.04	12.82***	3.05	7.11**	3.34	7.86	.98
Residual	7.36***	1.16	7.15***	1.13	7.42***	1.19	7.86***	2.14
[AR1 Rho]							.21	.25
Fit	-2LL		-2LL		-2LL		-2LL	
	747.575		745.386		724.451		709.230	

Note: Time C = Time Centred; BL CompACT GMC = Baseline CompACT grand mean centred; PPWWM PMC = PPWWM person mean centred; AR1 Rho=Autocorrelation; -2LL = -2 Log Likelihood. *p<.05; **p<.01, ***p<.001

3.4.3. Secondary Traumatic Stress. The unconditional base model indicated an average ProQOL-STS score of 18.24 across all participants and timepoints, indicating a low level of secondary traumatic stress (≤22=low secondary traumatic stress; Stamm, 2010). Pseudo R^2 revealed that 68% of the variance was attributable to individual differences. See Table 9 for the multilevel model for secondary traumatic stress.

Adding time to the model did not produce a significant effect, *t*(84.18)=.16, *p*=.53, although levels of STS were increasing by .16 units per timepoint and the variance within participants increased. Adding time as a random effect did not significantly improve the model. Adding baseline CompACT scores indicated a significant negative association with ProQOL-STS, *t*(54.95)=-4.90, *p*=<.001, i.e. participants with higher baseline CompACT scores achieved lower ProQOL-STS scores across all timepoints. Pseudo-R^2 indicated that 36% of the between person variance was explained accounting for baseline CompACT scores. There was no significant interaction between baseline CompACT scores and time, *t*(86.27)= -1.46, *p*=.15.

There was no significant effect when adding PPWWM scores to the model, *t*(80.63)= -.56, *p*=.58, indicating that ProQOL-STS scores were not associated with PPWWM scores. The variance between participants increased with the addition of PPWWM scores as a predictor (see Table 9). Furthermore, there was no significant interaction between baseline CompACT scores and PPWWM scores, *t*(80.24)= .93, *p*=.36). Modelling the predictors as random effects did not significantly improve the model and there was no significant relationship between timepoints when modelling autocorrelation.

Table 9

Multilevel model for Secondary Traumatic stress

	Unconditional base model		**Adding Time**		**Adding CompACT scores**		**Adding PPWWM scores**	
Fixed Effects	Coeff.	(se)	Coeff.	(se)	Coeff.	(se)	Coeff	(se)
Intercept	18.24***	.51	18.11***	.55	18.11***	.47	18.14***	.48
Time C			.16	.26	.19	.26	.16	.26

BL CompACT GMC					-.17***	.03	-.17***	.03
PPWWM PMC							-.02	.03
Covariance Parameters	Variance	(se)	Variance	(se)	Variance	(se)	Variance	(se)
Intercept	11.99***	2.79	11.93***	2.78	7.61***	1.95	7.63***	1.96
Residual	5.26***	.89	5.61***	.89	5.59***	.88	5.57***	.88
[AR1 Rho]							-.14	.22
Fit	-2LL		-2LL		-2LL		-2LL	
	720.536		720.138		700.074		699.766	

Note: Time C = Time centred; BL CompACT GMC = Baseline CompACT grand mean centred; PPWWM PMC = PPWWM person mean centred; AR1 Rho = Autocorrelation; -2LL = -2 Log Likelihood.
*p<.05; **p<.01, ***p<.001

4. Discussion[26, 27, 28, 29]

The study examined psychological flexibility as a prospective predictor of compassion satisfaction and compassion fatigue (inclusive of burnout and secondary traumatic stress) in newly qualified psychological therapy practitioners. The research findings support the a priori hypothesis that higher baseline levels of psychological flexibility would predict higher levels of compassion satisfaction and lower levels of compassion fatigue.

Participants reported low levels of burnout and secondary traumatic stress which corresponds with existing research findings (Sutton, 2018), although other literature reports higher than normative levels of burnout for trainee psychologists (Richardson et al., 2020). Participants also reported moderate levels of compassion satisfaction however, extant research reports that less experienced therapists experience lower levels of compassion satisfaction than more experienced practitioners (Craig & Sprang, 2010). Nevertheless, research exploring professional quality of life outcomes for trainee psychological therapy practitioners is scarce and non-existent for those transitioning from pre- to post-qualification. Consequently, there is scope to expand

[26] See Section 4 in the Extended Paper for the Extended Discussion and Section 4.1 for the Extended Discussion of Main Findings.
[27] See Section 4.3 in the Extended Paper for discussion on Exploring Causal Predominance Over Time.
[28] See Section 4.4 in the Extended paper for details regarding the Impact of COVID-19.
[29] See Section 5 in the Extended Paper for the Critical Reflection.

the evidence base by further exploring professional quality of life experiences for psychological therapy practitioners during this transition.[30] This is important as less experienced therapy practitioners are purportedly at risk of psychological distress and burnout (Bettney, 2017; Brown, 2017; Craig & Sprang, 2010; Pakenham & Stafford-brown, 2012; Rønnestad & Skovholt, 2012).

When modelling time, the present study found a significant negative effect on levels of compassion satisfaction. Whilst the effect of time was not significant for burnout and secondary traumatic stress, both were trending upwards across timepoints. Therefore, as participants transitioned from pre- to post-qualification, compassion satisfaction was significantly decreasing and compassion fatigue increasing within participants. It therefore seems that this transition period is important in respect of professional quality of life outcomes for therapy practitioners. Meanwhile, there is a paucity of empirical research examining factors that might promote compassion satisfaction and reduce compassion fatigue for therapy practitioners during this critical period (Davies et al., 2021). Moreover, a large proportion of the variance in professional quality of life outcomes in this study was attributable to individual differences, 69% for compassion satisfaction, 63% for burnout and 68% for secondary traumatic stress.

As discussed, psychological flexibility is said to be a key resilience process (Kashdan & Rottenberg, 2010; Waugh et al., 2011) that is associated with better professional quality of life for healthcare practitioners (Garner & Golijani-Moghaddam, 2021). Therefore, to address the primary study aim, baseline levels of psychological flexibility were added to each model. It was found that higher baseline levels of psychological flexibility were significantly associated with higher levels of compassion satisfaction and lower levels of burnout and secondary traumatic stress across timepoints. Therefore, levels of baseline psychological flexibility prospectively predicted better professional quality of life outcomes, as was anticipated. Moreover, a large proportion of the variance between individuals for levels of compassion satisfaction (32%), burnout (44%) and secondary traumatic stress (36%) was attributable to baseline levels of psychological flexibility. This expands on existing cross-sectional associations found more generally for healthcare practitioners (e.g. Garner & Golijani-Moghaddam, 2021) and supports the proposal that psychological flexibility may play

[30] See Section 4.7 in the Extended Paper for further discussion on Future Research Directions.

a key role in promoting psychological health (Kashdan & Rottenberg, 2010), specifically professional quality of life for psychological therapy practitioners. Furthermore, given the extant cross-sectional findings, it may be possible to extrapolate the findings from the present study to other professions within the healthcare sector. However, further research with alternative healthcare worker samples is required.

Interestingly, when modelling the interaction between time and psychological flexibility, this was not significant. Therefore, baseline levels of psychological flexibility did not buffer against the effect of time on each of the professional quality of life outcomes. Consequently, whilst higher levels of psychological flexibility predicted higher levels of compassion satisfaction and lower levels of compassion fatigue, participants with higher levels of psychological flexibility were not found to be more resistant to the deteriorative changes in these outcomes over time. This finding may be due to the relatively short time series within the study design and there was also a limited effect of time for compassion satisfaction and therefore little scope for moderation. However, further research is required to examine whether an interaction effect is observed over a longer trajectory.

Nevertheless, these findings may carry important implications for psychological therapy practitioners and the organisations within which they work. For instance, as psychological flexibility is found to predict better professional quality of life outcomes, efforts to improve psychological flexibility pre-qualification may lead to better professional quality of life outcomes for therapy practitioners post-qualification. This has been demonstrated with other sample populations where interventions aiming to increase psychological flexibility have led to improvements in professional quality of life over time (e.g. Lloyd et al., 2013; Puolakanaho et al., 2020). As is acknowledged within the literature, psychological flexibility is a malleable process (Gloster et al., 2017; Wilson et al., 2014) and may be targeted to improve resilience and reduce psychological distress for healthcare professionals (Brinkborg et al., 2011; Gerhart et al., 2016; Reeve et al., 2018). Therefore, pre-qualification interventions aimed at improving psychological flexibility may go some way to mitigating the negative consequences that poorer professional quality of life can have on practitioners, organisations and patient care, (Bride et al., 2009; Bride & Kintzle, 2011; Ducharme

et al., 2007) and promote the positive implications of compassion satisfaction, such as increased self-efficacy (Smart et al., 2014). It should be noted however, that the present study was non-interventional, and instead observed psychological flexibility naturally over time. Therefore, further interventional research is required to confirm whether pre-qualification interventions lead to better post-qualification professional quality of life for this population.

Meanwhile, not all of the variance between participants was attributable to baseline levels of psychological flexibility. As such, it is necessary to consider other factors associated with professional quality of life outcomes[31]. For instance, when modelling workplace factors related to wellbeing, this revealed a significant positive effect on compassion satisfaction and a significant negative effect on burnout. Therefore, when participants reported better perceived workplace wellbeing in respect of various workplace factors, levels of compassion satisfaction were higher and burnout was lower. Therefore, workplace factors also seem to play a role in some professional quality of life outcomes. This concurs with previous findings whereby workplace factors, such as workload (Janssen et al., 1999), colleague support (Ducharme et al., 2007), clinical supervision (Knudsen et al., 2008) and management support (Hunsaker et al., 2015), have been associated with professional quality of life outcomes for various healthcare professionals.

Importantly, the lack of a significant interaction effect between psychological flexibility and workplace factors related to wellbeing suggests that psychological flexibility does not buffer against workplace factors that are relevant in promoting compassion satisfaction and reducing burnout. Therefore, the ability for practitioners to be psychologically flexible is not a panacea for improving their professional quality of life. Moreover, some researchers propose that high levels of personal resilience in healthcare workers is not sufficient to prevent negative professional quality of life outcomes, specifically burnout (Goroll, 2020; West et al., 2020), and for psychological therapy practitioners, workplace factors are reported to be the most common contributor to burnout (McCormack et al., 2018). Furthermore, a review of studies examining the efficacy of organisational-level interventions, predominantly studies

[31] See Section 4.2 in the Extended paper for further discussion on Demographic Associations with Professional Quality of Life.

targeting interventions to healthcare workers, highlight the positive effects of such interventions on employee health (Montano et al., 2014). Organisations should therefore aim to consider the importance of workplace factors, such as those captured within the PPWWM, and their relevance in promoting professional quality of life for psychological therapy practitioners.

Meanwhile, workplace factors related to wellbeing did not produce a significant effect on secondary traumatic stress. As psychological flexibility explained some, but not all, of the variance between individuals regarding secondary traumatic stress, there is scope for future researchers to consider other factors that might mitigate secondary trauma for this population. This is necessary as secondary traumatic stress holds negative implications for both professionals and organisations (Bride, 2004; Bride & Kintzle, 2011).

4.1. Limitations and Strengths[32]

There are various limitations that should be acknowledged. Firstly, whilst these findings might be applicable to other psychological therapy practitioners, e.g., counsellors, psychotherapists etc., or other healthcare workers, this requires further research as the present study sample was restricted to two professions. Furthermore, the sample recruited a small proportion of those professions i.e. 6.4% of UK final year trainee Clinical Psychologists at the time of recruitment[33]. Participants were also predominantly female (85.7%), although this corresponds with the national picture for trainee Clinical Psychologists[34]. The sample self-selected to participate and may therefore represent individuals with a particular interest in the study. There was also a high level of attrition. In terms of the study methods, self-report measures are susceptible to occasion or person level variations which can affect participant responses, such that the predictive associations found within this study could be artificially inflated. Finally, the study was conducted within the UK and further research is required to establish similar findings across other countries.

[32] See Section 4.5 in the Extended Paper for further discussion on the Study Limitations and Strengths.
[33] Data supplied by the Clearing House central admissions system for UK postgraduate courses in Clinical Psychology. Training for Cognitive Behavioral Therapists is provided by a range of University institutions therefore exact recruitment numbers are unclear.
[34] At the time of recruitment, 82% of final year trainee Clinical Psychologists across the UK were female according to data supplied by the Clearing House.

Meanwhile, the main strength of the study is that it is the first to utilise a longitudinal cohort design in an area of literature dominated by cross-sectional research. Whilst extant studies highlight associations between psychological flexibility and healthcare practitioners' professional quality of life, this study demonstrates the ability to predict professional quality of life outcomes for psychological therapy practitioners over an early post-qualification period, when accounting for pre-qualification levels of psychological flexibility. Therefore, this study highlights psychological flexibility as a key process that may promote better professional quality of life outcomes for this population over time. Given the malleable nature of psychological flexibility and the study findings, it may be reasonable to suggest that attempts to improve therapy practitioners' psychological flexibility pre-qualification, could promote better professional quality of life outcomes over time. However, this requires further exploration through interventional studies.

Finally, the prospective design allowed for baseline measures of interest variables to be taken pre-qualification, prior to transitioning into post-qualified practice. Again, most research regarding the professional quality of life of psychological therapy practitioners is explored post-qualification, with a limited number of studies examining such outcomes for practitioners in training. As such, this study provides novel insights regarding this critical transition period and the role of psychological flexibility as pre-qualification predictor of post-qualification professional quality of life[35].

[35] See Section 4.6 in the extended Paper for further discussion on Contributions to Research, Theory and Clinical Practice.

5. References

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EXTENDED PAPER

1. Extended Introduction

1.1. Professional Quality of Life Construct and Terms

Professional quality of life is “the quality one feels in relation to their work as a helper” (Stamm, 2010, p. 8). As discussed in the journal paper, the positive and negative aspects of professional quality of life can be defined by the concepts of compassion fatigue and compassion satisfaction (Stamm, 2010). Researchers exploring professional quality of life for healthcare practitioners, including psychological therapy practitioners, commonly adopt this framework (e.g. Craig & Sprang, 2010; Lawson & Myers, 2011; Potter et al., 2010).

1.1.1. Compassion Fatigue. The terms associated with the negative effects on practitioners’ professional quality of life, i.e. compassion fatigue, burnout and secondary traumatic stress, are often used interchangeably (Eng et al., 2021; Sorenson et al., 2016). For instance, compassion fatigue has been suggested as an alternative term for secondary traumatic stress where either phrase may be used depending on its utility (Figley, 1995; Joinson, 1992). Compassion fatigue has also been conflated with secondary traumatic stress when symptoms of compassion fatigue are proposed to mirror post-traumatic stress when indirectly exposed to trauma (El-bar et al., 2013; Sorenson et al., 2016). A further concept of ‘vicarious trauma’ is also used in reference to secondary traumatisation (McCann & Pearlman, 1990), although distinctions between these concepts have been recognised (Baird & Kracen, 2006; Makadia et al., 2017; Sabin-Farrell & Turpin, 2003). For instance, Secondary traumatic stress involves the presence of symptoms akin to those experienced with post-traumatic stress disorder (Bride et al., 2004), whereas vicarious trauma results in longer term changes in belief systems, potentially alongside various symptoms (McCann & Pearlman, 1990).

The use of ranging terms is arguably primarily due to the evolving concept and theory surrounding compassion fatigue (Sorenson et al., 2016). Furthermore, the close correlations found between compassion fatigue, burnout and secondary traumatic stress (Cieslak et al., 2014; Sorenson et al., 2016) may be due to the interchangeable use of various terms and the failure to properly define concepts relating to compassion fatigue. However, this is problematic when attempting to ensure construct validity for research purposes and for extrapolating findings.

Other literature highlights clear distinctions between concepts of secondary traumatic stress and burnout (Adams et al., 2006; Cieslak et al., 2014; Stamm, 2010), which are said to fall under the umbrella of compassion fatigue (Stamm, 2010). However, more recent research proposes that compassion fatigue may be further defined, exclusively of burnout and secondary traumatic stress, when taken at it's literal meaning, that is "a reduced capability of showing compassion" (Eng et al., 2021, p. 2126; Fernando & Consedine, 2014; Ledoux, 2015). It is notable that, when operationalising Stamm's (2010) theoretical framework of compassion fatigue, researchers have problematised the distinction between secondary traumatic stress and burnout under the compassion fatigue umbrella, and instead propose measuring the overarching compassion fatigue construct (Heritage et al., 2018). Despite this, measuring burnout and secondary traumatic stress as separate constructs is consistent with Stamm's (2010) theoretical framework, which is widely used within research exploring the impact of indirect exposure to trauma (Sutton, 2018).

Whilst there is a need for further concept analysis regarding compassion fatigue (Sorenson et al., 2016), measuring secondary traumatic stress and burnout, within a compassion fatigue framework enables consistency within this area of the literature (Sutton, 2018) and seems applicable for psychological therapy practitioners based on the currently available theory and research exploring professional quality of life outcomes for healthcare practitioners more generally. Consequently, Stamm's (2010) framework was employed within this study, although it is acknowledged that further research regarding the constructs and definitions associated with negative professional quality of life outcomes and how best to operationalise them is required.

1.1.2. Compassion Satisfaction. With regards to compassion satisfaction, there is more consensus within the literature in that compassion satisfaction is most often the term used to describe positive professional quality of life outcomes for healthcare professionals, including trainee and qualified psychological therapy practitioners. As discussed within the journal paper, compassion satisfaction may be defined as "the positive aspects of helping others" (Stamm, 2010, p. 10) and "the pleasure you derive from being able to do your work well" (Stamm, 2010, p. 12). Compassion satisfaction is further purported to be associated with vicarious post-traumatic growth, which is described as positive emotional, cognitive and interpersonal

consequences that result from indirect exposure to trauma (Gibbons et al., 2011; Manning-Jones et al., 2015).

Despite this apparent consensus regarding compassion satisfaction as a construct, there are discrepancies regarding what underlying processes are involved in compassion satisfaction. For instance, for healthcare practitioners, 'empathy' is considered a key construct within compassion satisfaction that "drives altruistic behaviours on the part of the helper" (Hansen et al., 2018; Irving & Dickson, 2004; Sacco & Copel, 2018, p. 76). Empathy may be defined as "an other-oriented emotional response elicited by, and congruent with, the perceived welfare of a person in need" (Hansen et al., 2018, p. 631), and the ability for healthcare professionals to hold empathy for their patients is said to lead to successful practitioner-client relationships and effective service provision (Irving & Dickson, 2004). Nevertheless, empathy or "feeling the emotions of others in distress" (Hansen et al., 2018, p. 631) is also argued to lead to negative professional quality of life outcomes, such as burnout (Hunt et al., 2017). However, when empathy is combined with personal resources, such the ability to regulate emotions, this may mitigate the risk of empathy (Hunt et al., 2017).

Therefore, the consequence of practitioners' experiences of empathy, i.e. whether empathy results in compassion satisfaction or fatigue, appears to be nuanced in terms of individual processes adopted within the empathic response. For instance, during empathic engagement, the ability of a practitioner to distinguish between their own and their client's emotions, the more able the practitioner is to regulate their emotional responses to the client's distress (Hunt et al., 2019). Furthermore, as discussed in the journal paper, psychological flexibility allows individuals to adapt to stressful and emotional circumstances and reduce the negative effects of such circumstances on psychological health and wellbeing (Kashdan & Rottenberg, 2010; Waugh et al., 2011). Evidence also suggests that interventions aimed to increase present-moment awareness result in increased empathy (Atkins & Parker, 2012; Block-Lerner et al., 2007). Therefore, it might be assumed that the ability to be psychologically flexible when responding empathically to others' distress could result in positive professional quality of life outcomes such as compassion satisfaction, as opposed to compassion fatigue.

Consequently, there is scope to expand the literature regarding processes purportedly involved in compassion satisfaction, such as empathy, and individual resources required to achieve positive professional quality of life consequences as a result of empathic responding. Meanwhile, there is a consensus within the existing literature that positive professional quality of life outcomes can be defined within a compassion satisfaction framework. Therefore, this study has defined and operationalised compassion satisfaction as is consistent with existing research.

1.2. Resilience as a Process

Resilience has been defined as "a relatively good outcome despite experiencing situations that have been shown to carry significant risk" (Hjemdal et al., 2006, p. 195). Consequently, resilience is not considered the antithesis of risk, but instead the ability to achieve good outcomes within contexts that risk psychological health (Stainton et al., 2019).

Models of resilience have frequently attempted to define individual and environmental risk and protective factors that might be associated with good or poor outcomes respectively (Masten et al., 1990; Werner, 1997). However, more recently there has been a shift in the way resilience is defined and understood, whereby resilience can instead be viewed as a 'dynamic process of adaptation' whereby risk factors are moderated (Windle, 2011). Notably, recent definitions emphasise 'adaptability' as a core component of resilience, where examples include: "Resilience is the process of effectively negotiating, adapting to, or managing significant sources of stress or trauma" (Windle, 2011, p. 163) and "Resilience appears to be a common phenomenon that results in most cases from the operation of basic human adaptational systems" (Masten, 2001, p. 227).

Furthermore, early theory and research focused on understanding resilience within the context of childhood adversity or risk, specifically attempts to understand factors that enabled children to thrive within these circumstances (Garmezy, 1971; Masten, 2001; Murphy & Moriarty, 1976; Werner, 1997). More recent developments have however, acknowledged the importance of understanding adult resilience, whereby resilience is considered to manifest throughout the lifespan as opposed to being determined during childhood development (Cicchetti & Tucker, 1994; Pooley & Cohen, 2010; Taormina, 2015). This seems relevant considering that resilience involves adaptation to adversity

or a specific threat or risk (Luthar et al., 2000), and the need to respond to such detrimental contexts might occur at any given time within a person's life. For instance, the American Psychological Association outline various circumstances where adults may require resilience as a process of adaptation including: relationship difficulties, work stress, financial difficulties and ill health (American Psychological Association, 2009). Moreover, where resilience is considered a continually developing adaptive process, rather than a characteristic determined during childhood, more recent attempts have been made to further understand and develop the processes involved in resilience (Neenan, 2017; Pooley & Cohen, 2010).

1.3. Overview of Psychological Flexibility

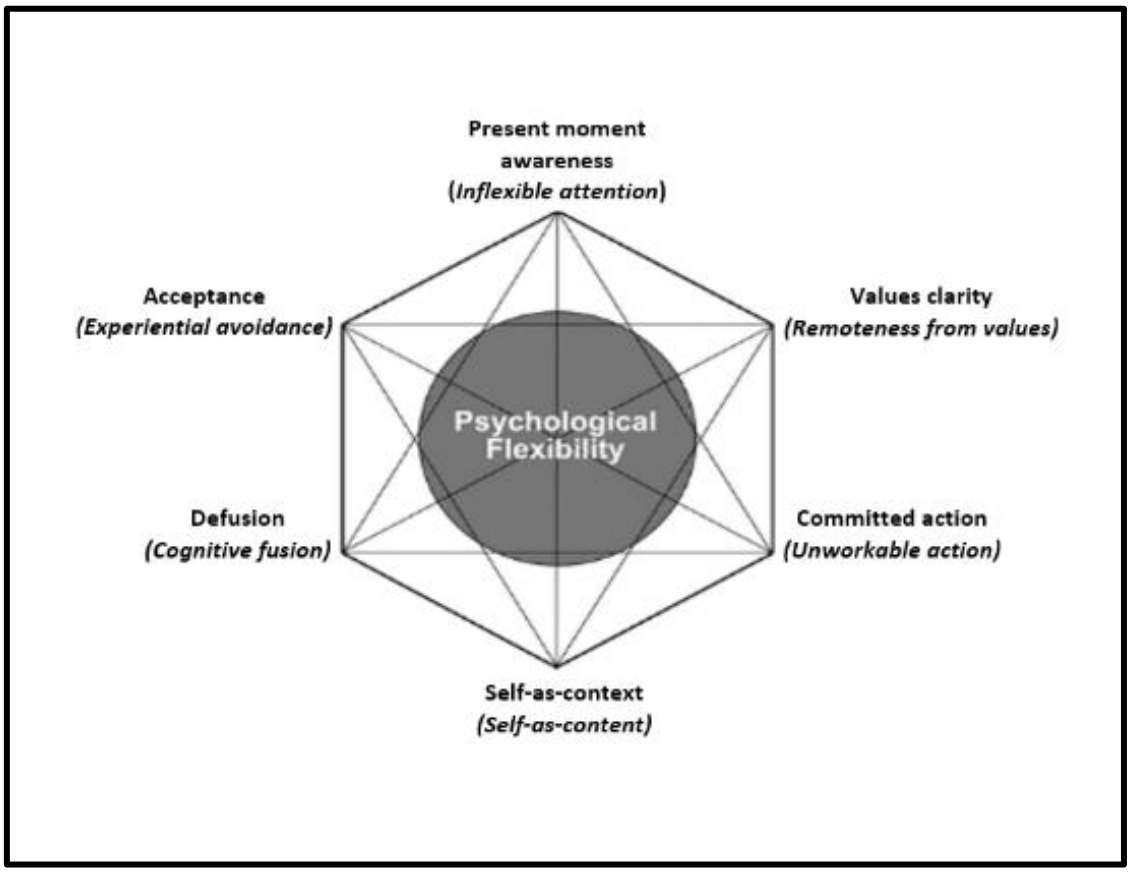
1.3.1. Psychological Flexibility Processes. As discussed within the main journal paper, psychological flexibility has been defined as "the ability to contact the present moment more fully as a conscious human being, and to change or persist in behaviour when doing so serves valued ends" (Hayes et al., 2006, p. 7). Psychological flexibility forms the core concept within Acceptance and Commitment Therapy (ACT), a transdiagnostic psychological model, rooted in functional contextualism (Hayes et al., 2013; Hayes et al., 2006). According to this model, six processes comprise psychological flexibility and collectively form the 'hexaflex', with the inverse of each process conceptualising psychological inflexibility (Hayes et al., 2006; see Figure 8). These processes are considered distinct yet interconnected and can be understood more fully within the context of one another (Hayes et al., 2012; Hayes et al., 1996). Moreover, recent research suggests the pragmatic distillation of the six processes into three 'dyadic' processes where it is proposed that each process is more firmly associated with another, more so than the remaining processes (Francis et al., 2016; Harris, 2019; Hayes et al., 2011). This has been termed the 'Triflex', which comprises 'openness to experience' (acceptance; defusion); 'self-awareness' (present moment awareness; self-as-context); and 'valued action' (values; committed action) (Harris, 2019).

ACT posits that psychological distress results from psychologically inflexible and contextually dysfunctional responses to difficult internal psychological experiences, i.e. cognition, affect, memories etc. (Bach & Moran, 2008; Hayes et al., 2006; Hayes et al., 1996). Therefore, ACT aims to target psychologically inflexible

processes to enable more flexible and functional ways of behavioural responding, which is the key mechanism for therapeutic change. Each of the six processes comprising psychological flexibility are subsequently described:

Figure 8

Hexaflex Processes of Psychological Flexibility and Psychological Inflexibility (in parentheses), Adapted from Hayes et al., (2013)



Acceptance. Acceptance is the inverse of experiential avoidance and encompasses an awareness of and the ability to tolerate private events, such as emotions, thoughts, urges, memories etc. without attempting to change their form or frequency (Hayes et al., 2006; Hayes et al., 1999). By making room for distressing internal experiences, acceptance functions to facilitate valued action (Harris, 2019), rather than being a solution in and of itself (Hayes et al., 2006). In contrast, experiential avoidance is the deliberate effort to reduce or change private events at the cost of engaging in effective action (Vilardaga et al., 2007). Acceptance has been associated with better outcomes in terms of psychological distress and work stress for trainee Clinical Psychologists (Pakenham, 2015). However, it should be noted that, in some

instances, experiential avoidance is not problematic (Harris, 2019) and can serve an adaptive function. For instance, should difficult internal experiences arise when delivering therapy, it might be beneficial to avoid such experiences in that moment in order to proceed with the therapy session.

Defusion. A further process within the hexaflex is defusion, or cognitive defusion, which refers to taking a more functional way of relating to thoughts or other private experiences, whereby the literality of thoughts is weakened (Hayes et al., 2006). Specifically, the ability to view thoughts as thoughts, rather than becoming 'fused' with their content or meaning. The inverse of this process is cognitive fusion whereby an individual may become entangled with the content of their private experiences, such as distressing thoughts or emotions, relating to them as if they possessed direct functions (Vilardaga et al., 2007). As with acceptance, defusion facilitates valued action (Hayes et al., 2006) whereas fusion with private experiences can result in those experiences dominating attention, leading to behaviour that is directed away from personal values (Harris, 2019).

Present Moment Awareness. Present moment awareness refers to the ability to notice internal events and the environment as they occur (Hayes et al., 2006). This also involves the ability to use language to describe such events without judgement or making predictions. There is also an emphasis on the ability to be flexible, as oppose to the inverse process of inflexible attention, by broadening, narrowing, redirecting or sustaining focus to facilitate engagement in value directed action (Harris, 2019). Present moment awareness is often synonymously described as mindfulness, i.e. non judgementally and purposefully paying attention to the present moment (Kabat-Zinn, 1994). Whilst there are similarities between these constructs, ACT posits that engagement with the present moment should allow individuals to experience the world more directly, which functions to facilitate engagement with values (Hayes et al., 2006), whereas other mindfulness-based therapies, e.g. Mindfulness-Based Cognitive Therapy (MBCT; Segal et al., 2013), aim to facilitate awareness and acceptance of the present moment. Notably, present moment awareness of distressing internal experiences has been associated with increased self-efficacy for trainee therapists (Wei et al., 2015). Consequently, it may be that engaging with the present moment enables a therapist to respond flexibly to their experiences such that they are able to pursue actions according to their values.

Self-as-Context. Self-as-context may be seen as a flexible perspective taking process that involves an awareness of the flow of personal experiences, without becoming attached to them or investing in whether certain experiences occur (Harris, 2019; Hayes et al., 2006). Self-as-context is also referred to as the 'noticing' or 'observing' self, and describes a meta-awareness of the self that encourages contact with a sense of self that is defined by 'I/here/now' within conscious experience (Harris, 2019; Hayes et al., 2013). The antithesis of this process is self-as-content, or an attachment to or fusion with the conceptualised self, e.g. roles, beliefs, memories, judgements thoughts etc., which may be used as descriptions of who the individual perceives themselves to be. However, facilitating self-as-context allows individuals to distinguish between their inner experiences and consciousness and enables them to defuse from those experiences which may in turn result in them being perceived as less threatening (Hayes et al., 2013).

Values. Values are qualities which are chosen and encompass clarity in the reason, purpose and motivation for behaviour (Vilardaga et al., 2007). Consequently, effective action can be pragmatically defined within the context of an individual's values and determine the functional, rather than literal, truth (Vilardaga et al., 2007). There is however an important distinction between values and goals, whereby values can never be achieved or obtained, whereas goals may instantiate values moment to moment (Flaxman et al., 2011; Hayes et al., 2006). As discussed, living according to personal values is the outcome that other processes, such as acceptance, defusion and contact with the present moment aim to facilitate, rather than being an outcome in themselves (Hayes et al., 2006). Importantly, valued living has been associated with better outcomes in terms of psychological distress and work stress for trainee Clinical Psychologists (Pakenham, 2015).

Committed Action. The final process within the hexaflex is committed action, whereby ACT encourages individuals to commit to developing and engaging in larger repertoires of effective behaviour, where effective is defined by personal values as previously discussed (Flaxman et al., 2011; Hayes et al., 2006). The inverse of committed action is unworkable action which moves an individual away from their values. This may involve attempts to escape or control unpleasant internal experiences, perhaps through behavioural avoidance or restricting behavioural repertoires. Committed action may be achieved by setting value consistent goals

whether in the short or longer term (Flaxman et al., 2011). Flexibility in attention is also required, which is the ability to persist in, adapt or change behaviour such that it is consistent with values, even if this involves increasing and tolerating difficult or distressing private experiences (Flaxman et al., 2011; Harris, 2019). As discussed in the main journal paper, therapists work within emotionally challenging circumstances, although the ability to respond flexibly within these situations might enable them to more effectively pursue the goals of therapy which may more broadly be associated with the therapist's personal values.

1.3.2. Defining and Operationalising Psychological Flexibility. Despite the recent developments regarding the conceptualisation of psychological flexibility and it's processes, there remains a distinct lack of clarity regarding how to appropriately define, understand and operationalise this construct (Cherry et al., 2021; Doorley et al., 2020; Kashdan et al., 2020).

Definition and Terms. In terms of the challenges with defining psychological flexibility, this may be somewhat related to the ranging use of terms within the literature. Some variations in terms used to describe the process of psychological flexibility are highlighted by Cherry et al. (2021) which include; 'coping flexibility' (e.g. Kato, 2012), 'cognitive flexibility' (e.g. Martin & Rubin, 1995) and 'explanatory flexibility' (e.g. Fresco et al., 2007). The inclusion of the term 'flexibility' is consistent throughout these examples. Notably, the concept of flexibility appears in other psychological perspectives, such as neuropsychology (Cherry et al., 2021). More specifically, neuropsychological processes, such as 'executive functioning' and 'self-regulation' are said to form the "building blocks of psychological flexibility" (Kashdan & Rottenberg, 2010, p. 870). This seems relevant given that executive functioning involves focusing and shifting attention and is a core component of self-regulation (Baumeister, 2002; Kashdan & Rottenberg, 2010) and psychological flexibility is said to involve shifting perspective and balancing competing desires (Kashdan & Rottenberg, 2010). However, from a theoretical stance, ACT is distinguished from the neuropsychological perspective (Cherry et al., 2021) and it is important that the concept of psychological flexibility is not confused with other theoretical traditions or constructs by the use of differing terms.

The emergence of various terms may also stem from early developments in ACT where ‘experiential avoidance’ was initially acknowledged as its central tenet, with ‘acceptance’ being the antithesis (Hayes et al., 1996). Some authors continue to refer to experiential avoidance (Kent et al., 2019; Vilardaga et al., 2011) and some refer to ‘experiential acceptance’ (Kent et al., 2019) or ‘psychological acceptance’ (Yao et al., 2013). However, these terms have largely been replaced by the overarching construct of psychological inflexibility and psychological flexibility respectively (Cherry et al., 2021), with acceptance and contrasting experiential avoidance forming only one of the six processes comprising psychological flexibility and inflexibility (Hayes et al., 2006). Consequently, it is important that terms are not used indiscriminately and that authors accurately define and conceptualise psychological flexibility as an overarching construct that comprises six processes.

For transparency, Hayes (2006) definition of psychological flexibility, previously cited, has been applied to this study. This definition has been chosen as it is consistent with recommendations that components of an appropriate definition of psychological flexibility should include handling and taking action to manage interference or distress, as well as acting according to situational demands in the service of personal values (Cherry et al., 2021).

Operationalising Psychological Flexibility. In terms of operationalising psychological flexibility, there are discrepancies within the literature regarding the application of ranging measurement tools applied to operationalise psychological flexibility. Furthermore, the evidence base is said to be “contaminated by inadequate measurement” (Cherry et al., 2021, p. 10).

For instance, some measures attempt to capture specific processes within the hexaflex, such as the Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014) and Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2003) for example. As discussed however, the six processes comprising psychological flexibility are considered distinct yet interconnected (Hayes et al., 2012; Hayes et al., 1996). Consequently, it seems more appropriate to measure psychological flexibility or psychological inflexibility as an overarching construct, rather than attempting to separate processes that are interrelated.

One measure purported by it's authors to more broadly measure psychological inflexibility, is the Acceptance and Action Questionnaire (AAQ-II; Bond et al., 2011). The application of the AAQ-II seems to dominate the literature (Cherry et al., 2021) and more specifically, research examining the association between psychological flexibility and professional quality of life for healthcare professionals (Garner & Golijani-Moghaddam, 2021). However, the construct validity, particularly the discriminant validity, of the AAQ-II has been criticised (Francis et al., 2016; Tyndall et al., 2019; Wolgast, 2014) and it is likely that the AAQ-II conflates measurement of psychological distress (Kashdan et al., 2020; Tyndall et al., 2019; Wolgast, 2014). Consequently, as accurate measurement is imperative for establishing empirical research evidence and theoretical modelling (Lilienfeld & Strother, 2020), authors have called for the use of alternatives to the AAQ-II for the purpose of measuring psychological flexibility (Cherry et al., 2021; Garner & Golijani-Moghaddam, 2021).

A further problem with the application of measures is that researchers consider psychological flexibility and psychological inflexibility as operating on a continuum. As Cherry et al. (2021) highlight, researchers often assume that lower scores on measures of psychological inflexibility translate into higher levels of psychological flexibility, or vice versa, or utilise reverse coding procedures to operationalise the antithesis of the intended measurement construct. This assumption has been applied to research using measures such as the AAQ-II and other tools e.g. the Brief Experiential Avoidance Questionnaire BEAQ (BEAQ; Gámez et al., 2011) and the Avoidance and Fusion Questionnaire for Youth AFQ-Y (AFQ-Y; Greco et al., 2008). However, it would be incorrect to assume that the absence of psychological flexibility would infer the presence of psychological inflexibility or contrariwise, and instead authors should consider psychological flexibility and inflexibility as separate but related multidimensional constructs (Cherry et al., 2021).

1.4. Psychological Flexibility as a Resilience Process

As stated within the main journal paper, psychological flexibility is said to be a key component of resilience, (Kashdan & Rottenberg, 2010; Waugh et al., 2011) whereby, individuals are able to deploy contextually appropriate strategies to meet fluctuating environmental demands (Cheng, 2001; Waugh et al., 2011). This draws on the concept of 'ego-resilience' which is described as "a dynamic ability to temporarily

change from modal reaction or perceptual tendencies to reactions and percepts responsive to the immediately pressing situation" (Block & Block, 2006, p. 318). Moreover, ACT extends the concept of ego-resilience by conceptualising psychological flexibility as having an awareness of internal experiences, such as cognition and emotion, without unnecessarily enacting defence and flexibly changing or persisting in behaviour according to the situational context and in line with personal values (Kashdan & Rottenberg, 2010). Importantly, individual characteristics or personal resources contribute to the diversity in responses to environmental or life stressors as well as the differing intensities of emotional impact of those stressors on the person's life (Fonseca et al., 2020). Moreover, individuals who are more psychologically flexible are said to be more skilled at managing environmental stressors (Cheng, 2001; Waugh et al., 2011).

Accordingly, psychological flexibility is purported to be a key aspect of psychological health (Kashdan & Rottenberg, 2010) and is reportedly related to adaptive coping, as well as being shown to protect against or be negatively associated with various mental health symptoms such as anxiety, depression and more generalised psychological distress (Cheng, 2001; Masuda & Tully, 2012; Trindade et al., 2020). Ranging evidence also suggests associations between psychological inflexibility and psychopathology, although causal inferences are yet to be made (Kashdan & Rottenberg, 2010). Of particular relevance here is the association between psychological flexibility and professional quality of life for healthcare professionals (Garner & Golijani-Moghaddam, 2021). More specifically for psychological therapy practitioners, it may be that responding more flexibly to the emotionally challenging circumstances of the therapeutic context enables a therapist to persist or change their behavioural responses according to their values, in turn reducing the impact on their professional quality of life.

As previously discussed, resilience generally is considered a dynamic process of adaptation whereby risk factors are moderated (Windle, 2011). Recently, psychological flexibility has also been shown to buffer the effect of negative external stressors and internal risk factors. For instance, Fonseca et al. (2020) found that psychological flexibility buffered against the impact of major life events on depression symptoms in a large sample of individuals from the general population. Trindade et al. (2020) also found that psychological flexibility buffered the effects of learned

helplessness on depressed mood, again with a general population sample. A further study (Leonidou et al., 2019) reports that psychological flexibility buffered the effect of somatisation and illness anxiety on quality of life in a community sample. However, the aforementioned studies were cross-sectional and Fonseca et al.'s (2020) study was retrospective, therefore inferences regarding causality cannot be made. Nevertheless, one prospective longitudinal study (Bryan et al., 2015) found that psychological flexibility buffered the effect of depression symptoms on suicidal ideation in a sample of military service personnel and thus propose psychological flexibility as a dimension of resilience. Despite this, for healthcare professionals and newly qualified psychological therapy practitioners specifically, the role of psychological flexibility as a buffering resilience factor that promotes better professional quality of life outcomes is yet to be explored.

1.5. Extended Aim

In addition to the primary aim discussed within the journal paper, there was one further aim within the present study that is explored within the extended paper. Based on the association between psychological flexibility and professional quality of life outcomes, detailed within the journal paper, the additional aim was to further explore causal predominance over time i.e. whether the effect of predicting professional quality of life outcomes based on levels of psychological flexibility is greater than the effect of predicting levels of psychological flexibility as an outcome based on levels of professional quality of life.

2. Extended Method

2.1. Epistemological Position

The study was approached from the position of functional contextualism (Biglan & Hayes, 1996; Hayes et al., 2006), a pragmatic philosophy whereby psychological events are considered behavioural actions linked with situational and historical contexts (Hayes et al., 2006). Individual elements of these whole events may be explored for pragmatic purposes, although cannot be separated ontologically (Hayes et al., 2006) as behaviours, whether internal or external, cannot be separated from the historical and situational contexts within which they occur (Hayes et al., 2006).

Experimental research designs are advocated within this philosophy to achieve situated research goals that aim to understand the complexity of the whole, rather than functioning as a way of 'knowing' the structure of reality (Hayes et al., 2006; Vilardaga et al., 2007). In this instance, seeking 'truth' involves seeking to achieve a specific purpose and here the purpose relates to achieving the study aims where multiple truths are possible (Vilardaga et al., 2007). Within the context of science or scientific research, utility is also emphasised within this stance, i.e. that truth is something which is useful in relation to predicting or controlling behaviour (Hayes & Brownstein, 1986). This parallels with the emphasis on 'workability' as the 'truth criterion' within ACT (Hayes et al., 2006).

Regarding the present study and considering the existing literature which highlights the relationship between psychological flexibility and professional quality of life for healthcare professionals, the ability to predict such outcomes based on levels of psychological flexibility was considered useful.

2.2. Study Design Rationale

The study used quantitative methodology, as is consistent with existing healthcare literature examining psychological flexibility (for a review see Garner & Golijani-Moghaddam, 2021) and the epistemological stance of the study (Vilardaga et al., 2007). Whilst most research within this area is cross-sectional, longitudinal designs enable inferences to be made regarding changes within and between individuals over time (Farrington, 1991). In addition, and consistent with the research aims, prospective designs enable factors that may predict later events to be identified (Farrington, 1991). Consequently, a prospective cohort longitudinal design was chosen to examine how the selected interest variable, i.e. psychological flexibility, affected specific professional quality of life outcome variables.

2.3. Participant Recruitment

As discussed within the main journal paper, participants were recruited via email advert to relevant university training courses (see Appendix E for email content and Appendix F for study advertisement). Participants were permitted to forward the advert to other trainee psychological therapy practitioners via snowball sampling. The advert contained a link to the survey where participants were firstly presented with an

information sheet containing information about the study (see Appendix G). The information also advised participants of their right to withdraw up to the point of data analysis (April 2021) and provided the researchers contact details to direct any further questions. A link to a downloadable version of the study information was also provided.

Participants were then presented with a consent form (see Appendix H) and were required to confirm their informed consent prior to accessing the survey. This process followed the British Psychological Society (BPS) Ethics guidelines for internet mediated research (British Psychological Society, 2021).

2.4. Sample Size

A priori sample size was calculated as stated in the main journal paper, which required a minimum sample of twenty-six participants at the final timepoint with thirty-eight participants required at recruitment to account for attrition. It is recommended that the minimum sample size for MLM should be greater than twenty for the highest-level variable (Kreft & de Leeuw, 1998) and in this case, the highest-level variable was individual participants. Consequently, aiming to achieve twenty-six participants at the final timepoint whilst accounting for attrition, met the minimum criteria.

However, other research purports that a higher minimum sample size (>50) is required to reduce the risk of biased standard error estimate (Maas & Hox, 2005). Whilst the study aimed to achieve a lower sample size than that proposed by Maas and Hox (2005), a final total sample of fifty-six participants was achieved at recruitment.

Nevertheless, it should be noted that determining the appropriate sample size for MLM is complex, given that MLM detects both fixed and random effects (Field, 2018). Generally, there are no meaningful guiding principles for determining power and sample size for MLM (Kreft & de Leeuw, 1998) and sample size calculations should be interpreted with caution (Twisk, 2006).

2.5. Procedure

The procedure for the study was as described in the main journal paper. The three timepoints for data collection were August-September 2020 (baseline), November-December 2020 (time 2) and February-March 2021 (time 3). In order to track participants' data anonymously across the three timepoints, they were asked to generate a unique identifier code at recruitment (see Appendix H) and to state the

same code within the survey at the second and third timepoints. Participants who had not completed the survey during a particular timepoint were sent one further reminder email using the email address they provided at recruitment, one week prior to the end of the timepoint. If a participant did not complete the survey following the reminder at the second timepoint the survey was sent at the final timepoint unless they indicated they wished to withdraw from the study.

2.6. Rationale for Materials

2.6.1. Demographic Questionnaire. A demographic questionnaire (Appendix I) was included in the study to capture ranging variables, previously shown by research to be associated with professional quality of life outcomes for healthcare professionals. Table 10 displays variables captured within the demographic questionnaire items and examples of existing literature citing associations between these variables with compassion satisfaction and/or compassion fatigue. As described within the journal paper, this questionnaire enabled demographic correlates with professional quality of life outcomes and psychological flexibility to be explored as potential confounding factors.

Table 10

Demographic Questionnaire Items and Examples of Existing Studies Citing Associations with Professional Quality of Life Outcomes

Demographic questionnaire item(s)	Professional quality of life variable	Existing citing article
1) Gender	Compassion Fatigue	(Rossi et al., 2012)
	Compassion Satisfaction	(Okoli et al., 2020; Sprang et al., 2007)
2) Age	Compassion Fatigue	(Craig & Sprang, 2010; Okoli et al., 2020)
	Compassion Satisfaction	(Wang et al., 2020)
3) Profession	Compassion Fatigue	(Okoli et al., 2020; Rossi et al., 2012)
	Compassion Satisfaction	(Sprang et al., 2007)
4-6) Organisation/setting	Compassion Fatigue	(Craig & Sprang, 2010)
7-9) Supervision	Compassion Fatigue	(Davies et al., 2021; Knudsen et al., 2008)
10) Trauma Training	Compassion Fatigue	(Craig & Sprang, 2010)

Demographic questionnaire item(s)	Professional quality of life variable	Existing citing article
	Compassion Satisfaction	(Sprang et al., 2007)
11) Client forms of Disorder	Compassion Fatigue	(Craig & Sprang, 2010)[1]
12-13) Caseload	Compassion fatigue	(Janssen et al., 1999)
14-15) Client Trauma Work	Compassion Fatigue	(Craig & Sprang, 2010)

[1]Craig & Sprang (2010) included the percentage of clients with trauma experiences, specifically post-traumatic stress disorder (PTSD), on participant caseloads within their study. However, it was deemed pertinent to include other forms of disorder/distress experienced by participants' clients, in addition to trauma, within the present study.

2.6.2. Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT). The CompACT (Francis et al., 2016) was chosen as the primary process measure of psychological flexibility. The majority of the existing literature however, is dominated by the use of the Acceptance and Action Questionnaire (AAQ-II; Bond et al., 2011), including research exploring the associations between psychological flexibility and professional quality of life for healthcare professionals (Garner & Golijani-Moghaddam, 2021). The AAQ-II was developed to more accurately capture the process of psychological inflexibility, aiming to improve on the Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004). The AAQ-II, specifically the construct validity of the measure, has however been subject to scrutiny and criticism more recently (Cherry et al., 2021; Francis et al., 2016; Ong et al., 2019; Tyndall et al., 2019; Wolgast, 2014). Moreover, it is suggested that the AAQ-II, whilst aiming to capture psychological inflexibility, likely conflates measurement of psychological distress (Kashdan et al., 2020; Tyndall et al., 2019; Wolgast, 2014). Consequently, authors are now discouraged from utilising the AAQ-II as a measure of psychological flexibility (Cherry et al., 2021).

The CompACT is deemed a more favourable measure to the AAQ-II, providing sound psychometric properties including internal consistency, content validity and importantly, discriminant validity (Cherry et al., 2021; Francis et al., 2016). Moreover, the CompACT measures the six processes of psychological flexibility clustered into three dyadic processes which form the Triflex as previously discussed (Francis et al., 2016; Harris, 2019; Hayes et al., 2011). Consequently, the CompACT more accurately operationalises the theoretical construct of psychological flexibility compared with measures such as the AAQ-II, or alternatives which capture fewer psychological flexibility processes, such as the Cognitive Fusion Questionnaire (CFQ; Gillanders et

al., 2014) or Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2003) for example.

2.6.3. Professional Quality of Life Scale (ProQOL). The ProQOL (Stamm, 2010) was used as the primary outcome measure of compassion satisfaction and compassion fatigue (inclusive of burnout and secondary traumatic stress) as discussed within the main journal paper. The ProQOL measures professional quality of life for practitioners working within 'helping' professions (Stamm, 2010) and has been used in various cross-sectional studies examining the association between psychological flexibility and professional quality of life for healthcare practitioners (e.g. Duarte & Pinto-Gouveia, 2017; Kent et al., 2019). Despite this, the majority of research within this area employs the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981) as an alternative to measuring the negative consequences of healthcare work and the association with psychological flexibility (Garner & Golijani-Moghaddam, 2021).

Whilst the MBI is purportedly a reliable measure of burnout (Maslach & Jackson, 1981; Maslach et al., 1996), evidence suggests that psychological therapy practitioners experience both burnout and secondary traumatic stress (Davies et al., 2021; Ekundayo et al., 2013; Makadia et al., 2017; Rupert & Kent, 2007; Rupert & Morgan, 2005; Simpson et al., 2019). Furthermore, these constructs are said to be closely related, particularly when measured within a compassion fatigue framework (Cieslak et al., 2014; Sorenson et al., 2016). Accordingly, it was considered prudent to measure both burnout and secondary traumatic stress to address the aims of the present study. Whilst it would have been possible to use independent measures of burnout, i.e. the MBI, and secondary traumatic stress, for example the Secondary Traumatic Stress Scale (STSS; Bride et al., 2004), this would impose unnecessary demand on participants when the ProQOL is an extensively used and validated measure that is applicable to the aims of the study and operationalises both compassion satisfaction and compassion fatigue, inclusive of burnout and secondary traumatic stress.

2.6.4. Psychological Practitioner Workplace Wellbeing Measure (PPWWM). As discussed within the main journal paper, various workplace factors are associated with professional quality of life outcomes for healthcare professionals, such as workload (Hinderer et al., 2014; Janssen et al., 1999), clinical supervision (Davies

et al., 2021; Knudsen et al., 2008) and management support (Hunsaker et al., 2015) to name a few. Whilst the demographic questionnaire aimed to control for some variables associated with professional quality of life, the PPWWM (Summers et al., 2020) is the only measure specifically developed and validated for psychological therapy practitioners that captures workplace factors specifically associated with wellbeing for this population. Consequently, the PPWWM was included in this study to control for such workplace factors that may be associated with professional quality of life scores.

2.7. Ethical Approval and Procedures

Ethical approval for the present study was sought from the University of Nottingham Research Ethics Committee. Approval was obtained via email on 02 July 2020 (ref: 2020-1595-2). See Appendix J for email confirmation of ethical approval. Data was managed in line with UK Data Protection laws and University of Nottingham policy and procedures and a data management plan was produced and submitted to the University of Nottingham (Appendix K).

Whilst the study was deemed to carry minimal risks for participants, the survey contents may have resulted in mild distress. Consequently, links to relevant support resources and UK agencies were provided within the participant information sheet and participants were informed of their right to withdraw from the study as detailed in the main journal paper. With regards to remuneration, participants were not offered expenses for their participation however, they were offered the opportunity to consent to inclusion in three prize draws to win a £50 voucher (one voucher at each timepoint). A random number generator selected one participant to receive the prize at the end of each timepoint.

2.8. Extended Data Analysis

2.8.1 Multilevel Modelling Rationale. As discussed within the main journal paper, multilevel modelling (MLM) allows consideration of the residual variance within (level 1) and between (level 2) participants over time (Tasca & Gallop, 2009). This was considered appropriate due to the use of several measurement outcomes over a longitudinal trajectory that measured variables that may vary within persons, such as changes in workplace factors when moving from pre- to post-qualification, as well as

factors that may vary between persons, i.e. levels of psychological flexibility. Again, MLM also allowed for source variance to be identified within the dependent variable when simultaneously including different variables at different levels within the models (Nissen-Lie et al., 2010).

In addition to the rationale described within the main journal paper, there are additional benefits to using MLM. For instance, a key advantage is that MLM does not require complete data sets, meaning that parameter estimates can be achieved where there is missing data (Field, 2018). As attrition between timepoints was anticipated within the present study, it was important to consider missing data as this can pose a significant problem with data analysis for longitudinal designs (Field, 2018). Whilst it is possible to address missing data (Enders, 2011; Yang et al., 2008) when using alternative analyses, e.g. mixed analyses of variance (ANOVA), this usually requires listwise deletion of missing data (Field, 2018). Therefore, including only participants who completed data collection at all three timepoints would result in a much smaller sample. MLM was therefore deemed preferable as this enabled the inclusion of participants whose responses were missing for some timepoints. This was also important as it may be that participants who maintained participation differed in some way to those who dropped out of the study, perhaps disparities in levels of psychological flexibility. Consequently, it was considered valuable to include all participant data.

2.8.2 Grand Mean Centring. Grand mean centring refers to the process of transforming a variable into deviations around the mean of that variable (Field, 2018). Uncentred variables result in the intercept representing the expected outcome on a dependent variable where there is a value of zero on the predictor variable. In contrast, when a predictor variable is grand mean centred, the intercept represents the expected outcome on a dependent variable where the value on the predictor is the mean. Grand mean centring does not change the multilevel model but changes the interpretation of the parameters (Enders & Tofighi, 2007; Field, 2018; Kreft & de Leeuw, 1998) and is recommended when the primary interest is in the level 2 variable (Enders & Tofighi, 2007), in this case psychological flexibility.

For the analysis described in the main journal paper, Baseline CompACT scores were grand mean centred such that the intercept represented the dependent

variable value for someone with the average level of psychological flexibility. Whereas if this variable was uncentred, the intercept would represent the dependent variable value for someone with a zero baseline CompACT score. In this instance, grand mean centring was conducted by calculating the mean baseline CompACT score for all participants and then subtracting this value from each individual participant's baseline CompACT score.

2.8.3. Person Mean Centring. Person mean centring is where individual scores for a particular variable are subtracted from the mean score of that variable for a particular person or group (Field, 2018). This allows for the intercept to be interpreted as the expected outcome on a dependent variable where the value of the predictor is the individual participants' mean.

For the analysis described in the main journal paper, PPWWM scores were person mean centred to be considered as time varying within participants. Person mean centring was undertaken by calculating the mean PPWWM score for each participant across timepoints and then occasion-level scores were subtracted from the mean. Level 1 predictors (i.e. those that vary within participants), such as PPWWM scores in this case, may be grand mean or person mean centred (Enders & Tofighi, 2007). However, person mean centring is recommended when exploring the differential influence of level 1 and level 2 variables, i.e. psychological flexibility and workplace factors related to wellbeing respectively, or when examining cross level interactions, i.e. whether psychological flexibility buffered the effect of PPWWM scores on the dependent variables as in the present study (Enders & Tofighi, 2007). Therefore, it was deemed appropriate to apply person mean centring considering the aforementioned recommendations and because PPWWM scores were considered to be time-varying within participants.

2.8.4. Data Analysis for Extended Aim. Three additional multilevel models were built for the three professional quality of life variables: compassion satisfaction (ProQOL-CS), burnout (ProQOL-BO) and secondary traumatic stress (ProQOL-STS). However, converse to the models within the main journal paper, psychological flexibility was included as the dependent variable and ProQOL-CS, ProQOL-BO and ProQOL-STS were added as predictors within their respective models. This was to explore whether the effect of predicting professional quality of life outcomes based on

levels of psychological flexibility, as in the main analysis within the journal paper, was greater than the effect of predicting levels of psychological flexibility as an outcome based on levels of professional quality of life.

The additional models were built as in the main journal paper, using the same incremental steps as the final significant models exploring the predictive associations between psychological flexibility and professional quality of life variables. For each additional model, baseline CompACT scores (BL CompACT) were included as the dependent variable. Time was added to the models and was centred at 0 (Time C), as described in the main journal paper. Baseline professional quality of life scores were grand mean centred (i.e. BL ProQOL-CS GMC, BL ProQOL-BO GMC and BL ProQOL-STS GMC) and then added to each respective model. ProQOL subscale scores were grand mean centred, such that the intercept represented the dependent variable value for someone with the average level of compassion satisfaction, burnout and secondary traumatic stress respectively.

Finally, effect sizes for the original models and the additional models were converted to standardised effects (Pearson's *r*) to examine whether the strength of association was greater for psychological flexibility as a predictor of professional quality of life or as an outcome. The magnitude of effect for r was classified as small (0.10), medium (0.30) or large (0.50), in accordance with Cohen's convention (Cohen, 1992).

3. Extended Results

3.1. Additional Participant Demographics

Table 11 displays additional demographics to those cited within the main journal paper and were obtained via the same demographic questionnaire. At all three timepoints most participants were working within the clinical area of adult mental health. Across all timepoints, participants were working with a range of client presentations or disorders and most rated the extent to which their clients were traumatised as moderate. In terms of supervision, most participants received 1-2 hours of supervision at baseline (60.7%) and time two (52.4 %), although at time three most participants (55.3%) received 30 minutes – 1 hour supervision on average. Most participants rated the quality of supervision as 'above average' for all timepoints.

Table 11

Additional Participant Demographics Across Timepoints

Demographic Characteristic	Time 1	Time 2	Time 3
Total Participants (*n*)	56	42	38
Clinical Area (%)			
Adult Mental Health	41.1	59.5	57.9
Child and Adolescent Mental Health	7.1	11.9	7.9
Older Adult Mental Health	8.9	9.5	7.9
Physical Health	17.9	4.8	10.5
Neuropsychology	3.6	-	2.6
Forensic Mental Health	7.1	-	-
Other	14.3	14.3	13.2
Client Presentation/Disorders (%)			
Anxiety	47.4	36.8	33.3
Depression or Mood Problems	46.5	36.0	33.3
Eating Disorder	14.0	10.5	13.2
Psychosis	13.2	10.5	8.8
Trauma	43.0	34.2	32.5
Dissociative Experiences	18.4	14.0	13.2
Somatoform Difficulties	14.9	21.1	14.0
Psychosexual Difficulties	7.9	6.1	5.3
Developmental Difficulties	12.3	12.3	7.0
Personality Disorder	23.7	20.2	17.5
Cognitive/Neurological Difficulties	21.9	16.7	14.9
Other	4.4	-	0.9
Extent Client Traumatised (%)			
Not at all	-	-	2.6
Slightly	16.1	14.3	10.5
Moderately	44.6	47.6	42.1
Very	32.1	28.6	31.6
Extremely	7.1	9.5	13.2
Supervision Length (%)			
30 minutes – 1 hour	33.9	45.2	55.3
Between 1-2 hours	60.7	52.4	44.7
Over 2 hours	5.4	2.4	-
Supervision Quality			
Average	25.0	40.5	39.5
Above Average	39.3	45.2	47.4
Very Good	35.7	14.3	13.2

Note: Participants were able to select more than one response for 'clinical area' and 'client presentation/disorder'.

3.2. Baseline Demographic Associations with Professional Quality of Life

At baseline, ProQOL-CS scores were significantly associated with profession, r=.28, p<.05; SE=.12; 95% CI=.04,.49, whereby trainee Cognitive Behavioural Therapists reported higher levels of compassion satisfaction, compared with trainee Clinical

Psychologists. ProQOL-CS scores at baseline were also significantly associated with how often participants' clinical work addressed client trauma, r=.28, p<.05; SE=.12; 95% CI=.06, .53, where participants who more frequently engaged in trauma work with clients experienced higher levels of compassion satisfaction. No further baseline demographic variables were associated with ProQOL-CS scores at baseline (r values ranged from .03 to .21; F values ranged from .99 to 1.55; p values ranged from .13 to .81) or time 3 (r values ranged from .01 to .24; F values ranged from .33 to 2.89; p values ranged from .05 to .99).

At baseline, ProQOL-BO scores were not significantly associated with any baseline demographics (r values ranged from .01 to .17; F values ranged from .47 to 1.17; p values ranged from .21 to .96). ProQOL-BO scores at time 3 was significantly negatively associated with baseline age, r=-.43, p<.01; SE=.11; 95% CI=-.65, -.20, whereby younger participants experienced higher levels of burnout. No further baseline demographics were correlated with burnout at time 3 (r values ranged from .08 to .20; F values ranged from .19 to 1.38; p values ranged from .23 to .98).

At baseline, ProQOL-STS scores were not significantly associated with any baseline demographics (r values ranged from .05 to .25; F values ranged from .15 to 1.61; p values ranged from .12 to .96). ProQOL-STS scores at time 3 were significantly negatively associated with baseline age, r=-.36, p<.05; SE=.12; 95% CI=-.59, -.10, whereby younger participants experienced higher levels of secondary traumatic stress. ProQOL-STS scores at time 3 were also significantly negatively correlated with how often participants' clinical work addressed client trauma at baseline, r=-.35, p<.05; SE=.15; 95% CI=-.62, -.05, indicating that participants who more frequently engaged in trauma work with clients experienced lower levels of secondary traumatic stress. No further significant correlations were found between baseline demographic variables and ProQOL-STS scores at time 3 (r values ranged from .02 to .27; F values ranged from .28 to 1.26; p values ranged from .10 to .94).

3.3. Multilevel Modelling Assumption Testing

As multilevel models are an extension of general liner models, the same assumptions apply, i.e. normality, homoscedasticity, linearity and independence, although the assumption of independence can be solved with MLM and for repeated measures designs, sphericity is not required as less restrictive structures may be modelled (Field,

2018). Despite this, multicollinearity can be problematic for MLM, although centring predictors can go some way to resolving the problem of cross-level interactions within the data hierarchy (Field, 2018; Kreft & de Leeuw, 1998).

3.3.1. Normality. The assumption of normality requires that the residuals of the model are normally distributed (Field, 2018). For baseline data, histograms were visually examined along with skewness and kurtosis statistics (see Table 12). This revealed that each variable met the assumption of normality, where skewness and kurtosis *z*-scores fell within the acceptable range (-3.29 - 3.29) for medium sized samples (50 < *n* < 300) (Tabachnick & Fidell, 2019). Histograms for the final models for each dependent variable were also examined to check normality of residuals conditional for each model. Again, these appeared to show a normal distribution of residuals.

Table 12

Normality Statistics for CompACT, PPWWM and ProQOL Subscales at Baseline

Variable	Sample Size (*n*)	Skewness (SE)	Skewness *z*-score	Kurtosis (SE)	Kurtosis *z*-score
CompACT	56	-.459 (.319)	-1.43	-.323 (.628)	-.51
PPWWM	56	-.933 (.319)	-2.92	.829 (.628)	1.32
ProQOL-CS	56	-.213 (.319)	-.67	.191 (.628)	.30
ProQOL-BO	56	.312 (.319)	.98	-.061 (.628)	-.97
ProQOL-STS	56	.253 (.319)	.79	-.215 (.628)	-.34

Note: CompACT= Comprehensive Assessment of Acceptance and Commitment Therapy Processes; PPWWM=Psychological Practitioner Workplace Wellbeing Measure; ProQOL=Professional Quality of Life Scale; CS=Compassion satisfaction subscale; BO=Burnout subscale; STS=Secondary Traumatic Stress subscale; SE = Standard Error.

3.3.2. Homoscedasticity and Linearity. The assumption of homoscedasticity is that for each level of the predictor variable, the residuals have similar variances (Field, 2018) and the assumption of linearity refers to the requirement that the relationship between predictor and outcome variables are linear i.e. a straight line relationship between the two variables (Tabachnick & Fidell, 2019). Both homoscedasticity and linearity can be checked with scatterplots. A violation of the assumption of homoscedasticity is observed when the scatterplot resembles the shape of a funnel and violation of linearity is observed when the scatterplot depicts a

curve in residuals. Observation of scatterplots for each variable appeared to meet the assumptions of homoscedasticity and linearity.

3.3.3. Independence. The assumptions of independence in MLM refers to the requirement that one data point does not influence another or that the behaviour of one participant does not influence the behaviour of another (Field, 2018). Whilst this assumption is less important than others within MLM (Field, 2018), the study design meant that participants self-selected into the study and participated independently therefore, it is unlikely that participants would have had the opportunity to share experiences that might lead to errors that would violate the independence assumption.

3.3.4. Multicollinearity. Multicollinearity occurs when there is a strong correlation between two or more variables. This is problematic for MLM as a strong correlation between predictors means that each accounts for a similar proportion of the variance in the outcome variable (Field, 2018). Pearson product-moment correlations (two-tailed) revealed significant correlations between all variables (Table 13), although these did not meet the threshold to be determined 'strong' correlations (>.70) and therefore do not demonstrate multicollinearity (Vatcheva et al., 2016). As previously mentioned, centring predictor variables within MLM can also go some way to resolving issues with multicollinearity (Field, 2018; Kreft & de Leeuw, 1998), which was undertaken within the present study.

Table 13

Correlations between variables to consider multicollinearity

Variable	1	2	3	4	5	Measure
1) Psychological flexibility		.60**	-.63**	-.56**	.37**	CompACT
2) Compassion Satisfaction			.69**	-.37**	.60**	ProQOL-CS
3) Burnout				.48**	-.63**	ProQOL-BO
4) Secondary Traumatic Stress					-.22*	ProQOL-STS
5) Workplace Wellbeing						PPWWM

Note: CompACT= Comprehensive Assessment of Acceptance and Commitment Therapy Processes; ProQOL=Professional Quality of Life Scale; CS=Compassion satisfaction subscale; BO=Burnout subscale; STS=Secondary Traumatic Stress subscale; PPWWM=Psychological Practitioner Workplace Wellbeing Measure.
*p<.05; **p<.01

3.4. Results of Extended Aim: Exploring Causal Predominance Over Time

To establish initial estimates of deviance and variance, an unconditional base model was produced for psychological flexibility (CompACT Total) as the dependent variable for each of the additional three models. No predictor variables were entered into the models at this stage. The average CompACT score across all participants and timepoints was 102.8. Pseudo-R^2 revealed that 73% of the variance in CompACT scores was attributable to individual differences. Adding time to the models did not produce a significant effect on CompACT scores, $t(84.51)=-1.29$, $p=.20$, indicating that levels of psychological flexibility appeared to remain relatively stable across timepoints. Baseline ProQOL-CS, ProQOL-BO and ProQOL-STS scores were then added to their respective models:

3.4.1. Compassion Satisfaction. Adding baseline ProQOL-CS scores indicated a significant positive effect on psychological flexibility, $t(55.09)=4.22$, $p<.001$, i.e. participants with higher baseline ProQOL-CS scores achieved higher CompACT scores across all timepoints. When comparing the effect size for compassion satisfaction as an outcome (.51) or predictor of psychological flexibility (.49), the effect was greater when psychological flexibility predicted compassion satisfaction (see Table 14), although the difference (.01) would be considered negligible (<.1).

Table 14

Comparison of Effect Sizes Between Multilevel Models with Compassion Satisfaction as an Outcome and Predictor

	Unconditional base model		**Adding Time**		**Adding CompACT scores**		**Effect size (*r*)**
BL CompACT GMC as predictor							
Fixed Effects	Coeff.	(se)	Coeff.	(se)	Coeff.	(se)	
Intercept	38.76***	.62	39.41***	.67	39.41***	.59	
Time C			-.83**	.29	-.82**	.29	
BL CompACT GMC					.17***	.04	.51
BL ProQOL-CS GMC as Predictor							
Fixed Effects	Coeff.	(se)	Coeff.	(se)	Coeff.	(se)	

Intercept	102.79***	1.77	103.60***	1.88	103.78***	1.66	
Time C			-1.03	.80	-1.16	.80	
BL ProQOL-CS GMC					1.29***	.31	.49
Difference in *r*							.01

Note: Time C = Time Centred; BL CompACT GMC = Baseline CompACT grand mean centred; BL ProQOL-CS GMC = Baseline ProQOL Compassion Satisfaction grand mean centred.
**p<.01, ***p<.001

3.4.2. Burnout. Adding baseline ProQOL-BO scores indicated a significant negative effect on psychological flexibility, $t(54.43)=-3.55$, $p<.01$, i.e. participants with higher baseline ProQOL-BO scores achieved lower CompACT scores across all timepoints. When comparing the effect size for burnout as an outcome (.59) or predictor (.44) of psychological flexibility, the effect was greater when psychological flexibility predicted burnout (see Table 15). In this instance the difference (.15) would be considered non-negligible (>.1) according to Cohen's convention (Cohen, 1992).

Table 15

Comparison of Effect Sizes Between Multilevel Models with Burnout as an Outcome and Predictor

	Unconditional base model		**Adding Time**		**Adding CompACT scores**		**Effect Size (*r*)**
BL CompACT GMC as Predictor							
Fixed Effects	Coeff.	(se)	Coeff.	(se)	Coeff.	(se)	
Intercept	21.79***	.54	21.44***	.58	21.45***	.49	
Time C			.44	.29	.44	.29	
BL CompACT GMC					-.17***	.03	.59
BL ProQOL-BO GMC as Predictor							
Fixed Effects	Coeff.	(se)	Coeff.	(se)	Coeff.	(se)	
Intercept	102.79***	1.77	103.60***	1.88	103.58***	1.71	
Time C			-1.03	.80	-1.05	.80	
BL ProQOL-BO GMC					-1.28**	.36	.44
Difference in *r*							.15°

Note: Time C = Time Centred; BL CompACT GMC = Baseline CompACT grand mean centred; BL ProQOL-BO GMC = Baseline ProQOL Burnout grand mean centred.
**p<.01, ***p<.001
° indicates a non-negligible difference in *r* according to Cohen's (1992) convention (>.1).

3.4.3. Secondary Traumatic stress. Adding baseline ProQOL-STS scores indicated a significant negative effect on psychological flexibility, $t(58.21)=-4.55$, $p<.001$, i.e. participants with higher baseline ProQOL-STS scores achieved lower CompACT scores across all timepoints. When comparing the effect size for secondary traumatic stress as an outcome (.61) or predictor of psychological flexibility (.51), the effect was greater when psychological flexibility predicted compassion satisfaction (see Table 16), although the difference (.10) would be considered negligible (<.1).

Table 16

Comparison of Effect Sizes Between Multilevel Models with Secondary Traumatic Stress as an Outcome and Predictor

	Unconditional base model		**Adding Time**		**Adding CompACT scores**		**Effect Size (*r*)**
BL CompACT GMC as Predictor							
Fixed Effects	Coeff.	(se)	Coeff.	(se)	Coeff.	(se)	
Intercept	18.24***	.51	18.11***	.55	18.11***	.47	
Time C			.16	.26	.19	.26	
BL CompACT GMC					-.17***	.03	.61
BL ProQOL-STS GMC as predictor							
Fixed Effects	Coeff.	(se)	Coeff.	(se)	Coeff.	(se)	
Intercept	102.79***	1.77	103.60***	1.88	103.58***	1.64	
Time C			-1.03	.80	-.93	.79	
BL ProQOL-STS GMC					-1.84***	.40	.51
Difference in *r*							.10

Note: Time C = Time Centred; BL CompACT GMC = Baseline CompACT grand mean centred; BL ProQOL-STS GMC = Baseline ProQOL Secondary Traumatic Stress grand mean centred.
***p<.001

4. Extended Discussion

4.1. Extended Discussion of Main Findings

4.1.1. Compassion Fatigue Comprises Separate Constructs. As discussed within the extended introduction, the conceptualisation of professional quality of life varies within the literature. More specifically, there remains questions regarding how to appropriately capture negative effects on professional quality of life. For instance some authors note distinctions between burnout and secondary traumatic stress (Adams et al., 2006; Cieslak et al., 2014; Stamm, 2010) under the compassion fatigue umbrella, whereas others problematise this distinction and promote measuring compassion fatigue as an overarching construct (Heritage et al., 2018).

In reference to the findings cited within the main journal paper, when modelling workplace factors related to wellbeing, this revealed a significant negative effect on burnout however, the effect on levels of secondary traumatic stress was not significant. Given that burnout relates to difficulties with work effectiveness (Stamm, 2010), it seems sensible to assume that workplace factors related to wellbeing would likely impact levels of burnout. As secondary traumatic stress involves symptoms similar to PTSD following indirect exposure to trauma narratives (Stamm, 2010), again it would seem reasonable to suggest that workplace factors would have less impact on this outcome specifically.

Importantly, the differences between the effect of workplace factors related to wellbeing on burnout and secondary traumatic stress seem to confirm distinctions between these two constructs. Furthermore, healthcare workers more generally are reported to experience both burnout and secondary traumatic stress (Garner & Golijani-Moghaddam, 2021). Consequently, whilst there is a need for further concept analysis regarding compassion fatigue (Sorenson et al., 2016) and accordingly the potential to develop more accurate measurement (Eng et al., 2021), authors should not assume compassion fatigue to be an all-encompassing term for globally defining and measuring all aspects of negative professional quality of life outcomes. Instead, the distinctions between concepts under the compassion fatigue umbrella should be acknowledged.

4.1.2. Psychological Flexibility as a Resilience Process. As highlighted within the extended introduction, personal characteristics or resources contribute to

the diversity in responses to environmental stressors as well as the differing intensities of emotional impact of those stressors on the person's life (Fonseca et al., 2020). One such personal resource, purported to be a key resilience process and a fundamental aspect of psychological health, is psychological flexibility (Kashdan & Rottenberg, 2010; Waugh et al., 2011). Moreover, the findings cited within the main journal paper appear to concur with this proposal, given the predictive associations found between higher levels of psychological flexibility and better professional quality of life outcomes. Therefore, given the malleable nature of psychological flexibility (Gloster et al., 2017; Wilson et al., 2014), it may be possible to promote resilience in newly qualified psychological therapy practitioners through intervention to enhance pre-qualification levels of psychological flexibility. This is important considering the need for "strategies for improving the resilience and wellbeing of the clinical psychology workforce" (British Psychological Society, 2015, p. 9). However, exploring this possibility with interventional studies is still needed for this population given that the present study observed psychological flexibility naturalistically over time.

Meanwhile, as also highlighted within the extended introduction, psychological flexibility is reported to buffer the effect of negative external stressors and internal risk factors (Bryan et al., 2015; Fonseca et al., 2020; Leonidou et al., 2019; Trindade et al., 2020). However, the main findings here indicated that psychological flexibility did not buffer the detrimental effect of time on all professional quality of life outcomes or the negative effect of workplace factors related to wellbeing on levels of compassion satisfaction or burnout. Consequently, psychological flexibility was not found to moderate other factors that negatively impact the professional quality of life of newly qualified psychological therapy practitioners. These findings therefore conflict with existing studies that report a moderating effect of psychological flexibility on other outcomes with alternative participant samples. Therefore, despite the association between psychological flexibility and professional quality of life outcomes, there are other factors than require consideration in relation to the professional quality of life of newly qualified psychological therapy practitioners. Therefore, as discussed within the main journal paper, psychological flexibility should not be considered a panacea for optimum professional quality of life.

4.2. Demographic Associations with Professional Quality of Life

As discussed within the main journal paper, not all of the variance between participants was attributable to baseline levels of psychological flexibility. As such, it is necessary to consider other factors that are relevant to professional quality of life outcomes. The initial associations reported within the extended results revealed that trainee Cognitive Behavioural Therapists experienced a higher level of compassion satisfaction than trainee Clinical Psychologists. Profession has been indicated as an influencing factor for compassion satisfaction within the extant literature (Sprang et al., 2007). Younger age was associated with higher levels of secondary traumatic stress and burnout, which concurs with existing research findings regarding age and compassion fatigue (Craig & Sprang, 2010; Okoli et al., 2020). Furthermore, addressing client trauma within therapeutic work more frequently was associated with higher levels of compassion satisfaction and lower levels of secondary traumatic stress. Interestingly, this provides contrary evidence to that which suggests limiting trauma work can reduce adverse professional quality of life outcomes (Craig & Sprang, 2010).

These demographics were not entered into subsequent models due to the lack of association with psychological flexibility i.e., they were not confounders of the primary predictive relationship of interest between psychological flexibility and professional quality of life outcome variables, therefore it was not necessary to control for them in subsequent modelling. However, the observed correlations identify other factors that may help to further account for differential professional quality of life in psychological therapy practitioners. Therefore, these findings add to the mixed picture that is already acknowledged (Cavanagh et al., 2020; Robins et al., 2017) regarding various demographic associates with professional quality of life outcomes within healthcare professionals.

4.3. Exploring Causal Predominance Over Time

The extended aim of the present study was to explore whether the effect of predicting professional quality of life outcomes based on levels of psychological flexibility is greater than the effect of predicting levels of psychological flexibility as an outcome based on levels of professional quality of life. The results of the extended analysis indicated that effect sizes were larger when prospective levels of psychological flexibility predicted all professional quality of life outcomes, compared with compassion

satisfaction, burnout and secondary traumatic stress as prospective predictors. Moreover, the difference in effect sizes for burnout as an outcome compared with burnout as a predictor was non-negligible (.15). Consequently, psychological flexibility appears to exhibit causal predominance over professional quality of life variables as a predictor. Nonetheless, it should be acknowledged that whilst the results of the extended analysis provide evidence regarding causal predominance, the results do not imply a cause and effect relationship between psychological flexibility and professional quality of life. Moreover, effect sizes for professional quality of life variables as predictors of psychological flexibility fell within the medium (>.30) to strong (>.50) range (Cohen, 1992). Consequently, it is possible to make meaningful predictions regarding levels of psychological flexibility based on prospective levels of professional quality of life.

Consequently, the associations between psychological flexibility and professional quality of life variables appear relatively strong, regardless of the predictive direction. Nonetheless, whilst it is possible to make predictions about levels of psychological flexibility based on professional quality of life, psychological flexibility can be targeted for change. Moreover, existing research demonstrates improvements in professional quality of life following intervention to improve psychological flexibility (Lloyd et al., 2013; Puolakanaho et al., 2020), although this has not yet been evidenced for newly qualified psychological therapy practitioners. Pragmatically therefore, it would seem more appropriate to address low prospective levels of psychological flexibility to seek improvements in professional quality of life rather than attempting to improve psychological flexibility through manipulating professional quality of life, notwithstanding the need for interventional research to establish these claims.

4.4. COVID-19 Impact

It is necessary to acknowledge the potential research implications associated with the global COVID-19 pandemic, which was announced on 11 March 2020 by the World Health Organisation (WHO). Whilst the commencement of the pandemic preceded data collection, there were various changes in restrictions imposed by the UK Government to stem the spread of infection throughout the data collection timepoints (see Appendix L for restrictions imposed by the UK Government during data collection).

Notably, negative effects on wellbeing and mental health have been reported as a consequence of COVID-19 (Armour et al., 2020; Daly & Robinson, 2021; O'Connor et al., 2020; Public Health England, 2020). Furthermore, restrictions that aim to reduce infection transmission, such as quarantine and social distancing, also purportedly carry detrimental consequences for wellbeing (Brooks et al., 2020; Williams et al., 2020).

Consequently, COVID-19 and changes in restrictions may have led to occasion level variation in study outcomes within participants. Furthermore, in comparison to previous UK wide restrictions, there was some variability in restrictive measures imposed throughout different areas of the UK during data collection. As the study recruited participants from across the UK, variability in COVID-19 restrictions may have contributed to between participant variation in study outcomes. However, as the potential effects of COVID-19 were not accounted for, it is unclear as to whether the aforementioned associations between COVID-19 and wellbeing are relevant to the study findings.

4.5. Study Limitations and Strengths

Various limitations and strengths relating to the present study are briefly outlined in the main journal paper. Further considerations are given to some of those mentioned previously, along with additional limitations and strengths of the research.

4.5.1. Study Limitations. The first limitation mentioned within the main journal paper is the inclusion of a limited range of professions within the study sample i.e. trainee Clinical Psychologists and trainee Cognitive Behavioural Therapists. As previously noted, recruiting other trainee therapist professions such as Counselling Psychologists or Psychotherapists would be relevant to the study. It should be noted that attempts were made to recruit trainee Counselling Psychologists via email to various UK universities, however none responded to the email advert. This may be because all Counselling Psychology courses provided a generic student admissions email address as their main contact, rather than specific course administrator contact details. Conversely, Clinical Psychology training courses for example use a central admissions system[36] where specific course contact details are readily available. To

[36] Clearing House central admissions system for UK postgraduate courses in Clinical Psychology

recruit a wider range of professions and a larger percentage of those professions included within the study, other recruitment options might have been explored such as, social media platforms or attending open days at various universities. However, the latter was not possible at the time due to COVID-19 restrictions. Therefore, whilst the study findings may be relevant to other newly qualified therapist professions, further research is required to confirm this and future researchers may wish to consider broader recruitment options.

Secondly, as discussed within the main journal paper, the study was reliant on self-report measures, which are susceptible to occasion or person level variations which can affect participant responses. As discussed previously, COVID-19 and changing restrictions may have contributed to within and between person variations in participant responses. Furthermore, self-report measures can result in common method variance (CMV), defined as "systematic error variance shared among variables measured with and introduced as a function of the same method and/or source" (Richardson et al., 2009, p. 763). CMV can also result in the artificial inflation or deflation of the estimated relationship among interest variables (Jakobsen & Jensen, 2015). Measuring variables using the same method, as in the present study, can therefore pose a challenge although, recommended procedural approaches to manging the risk of CMV were undertaken including; maintaining anonymity and separate measurement of interest variables (Tehseen et al., 2017).

An additional potential limitation relates to the measures chosen to capture various constructs within the study. Firstly, there are reported issues with the ProQOL (Stamm, 2010) measure of professional quality of life, specifically the separate measurement of burnout and secondary traumatic stress under the umbrella of compassion fatigue (Eng et al., 2021; Heritage et al., 2018). Despite this, other literature makes clear distinctions between secondary traumatic stress and burnout (Adams et al., 2006; Cieslak et al., 2014; Stamm, 2010) and relevant findings within the present study concur with this division, i.e. the differing effect of workplace factors related to wellbeing on burnout and secondary traumatic stress. Meanwhile, the scope for further concept analysis and subsequent measurement revision is acknowledged, as with other authors (Eng et al., 2021; Sorenson et al., 2016).

The issues with the measurement of psychological flexibility have already been acknowledged. Consequently, the CompACT (Francis et al., 2016) was chosen as a purportedly more accurate measurement of this construct in comparison to more commonly used alternatives such as the AAQ-II (Cherry et al., 2021; Francis et al., 2016). However, the psychometric properties of another measure of psychological flexibility, i.e. the Personalised Psychological Flexibility Index (PPFI; Kashdan et al., 2020) are reportedly superior to the CompACT (Cherry et al., 2021). Nevertheless, the CompACT has demonstrated sound psychometric properties including internal consistency, content validity and discriminant validity (Cherry et al., 2021; Francis et al., 2016).

Lastly regarding the study measures, the PPWWM (Summers et al., 2020) is a relatively new measure of wellbeing related to workplace factors and has been applied within limited studies. Therefore, there is scope to further assess the psychometric properties of this measure. Nevertheless, the PPWWM is the only currently available measure specifically developed and validated for psychological therapy practitioners that captures workplace factors specifically associated with wellbeing for this population.

4.5.2. Study Strengths. As discussed within the main journal paper, the main strength regarding the present study is the use of a longitudinal cohort design, which is key for several reasons. Firstly, research exploring the association between psychological flexibility and professional quality of life for healthcare professionals has predominantly relied upon cross-sectional designs (Garner & Golijani-Moghaddam, 2021). Consequently, the present study has contributed to a gap in the evidence base by exploring the predictive associations of these variables over a longitudinal trajectory. Secondly, the present findings go beyond confirmation of purported cross-sectional associations to demonstrate the ability to predict professional quality of life outcomes for psychological therapy practitioners over an early post-qualification period, when accounting for pre-qualification levels of psychological flexibility. Thirdly, and more broadly regarding psychological flexibility research, this study also addresses the need for a range of research paradigms to understand the relevance of psychological flexibility for research participants (Cherry et al., 2021).

With regards to data analysis, the use of multilevel modelling was a further strength as it allowed for comparisons to be made within and between persons. For instance, variables that may differ within participants, such as changes in workplace factors when moving from pre- to post-qualification, as well as factors that may vary between participants, i.e. levels psychological flexibility, were accounted for within the models. Furthermore, this form of analysis enabled source variance to be identified within the dependent variable when simultaneously including different variables at different levels within the models (Nissen-Lie et al., 2010). Additionally, the extended analysis allowed for causal predominance regarding the relationship between psychological flexibility and professional quality of life to be explored. The application of cross-sectional research designs can often erroneously lead to assumptions regarding causality, whereas the current study enabled a comparison between the strength of psychological flexibility and professional quality of life variables as predictors. Whilst the present results do not imply a cause and effect relationship, the findings suggest a stronger effect for psychological flexibility as a predictor variable. Therefore, this study expands on existing cross-sectional research to provide further insights regarding causal predominance.

Finally, there is a scarcity of research that explores the relationship between psychological flexibility for newly qualified psychological therapy practitioners. Furthermore, the available research often involves samples of either trainee or qualified practitioners. Meanwhile, the transition from pre- to post-qualification is said to be a critical period (Davies et al., 2021). Consequently, the prospective study design enabled pre-qualification baseline measures of interest variables to be compared with post-qualification measures over this transition. Therefore, providing new insights regarding the role of psychological flexibility in predicting professional quality of life outcomes over this critical transition.

4.6. Contributions to Research, Theory and Clinical Practice

4.6.1. Research. The present study confirms and expands on existing literature exploring the relationship between psychological flexibility and professional quality of life outcomes for healthcare professionals. The present study confirms these associative relationships, regularly reported within cross-sectional studies (Garner & Golijani-Moghaddam, 2021), and also adds to the literature within this area in a

number of ways. Firstly, the study confirms the reported associations between psychological flexibility and professional quality of life for healthcare workers generally, whilst addressing methodological issues with previous research by using a more psychometrically sound measure of psychological flexibility (Cherry et al., 2021). Furthermore, this is the first to study examine these associations with a sample of newly qualified psychological therapy practitioners from pre- to post-qualification.

Additionally, a key contribution is the use of a prospective longitudinal design, whereby cross-sectional research dominates this area of the literature. This is important considering the need to utilise a range of research paradigms to understand the relevance of psychological flexibility for research participants (Cherry et al., 2021). Moreover, the study design facilitated new insights regarding the ability to prospectively predict levels of professional quality of life, based on pre-qualification levels of psychological flexibility, as well as highlighting the causal predominance of psychological flexibility compared with professional quality of life.

4.6.2. Theory. The present study contributes to theory regarding both the constructs of psychological flexibility and professional quality of life. Firstly, psychological flexibility is proposed as a key resilience process that is fundamental to psychological health (Kashdan & Rottenberg, 2010; Waugh et al., 2011). The predictive associations found within the present study concur with these suggestions where professional quality of life might be considered a component of psychological health. Despite this, psychological flexibility was not found to moderate the detrimental effects of time and workplace factors related to wellbeing on professional quality of life outcomes. Consequently, the study did not support the theoretical proposal or existing research findings regarding the role of psychological flexibility as a buffer against various risk factors for psychological health (Bryan et al., 2015; Fonseca et al., 2020; Leonidou et al., 2019; Trindade et al., 2020). Consequently, it would be beneficial for researchers to move beyond cross-sectional approaches in this area of the literature to provide further theoretical insights regarding the potential buffering role of psychological flexibility in relation to healthcare professionals' quality of life over time.

With regards to professional quality of life, in particular compassion fatigue, there are ongoing questions regarding how this should be defined and operationalised. Theoretically, compassion fatigue may be conceptualised as a construct separated

into two distinguishable components of burnout and secondary traumatic stress (Stamm, 2010). However, it is also purported that these components may be condensed into the overarching construct of compassion fatigue (Heritage et al., 2018). The present findings support the former theoretical framework given the differential effect of workplace factors related to wellbeing on burnout and secondary traumatic stress respectively. Consequently, given the need for further concept analysis regarding compassion fatigue (Sorenson et al., 2016), the study highlights the importance of not dismissing the separable nature of burnout and secondary traumatic stress and instead the need to consider these findings during future theoretical developments.

4.6.3. Clinical Practice. It is widely cited that compassion fatigue is associated with detrimental consequences for healthcare practitioners, such as lower occupational commitment, increased employee turnover and reduced service quality and efficacy (Bride et al., 2009; Bride & Kintzle, 2011; Ducharme et al., 2007; Hunsaker et al., 2015). Meanwhile, compassion satisfaction contributes to effective coping and increased self-efficacy (Smart et al., 2014). Furthermore, the transition from pre- to post-qualification for newly qualified psychological therapy practitioners is a critical period whereby practitioners are at risk of compassion fatigue (Bettney, 2017; Brown, 2017; Craig & Sprang, 2010; Davies et al., 2021; Rønnestad & Skovholt, 2012). The findings that prospective higher levels of psychological flexibility predicted higher levels of compassion satisfaction and lower compassion fatigue may therefore carry important implications for practitioners, organisations and patient care. For instance, based on the study findings it is reasonable to suggest that pre-qualification intervention to increase levels of psychological flexibility might have a positive effect on the post-qualification professional quality of life of psychological therapy practitioners. Therefore, this study provides a rationale for further interventional research of this nature, particularly as similar interventional effects have been found with other healthcare worker samples (Brinkborg et al., 2011; Gerhart et al., 2016; Reeve et al., 2018).

4.7. Future Research Directions.

There are a range of potential future research directions to consider based on the present study findings. Firstly, as this is the first study to explore the professional

quality of life of psychological therapy practitioners over the critical transition period into post-qualified practice, there is scope to further understand practitioner's quality of life experiences during this time. Researchers might also wish to consider the recent questions regarding how to best define and operationalise compassion fatigue. Furthermore, whilst a large proportion of the variance in professional quality of life outcomes was attributed to levels of psychological flexibility, there is scope to explore other contributing factors for this population.

In addition, it may be beneficial to determine whether interaction effects, for instance between psychological flexibility, time and workplace factors related to workplace wellbeing, are observed over a longer trajectory, considering the limited time series within this study. This would potentially provide further theoretical insights regarding the buffering role of psychological flexibility. Interventional studies are also required to confirm the hypothesis that increasing pre-qualification levels of psychological flexibility would have a positive effect on post-qualification professional quality of life.

More generally, there is a need to move away from a reliance on cross-sectional research in this area of the literature. Consequently, it would be beneficial to explore psychological flexibility as a prospective predictor of professional quality of life for a broader range of psychological therapy practitioners, other healthcare worker samples and practitioners outside the UK.

5. Critical Reflection

The following section offers a critical reflection on the research process. The processes comprising psychological flexibility and inflexibility have been applied to guide these reflections, although considerations have not been constrained by this framework.

When formulating the initial research question, I was interested to explore how Clinical Psychologists manage the effects of working with clients who present with distressing trauma accounts, specifically the strategies or approach practitioners take within the therapy room. This research area relates to my personal value of being 'caring', that is caring for others, which for me is currently pursued within a trainee Clinical Psychologist role, and also self-care by identifying factors that reduce the negative impacts of therapeutic work.

However, after exploring the extant literature, I noticed that my question was relatively broad and that similar questions had already been addressed, particularly research which identifies various protective and risk factors associated with outcomes such as vicarious trauma, secondary traumatic stress and burnout. At the time I noticed myself experiencing a sense of disappointment although, on reflection I was able to respond flexibly by using the support of my research supervisors to help me shape a more unique and specific research question that retained my initial ideas. This included the decision to incorporate the concept of psychological flexibility as the main process within the research question, as Acceptance and Commitment Therapy (ACT) was also another area of clinical and research interest for me. When considering how to appropriately define and operationalise the effects of therapeutic work on practitioners, I initially aimed to capture secondary traumatic stress exclusively as the primary outcome to be explored. However, further examination of the literature revealed other relevant outcomes, such as burnout, and I felt it prudent to also explore the positive effects of therapeutic work on practitioners i.e. compassion satisfaction. Consequently, the decision to include these additional professional quality of life outcomes was made.

It was always my intention to pursue a quantitative research design for this project due to having more knowledge and experience with quantitative research. On reflection, this may be considered psychologically inflexible whereby this choice perhaps functioned as a way for me to avoid my anxieties about engagement in a qualitative research project. Despite this, the project design continued to meet my research aim which was associated with my values and was therefore contextually functional. Notably, the quantitative design of the project was also appropriate considering my epistemological stance of functional contextualism. Furthermore, the longitudinal design choice aimed to offer insights beyond those available within the extant cross-sectional research, and the period of pre- to post-qualification held personal relevance and presented an opportunity to provide unique research insights over this transitional period.

Having finalised my research question, I had the opportunity to present my research idea to the DClinPsy course and other members of my training cohort, prior to developing the project further. On reflection, I felt confident in my research question whereby I believed that it met the brief in terms of the level of complexity appropriate

for doctoral standard and also that the research would further the existing evidence base and provide useful theoretical and clinical implications. However, I received some critical feedback from the course, mainly regarding the ability to recruit enough participants for the project to be suitably powered. I offered a solution whereby I might have a second wave of recruitment and post-qualification survey completion over the same time period the following year (August 2021 – March 2022) if I was not able to recruit enough participants during the first wave (August 2020 – March 2021). However, the course felt that this would risk delays in qualification.

At the time and following this feedback I noticed that I felt a sense of disappointment as well as anxiety associated with thoughts about my project not being suitable and the potential of not qualifying on time. I also experienced some resentment as I felt this project was important and I wanted to remain committed to the idea. I demonstrated fusion with my cognitions regarding my inability to develop a realistic research study as well as inflexible attention whereby I worried about the future implications of late qualification. However, I was able to acknowledge my emotions at the time and accept my anxieties regarding the risk of late qualification to pursue this project. I subsequently discussed the feedback with my research supervisors and accordingly it was decided to include other therapy practitioners, i.e. trainee Cognitive Behavioural Therapists, within the sample to broaden the scope for recruiting a larger number of participants. Consequently, my response may be deemed psychologically flexible as I was able adjust my initial sample to carry out my research goals that were associated with my values, despite my anxieties and cognitions. I was therefore able to accept my difficult internal experiences and engage in committed action towards my values.

A research protocol was submitted in March 2020, which outlined a more detailed plan for the project and received positive feedback from the course. Consequently, I was able to begin developing the survey and obtaining ethical approval in time for recruitment. On reflection, this was probably the most demanding part of the research process as it was essential that I began recruitment prior to the end of the 2020 academic year in order to obtain pre-qualification baseline data. I recall worrying about the recruitment deadline and felt pressure to develop the survey and receive ethical approval promptly. As a consequence, I feel my anxieties and cognitive fusion with thoughts about missing the deadline affected some decisions within this process. For

instance, I had to make prompt judgments about which factors to include within the demographic questionnaire. Consequently, a first review by the University of Nottingham ethics board required further amendments to this questionnaire specifically. This was due to the inclusion of unnecessary detail in the response options that would increase the likelihood of identifying participants. Inevitably, necessary amendments resulted in further delays in receiving ethical approval, thereby increasing my anxieties and worry. On reflection, had I responded in a more psychologically flexible way initially, I may have been able to defuse from unhelpful cognitions and accept my anxieties to enable me to engage in a more considered approach to developing the demographic questionnaire in the first instance. However, I was subsequently able to tolerate the additional anxiety and negative thoughts that resulted from this delay and make the relevant amendments to the questionnaire, which later received approval from the ethics board.

Due to the time pressures prior to recruitment, one aspect that I did not consider during the development stage of the study was the impact of COVID-19. At the time I feel I was emersed in the project and the plan outlined in the original protocol. Furthermore, as data collection was online there was no need to amend the study design. Consequently, whilst I was astutely aware of the pandemic happening 'around me' I failed to fully contact with the present and consider the potential effects of this context on the research participants. Subsequent research has highlighted effects on the professional quality of life of UK healthcare professionals associated with the pandemic (e.g. Pappa et al., 2021; Petrella et al., 2021). Therefore, on reflection it would have been prudent to account for this as a potential confounding factor relating to professional quality of life outcomes.

The data collection phase of the study was another stressful period. I had managed to prepare the survey and gain ethical approval in time for the planned data collection time periods. I recall thinking that I had done everything that I could to ensure the project progressed as planned, but was now reliant on participants to complete the survey. This was a major worry for me and I remember that at times I felt incredibly anxious and 'out of control' and was fused with thoughts such as, 'what if I don't have enough participants?' and 'what if I need to complete a second wave of recruitment and I don't qualify on time?'. Meanwhile, this was also a point in the project where I had some 'breathing space'. I began to accept my anxieties and defuse from my

thoughts and turn my energy and attention towards other areas of my life that were important. For instance, I was able to spend more time connecting with my values around family during days off, where previously my main focus had been preparing the project for data collection. Consequently, I was able to demonstrate psychological flexibility by switching my attention from one valued life domain to another (Kashdan & Rottenberg, 2010).

However, having regained a connection with my other values it was difficult to then turn my attention back to data analysis and the final write up of the project. I also remember associating a feeling of resentment with the project and thoughts about the time it would take away from other valued aspects of my life. I was also anxious about undertaking a form of analysis that I had never done before and I noticed times when I would engage in experiential avoidance, trying to ignore my anxieties and would sometimes engage in procrastination, demonstrating inflexible attention. This led to further worry about the project as it was not progressing at the same pace as it was prior to data collection. After a few weeks, I was however able to notice that fusing with feelings of resentment, procrastination and further worry and anxiety was moving me away from what was important, i.e. the need to complete the project as a large aspect of my DClinPsy training which is associated with another of my values. Consequently, I was able to seek supervision regarding the data analysis process and structure my time such that the project progressed at a faster pace whilst making sure not to neglect other areas of my life that are also important to me.

Reflecting on the research process has enabled me to acknowledge that different contexts have elicited various psychologically inflexible responses within myself. For instance, I have experienced inflexible attention, experiential avoidance, fusion, remoteness from my values and unworkable action at times which are stressful and incredibly demanding on my personal resources as well as other times when I have had more ‘breathing space’. Nevertheless, I have also developed my ability to notice when my response to a specific context is inflexible and unworkable and use my knowledge and skills associated with psychologically flexible processes to respond in a more contextually functional way. Moreover, considering the personal relevance of my research and the study findings, I feel this process has enabled me to develop my psychological flexibility which will hopefully have a positive impact on my own

professional quality of life as I progress through the final stages of my training and move on to qualify as a Clinical Psychologist.

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APPENDICES

Appendix A: Search Terms and Search Strategy

Category	Search Terms
Healthcare professional population	
Search terms for all databases	(“health* worker*” OR “health* Professional*” OR “health* practitioner*” OR “mental health worker*” OR “mental health care personnel” OR “social worker*” OR “mental health personnel” OR “Health Personnel” OR psychologist* OR counsellor* OR counsellor* OR therapist* OR “medical personnel” OR nurse* OR “psychiatric nurs*” OR “mental health nurs*” OR “professional personnel”)
	OR
PsycINFO index terms	(“social workers” OR “mental health personnel” OR “Health Personnel” OR psychologists OR counsellors OR therapists OR “medical personnel” OR nurses OR “psychiatric nurses” OR “professional personnel” OR “medical personnel”)
	OR
Medline MeSH terms	(“health personnel” OR “nurses” OR “counsellors”)
	OR
CINAHL subject headings	(“health personnel” OR “mental health personnel” OR “social workers” OR “psychologists” OR “counsellors” OR “nurses” OR “psychiatric nursing”)
	OR
EMBASE map terms	(“health care personnel” OR “health practitioner” OR “mental health care personnel” OR “social worker” OR OR “psychologist” OR “counselor” OR “medical personnel” OR “nurse” OR “psychiatric nursing”)
	AND
Psychological Flexibility	
Search terms for all databases	(“psychological flexibility” OR “psychological inflexibility” OR “experiential avoidance” OR “cognitive fusion” OR “cognitive flexibility” OR “cognitive inflexibility”)
	OR
PsycINFO index terms	(“experiential avoidance” OR “cognitive flexibility”)
Medline MeSH terms	None
CINAHL subject headings	None
EMBASE map terms	None
	AND
Workplace quality of life	
Search terms for all databases	(“Well being” OR wellbeing OR well-being OR “psychological well being” OR “quality of life” OR “quality of life measures” OR “quality of working life” OR “compassion fatigue” OR “compassion satisfaction” OR

Category	Search Terms
	"burn out" OR burnout OR burn-out OR "occupational stress" OR "emotional exhaustion" OR "secondary trauma" OR "secondary traumatic stress" OR "vicarious trauma" OR "quality of work life" OR stress OR "stress management" OR "Psychological stress")
	OR
PsycINFO index terms	("well being" OR "quality of life" OR "quality of life measures" OR "compassion fatigue" OR "occupational stress" OR "quality of work life" OR stress OR "stress management")
	OR
Medline MeSH terms	("quality of life" OR "compassion fatigue" OR "burnout, psychological" OR "occupational stress" OR "stress, psychological")
	OR
CINAHL subject headings	("psychological well-being" OR "quality of life" OR "quality of working life" OR "compassion fatigue" OR "burnout, professional" OR "stress, occupational" OR "stress" OR "stress management")
	OR
EMBASE map terms	("wellbeing" OR "psychological well-being" OR "quality of life" OR "compassion fatigue" OR "burnout" OR "stress")

Appendix B: CASP Checklist for Cohort Studies (Critical Appraisal Skills Programme, 2018)

	Yes	No	Can't tell
Section A: Are the results of the study valid?			
1. Did the study address a clearly focused issue?			
2. Was the cohort recruited in an acceptable way?			
3. Was the exposure accurately measured to minimise bias?			
4. Was the outcome accurately measured to minimise bias?			
5. Have the authors identified all important confounding factors?			
5b. Have they taken account of the confounding factors in the design and/or analysis?			
6. Was the follow up of subjects complete enough?			
6b. Was the follow up of studies long enough?			
Section B: What are the results?			
7. What are the results of the study?			
8. How precise are the results?			
9. Do you believe the results?			
Section C: Will the results help locally?			
10. Can the results be applied to the local population?			
11. Do the results of the study fit with other available evidence?			
12. What are the implications of the study for practice?			

Appendix C: AXIS Quality Appraisal Criteria (Downes et al., 2016)

	Yes	No	Do not know/ comment
Introduction			
1. Were the aims/objectives of the study clear?			
Methods			
2. Was the study design appropriate for the stated aim(s)?			
3. Was the sample size justified?			
4. Was the target/reference population clearly defined? (Is it clear who the research was about?)			
5. Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation?			
6. Was the selection process likely to select subjects/participants that were representative of the target/reference population under investigation?			
7. Were measures undertaken to address and categorise non-responders?			
8. Were the risk factor and outcome variables measured appropriate to the aims of the study?			
9. Were the risk factor and outcome variables measured correctly using instruments/ measurements that had been trialled, piloted or published previously?			
10. Is it clear what was used to determined statistical significance and/or precision estimates? (e.g., p values, CIs)			
11. Were the methods (including statistical methods) sufficiently described to enable them to be repeated?			
Results			
12. Were the basic data adequately described?			
13. Does the response rate raise concerns about non-response bias?			
14. If appropriate, was information about non-responders described?			
15. Were the results internally consistent?			
16. Were the results for the analyses described in the methods, presented?			
Discussion			
17. Were the authors' discussions and conclusions justified by the results?			
18. Were the limitations of the study discussed?			
Other			
19. Were there any funding sources or conflicts of interest that may affect the authors' interpretation of the results?			
20. Was ethical approval or consent of participants attained?			

Appendix D: Meta-Analysis Results Tables

Table D.1

Psychological flexibility and compassion fatigue

Study	Correlation (*r*)	Standard Error (*z*)	CI (lower)	CI (upper)	Weight (%)
Duarte & Pinto-Gouveia (2017)	-.42	.07	-.52	-.30	13.04
Iglesias et al. (2010)	-.52	.11	-.67	-.34	8.33
Kent et al. (2019)	-.64	.08	-.73	-.53	11.09
Kroska et al. (2017)	-.35	.06	-.46	-.23	13.39
Noone & Hastings (2011)	-.28	.13	-.50	-.02	6.88
Ortiz-Funea et al. (2020)	-.28	.06	-.39	-.17	13.81
Vilardaga et al. (2011)	-.33	.04	-.39	-.26	16.55
Yao et al. (2013)	-.38	.03	-.44	-.32	16.91

Table D.2

Psychological flexibility and compassion fatigue following sensitivity analysis

Study	Correlation (*r*)	Standard Error (*z*)	CI (lower)	CI (upper)	Weight (%)
Duarte & Pinto-Gouveia (2017)	-.42	.07	-.52	-.30	12.48
Iglesias et al. (2010)	-.52	.11	-.67	-.34	5.23
Kroska et al. (2017)	-.35	.06	-.46	-.23	13.33
Ortiz-Funea et al. (2020)	-.28	.06	-.39	-.17	14.46
Vilardaga et al. (2011)	-.33	.04	-.39	-.26	26.03
Yao et al. (2013)	-.38	.03	-.44	-.32	28.47

Table D.3

Psychological flexibility and compassion satisfaction

Study	Correlation (*r*)	Standard Error (*z*)	CI (lower)	CI (upper)	Weight (%)
Duarte & Pinto-Gouveia (2017)	.22	.07	.09	.34	10.54
Holmberg et al. (2019)	.28	.07	.14	.41	9.25
Iglesias et al. (2010)	.24	.11	.02	.44	4.69
Kent et al. (2019)	.39	.08	.24	.52	7.60
Kroska et al. (2017)	.27	.06	.15	.38	11.18
Noone & Hastings (2011)	.08	.13	-.19	.33	3.54
Ortiz-Funea et al. (2020)	.42	.06	.32	.51	12.02
Vilardaga et al. (2011)	.26	.04	.19	.33	19.84
Yao et al. (2013)	.29	.03	.23	.35	21.33

Table D.4

Psychological flexibility and compassion satisfaction following sensitivity analysis

Study	Correlation (*r*)	Standard Error (*z*)	CI (lower)	CI (upper)	Weight (%)
Duarte & Pinto-Gouveia (2017)	.22	.07	.09	.34	9.12
Holmberg et al. (2019)	.28	.07	.14	.41	7.57
Iglesias et al. (2010)	.24	.11	.02	.44	3.22
Kent et al. (2019)	.39	.08	.24	.52	5.81
Kroska et al. (2017)	.27	.06	.15	.38	9.95
Vilardaga et al. (2011)	.26	.04	.19	.33	29.11
Yao et al. (2013)	.29	.03	.23	.35	35.22

Table D.5

Pre-planned subgroup analysis for psychological flexibility and compassion fatigue

Study	Correlation (*r*)	Standard Error (*z*)	CI (lower)	CI (upper)	Weight (%)
Kroska et al. (2017)	-.35	.06	-.46	-.23	12.99
Noone & Hastings (2011)	-.28	.13	-.50	-.02	3.06
Vilardaga et al. (2011)	-.33	.04	-.39	-.26	37.99
Yao et al. (2013)	-.38	.03	-.44	-.32	45.96

Table D.6

Pre-planned subgroup analysis for psychological flexibility and compassion satisfaction

Study	Correlation (*r*)	Standard Error (*z*)	CI (lower)	CI (upper)	Weight (%)
Kroska et al. (2017)	.27	.06	.15	.38	12.99
Noone & Hastings (2011)	.08	.13	-.19	.33	3.06
Vilardaga et al. (2011)	.26	.04	.19	.33	37.99
Yao et al. (2013)	.29	.03	.23	.35	45.96

Appendix E. Email to University Courses

Dear Course Administration Team,

As part of my DClinPsy at The University of Nottingham I am conducting an internet questionnaire based study for my doctoral thesis. The study is being conducted with the support of Dr Thomas Schroder (University of Nottingham) and Dr Mark Gresswell (University of Lincoln), Co-Directors of the Trent Doctoral Training Programme in Clinical Psychology. I would be grateful if you would consider circulating the attached advert to all your final year students studying for doctoral qualifications in Clinical Psychology/ a professional qualification as a High Intensity Cognitive Behavioural Therapist *(delete as appropriate).*

The study will be looking at psychological flexibility as a potential predictor of work related compassion fatigue and compassion satisfaction in newly qualified psychotherapy practitioners. Working with clients who have complex difficulties and experience a high level of distress can be both rewarding and challenging. Moving from training to qualification as a psychotherapeutic practitioner is also an important and sometimes difficult transition period. The information obtained from this study may help expand the literature and theory in this area. It may further help to inform practitioners and training courses about whether psychological flexibility can predict practitioners' experiences of compassion fatigue and compassion satisfaction which could also have important implications for training either pre- or post-qualification.

In order to collect my data, participants will be asked to complete four brief questionnaires in August 2020 and then again at a further two timepoints in November – December 2020 and then again in February-March 2021. All data will be anonymised following the completion of data collection.

I would very much appreciate your support with this study. I ask that you please email the attached invitation to all your final year students studying for doctoral qualifications in Clinical Psychology/ a professional qualification as a High Intensity Cognitive Behavioural therapist *(delete as appropriate).*

It is important that they feel under no obligation to participate and their involvement is entirely voluntary. You will not be informed who has participated nor receive raw data from the study. If you would like a summary of the anonymised research findings, please indicate this by responding to this email.

Please contact me if you have any questions regarding the study,

Kind regards,

Appendix F. Participant Advertisement

Are you studying to become a qualified Clinical Psychologist or Cognitive Behavioural Therapist (High Intensity) in the UK?

I am looking for final year trainee Clinical Psychologists or trainee Cognitive Behavioural Therapists (High Intensity) that are due to qualify for registration with the HCPC or BABCP this year (2020) that would like to take part in our research study. This study aims to look at psychological flexibility as a factor that may help predict both the positive and negative impacts for practitioners working with clients with complex difficulties and high levels of distress.

Participation in the study is voluntary and involves answering an anonymous and confidential questionnaire at three different timepoints pre and post qualification in your profession. The questionnaire will take around 20 minutes to complete each time.

There is also an opportunity to win £50 every time you complete the questionnaire.

Click here to find out more!

If you would like to invite other trainee Clinical Psychologists or trainee Cognitive Behavioural Therapists (High Intensity) to take part, please forward this advert.

Appendix G. Participant Information Sheet

University of Nottingham
UK | CHINA | MALAYSIA

School of Medicine
University of Nottingham
Medical School
Nottingham
NG7 2UH

PARTICIPANT INFORMATION

STUDENT RESEARCH PROJECT ETHICS REVIEW

Division of Psychiatry & Applied Psychology

Project Title: *Psychological Flexibility as a Predictor of Compassion Fatigue and Compassion Satisfaction in Newly Qualified Psychotherapy Practitioners*

Researcher/Student: *Emma Garner (Email Removed)*

Supervisor/Chief Investigator: *CI: Dr Danielle DeBoos; Primary Supervisor: Dr Nima Moghaddam; Secondary Supervisor: Dr Rachel Sabin-Farrell.*

Ethics Reference Number: 2020 - 1595 - 2

We would like to invite you to take part in our research study looking at psychological flexibility as a potential predictor of work-related compassion fatigue and compassion satisfaction in newly qualified psychotherapy practitioners.

Before you decide whether or not you wish to take part, we would like you to understand why the research is being done and what it will involve. Please take time to read the following information and if you would like to download the Information sheet, please click the link. If you have any further questions or would like more information, please contact the researcher using the contact details above.

What is the purpose of this study?

Working with clients who have complex difficulties and experience a high level of distress can be both rewarding and challenging. Moving from training to qualification as a psychotherapeutic practitioner is also an important and sometimes difficult transition period. This study aims to look at psychological flexibility as a factor that may help predict both the positive and negative impacts for practitioners working with clients as a psychotherapeutic practitioner. This study will also form part of the student researcher's doctoral qualification in Clinical Psychology.

We cannot promise the study will help you but the information we get from this study may help us expand the literature and theory in this area. It will further help to inform practitioners and training courses about whether psychological flexibility can predict practitioners' experiences of compassion fatigue and compassion satisfaction which could also have important implications for training either pre or post qualification.

Why have I been invited?

You have been invited to take part in this research as you have responded to the online advert and because as you are in your final year of training, due to qualify this year as a registered Clinical Psychologist or High Intensity Cognitive Behavioural Therapist. We are inviting a minimum of 38 people to take part in this study.

Do I have to take part?

It is your decision as to whether or not you would like to take part in this research. You do not have to take part even if you know the researcher or if the study advert has been forwarded to you by someone that you know. If you do decide to take part, you can print this information sheet by clicking on the link and you will be asked to indicate your consent by ticking the box on the following page. If you decide to take part, you can still withdraw from the study at any time and without giving a reason. This would not affect your legal rights.

What will I be asked to do?

Taking part in this research will firstly involve reading this information sheet and then confirming your consent to take part in the research where you will also be asked to generate a personal reference code and provide an email address. You will then be asked to complete four brief questionnaires which should take around 20 minutes. The first questionnaire is a demographic questionnaire about you and your work, the remaining three questionnaires are about your responses and feelings related to your work.

You will then be asked to complete the same four questionnaires at a further two timepoints in November – December 2020 and then again in February-March 2021. The questionnaires should again take around 20 minutes to complete.

You will not be required to provide personal identifiable information such as your name or address. You will be asked to provide an email address when you consent to take part in the research so that the questionnaires can be emailed to you at the second and third timepoints (your email address will only be used for this purpose). On initial participation of the research, you will be asked to create a unique code that will be used to track your data throughout the study.

Expenses and payments

There will be no payments or expenses provided for participation however, at each of the three data collection points, there will be an opportunity to win £50 in a prize draw (three prize draws in total). All participants that have completed the questionnaires at that timepoint will be entered into the prize draw and a participant number will be selected at random by a number generator.

What will happen to the information I provide?

All the information you provide within this research will remain strictly confidential. The research data will be stored on a password protected computer and will be stored on a secure web server that will be protected using one-way encryption.

The only identifiable information that you will be asked to provide is an email address. Only the researchers involved in this study will have access to this information. At the end of the data collection period in March 2021, email addresses will be deleted at the earliest opportunity. All other research data will be kept securely for 7 years. After this time your data will be disposed of securely.

Participation in this research is voluntary and you are free to withdraw from the study at any time, without giving a reason, and without your legal rights being affected. If you withdraw from the study, the information that you have already provided will be obtained.

If you would like to withdraw from the research you must do this by emailing the researcher using the contact details above and quoting your personal reference code. If you would like to withdraw from the research, you must do this before April 2021 as after this time it will not be possible to identify and extract your individual data.

The research data from this study will be submitted as part of a Doctoral Thesis and it is hoped that it will form part of a publication within a relevant academic journal. The research data will also be disseminated at relevant conferences. You will not be identified in any report or publication. If you would like a copy of the research findings, this can be provided by emailing the researcher (Emma Garner) using the contact details above.

Are there any possible disadvantages or risks in taking part?

Taking part in research can be time consuming however, the questionnaires shouldn't take longer than 20 minutes to complete at each timepoint. The questionnaires will be about your work and your responses and feelings related to your work however, it is not anticipated that the questions will cause you any distress. In the unlikely event that you do experience distress, please see the support information at the end of the information sheet.

We believe there are no known risks associated with this research study; however, as with any online activity the risk of a breach is always possible. We will do everything possible to ensure your answers in this study will remain anonymous.

What are the possible benefits of taking part?

The results of the study will be used to help expand the literature and theory in this area. The key purpose of the study is to form part of the researcher's qualification in Clinical Psychology. Whilst there is no guarantee of practical implications related to the research, it is hoped the project will help to inform practitioners and training courses about whether psychological flexibility can predict practitioners' experiences of compassion fatigue and compassion satisfaction. It is also hoped, but not guaranteed, that the research may have important implications for training either pre or post qualification.

Data Protection

We will follow ethical and legal practice and all information will be handled in confidence.

Under UK Data Protection laws the University is the Data Controller (legally responsible for the data security) and the Chief Investigator of this study (named above) is the Data Custodian (manages access to the data). This means we are responsible for looking after your information and using it properly. Your rights to access, change or move your information are limited as we need to manage your information in specific ways to comply with certain laws and for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personally – identifiable information possible.

You can find out more about how we use your information and to read our privacy notice at:

https://www.nottingham.ac.uk/utilities/privacy.aspx

We would like your permission to use anonymised data in future studies, and to share our research data (e.g. in online databases) with other researchers in other Universities and organisations both inside and outside the European Union. This would be used for research in health and social care. Sharing research data is important to allow peer scrutiny, re-use (and therefore avoiding duplication of research) and to understand the bigger picture in

particular areas of research. All personal information that could identify you will be removed or changed before information is shared with other researchers or results are made public.

The data collected for the study will be looked at and stored by authorised persons from the University of Nottingham who are organising the research. They may also be looked at by authorised people from regulatory organisations to check that the study is being carried out correctly. All will have a duty of confidentiality to you as a research participant and we will do our best to meet this duty.

At the end of the project, all raw data will be kept securely by the University under the terms of its data protection policy after which it will be disposed of securely. The data will not be kept elsewhere

If you have any questions or concerns, please don't hesitate to ask. We can be contacted before and after your participation at the email addresses above.

What if there is a problem?
If you have any queries or complaints, please contact the student's supervisor/chief investigator in the first instance. If this does not resolve your query, please write to the Administrator to the Division of Psychiatry & Applied Psychology's Research Ethics Sub-Committee adrian.pantry@nottingham.ac.uk who will pass your query to the Chair of the Committee.

If you remain unhappy and wish to complain formally, you should then contact the Faculty of Medical and Health Sciences Ethics Committee Administrator, Faculty Hub, Medicine and Health Sciences, E41, E Floor, Medical School, Queen's Medical Centre Campus, Nottingham University Hospitals, Nottingham, NG7 2UH or via E-mail: FMHS-ResearchEthics@nottingham.ac.uk

Support Information
If you feel like you are affected by any of the content within this study and would like further support, please see the below information:

Mental Health Support
GP (general practitioner): if completing the survey has raised any concerns for you about your wellbeing or support needs, please contact your GP in the first instance. If you are not registered with a GP, you can use the online NHS Choices 'find GP services' tool to find your local surgery/practice: www.nhs.uk/ServiceSearch/GP/LocationSearch/4

Psychological therapies: To access NHS-run psychological therapies you can look for your local psychological therapies using the online NHS Choices 'find psychological therapies' tool: https://www.nhs.uk/service-search/find-a-psychological-therapies-service/

Please note that services will vary in whether patients can directly refer themselves to the service or require a GP to do so.

Mental health and wellbeing helplines: The following website https://www.nhs.uk/conditions/stress-anxiety-depression/mental-health-helplines/ provides information recommended by the NHS in relation to a range of helplines and support groups.

Workplace Support

For workplace health problems please seek support from your line manager or the Occupational Health/Staff Wellbeing service at the service where you work. You may seek support from a Union health and safety representative.

The UK Health & Safety Executive website (www.hse.gov.uk/guidance) and The European Agency for Safety and Health at Work (www.osha.europa.eu/en) both provide a range of good advice about workers' health and safety, as well as other issues in the workplace, for employees in UK and Europe.

Acas (Advisory, Conciliation and Arbitration Service): Provides free and impartial information and advice to employers and employees on all aspects of workplace relations and employment law. Their website provides comprehensive information and they also run a helpline for free and impartial advice: Web: www.acas.org.uk, Acas Helpline 0300 123 1100 (open Mon-Fri 8am-6pm).

University Support

Student Support Service: Each UK university usually has a student support service that you may contact to access relevant support.

University Counselling Services: Each UK university usually has a counselling service that provides free (or very low cost) counselling to their students. These counselling services may be more accessible to university students or have smaller waiting times, compared to what is available locally in NHS-run psychological therapies.

Self-Care Resources

Due to the current circumstances and changes in access and availability of certain services you may find the following self-care resources beneficial:

Mental Health at Work: This website https://www.mentalhealthatwork.org.uk/toolkit/ourfrontline-health/ provides a 'toolkit' and range of resources and contacts for wellbeing support for healthcare workers including apps, self-help guides and contacts for relevant support agencies. There are also details of support options conducted via text and telephone during the present time of reduced face to face contact.

British Association for Counselling and Psychotherapy (BABCP): The following link provides a fact sheet resource by the BABCP regarding 'self-care for Counselling Professions': https://www.bacp.co.uk/media/3939/bacp-self-care-fact-sheet-gpia088-jul18.pdf

American Psychological Association (APA): The following website provides links to a range of 'self-care resources for psychologists: https://www.apa.org/monitor/2014/04/self-care

Appendix H. Consent Form

School of Medicine
University of Nottingham
Medical School
Nottingham
NG7 2UH

Participant Consent

Project Title: Psychological Flexibility as a Predictor of Compassion Fatigue and Compassion Satisfaction in Newly Qualified Psychotherapy Practitioners

Researcher: *Emma Garner (Email Removed)*

Supervisor: *Primary Supervisor: Dr Nima Moghaddam; Secondary Supervisor: Dr Rachel Sabin-Farrell*

Ethics Reference Number: 2020 - 1595 - 2

Have you read and understood the Participant Information?	☐Yes ☐No
Do you agree to take part in this research about research study looking at psychological flexibility as a potential predictor of work related compassion fatigue and compassion satisfaction in newly qualified psychotherapy practitioners?	☐Yes ☐No
Do you consent to be contacted again by the researcher via email to complete the questionnaire again at the following two timepoints in November – December 2020 and February – March 2021?	☐Yes ☐No
Do you consent to be included in the prize draws and give permission for the researcher to contact you via email should you win a prize at any or all of the three timepoints?	☐Yes ☐No
Do you know how to contact the researcher if you have questions about this study?	☐Yes ☐No
Do you understand that you are free to withdraw from the study without giving a reason up to April 2021?	☐Yes ☐No
Do you give permission for your data from this study to be shared with other researchers in the future provided that your anonymity is protected?	☐Yes ☐No
Do you understand that non-identifiable data from this study, including quotations might be used in academic research reports or publications?	☐Yes ☐No

I confirm that I am 18 years old or over ☐Yes ☐No

Please provide your personal email address for future data collection timepoints (Nov-Dec 20 & Feb-Mar 21). *(Please make sure this is an email address that can be used to contact you at future timepoints i.e. personal email rather than university/work email)*

Please generate a unique personal reference code (use numbers or letters)

By ticking the button below, I indicate that I understand what the study involves, and I agree to take part.

I consent to take part in this research study ☐Yes ☐No

Appendix I. Demographic Questionnaire

Please answer the following questions about you and your work:

1) Please indicate your gender

Male
Female
Other
Prefer not to say

2) Please indicate your age

_____

Prefer not to say

3) What is your profession?

Trainee Clinical Psychologist
Trainee Counselling Psychologist
Trainee Cognitive Behavioural Therapist (Level 2)
Qualified Clinical Psychologist (HCPC Registered)
Qualified Counselling Psychologist (HCPC Registered)
Qualified Cognitive Behavioural Therapist (Level 2) (BABCP Registered)
Other, please state

4) What type of service do you currently work in? (Tick all that apply)

Independent Provider
NHS
Private sector
Other, please state

5) In which clinical area is the service where you currently work? (Tick all that apply)

Adult mental health
Intellectual/developmental disability
Child and adolescent mental health
Older adult mental health
Physical health/medical psychology
Neuropsychology
Forensic/prison/offender
Other, please state

6) In which setting is the service where you currently work? (Tick all that apply)

Inpatient services
Community team
Assertive outreach
Therapeutic Community
Crisis team
Intermediate care
IAPT

Outpatient / clinic setting
Physical health hospital
Forensic setting
Other, please state

7) On average how often do you receive formal clinical supervision?
Weekly
Fortnightly
Monthly
Quarterly
Other, please state

8) On average how often does your formal clinical supervision last?
Less than 30 minutes
30 minutes – 1 hour
Between 1-2 hours
Over 2 hours

9) How would you rate the quality of supervision that you receive?
Poor
Below average
Average
Above average
Very good

10) What level of trauma training have you received? (Tick all that apply)
Training as part of university teaching pre-qualification
Training as part of workplace setting pre-qualification
Training as part of workplace setting post-qualification
External training outside workplace setting
Training in Narrative Exposure Therapy (NET)
Training in Trauma focused CBT
EMDR training part 1
EMDR training part 2
EMDR training part 3
EMDR training part 4
Other training, please state

11) What forms of disorder or distress do the clients that you currently work with experience? (Tick all that apply)
Anxiety
Depression or Mood problems
Eating disorder
Psychosis
Trauma
Dissociative experiences
Somatoform difficulties
Psychosexual difficulties
Developmental difficulties

Personality disorder
Cognitive and neurological difficulties
Other, please state

12) How many clients do you currently work with for direct and regular therapy?
Less than 3
4- 6
7-10
11-14
More than 14

13) For how many of the clients you are currently working with is the work trauma focused?
Less than 3
4- 6
7-10
11-14
More than 14

14) To what extent are the clients you work with traumatised?
Not at all
Slightly
Moderately
Very
Extremely

15) How often does the work you do with clients specifically address the client's trauma experiences?
Never
Rarely
Sometimes
Often
very often

16) Is there anything else you feel we should be aware of that may influence your responses to the following questionnaires at this particular time?
No
Yes (if yes, please comment below)

Appendix J. Confirmation of Ethical Approval

Psychological Flexibility as a Predictor of Compassion Fatigue and Compassion Satisfaction in Newly Qualified Psychotherapy Practitioners 1595

D donotreply@infonetica.net
To Danielle De Boos
Cc Emma Garner
You forwarded this message on 02/07/2020 16:11.

Notting

UK | CHINA | M

Dear Dr Danielle De Boos & Mrs Emma Garner

Your amendment DPAP - 2020 - 1595 - 2 has been approved.

Yours sincerely

Professor David Daley & Professor Amanda Griffiths

Chair's of the DoPAP ethics sub-committee

Appendix K. Data Management Plan

Data Management Plan

Data description

- What data will you create?

Quantitative data will be collected via an online survey using the Qualtrics online platform.

Data collected within the survey will include the following:

- Participant consent
- Email address (for the purpose of forwarding the survey at two further timepoints and to contact those participants that win one of three prize draws)
- Unique identifier code (created by participants so that their data can be tracked across three timepoints anonymously)
- Demographic questionnaire (includes limited relevant information about the participants and characteristics of their work)
- Psychological Practitioner Workplace Wellbeing Measure questionnaire
- CompACT questionnaire
- ProQOL questionnaire

Survey data will be collected (as above) from a minimum of 38 participants initially. Following the initial completion of the survey, participants will be asked (via the email address provided) to complete the same survey at two further timepoints. The same data as above will be collected these further two times (except participant email addresses).

Data collection / generation

- What are your methodologies for data collection / generation? How will you ensure data quality? What data standards will you use?

An email and advert will be sent to UK university course administrators (gatekeepers) of doctoral courses in Clinical and Counselling psychology and courses providing High Intensity training in Cognitive Behavioural Therapy. The administrators may then consider forwarding the advert to final year trainee therapists studying for the above qualifications or instruct as appropriate. The advert contains a link to the survey.

As previously described, participants will be requested to provide an email address the first time they complete the survey. This will allow the same survey to be forwarded to participants at a second and third timepoint. The three timepoints will occur over an eight-month period. At the first timepoint, participants will also provide a unique identifier that will allow data to be tracked for each participant across the three timepoints.

Reminder emails will also be sent one week prior to the end of the second and third timepoint for those participants who have not yet completed the survey. Email addresses will be deleted at the end of data collection, unless the participant has indicated that they would like to be recontacted in the future about the outcome of the research. The unique identifier will be used to track participant data anonymously.

A “forced choice” option will be selected for each survey question to reduce the chance of incomplete data sets.

Data storage and security

- Where and how will data be stored, backed-up, transferred, and secured during the active phase (short to medium term) of research?

Questionnaire data will be stored within the Qualtrics platform during each data collection timepoint. Qualtrics has a registration certificate with Schellman in Information Security Management which ensures the secure collection and storage of data. At the end of each timepoint data will be downloaded as excel and SPSS password protected files for storage and analysis and stored and maintained in UoN OneDrive.

University of Nottingham storage will be used for working data. University of Nottingham licenses Microsoft OneDrive, an ISO 27001 information security management compliant service that allows secure and controlled sharing of data amongst the research team. University of Nottingham OneDrive encrypts data both in transit and at rest and is approved against the University's Handling Restricted Data Policy. The service provides continual failover support. This service provides up to 5TB free-at-point-of-use, and as we do not anticipate generating more than 5TB, we will not require any additional costs for use of this service.

Data management, documentation and curation

- What are your principles, systems, and major standards for data management and creation? What metadata and documentation will you keep?

Data will be analysed using SPSS software made available through the UoN.

Survey data (excel and SPSS files) will be stored in a password protected file and access will be restricted to members of the research team. The nature, scope, and amount of data generated makes it unlikely that anyone outside of the research team could productively utilise this data (it is solely and explicitly concerned with investigating psychological flexibility as a predictor of professional quality of life in newly qualified psychotherapy practitioners). We do not intend to produce metadata.

Data will be retained in the UoN repository following completion of the project should the data be potentially useful for future research (as included within the study consent form within the survey). This will be held securely by the research team on UoN networks.

There will be no physical documentation as this study will be solely completed online.

Ethics & Privacy

- Are there any ethical or privacy related issues associated with your data?

Participants will be required to provide informed consent to completing the survey and to retention, archiving and sharing of their anonymised data. Participants will be informed that they can withdraw their participation at any stage during or after completing the online survey, up to the end of March 2021 as after this time it will not be possible to identify and extract individual data. Participants will be informed that if they withdraw from the study, they will no longer be required to participate further, however data already obtained will be kept as data analysis may have commenced. Identifiable information (participant email addresses) will be deleted following data collection, unless a participant indicates they wish to receive feedback in relation to the outcome of the study. In this instance the email addresses will be deleted

after providing feedback. Research will follow standard ethical procedures of the Division of Psychiatry and Applied Psychology and the University of Nottingham. The study will also comply with The Data Protection Act 2018, including GDPR requirements as the study will include the collection of personal data. Within the participant information sheet, participants will be informed of the relevant privacy information, ensuring appropriate safeguards for the storage and handling of data are in place. Specific ethical issues have been considered by the faculty ethics' committee as appropriate.

- How will you ensure the long-term storage and preservation of data?

The data will be downloaded from Qualtrics and then deleted from the Qualtrics system. The downloaded raw data would then be kept and stored as described. Digital data will be held on a password protected computer, within a password protected file. The personal data (email address) will be destroyed after the end of data collection unless the participant has indicated that they would like to be recontacted in the future about the outcome of the research. In this instance, the email addresses will be deleted after providing feedback. All other anonymised data (research data) will be stored for a minimum of 7 years and the Chief Investigator will be the custodian of the data.

Data sharing and access

- How will the data generated be shared and published?

The research team will consider requests for sharing data on an individual basis. The current research is being conducted and will be written up with a view to submitting to a relevant peer-reviewed journal for possible. Datasets will not be published.

Roles & responsibilities

- Who will be responsible for managing data, data security, data quality, and data security both during the award and post-award?

The UoN is the data controller (legally responsible for data security) under UK Data Protection laws. The Chief investigator (CI) is the custodian of the data and will be responsible for the overall management of the research data, including data security. Data will be analysed by the primary researcher. Other members (project supervisors) of the research team will ensure the quality and appropriateness of the data generated and will also have a substantive oversight into data management and security.

Relevant policies

- What are the relevant institutional, departmental or study policies on data sharing and data security?

We will ensure that our research aligns with the requirements of the University's Research Data Management Policy, Information Security Policy, Code of Research Conduct and Research Ethics. The personal data (email address) will be destroyed after the end of data collection, unless the participant has indicated that they would like to be recontacted in the future about the outcome of the research. All other data (research data) will be stored for a minimum of 7 years and the CI will be the custodian of the data. Data will be archived within the UoN data repository.

IPR

- Who will own the copyright and IPR of any data that you will collect or create? Will you create a licence(s) for its use and reuse? If you are planning to use existing data as part of your research, do any copyright or other restrictions determine its use?

"The intellectual property of the data generated will remain with the University of Nottingham."

Budgeting

- What are the costs or funding required for capturing, processing, storing, and archiving your data?

Not applicable as this study is not funded.

Further Help

- Would you like your plan to be reviewed by specialists in Libraries?

Not presently thank you.

Appendix L. UK Government Measures in Response to COVID-19 During Data Collection (Adapted from Institute for Government, 2021).

	Date	UK Government Measures
	04/07/2020	Local lockdown in specific areas of the UK Some restrictions eased and reopening of some venues e.g., pubs, restaurants, hairdressers etc.
	18/07/2020	Local authority enforcement of social distancing introduced
Baseline Data Collection	03/08/2020	Discount scheme for 'eating out' introduced
	14/08/2020	Further easing of lockdown restrictions including reopening of theatres, swimming pools etc.
	14/09/2020	Gatherings of more than six people prohibited
	22/09/2020	Return to working from home Hospitality sector restricted to 10pm curfew
	14/10/2020	Three-tier system of restrictions introduced
Timepoint 2	05/11/2020	Second lockdown in England imposed
	02/12/2020	Second lockdown ends
	21/12/2020	Tougher restrictions announced for London and South East England
	26/12/2020	Tougher restrictions imposed in further areas of England
	06/01/2021	Third national lockdown imposed in England
Timepoint 3	15/02/2021	Hotel quarantine imposed for travellers arriving in England from some high-risk countries
	08/03/2021	Planned return to school for children in England

Note: the term 'lockdown' is used to refer to the imposition of various measures by the UK Government to reduce infection rates.

Poster

Psychological Therapy Practitioner's Quality of Life: Psychological Flexibility as a Prospective Predictor

Emma Victoria Garner, Nima Golijani-Moghaddam & Rachel Sabin-Farrell
Trent Doctorate in Clinical Psychology

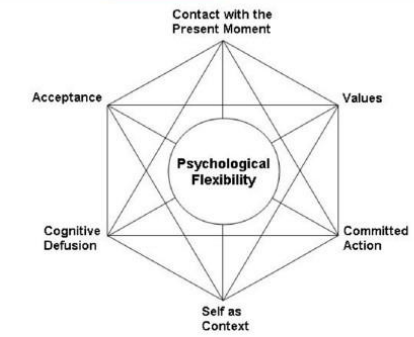
Background

Newly qualified psychological practitioners are exposed to client trauma, which can lead to compassion fatigue (CF)[1]. CF is detrimental for practitioners, clients and organisations[2]. Practitioners also experience positive aspects in relation to their work, known as compassion satisfaction (CS)[3].

Psychological flexibility (PF) is the core process within Acceptance and Commitment Therapy (ACT) and is the ability to be more 'present' and persist with or adapt behaviour in line with personal values[4].

PF is associated with lower CF and higher CS in health practitioners[5], but the predictive association has not previously been explored for healthcare professionals, including psychological therapy practitioners.

Figure 1. The 'Hexaflex' of Psychological Flexibility[5]



Aims

To examine psychological flexibility as a prospective predictor of CF and CS in newly qualified psychological therapy practitioners (from pre- to post-qualification).

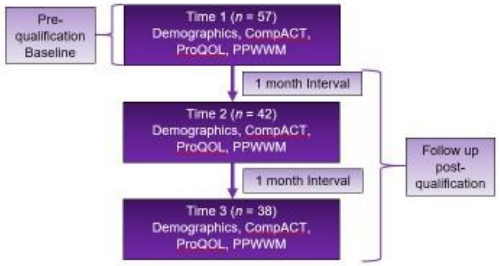
Methods

- Prospective longitudinal cohort design

- 56 trainee psychological therapy practitioners recruited during their final year of training.

- Measures of PF, CS, CF and workplace factors measured across 3 timepoints from pre- to post-qualification .

Procedure



Results

CS decreased and CF increased from pre to post qualification

Prospective PF predicted CF and CS Higher prospective levels of PF (pre-qualification) were associated with lower levels of CF and higher levels of CS across all timepoints pre- to post-qualification.

No interaction effect observed between time and PF or workplace factors and PF for CS or CF.

Discussion

Confirms and expands on existing cross-sectional associations between PF and CS and CF for healthcare workers by supporting PF as a predictor of CS and CF.

Other demographics and workplace factors are also associated with CS and CF.

PF did not buffer the effect of time or workplace factors on CS and CF therefore, PF is not a panacea.

Implications

Existing Research– Expands on existing cross-sectional research, this study provides further insights regarding PF as a predictor of CS and CF for this population.

Theory- Supports claims that PF is a resilience factor that promotes psychological health, although, PF did not buffer against the detrimental effects of time or workplace factors on CF or CS.

Clinical Practice– This study highlights the potential utility of intervention to improve PF and promote better CS and lower CF for newly qualified practitioners.

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SMALL SCALE RESEARCH PROJECT

COVID-19: Difficulties, Coping and Wellbeing During the Pandemic: A Qualitative Content Analysis

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Abstract

Infectious disease outbreaks, such as COVID-19, have negative psychological consequences. People also demonstrate resilience and employ coping strategies in response to such circumstances. The present study aimed to qualitatively explore and categorise aspects of COVID-19 that participants found most difficult and coping methods used to manage the impact of COVID-19 during 15th - 21st May 2020. The study also explored difficulties and management methods endorsed by participants with high versus low wellbeing. Participants were 554 adults from the UK general population. A cross-sectional survey design was applied. The survey collected demographic information, included open response questions about difficulties and management strategies during COVID-19 and a self-report wellbeing measure. Qualitative content analysis identified 10 categories for difficulties and eight management categories. The most difficult aspect of the pandemic for participants overall, and both wellbeing groups, was categorised as 'lack of contact or support'. 'Loneliness/isolation' was endorsed more frequently by those with low levels of wellbeing within this category. 'Positive emotional coping' was the most frequently endorsed category overall and for both wellbeing groups for management methods. Theoretical and public health implications are discussed, including the importance of social connectedness and support to manage the impact of COVID-19.

Key Words: COVID-19, Difficulties, Coping, Wellbeing, Content-Analysis

1. Introduction

The COVID-19 pandemic represents the single largest epidemic spread in the last 100 years. At the time of the present study, mortality rates within the UK were reported to be amongst the highest in Europe (Dawson & Golijani-Moghaddam, 2020), with 128,797 deaths involving COVID-19 registered in the UK at the time of writing (Johns Hopkins University, 2021). To protect populations, many governments imposed strict restrictions in response to the COVID-19 pandemic, leading to unprecedented changes to the lives of the global population. To stem the spread of infection, UK Government imposed various restrictions and measures, termed 'lockdown', in March 2020 (see Table 17 for UK COVID-19 restrictions at the time of the present study). However, whilst restrictions aimed to protect against disease, much less was known about the impact social isolation and restricted interaction would have on the psychological health and wellbeing of the UK population.

Table 17

COVID-19 restrictions at time of study (from Dawson & Golijani-Moghaddam, 2020)

Date	Restrictions Imposed
13th May 2020 – 31st May 2020	Leaving home permitted for the following: - Shopping at retailers permitted to open (includes some non-essential retailers) - To collect items ordered online - To exercise or engage in recreational activity independently with members of the same household - To meet one person from one other household (social distancing rules apply) - For attending to personal or others' medical needs - To travel to work if unable to work from home - For children to move between separated parents or carers Social distancing (2 metres) apply outside the household Public transport to be avoided where possible Universities, colleges and schools* remain closed Restaurants and cafés remain closed Gatherings of more than two people are prohibited (with exceptions including for work purposes, moving house, funerals etc.)

Note: * where possible, schools remain open for children of key workers and those deemed vulnerable.

Infectious disease outbreaks, similar to COVID-19 (e.g. Severe Acute Respiratory Syndrome [SARS]), have reportedly resulted in negative psychological consequences

such as; posttraumatic stress, anxiety and depression symptoms and poor quality of life (Gardner & Moallef, 2015; Lee et al., 2007; Maunder & Maunder, 2004; Maunder et al., 2006; Tsang et al., 2004). Existing, yet limited, literature also reports that restrictions, such as quarantine, carry detrimental effects for psychological wellbeing (Brooks et al., 2020).

Regarding COVID-19, emerging research suggests that the pandemic, and associated restrictions such a social distancing, has had negative effects on the psychological health and wellbeing of the general population within the UK (Armour et al., 2020; Daly & Robinson, 2021; O'Connor et al., 2020; Public Health England, 2020; Williams et al., 2020), although the effects of COVID-19 on mental health are reportedly heterogeneous, with UK adults reporting mental health stability, improvement or deterioration (Shevlin et al., 2021).

1.1. Difficulties during the COVID-19 Pandemic

It is important to establish what aspects, regarding COVID-19, may relate to wellbeing outcomes for people within the UK. A large scale qualitative survey study (Carpentieri et al., 2020) identified factors including: social isolation, impacts on mental health, physical health concerns, concerns for others, disrupted education and financial concerns that were the most difficult aspects of the pandemic, identified by a UK sample. Further evidence from studies using quantitative survey methodology highlight that factors related to COVID-19, such as financial concerns (Wolfe & Patel, 2021), lost income (Zavlis et al., 2021), perceived risk of infection (Zavlis et al., 2021), being a caregiver (Gallagher & Wetherell, 2020), socioeconomic disadvantage (O'Connor et al., 2020) and increased childcare responsibilities (Cheng et al., 2021), are related to poorer psychological wellbeing for people within the UK. Nevertheless, large scale qualitative research exploring difficult aspects of the pandemic and whether they differ for those with higher and lower levels of wellbeing is required.

1.2. Managing the Impact of COVID-19 Pandemic

Whilst acknowledging the adverse consequences of infectious disease outbreaks, it is equally notable that people demonstrate resilience and employ various management strategies to cope with such unprecedented circumstances (Fluharty et al., 2021; Lee-Baggley et al., 2004; Mental Health Foundation, 2020). The ‘process’ of ‘coping’ has

been defined as “efforts to manage stress that change over time and are shaped by the adaptational context out of which it is generated” (Lazarus, 1993, p. 234). Within the existing literature on coping, certain coping ‘styles’ are said to be associated with wellbeing outcomes. Avoidant-based coping strategies are related to short-term improvements in wellbeing and reduced stress, although are detrimental for wellbeing in the longer-term (Taylor & Stanton, 2007). Approach-based problem solving strategies are associated with better wellbeing over time (Rippetoe & Rogers, 1987), and social support is also purported to be a key protective coping factor for mental health (Taylor & Stanton, 2007; Thoits, 2010).

Within the COVID-19 context, various coping factors have been associated with improved psychological wellbeing outcomes. For instance, evidence from a survey based study reports that perceived social support and face to face contact is associated with lower depression symptoms (Sommerlad et al., 2021). Smaller scale qualitative studies have also identified factors (e.g. prior experience of adversity, diffusion of responsibility, engaging in activities, routine, social connection and perceived social support) that are related to better wellbeing (Burton et al., 2021; McKinlay et al., 2020). In terms of coping styles, problem-focused, avoidant-coping and supportive-coping strategies where found to be related to greater mental health difficulties during the initial lockdown period, although supportive-focused coping was associated with improvements in mental health symptoms over time (Fluharty et al., 2021). Notably, Fluharty et al. (2021) used a four-factor structure of coping (Nahlen Bose et al., 2015) despite extant research failing to reach a consensus regarding coping style structure (Skinner et al., 2003; Stanisławski, 2019). However, Stanisławski (2019) attempts to resolve this by drawing on existing theoretical models of coping to propose an integrative circumplex model, containing eight distinct styles of coping (see appendix M).

1.3. The Present Study

The existing literature regarding difficulties experienced and coping strategies used to manage the impact of COVID-19, and associations with wellbeing, is presently sparse. It is important to expand the evidence base within this area, as identifying difficulties and management strategies, for people with lower and higher levels of wellbeing could potentially highlight difficulties to be addressed, and management strategies to be

endorsed, with a view to mitigating negative impacts on wellbeing. This is particularly important due to the threat of further spikes in COVID-19 infection rates (Imperial College London, 2021), as well as the proposed likelihood of future infectious disease outbreaks, that require increased preparedness (World Health Organisation, 2020).

Furthermore, existing research in this area has some methodological limitations whereby most larger scale studies are restricted to quantitative methodology and those applying qualitative methods are restricted to small sample sizes. Meanwhile, qualitative surveys have the advantage of eliciting key information in participants' own language and terminology, on a large scale (Braun et al., 2020). Therefore, participant responses provide "richness and depth, when viewed in their entirety, even if individual responses might themselves be brief" (Braun et al., 2020, p. 2). A larger scale qualitative design would therefore allow an extensive exploration of key difficulties and factors that have enabled the UK population to manage the impact of COVID-19, which could then be explored in terms of participant levels of wellbeing. Finally, a data driven approach, prevents the imposition of an existing coping struture (as in Fluharty et al., 2021) and could potentially provide new insights that would contribute to coping theory and research.

Therefore, utilising data collected as part of a larger research programme (Dawson & Golijani-Moghaddam, 2020), the aims of the present study were:

1. To qualitatively explore and categorise the aspects of COVID-19 that participants found most difficult during the initial period of lockdown in the UK (15th - 21st May 2020)

2. To qualitatively explore and categorise methods of managing the impact of COVID-19, adopted by the same participants during the same time period.

3. To explore whether difficulties and management strategies differ for those reporting higher and lower levels of wellbeing.

2. Method

2.1. Epistemological Position

The research is approached from a critical realist position which combines realist ontology and relativist epistemology (Archer, 2007). Acknowledging the existence of

varying forms of epistemology and reality enables the consideration of current theoretical positions without commitment to the extremes of either a constructivist or positivist stance. Critical realism further permits the use of a range of research methodologies (Sayer, 2000), including qualitative approaches (Braun & Clarke, 2006), whereby experience and meaning can be interpreted through assuming a unidirectional association between meaning, experience and language (Braun & Clarke, 2006; Potter & Wetherell, 1987).

2.2. Study Design

The study utilised a cross-sectional survey design.

2.3. Participants

Participant recruitment and sample size was as detailed in Dawson and Golijani-Moghaddam (2020). Participants were recruited via advertisements on reddit, Facebook, Twitter, a research recruitment site (callforparticipants.com) and via snowball sampling. Inclusion criteria was limited to participants' confirmation that they were 18 years or over, residing in the UK and consenting to participation. There was no further inclusion or exclusion criteria.

There are no clear guidelines as to an 'appropriate' sample size for qualitative surveys (Braun et al., 2020). Sample sizes for studies of this nature typically exceed those of usual qualitative studies and can range from smaller samples of around 20-49 participants to much larger samples of over 500 participants (Braun et al., 2020). It is therefore important to consider the scope and breadth of the research topic and aims, the representativeness of the sample and the potential detail and depth of participant responses (Braun et al., 2020). As the qualitative aspect of the survey was limited to two questions, potentially eliciting limited responses, the upper end of suggested sample sizes would provide a more extensive dataset of suitable scope to address the aims of the study.

2.4. Procedure

Qualtrics was used to host the survey and for data collection. Via a weblink, participants were presented with information about the study and consent form, followed by the survey. The survey comprised a range of measures, two open-response questions and collected relevant participant demographics (see Dawson & Golijani-Moghaddam [2020] for full details of survey content and measures). The

measure and open response questions relevant to this study are subsequently described. Data collection took place between 15th-21st May 2020.

2.5. Materials

2.5.1. **Open Response Questions.** To ascertain which aspects of the pandemic participants found most difficult, and what helped them to manage their impact, participants were asked the following two questions: “What would you say is the single most difficult thing for you about the current COVID-19 situation?” and “What would you say is the single most important thing helping you to manage the impact of COVID-19 on your current psychological health and wellbeing?”

2.5.2. Quantitative Measurement. The Short Warwick-Edinburgh Mental Well-Being Scale (SWEMWBS; Stewart-Brown et al., 2009) was used to measure wellbeing. This is a seven-item measure that includes cognitive, emotional, social and functional aspects of wellbeing. A five-point scale is used to rate each item (1 = “none of the time” to 5 = “all of the time”). Scores range from 7-35 with higher scores indicating better mental wellbeing. The measure is reported to have sound internal reliability ($\alpha = 0.84$) and external criterion validity (Fat et al., 2017).

2.6. Ethics

Ethical approval was obtained via the University of Lincoln research ethics board (ref: 2020-3496). Anonymity and participants’ right to withdraw was assured within the information section. Confirmation of meeting the eligibility criteria and consent was required prior to survey completion. Due to the sensitive nature of the study, participants were provided with links to relevant support services.

2.7. Data Analysis

2.7.1. Qualitative Content Analysis. Data analysis involved a mixed inductive and deductive approach. Participant responses to both open questions were analysed using QSR International’s NVivo 12 Software. Qualitative data was viewed as a cohesive dataset for coding and establishing patterns (Braun et al., 2020) and analysed following the procedure described in figure 9.

For both questions, an inductive approach, at a semantic level, was used to generate codes for ‘meaning units’ (where meaning units were participants’ exact statements)

that related to the same central category. As recommended for qualitative surveys, meaning units were not condensed to preserve the integrity of participant responses (Braun et al., 2020). Where participant statements included information that was relevant to more than one code, e.g. “positivity and caring for others’ wellbeing”, statements were coded separately i.e. “positivity” coded as ‘positivity/advantages’ and “caring for others wellbeing” coded as ‘caring for others’. There was no limit applied to the number of codes to be identified. Codes were then visually checked by all three authors. To assess inter-rater reliability, a subsample of 54 participant responses (10%) were randomly selected for double coding by the second author, with any differences of opinion resolved through discussion. Once codes were selected, these where then checked by the first author to ensure participant’s original statements were in line with the codes identified.

For both questions, an inductive approach, at a semantic level, was used to merge codes into broader categories. Categories were labelled according to the terms most reflecting the content of the codes. Where applicable, subcategories were included within overall categories for code groupings that were in accordance with boarder categories, but seemingly warranted subdivision. There was no limit to the number of categories or sub-categories to be identified.

Whilst categorising codes for participant responses regarding managing the impact of COVID-19, it is notable that the researcher had an awareness of existing theoretical models of coping. As is acknowledged by Braun (2006), “researchers cannot free themselves of their theoretical and epistemological commitments” (p. 84). Therefore, whilst categories for this question were initially explored using an inductive approach, codes seemed to loosely map on to an existing theoretical model of coping (i.e. Stanisławski, 2019). Therefore, a deductive approach was adopted when finalising categories for participants’ management methods. Categories for both difficulties and management strategies were then visually checked by all three authors and then by this first author to ensure codes were in line with the identified categories (and subcategories where applicable).

As the study aimed to categorise participants’ identified difficulties and management methods, themes of ‘difficulties’ and ‘management’ were already present. Therefore,

there was no requirement to reduced the categories into broader themes, as in some content analysis procedures (e.g. Graneheim & Lundman, 2004).

Figure 9

Content analysis procedure including examples from participant responses for management methods

Meaning Unit	Code	Category (sub category)
Example 1 “looking after myself”	Self-care	Productivity (Active Coping)
Example 2 “work”	Work	Productivity (Activity/Engagement)

2.7.2. Difficulties, Management and Wellbeing . The SWEMWBS (Stewart-Brown et al., 2009) was used to determine participant levels of wellbeing. Participants with ‘High’ levels of wellbeing were those who maintained normatively ‘average or better’ wellbeing, defined by scores placing participants in the top 50% of the UK general population, based on pre-pandemic norms (Warwick Medical school, 2021). ‘Low’ levels of wellbeing were determined by scores <17 (anchored to clinical depression). Meaning units for difficulties and management methods endorsed by participants with high and low wellbeing were then identified, along with corresponding codes, subcategories and categories.

3. Results

3.1. Participant Demographics

714 individuals accessed the survey, 684 provided consent to participation and 610 provided demographic data. A total of 554 Participants fully completed the online questionnaire (72% female, *M* age = 39.2; see Table 18 for sample characteristics).

Table 18

Sample characteristics (from Dawson & Golijani-Moghaddam, 2020)

Characteristic	*n*	%
Age: Mean 39.2 (SD 13.2; range 18-76)		
Gender		
Female	397	72
Male	143	26
Not disclosed	9	2
Non-binary/third gender	6	1
Ethnic group		
White	510	92
Mixed Ethnicity	15	3
Not disclosed	14	3
Asian or Asian British	9	2
Black or Black British	4	1
Other	3	1
Current work status		
Working from home	237	43
Unemployed	113	20
Working outside home – key worker	104	19
Furloughed	81	15
Working outside home – not key worker	13	2
Not disclosed	7	1
Current living arrangements		
With partner	310	56
With child	147	27
Alone	93	17
With parents	68	12
Other (friends, housemates, relatives)	56	10

3.2. Difficulties During COVID-19

554 participants provided statements regarding what they felt was the single most difficult aspect of the COVID-19 pandemic at that time. A total of 36 codes were generated from 646 meaning units, where some participants described more than one difficult aspect regarding COVID-19. Inter-rater reliability yielded an excellent level of agreement (weighted kappa = .925). 10 distinct categories were then generated from the identified codes. Table 19 displays example meaning units, codes and categories generated from participant responses. The difficulty most commonly reported was categorised as ‘lack of contact/support’ (32.1%), with the second most common difficulty categorised as ‘practical disruptions/changes’ (13.8%). Fewest people reported no difficulties, categorised as ‘denying difficulties/impacts’ (0.9%).

Table 19

Categories, codes, total meaning units coded and example meaning units for participant difficulties during the COVID-19 pandemic.

Category (*n*, %)	**Codes**	**Total meaning units coded (*n*)**	**Example meaning unit**
Lack of Contact/Support (*n*=207, 32.1%)	Lack of contact/support from family/friends	*n*=153	“Not seeing my family”
	Lack of contact/support from others	*n*=31	“No human contact”
	Loneliness/isolation	*n*=23	“Feeling isolated when at home”
Practical Disruptions/Changes (*n*=89, 13.8%)	Disruption to routine/activity/plans	*n*=23	“Lack of routine”
	Difficulties/Changes due to restrictions	*n*=49	“Queueing at shops”
	Increase in telephone/media contact	*n*=3	“Needing to speak on the phone far too frequently”
	Changes to ways of working/studying	*n*=12	“Working from home”
	Not working/furlough	*n*=2	“Being furloughed and having no work to do”
Risk of COVID-19 (*n*=65, 10.1%)	Risk of virus for self and others	*n*=54	“Dying leaving my family”
	Anticipation of reduction in restrictions	*n*=10	“Fear of going back to work”
	Poor healthcare system	*n*=1	“Because we have a bad health care system that’s poorly run – I wish I was living in Sweden”
Concerns for Future (*n*=56, 8.9%)	Anticipation of long-term negative impacts	*n*=4	“International relations”
	Recession/ impacts to national economy	*n*=5	“Financial issues yet to come”
	Uncertainty/worry about the future	*n*=40	“”uncertainty”
	Unable to plan/look forward to future	*n*=7	“Can’t look forward to the future”
Additional Pressures/ Responsibilities (*n*=51, 7.9%)	Additional caring responsibilities	*n*=25	“Entertaining Children”

	Maintaining routine/work despite additional pressures	*n*=13	"Home schooling whilst working from home"
	Nature of work meaning increased pressure/demand	*n*=8	"Work has become much ore demanding and isn't suited to WFH"
	Nature of work related to pandemic	*n*=5	"Working compiling swab results and deaths"
Frustrations with Others (*n*=48, 7.4%)	Government handling of the situation	*n*=15	"Confusing government messages and evidence it is being handled badly"
	Disagreement with restrictions	*n*=5	"Idiotic lockdown"
	Blaming others/frustrations with others' behaviour	*n*=14	"Watching others breaking the rules"
	Media and social media reports	*n*=9	"Press reporting and ill informed views of public posting on social media"
	Overemphasis on pandemic	*n*=3	"How its all that most people want to talk about"
	Work management	*n*=1	Leaders at work"
	Depersonalisation	*n*=2	"Made me feel undervalued and insignificant . I am in the vulnerable but not very vulnerable group"
Practical Resources (*n*=47, 7.3%)	Job/ financial loss	*n*=29	"Becoming unemployed and losing all my income"
	Living situation	*n*=18	"The fact that I'm trapped in an unpleasant living situation"
Impact on Emotional/ Physical Wellbeing (*n*=47, 7.3%)	Health/mental health/wellbeing management	*n*=20	"Has affected my mental illness"
	Feelings of failure	*n*=3	"It's stressful as I feel like I'm not going to do as well and keep getting upset and feeling I'm a failure"
	Low motivation/concentration	*n*=10	"Finding motivation to get out of bed and do something productive"
	Unhelpful coping strategies	*n*=1	"Alcohol consumption"
	Lack of control/purpose or helplessness	*n*=13	"Feeling of helplessness"
Impact on Others (*n*=29, 4.5%)	Concerns for impact on others	*n*=15	"My concern for those living and working in difficult conditions"
	Inability to care for/support others	*n*=14	"Unable to see my elderly sick mother"
Denying Difficulties/ Impacts (*n*=6, 0.9%)	Denying difficulties or impacts	*n*=6	"I don't find the current situation particularly difficult"

3.3. Managing the Impact of COVID-19

554 participants provided statements regarding what they felt was the single most important thing helping them manage the impact of COVID-19. A total of 45 codes were generated from 726 meaning units, where some participants described more than one factor helping them manage the impact of COVID-19. Inter-rater reliability yielded an excellent level of agreement (weighted kappa = .925). Eight distinct categories were then generated from the identified codes, and loosely mapped onto the circumplex model of coping (Stanisławski, 2019) with some variation in category labels (see Appendix B). Table 20 displays example meaning units, codes, sub-categories and categories generated from participant responses. The most commonly reported factor related to management methods was categorised as ‘positive emotional coping’ (56.6%), with the second most commonly reported factor categorised as ‘proactivity’ (28.6%). Fewest people reported factors categorised as ‘criticism’ (0.6%).

Table 20

Categories, subcategories, codes, total meaning units coded and example meaning units for participant management methods during the COVID-19 pandemic.

Category (*n*, %)	**Sub Categories (*n*, %)**	**Codes**	**Total meaning units coded (*n*)**	**Example meaning unit**
Positive Emotional Coping (*n*=398, 56.6%)	Support/ Connection with others (*n*=241, %)	Acknowledging collective experience	*n*=6	"The fact that we are all in this together"
		Family or friends contact or support	*n*=192	"Video calling family and friends"
		Contact or support from others	*n*=24	"Talking with others"
		Religion, faith or spiritual beliefs	*n*=6	"my Christian faith"
		Professional psychological support	*n*=4	"counselling"
		Pets	*n*=9	"my dog"
	Seeing Positives or positive reframing (*n*=157, %)	Positivity/advantages	*n*=54	"the positives of lockdown"
		Gratitude/thankfulness/gratefulness	*n*=27	"gratitude"
		Lack of change/disruption	*n*=3	"5/7 days my life hasn't changed at all"
		Financial/employment security	*n*=19	"At least I have some sort of income"
		Weather	*n*=8	"warm weather
		Government restrictions	*n*=2	"being able to remain at home and not worry about contracting the virus on a day to day basis"
		Humor	*n*=2	"Jokes. So many jokes"
		Comparison with previous experience	*n*=14	"Having been through much worse in the past"
		Comparison with others' situation	*n*=5	"Knowing others are worse off"
		Focus on end or future	*n*=23	"The belief that it will all end eventually"
Proactivity (*n*= 198, 28.2%)	Activity/Engagement (*n*=172, %	Work	*n*=29	"Setting up own business"
		Exercise	*n*=39	"Exercise"
		Routine/structure	*n*=17	"routine"
		Doing something worthwhile	*n*=1	"Doing something I believe to be worthwhile"
		Other activity	*n*=47	"Crafts"
		Caring for others	*n*=39	"Caring for others wellbeing"
		Present moment awareness	*n*=4	"Staying present in the moment"

	Active Coping (*n*=26, %)	Self care	*n*=18	“Looking after myself”
		Active attempts to cope	*n*=4	“Trying to remain calm and normal”
Experiential Avoidance (*n*=54, 7.7%)	N/A	Distraction	*n*=27	“Distracting activities”
		Distraction via media	*n*=8	“Media streaming services -they are a good distraction”
		Avoidance	*n*=2	“Trying not to think about it”
		Avoiding media or reports	*n*=13	“Not watching the news”
		Substance use	*n*=4	“Alcohol”
Problem Solving (*n*=23, 3.3%)	N/A	Following advice or taking responsibility	*n*=21	“Avoiding public spaces”
		Preparation/planning	*n*=2	“Preparing for it early”
Denial or Disengagement (*n*=19, 2.7%)	N/A	Dismissing the situation/risk	*n*=9	“I think it’s over stated
		Denying need for support	*n*=2	“I don’t need to manage. Its totally fine. Just getting on with things”
		Introversion	*n*=7	“Being an Introvert
		Using fantasy to perceive past and future realities	*n*=1	“In the immortal word from battle star Galactica - all of this has happened before, and will happen again”
Helplessness (*n*=15, 2.1%)	N/A	Statement of negative impact	*n*=6	“I’m shielding so can’t go out or have visitors”
		Disengagement with trying to cope	*n*=4	“Nothing is helping”
		Denying personal ability/responsibility to improve situation	*n*=2	“Having the belief that we’re all going to get it at some point, and noting we can to avoid it”
		Medication	*n*=2	“Antidepressants”
		Nothing identified	*n*=1	“Not Sure”
Focus on Problem and attempts to control (*n*=15, 2.1%)	N/A	Seeking information about the situation	*n*=12	“Listening to facts from professional sources”
		Seeking control	*n*=3	“Controlling what I can has helped”
Criticism (*n*=4, 0.6%)	N/A	Criticism of government	*n*=2	“Self-determination not to be quick to believe the government”

	Criticising media	*n*=2	“They (media) focus on drama, always the worst in everything and never report any positive”

3.4. Difficulties and Wellbeing During COVID-19

103 participants were identified as having low levels of wellbeing, with 123 codes endorsed by those participants regarding the most difficult aspect of COVID-19. 106 participants were identified as having high levels of wellbeing, with 116 codes endorsed by those participants regarding the most difficult aspect of COVID-19. The most commonly endorsed category was ‘lack of contact/support’ for both groups (low [24.4%] and high [39.7%]) wellbeing), although this was more common for those with high levels of wellbeing. The second most commonly endorsed category was ‘practical disruptions/changes’ for those with low (14.6%) and high (12.1%) wellbeing, although this was more common for those with low levels of wellbeing. The least commonly endorsed category was ‘denying difficulties/impacts’ for the group with low wellbeing scores (0%), and ‘impact on emotional and physical wellbeing’ for those with high wellbeing scores (1.7%). Table 21 displays the number of codes and categories for difficulties endorsed by those with high and low levels of wellbeing.

Table 21

Codes and categories for difficulties during the COVID-19 pandemic, endorsed by participants with the lowest and highest levels of wellbeing.

Category (*n*, %)	**Codes**	**Total Codes (*n*)**		**Total Category (*n* [%])**	
		Low Wellbeing	**High Wellbeing**	**Low Wellbeing**	**High Wellbeing**
Lack of Contact/Support	Lack of contact/support from family/friends	15	39	30 (24.4%)	46 (39.7%)
	Lack of contact/support from others	5	5		
	Loneliness/isolation	10	2		
Practical Disruptions/Changes	Disruption to routine/activity/plans	7	3	18 (14.6%)	14 (12.1%)
	Difficulties/Changes due to restrictions	8	10		
	Increase in telephone/media contact	1			
	Changes to ways of working/studying	1	1		
	Not working/furlough	1			
Risk of COVID-19	Risk of virus for self and others	8	6	11 (8.9%)	8 (6.9%)
	Anticipation of reduction in restrictions	3	2		
Concerns for Future	Anticipation of long-term negative impacts	1	1	11 (8.9%)	9 (7.8%)
	Recession/ impacts to national economy	1			
	Uncertainty/worry about the future	7	7		
	Unable to plan/look forward to future	2	1		
Additional Pressures/ Responsibilities	Additional caring responsibilities	2	6	9 (7.3%)	9 (7.8%)
	Maintaining routine/work despite additional pressures	4	2		
	Nature of work meaning increased pressure/demand	2			
	Nature of work related to pandemic	1	1		
Frustrations with Others	Government handling of the situation	4	1	11 (8.9%)	9 (7.8%)
	Disagreement with restrictions	2			

	Blaming others/frustrations with others' behaviour	3	4		
	Media and social media reports	1	3		
	Overemphasis on pandemic		1		
	Work management	1			
Practical Resources	Job/ financial loss	10	4	16 (13.0%)	7 (6.0%)
	Living situation	6	3		
Impact on Emotional/ Physical Wellbeing	Health/mental health/wellbeing management	7	2	13 (10.6%)	2 (1.7%)
	Low motivation/ concentration	3			
	Lack of control/purpose or helplessness	3			
Impact on Others	Concerns for impact on others	2	6	4 (3.3%)	8 (6.9%)
	Inability to care for/support others	2	2		
Denying Difficulties/ Impacts	Denying difficulties or impacts		4	0 (0%)	4 (3.4%)

3.5. Managing the Impact of COVID-19 and Wellbeing

For participants with low levels of wellbeing (*n*=103), 113 codes were endorsed by 103 participants, regarding factors helping them manage the impact of COVID-19. 144 codes were endorsed by 106 participants with high levels of wellbeing. The most commonly endorsed category for managing impacts was ‘positive emotional coping’ for those with low (48.7%) and high (65.3%) levels of wellbeing, although this was more common for those with high levels of wellbeing. The second most commonly endorsed category was ‘proactivity’, although this was more commonly endorsed by participants with low wellbeing scores (31.9%) than those with high wellbeing scores (15.3%). The least commonly endorsed categories (0.9%) for participants with low levels of wellbeing were ‘problem solving’, ‘denial or disengagement’ and ‘criticism’. The least commonly reported categories (0.7%) for participants with high levels of wellbeing were ‘helplessness’ and ‘criticism’. Table 22 displays the number of codes and categories for coping endorsed by those with high and low levels of wellbeing.

Table 22

Codes and categories for management methods during the COVID-19 pandemic, endorsed by participants with the lowest and highest levels of wellbeing.

Category	Sub Category	Codes	Total Codes (*n*)		Total Category (*n* [%])	
			Low Wellbeing	High Wellbeing	Low Wellbeing	High Wellbeing
Positive Emotional Coping	Support/ Connection with others	Acknowledging collective experience	3	1	55 (48.7%)	94 (65.3%)
		Family or friends contact or support	28	42		
		Contact or support from others	2	5		
		Religion, faith or spiritual beliefs	1	4		
		Professional psychological support	1			
		Pets	5			
	Seeing Positives or positive reframing	Positivity/advantages	1	14		
		Gratitude/thankfulness/gratefulness	4	10		
		Financial/employment security	4	4		
		Weather	2	2		
		Government restrictions	1			
		Humor		1		
		Comparison with previous experience		4		
		Comparison with others' situation		2		
		Focus on end or future	3	5		
Proactivity	Activity/Engagement	Work	3	4	36 (31.9%)	22 (15.3%)
		Exercise	8	6		
		Routine/structure	3	3		
		Doing something worthwhile				
		Other activity	12	3		
		Caring for others	7	2		
	Active Coping	Present moment awareness		1		
		Self care	3	3		
		Active attempts to cope				

Experiential Avoidance	N/A	Distraction	4	5	11 (9.7%)	8 (5.6%)
		Distraction via media	4			
		Avoiding media or reports	2	3		
		Substance use	1			
Problem Solving	N/A	Following advice or taking responsibility	1	8	1 (0.9%)	9 (6.25%)
		Preparation/planning		1		
Denial or Disengagement	N/A	Dismissing the situation/risk		3	1 (0.9%)	6 (4.7%)
		Denying need for support		1		
		Introversion	1	2		
Helplessness	N/A	Disengagement with trying to cope	3	1	5 (4.4%)	1 (0.7%)
		Medication	1			
		Nothing identified	1			
Focus on Problem and attempts to control	N/A	Seeking information about the situation	3	2	3 (2.7%)	3 (2.1%)
		Seeking control		1		
Criticism	N/A	Criticism of government		1	1 (0.9%)	1 (0.7%)
		Criticising media	1			

4. Discussion

4.1. Difficulties During COVID-19

The study identified 10 distinct categories for ‘difficulties’ during COVID-19. The most frequently reported difficulty was categorised as ‘lack of contact/support’. Participants with self-reported high and low levels of psychological wellbeing also most commonly reported difficulties within the ‘lack of contact/support’ category. Social isolation is also a common theme reflected within existing literature (Carpentieri et al., 2020) aiming to explore UK participants’ experiences of the pandemic.

The present findings seemingly indicate that being separated from family, friends or other social networks, as a result of the pandemic, is a universally difficult experience for those living within the UK, regardless of overall wellbeing. However, a lack of contact/support was reported less frequently for people with low wellbeing, compared to those with high wellbeing. The existing literature demonstrates associations between social support and improved wellbeing outcomes (Sommerlad et al., 2021; Taylor & Stanton, 2007). It may therefore be that participants with higher wellbeing draw on this resource more frequently, and are therefore more likely to acknowledge the negative effects of restricted social interaction. Nevertheless, research indicates that social isolation and distancing measures, introduced to curtail the transmission of COVID-19, can lead to negative impacts for mental health and wellbeing (Williams et al., 2020). Therefore, efforts must be made to mitigate the impacts of restricted social contact due to the proposed associations with wellbeing outcomes.

Interestingly, people within the low wellbeing group reported more statements that were coded as ‘loneliness/isolation’ (within the lack of contact/support category) compared with the high wellbeing group. This seems to highlight a nuance between the statements made by those with low versus high wellbeing captured within this categ*ory.* For instance, loneliness can be defined as a *“*distressing feeling that accompanies the perception that one’s social needs are not being met by the quantity or especially the quality of one’s social relationships” (Hawkley & Cacioppo, 2010, p. 218). This goes beyond merely an absence of contact, and instead describes perceptions of ‘connectedness’ to others. As such, perceived connectedness (or loneliness), within the context of the pandemic, may be related to wellbeing outcomes and could carry important public health implications. This seems to warrant further exploration and provides an opportunity for further research.

The second most reported difficulty for people with low wellbeing, high wellbeing and overall was categorised as ‘practical disruptions/changes’. All other categorised difficulties, with the exception of ‘denying difficulties/impact’ and ‘impact on others’, were endorsed more frequently by participants with lower wellbeing scores than those with higher wellbeing scores. It seems surprising that those with lower wellbeing would be unable to identify difficulties with regards to the pandemic. Furthermore, it may be that people with poorer wellbeing may have fewer available resources to consider the impacts for others. The third most frequently reported difficulty for participants with low wellbeing was ‘practical resources’, although this was not the case for those with high wellbeing. This category mostly comprised comments coded as ‘job/financial loss’, followed by ‘living situation’. This seems to reflect the literature regarding the association between financial concerns and poorer wellbeing outcomes (Wolfe & Patel, 2021; Zavlis et al., 2021).

Due to the threat of future ‘waves’ of COVID-19 infection (Imperial College London, 2021), and the likelihood of future infectious disease outbreaks (World Health Organisation, 2020), it is recommended that the difficulties identified within the present study are carefully considered, particularly the potential to alleviate them. Of notable importance is the need address difficulties regarding social contact and support, and more specifically to increase people’s perceived connectedness with others. More extensive research is needed to assess the relationship between these key difficulties and wellbeing due to the relevance for public health within the UK.

4.2. Managing the Impact of COVID-19

The study identified eight categories for methods used to manage the impact of COVID-19. During analysis, categories seemed to loosely map on to those proposed within the circumplex model of coping (Stanisławski, 2019). Therefore, this model was used to finalise the eight categories, although some category labels within the present study were adapted to reflect the present data (see Appendix N). Consequently, the study adds to the existing literature and theory around coping generally by providing some support for the circumplex model. The study also highlights the potential relevance of the model within the context of managing the impacts of COVID-19 and offers an alternative framework, compared to the model used by Fluharty et al. (2021), for understanding and identifying coping styles within this context. Importantly, the

categories identified within this study were closely derived from the data, rather than imposing a coping structure (as in Fluharty et al., 2021), and therefore may provide insights regarding managing the impact of COVID-19 that are more reflective of participants' true coping methods. Therefore, future researchers may wish to expand on the current findings by exploring the relevance of the circumplex model of coping within the COVID-19 context.

Regarding management strategies adopted by participants, 'positive emotional coping' was the most frequently endorsed category overall. This mostly comprised comments coded as 'family or friends contact or support'. This was also the most commonly endorsed category for both wellbeing groups, again with statements coded as 'family or friends contact or support' forming the majority codes within this category. Despite this, supportive forms of coping are said to relate to better wellbeing outcomes in the longer-term (Fluharty et al., 2021), therefore differences in wellbeing groups may likely be observed over a longitudinal period.

Interestingly, social support is not ascribed to any of the categories within the circumplex model (Stanisławski, 2019). Other coping structures (Carver et al., 1989) distinguish between social support functioning to serve either instrumental or emotional purposes, assigning social support to both problem-focused and emotion-focused coping categories respectively. Instrumental purposes concern "actions or materials provided by others that enable the fulfilment of ordinary role responsibilities" whereas, emotional purposes concern "assertions or demonstrations of love, caring, esteem, sympathy, and group belonging" (Thoits, 1986, p. 417). Within the present study, the limited content within most participant responses meant that it was not possible to identify the function of social support and make this distinction. However, considering the level of restrictions imposed at the time, it seemed less likely that instrumental actions or resources could be provided by social networks and more likely that social support was functioning as a form of emotional coping. It was therefore felt that codes related to social contact or support should be considered a positive form of emotional coping and were therefore assigned to this category. However, further research is needed to determine where social support lies within coping style structures. Nevertheless, regardless of category, social contact seems particularly important as a coping resource, as is consistently acknowledged within the literature (Fluharty et al., 2021; Taylor & Stanton, 2007; Thoits, 2010). Therefore, it is

recommended that efforts are made to facilitate social connectedness and support as a form of coping with the pandemic, as this could potentially lead to improved wellbeing outcomes.

The second most commonly endorsed management category was ‘proactivity’. This was true for participants overall and both wellbeing groups. Therefore, it seems engagement in activities is also important in enabling people to cope with the pandemic and is also predictive of lower levels of distress (Stanisławski, 2019). Again, it is necessary to consider how facilitating this form of coping might be achieved, whilst managing infection rates through various restrictions.

The third most commonly endorsed management category was ‘experiential avoidance’ for participants overall, including those with low wellbeing. However, the third most commonly reported coping category for those with high wellbeing was ‘problem solving’. Therefore, it seems that those with high wellbeing are more likely to actively attempt to address the difficulties associated with the pandemic, whereas those with low wellbeing were more likely to avoid acknowledging or tackling these difficulties. This seems to reflect ‘approach-coping’ and ‘avoidance-coping’ styles (Roth & Cohen, 1986). It should be recognised that ‘experiential avoidance’ and ‘problem solving’ comprise small percentages of coping categories endorsed for those with low (9.7%) versus high (6.25%) wellbeing respectively. Nevertheless, the negative association of avoidance-coping and positive association of approach-coping with healthier wellbeing, particularly over time, is already acknowledged with existing literature (Dawson & Golijani-Moghaddam, 2020; Penley et al., 2002; Rippetoe & Rogers, 1987; Shamblaw et al., 2021; Taylor & Stanton, 2007). It may therefore be that promoting and facilitating approach coping in response to the pandemic could lead to improved wellbeing outcomes for people living within the UK, as found in other countries (e.g. Shamblaw et al., 2021). This could potentially carry important public health implications and requires further research.

4.3. Limitations

There several limitations to the present study. Firstly, the sample predominantly comprised participants who were female and of white ethnicity. Therefore the sample does not reflect the diversity within the UK general population. Furthermore, the online nature of the study means that those with limited access to technology are

underrepresented. Nevertheless, online surveys have the advantage of allowing participants to respond more ‘openly’, due to preserved anonymity, where other qualitative methods, such as interviews, might elicit responses confounded by social desirability (Braun et al., 2020).

As with all qualitative research, data analysis is subject to researcher bias and subjectivity. However, this was somewhat addressed through inter-rater-reliability and visual checks by the second and third authors.

Finally, the cross-sectional design of the study meant that difficulties, coping and wellbeing was explored at a single timepoint and no statistical analysis of associations was undertaken. As such, there is a need for more prospective longitudinal studies to determine the nature and direction of any potential relationships. This would also prevent a common-method bias that may affect responses generated at a single timepoint. This could be particularly relevant as certain coping strategies are related to shorter term wellbeing benefits, whereas others are proposed to lead to more positive wellbeing outcomes in the longer-term (Fluharty et al., 2021; Lazarus & Folkman, 1987; Penley et al., 2002).

4.4. Conclusions

The most difficult aspect of COVID-19 for participants was categorised as lack of contact or support from others. Loneliness or isolation was endorsed more frequently for those with low levels of wellbeing compared to those with high wellbeing within this category. Therefore, perceived connectedness (or loneliness), within the context of the pandemic, may be related to wellbeing outcomes and requires further research, particularly due to the potential public health implications. Categories identified for managing the impact of COVID-19 seemed to loosely reflect the circumplex model of coping. Therefore, the findings highlight a potential framework for understanding coping styles within the context of COVID-19. Positive emotional coping was the most frequently endorsed category for managing the impact of COVID-19. This mostly comprised comments coded as family or friends contact or support. Therefore, it is recommended that efforts are made to facilitate social connectedness and support as a form of coping with the pandemic. Finally, participants with higher wellbeing more frequently endorsed management strategies categorised as problem solving and participants with low wellbeing more frequently endorsed management strategies

categorised as experiential avoidance. This seems to reflect approach and avoidance coping styles that existing literature finds positively and negatively relate to healthy wellbeing respectively. Therefore, facilitating approach coping in response to the pandemic could lead to improved wellbeing outcomes and warrants further exploration.

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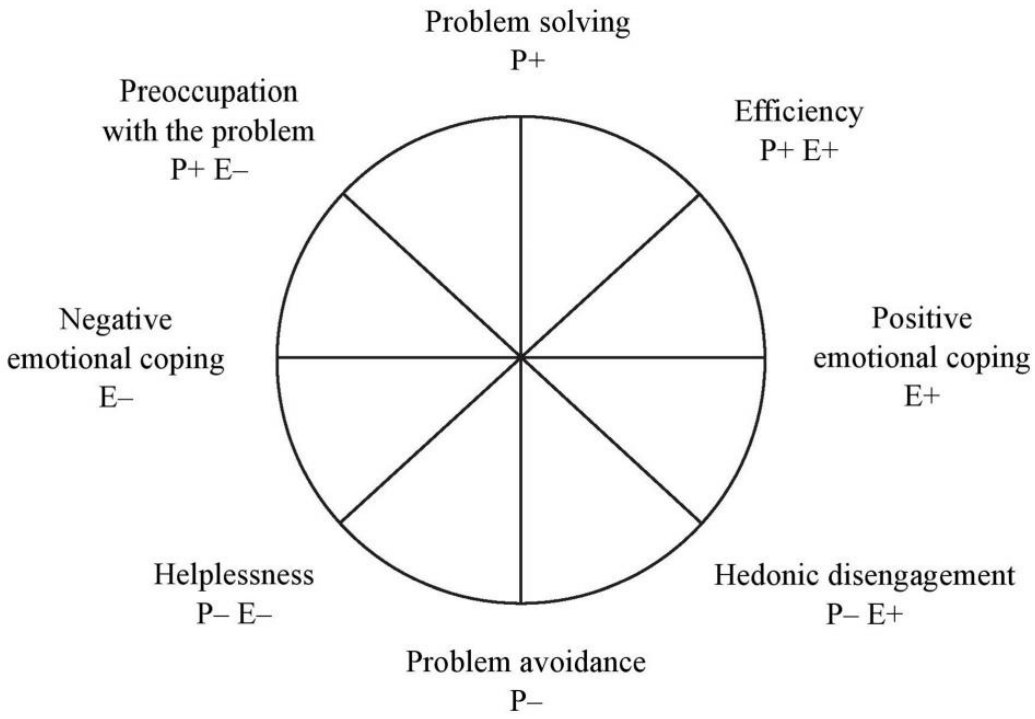
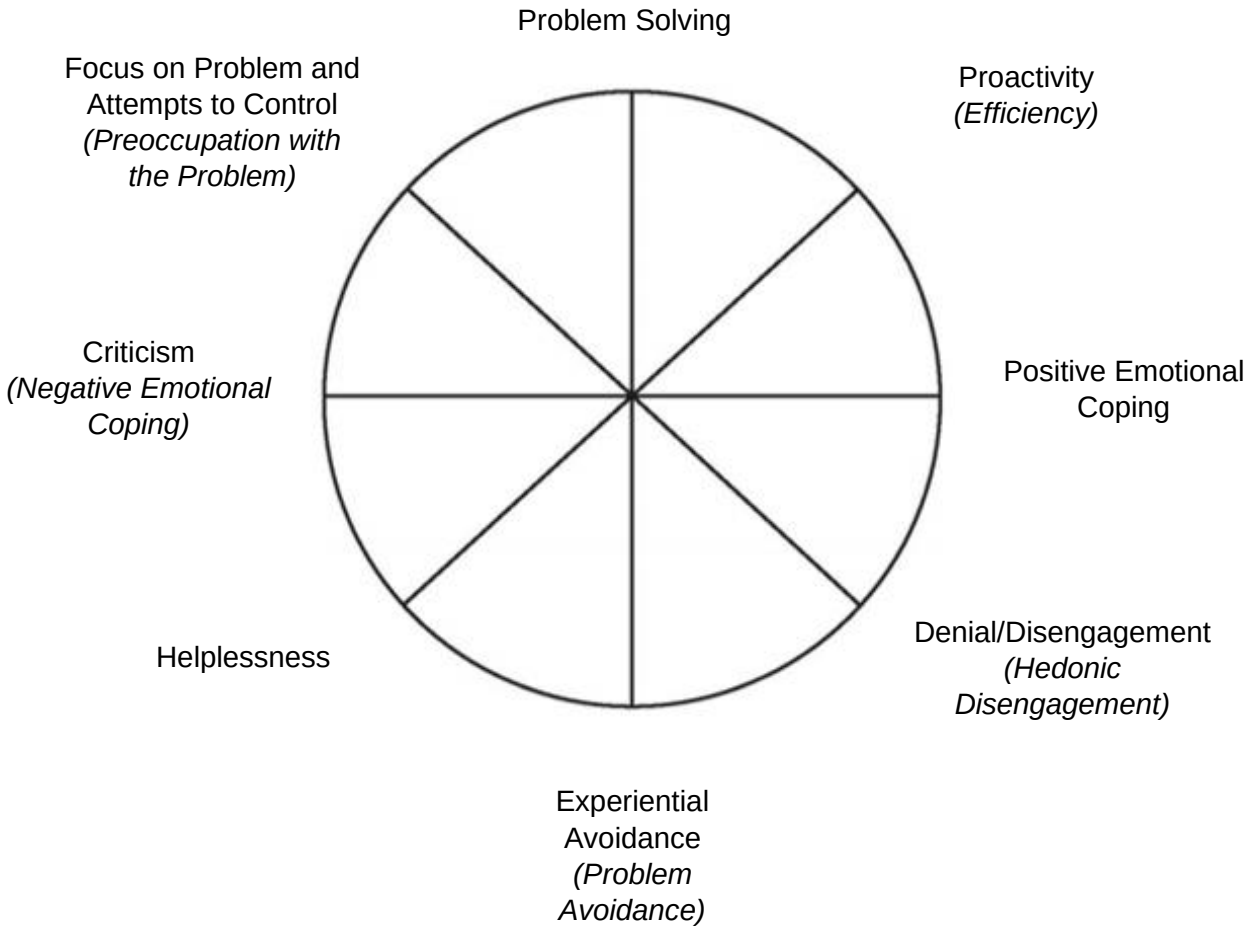
6. Appendices

Appendix M – Circumplex Model of Coping (Stanisławski, 2019)



Appendix N: **Categories for managing the impact of COVID-19, Adapted from the Circumplex Model of Coping (Stanisławski, 2019)**



Note: Labels in parentheses represent original labels within the Circumplex Model of Coping (Stanisławski, 2019)