THE UNIVERSITY OF HULL

The cost of caring among healthcare professionals: the development of compassion fatigue and preventative measures and interventions for burnout

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A. Overview

This portfolio thesis is comprised of three parts:

Part I is a systematic literature review of empirical papers investigating preventative strategies and interventions for burnout among healthcare workers. The idea was borne out of a recommendation in the independent *NHS Health and Well-being Review* (DoH, 2009a) commissioned by the Department of Health and led by Dr Stephen Boorman, that there should be access to effective interventions for mental health problems faced by NHS staff in all NHS Trusts.

Part II is an empirical paper that has also arisen from a recommendation of the Boorman Review (DoH, 2009a), namely that the NHS should adopt a prevention-focused health and well-being strategy for staff. To help enable this, a clearer understanding of how healthcare professionals come to experience difficulties in the course of their work is required. To further this understanding a quantitative test was applied to the Positivity Negativity Ratio Model of the development of Compassion Satisfaction and Compassion Fatigue proposed by Radey & Figley (2007) as applied to mental health workers.

Part III comprises the appendixes with additional information relevant to the systematic literature review and empirical paper, and a reflective statement of the research process.

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Part I: Systematic Literature Review

Interventions and preventative strategies for burnout among healthcare professionals: a systematic literature review

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This paper is written in the format ready for submission to Clinical Psychology Review.

Please see Appendix A for the Guidelines for Authors.

8746 words

(excluding abstract, figures, tables and references)

Abstract

This paper is a systematic review of empirical papers investigating preventative strategies and interventions for burnout among healthcare workers. The idea was borne out of a recommendation in the independent *NHS Health and Well-being Review* (Department of Health, 2009a) commissioned by the Department of Health and led by Dr Stephen Boorman, that is that there should be access to effective interventions for mental health problems faced by NHS staff in all NHS Trusts.

11 studies were included in the review which covered interventions ranging from brief psycho-education, peer-support, intensive residential courses involving individual counselling sessions and whole team-based interventions. Participants both within and between studies included a wide variety of healthcare professionals who worked in a variety of specialities and settings.

Intensive residential courses for self-referring nurses and medics produced long-lasting reductions for those with initially high levels of burnout. Peer-support interventions were also valuable. The interventions reviewed tended to include more than one component and so future research should concentrate on determining which components of the interventions are most useful for which groups of healthcare professionals.

Keywords:

Burnout
Intervention
Healthcare

Introduction

Recent years have seen a flurry of government commissioned reviews and policies concerned with the health and well-being of working age adults in the UK, along with visions for a better quality NHS for its patients and its workforce. *A High Quality Workforce* (DoH, 2008a) and Lord Darzi's *High Quality Care for All* (DoH, 2008b) are two examples of this.

The independent *NHS Health and Well-being Review* (DoH, 2009a) led by Dr Stephen Boorman followed Dame Carol Black's report *Working for a healthier tomorrow* (DoH, 2008c). The Boorman Review (DoH, 2009a) argued that the health and well-being of NHS staff should be a central consideration and acknowledged at all levels of NHS operation. The NHS is one of the largest employers in the world and its workforce is responsible for the delivery of the majority of healthcare in the UK. Therefore a convincing case is presented that addressing staff health and well-being is not only an ethical obligation, but that there are also financial and performance benefits associated. Indeed, the former Secretary of State for Health, Andy Burnham, summarised this well in his response to the Boorman Review (DoH, 2009a) when he wrote that, "What is good for staff is good for patients" (DoH, 2009b, p. 2) and, "A healthy nation starts with a healthy NHS" (DoH, 2009b, p. 3).

According to the Absence Management survey conducted by the Chartered Institute of Personnel and Development in 2009 cited in the Boorman Review (DoH, 2009a) NHS staff have more sickness absence (an average of 10.7 days) than those in the public sector (9.7 days) and they are at greater risk of contracting a work-related illness than non-health workers (RAND Europe and Aston Business School, 2009a). In 2007/2008 almost 40% of NHS staff absences in England were

accounted for by stress, depression and anxiety, which is more than reported by other groups of workers (RAND Europe and Aston Business School, 2009a, p. 33), and of those who responded to the Staff Perception Survey (RAND Europe and Aston Business School, 2009b) commissioned by the Boorman Review over half reported feeling more stressed than usual. Those who had been employed by the NHS for "a long time" reported higher levels than those recruited more recently (DoH, 2009a, p. 34).

The Department of Health pledged to "provide support and opportunities for staff to maintain their health, well-being and safety" in the NHS Constitution (DoH, 2010, p. 10) and in his response to the Boorman Review (DoH, 2009a) the former Secretary of State acknowledged that "the NHS cannot afford not to invest in the health and well-being of its staff" (DoH, 2009b, p. 1). Furthermore, he agreed that the Department of Health would accept the recommendations that were outlined by the review, including the adoption of a prevention-focused health and well-being strategy for staff and that there should be access to effective interventions for mental health problems in all Trusts.

Burnout

Burnout shares some of the symptoms of stress, depression and anxiety and has received significant attention in the literature regarding those working in helping professions. Thus it has important implications for the health and well-being of NHS staff. By 1986 the 39th World Health Assembly adopted a Resolution on the Prevention of Mental, Neurological and Psychosocial Disorders (WHA39.35). This was to include consideration of what was termed "staff burnout syndrome", thus further demonstrating its importance in the context of creating a healthy

workforce. By then discussions of work-related stress which originated in the business and industry sectors had already begun to be extended to those working within the helping professions. The first to use the term "burnout" in relation to this group was a psychiatrist named Freudenberger (1974). Whilst working in a drug addictions clinic in New York he noted that over the course of a year initially "dedicated and committed" (Freudenberger, 1974, p. 74) volunteers exhibited a reduction in their motivation, idealism and commitment.

Definition

One of the most commonly used conceptualisations of burnout comes from the work of Christina Maslach and colleagues. Maslach conducted interviews with 76 staff members in a variety of mental health facilities across San Francisco (Pines & Maslach, 1978) and later conceptualised burnout as "a syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind" (Maslach & Jackson, 1986, p. 1). Most authors agree that burnout does not occur instantaneously but some place more emphasis than Maslach on burnout being a process and something that can be experienced to a greater or lesser extent, rather than it existing as a simple dichotomy of present or absent (Figley, 1995; Hallsten, 1993; Pines & Aronson, 1988).

Schaufeli and Enzmann (1998) reviewed all of the research up until 1996 in the area of burnout. They summarised the many documented consequences of burnout as falling into five domains: affective, cognitive, somatic, behavioural and motivational, noting that these consequences can exist at an individual, interpersonal or organisational level.

At an individual level, affective symptoms of depression, anxiety, frustration, anger and tension can exist. Sufferers can experience cognitive symptoms such as feeling helpless, hopeless and powerless, a sense of failure, reduced concentration and memory loss. Somatic symptoms include aches, poor sleep, reduced appetite, cardiovascular or gastrointestinal problems, and the worsening of existing health conditions. Risk taking, addictions and impulsive and compulsive behaviours have been seen to increase among those with high levels of burnout, as well as withdrawal from their usual interests. Finally, motivational manifestations have been noted to include disillusion, disappointment and a loss of idealism.

Evidently such symptoms can cause difficulties at an interpersonal level both with family and colleagues, but also with the clients that the individual intended to 'help' through, for example, decreased empathy for their clients. At an organisational level problems with low morale, absenteeism and increased rigidity have been observed (Shaufeli & Enzmann, 1998).

The above is evidence that burnout has particular relevance to the health and well-being of healthcare staff and, therefore, it clearly must be considered in the design of any initiatives aimed at improving well-being among this group.

Related concepts

Other concepts exist within the literature that refer to the negative consequences of working in a helping profession, particularly of working with the traumatised. These concepts include Vicarious Traumatisation (VT), Compassion Fatigue (CF) and Secondary Traumatic Stress (STS) and they have often been used interchangeably and inconsistently creating a lack of clarity within the research.

VT refers to changes in a worker's belief system that occur as a result of empathic engagement during work with the traumatised. That is, their beliefs about safety, power and independence are negatively disrupted over time as a result of hearing the traumatic experiences of others (e.g. McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995).

In STS, symptoms that parallel Post Traumatic Stress Disorder are seen (e.g. intrusive thoughts, avoidance and fear) despite the worker not having experienced the trauma firsthand. The onset of STS is usually sudden and occurs after exposure to details of a traumatic event (Figley, 1995). Those who work with the traumatised are seen as particularly at risk of STS, as are the friends and family of the traumatised (Figley, 1995; Pearlman & Saakvitne, 1995).

Later, Figley (1995) chose to use the term CF instead of STS deeming it to be less stigmatising. He argued that CF emerges cumulatively following exposure to clients' suffering over a period of time and therefore is often thought of as limited to those in caring professions (Elwood, Mott, Lohr & Galovski, 2011). CF results in a reduction in the helper's capacity to extend empathy towards their clients. Furthering the conceptual ambiguity that exists, Stamm (2010) views CF as incorporating both STS and burnout.

Interventions

Whilst not limited to the helping professions, some studies suggest that burnout is particularly prevalent among this group (e.g. Maslach & Jackson, 1984). Therefore, in order to provide comprehensive access to effective interventions for mental health problems in all NHS Trusts as recommended by the Boorman Review (DoH, 2009a), it is necessary to know what the effective interventions for burnout among

healthcare workers that Trusts can implement are. Indeed the Boorman Review recommended that "the evidence base on effective interventions be strengthened" (DoH, 2009a, p. 34) and Dame Black's report called for similar (DoH, 2008c).

Shaufeli and Enzmann (1998) provide a helpful way in which to think about interventions for burnout by classifying them along two axes: 1) focus and 2) purpose. The focus can either be an individual level, the organisational level or at the interface of the individual and the organisation. The purpose may be for simple identification, for primary or secondary prevention, or for treatment or rehabilitation.

Previous reviews of interventions

Following the 39th World Health Assembly's adoption of Resolution WHA39.35, the World Health Organisation Division of Mental Health (1998) published a review titled "Guidelines on the Prevention of Staff Burnout" (WHO/MNH/MND/94.21). Largely based on work by Cherniss (1980), the publication proposed some general recommendations for the prevention of burnout in terms of staff development (e.g. reduce workers demands on themselves by encouraging them to adopt more realistic goals), management development (e.g. create monitoring systems for supervisory personnel and give them regular feedback on their performance), policy and goals (e.g. develop a strong, distinctive guiding philosophy), and jobs and role structure (e.g. limit the number of clients on a worker's caseload). Although this provided a useful starting point the advice was limited to mental health professionals and carers of people with mental health issues and it was also not based on their own systematic review of the literature. In addition, it is also important to consider the effects of intervention and remediation strategies (i.e.

for those who are already experiencing high levels of burnout). Where burnout is experienced despite the preventative measures there should be help available for those affected.

Review aims

The main aim of the current paper was to conduct an up-to-date systematic literature review to determine the nature and effectiveness of preventative measures and interventions for burnout among healthcare workers. The findings of the review could then be used to inform those responsible for the well-being of workers in modern healthcare settings of the range of options available when considering strategies to maintain a healthy workforce. Specifically, the following questions were asked:

1. What preventative measures or interventions for burnout have previously been implemented for healthcare workers?
2. How effective were the preventative measures and interventions and what factors were related to their effectiveness?
3. How did the researchers conceptualise burnout?
4. How did the researchers measure burnout?
5. How do the results differ between those working in physical healthcare and those from mental health settings?
6. What are the common limitations and methodological issues of the research in this area?

Method

Search strategy

Databases

An electronic search was completed using the CINAHL® Plus with Full Text, Academic Search Elite, PsycINFO, MEDLINE, and PsycARTICLES bibliographic databases to provide comprehensive access to relevant subject journals. Ebsco Host was used to facilitate this and, where the option was available, the search criteria were limited to scholarly (peer-review) journals, journal articles published in the English language, and studies involving only human participants.

Search terms

Titles of articles were searched using the terms *burnout, interven*,* and *prevent*.* Asterisk (*) truncation was used to widen the results where terms may have multiple endings*.* Terms such as *VT*, *CF*, *STS*, *stress* and *well-being* were not included as they refer to qualitatively different concepts as discussed on pages 13 and 14 and would reduce the specificity of the search. No exclusion terms were used in case this reduced the sensitivity of the search and caused relevant articles to not be retrieved.[1]

Inclusion criteria

Inclusion was limited to articles meeting the following criteria:

[1] Adding Compassion Fatigue to the search terms retrieved an extra 4 non-duplicated articles (none of which would have been accepted for review).

- A primary empirical evaluation of a preventative strategy and/or an intervention introduced with the aim of reducing current or future levels of burnout among participants.
- Not a meta-analysis, review, case study or discussion.
- Used a quantitative design with pre- and post-measures (including a standardised measure of burnout).
- Compared the same participants on pre- and post- measures not, for example, a comparison to a population standard or individuals at the same stage of training but at a different point in time.
- Published in a peer-reviewed journal in English, or where an English translation was available.
- Some participants would be classed as healthcare professionals, not volunteers or those caring for friends or family, and not students.

Studies involving only social workers were excluded unless it was explicitly stated that they worked in healthcare. Likewise, studies focused on residential care were excluded unless it was explicitly stated that participants included healthcare workers (e.g. nurses). Studies where participants solely worked with people with a learning disability were also excluded unless it was it was specified that the service users' physical or mental health needs were being attended to or that the workers were healthcare professionals.

In order to ensure that the review was up-to-date and considered the pressures facing today's healthcare workers only recent studies were included, i.e. those published from 2000 onwards.

Systematic review process

An outline of the systematic review process can be found in Figure 1 on page 20, including details of the articles retrieved, accepted and rejected at each stage. The search was carried out on 13 April 2011 and returned 95 results. 90 articles remained after duplicates had been removed. A further 34 articles published before 2000 were excluded, of which three articles would have otherwise met the inclusion criteria.

The titles, abstracts and full texts (where necessary) of the remaining 56 articles were examined against the inclusion and exclusion criteria and 45 articles were excluded at this point. The reference sections of the accepted articles were then inspected for additional suitable studies but none were eligible. Therefore a total of 11 studies were accepted for review.

Quality assessment

In the current review the quality of included studies was assessed using a modified version of a checklist for the assessment of methodological quality of studies of health care interventions devised by Downs and Black (1998) as this checklist is appropriate for both randomised and non-randomised trials (see Appendix B). The modified checklist covered five areas: 1) study quality, 2) external validity, 3) study bias, 4) confounding and selection bias, and 5) power of the study, and yielded a maximum score of 19 for study quality. Studies were not excluded from the review on the basis of the quality assessment.

The quality of the articles was also reviewed by an independent researcher as a measure of inter-rater reliability. This process initially found good correlation

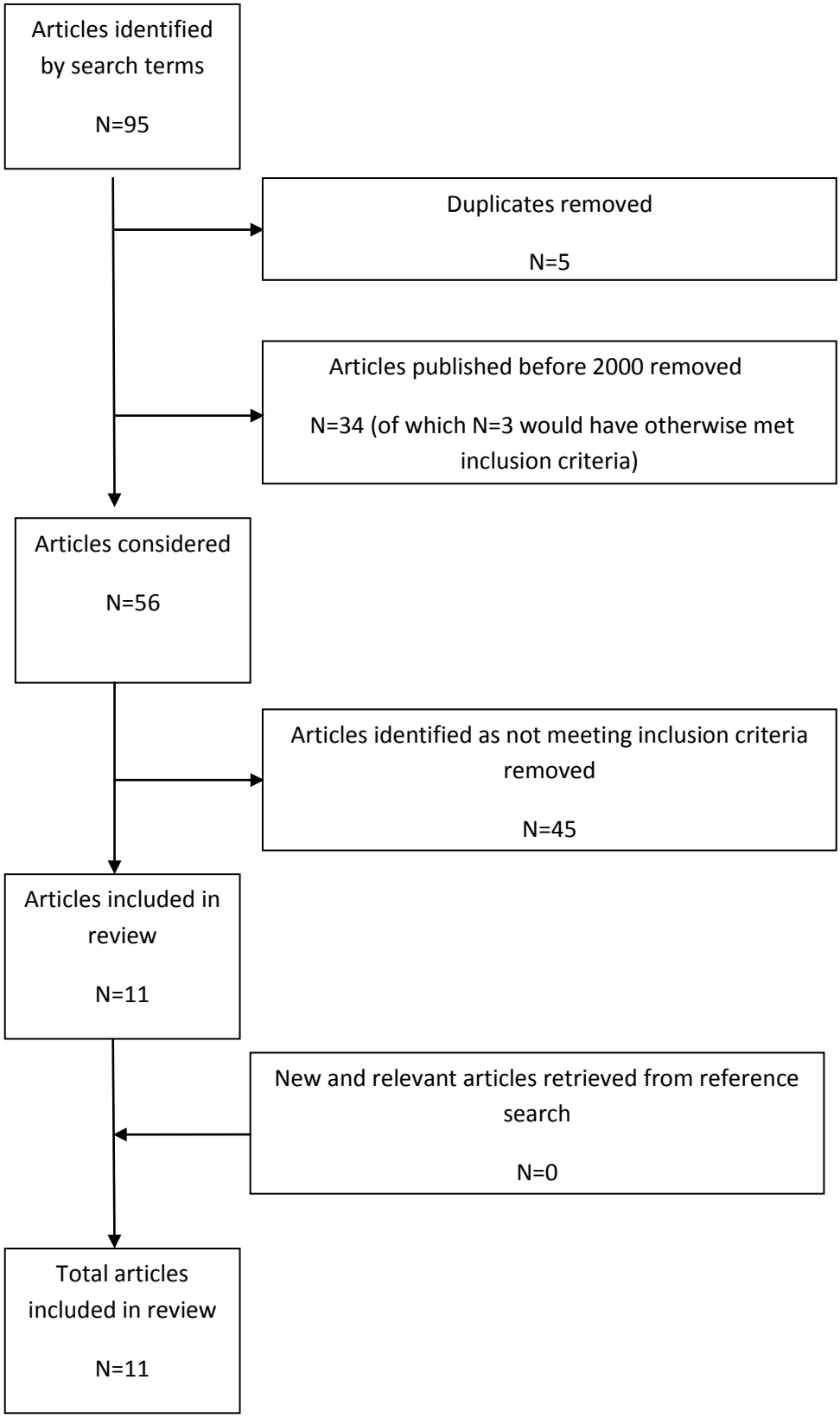

Figure 1. Summary of systematic review process

between raters and then any points of non-agreement were discussed to yield a mutually agreeable score (see Table 1).

Data extraction

Key information was extracted using the data extraction form found in Appendix C.

Data synthesis

A meta-analysis was not feasible due to the variety of populations and interventions used in the included studies and therefore a qualitative approach to data synthesis was used.

Results

Characteristics of included studies

The main characteristics of the 11 included studies are summarised in Table 1. Nine of the studies are unique but Isaksson Rø, Gude, Tyssen and Aasland (2008) and Isaksson Rø *et al.* (2010a) report the same intervention and 12 month follow-up, with the latter also reporting data from a three year follow-up.

The studies were conducted in a range of countries, namely the UK, USA, Canada, Norway, Sweden, the Netherlands and Italy. Sample sizes ranged from 15 participants (Milstein, Raingruber, Bennett, Kon, Winn, & Paterniti, 2009), to the largest sample in Le Blanc, Hox, Schaufeli, Taris and Peeters (2007) of 664 oncology care providers. Six of the 11 studies had both an intervention and a control group (Ewers, Bradshaw & Ewers, 2002; Doyle, 2007; Gabbe, Webb, Moore, Mandel, Melvile & Spikard, 2008; Le Blanc *et al*., 2007; Milstein *et al*., 2009; Peterson, Bergstrom, Samuelsson, Åsberg & Nygren, 2008).

Quality assessment

The mean quality assessment rating was 16 and ranged from 12 (Gabbe *et al*., 2008) to the maximum of 19 (Peterson *et al*., 2008). Those with scores below the mean tended to have the smaller sample sizes (e.g. Milstein *et al*., 2009) and the larger scale studies were generally of good quality (e.g. Isaksson Rø *et al.,* 2008). Areas for quality improvement tended to be around recruitment and whether the sample were representative of the entire population from which they were recruited.

Table 1. Summary of the main characteristics of included studies

Study	Country	Quality Score (/19)	Participants	Study design	Preventative Measure / Intervention	Duration	Burnout Instrument	Pre- measure	Post-measure	Follow-up
Kravits *et al.* (2010)	USA	16	248 registered nurses from a cancer centre and local community organisations	Within-group repeated measures	Self-care psychoeducation on self-care, stress and coping strategies using discussion, art and practical guidance including the creation of a 'wellness plan' Group size: Not specified	6 hour session	MBI-HSS (1996) 22 items Scale: 0-6	Intervention start High EE: 37% High DP: 13% Low PA: 45% Burnout: 4%	Intervention end ↓ High EE: 27% ↓High DP: 10% Low PA: 55% Burnout: 0%	-
Isaksson Rø *et al.* (2010a)	Norway	18	227 physicians from a variety of specialities	Within-group repeated measures	Either - an individual counselling session mapping work and private factors contributing to stress, their coping strategies and their present needs in the short- and long-term. OR –The opportunity for a 60 minute counselling session and a course taking an integrative approach incorporating psychodynamic, cognitive and educational theories. Themes were possibilities and restraints in working life, resources, personality and identity, communication, team work and the prevention of burnout. Daily lectures, group discussions and physical activity were used. Group size: 1 or 8	1 day counselling session OR 5 day residential including a 60 min counselling session	MBI-HSS (1996) EE (10) Scale: 1-5	Intervention start EE: 3.00 (SD 0.9)	1 year post intervention end ↓EE	3 years post intervention end ↓EE: 2.4 (SD 0.8) <u>Note:</u> *N=164 completed MBI pre- and post.*
Isaksson Rø *et al.* (2010b)	Norway	17	172 self-referred nurses working in both hospitals and community settings	Within-group repeated measures	A course based on cognitive theory teaching mindfulness, relaxation, resources, prevention of burnout, and work-life balance using lectures, group exercises and an individual counselling session. Group size: 8	5 days residential including an individual counselling session	MBI (1981) EE (10) DP (8) PA (7) Scale: 1-5	0- 4 weeks pre-intervention EE: 2.87 (SD 0.79) EE cases: 40% DP: 1.77 (SD 0.59) PA: 2.29 (0.40)	57 weeks post intervention end ↓EE level: 2.52 (SD 0.78) ↓EE cases: 26% ↓DP level: 1.63 (SD 0.51) PA level: 2.35 (0.43)	<u>Note:</u> *N= 153 completed MBI pre and post.*

Scarnera *et al.* (2009)	Italy	14	25 mental health professionals	Within-group repeated measures	Cognitive behavioural assertiveness training aimed to promote communication between staff, and for managers to notice their leadership style. Group size: Session 1: 14 and 11 Sessions 2-6: 25	6 sessions held monthly and lasting 3-5 hours	Italian version MBI (Sirigatti & Stefanile, 1993)	Intervention start EE level: 15.88 DP level: 4.52 PA level: 39.08	Intervention end EE level:16.56 ↓DP level: 3.76 ↓PA level: 35.08	18 months post intervention start EE level: 15.88 ↓DP level: 2.80 ↓PA level: 38.40
Milstein *et al.* (2009)	USA	13	15 pediatric house officers	Between-group repeated measures	Psychotherapeutic technique, BATHE Group size: 7	45 minutes	MBI (Maslach & Jackson, 1996)	Intervention start *IG* EE: Average DP: High PA: Low-Average *CG* EE: Average DP: Average PA: Average	3 months post intervention end *IG* EE: Average DP: ? PA: ? *CG* EE: Average DP: ? PA: ?	-
Isaksson Rø *et al.* (2008)	Norway	18	227 physicians from a variety of specialties	Within group repeated measures	See Isaksson Rø *et al.*(2010a)	→				

Peterson *et al.* (2008)	Sweden	19	131 healthcare workers scoring above the 75th percentile in the exhaustion dimension of the OLBI	Between-group repeated measures	Reflecting peer-support groups offering opportunity for discussion and reflection focusing on work-related stress and providing mutual support Group size: 5-8	10 weekly 2 hour meetings and a follow-up meeting 4 weeks after end	OLBI (Demerouti *et al.*, 2001)	7 months pre-intervention *IG* EX: 3.03 (0.32) DS: 2.43 (0.52) *CG* EX: 3.00 (0.27) DS: 2.36 (0.55) Intervention start *IG* EX: 2.76 (0.35) DS: 2.46 (0.59) *CG* EX: 2.79 (0.35) DS: 2.45 (0.58)	12 months after intervention end *IG* EX: 2.51 (0.46) DS: 2.19 (0.56) *CG* EX: 2.67 (0.39) (sig.H) DS: 2.31 (0.55)	
Gabbe *et al.* (2008)	USA / Canada	12	27 New chairs of department of obstetrics and gynaecology in schools of medicine	Between-group repeated measures	Assigned an experienced chair as a mentor. Regular communication	1 year	MBI-HSS	Intervention start Combined IG and CG High EE: 37% High DP: 27% Low PA: 15% Burnout: 4%	Intervention end High EE: 30% High DP: 30% Low PA: 15% Burnout: 4%	-
Doyle (2007)	UK	15	26 qualified staff from adult forensic medium secure unit	Between-group repeated measures	Psychosocial intervention skills training Group size: 14	16 weekly sessions lasting 3 hours	MBI 1996	Intervention start *IG* EE: 16.07 DP: 4.57 PA: 35.14 *CG* EE: 15.81 DP: 4.63 PA: 36.73	Intervention end *IG* EE: 14.83 DP: 4.08 ↑PA: 37.08 *CG* EE: 15.60 DP: 4.30 PA: 35.80	-

Le Blanc et al., (2007)	NL	16	664 care providers (9 oncology wards)	Between-group repeated measures	Team-based intervention including educational and action/problem-solving components	6 monthly sessions, 3 hours	MBI –HSS; EE and DP	Intervention start *IG* EE: 1.54 (0.89), Average DP: 0.96 (0.70), Average *CG* EE: 1.46 (0.80), Average DP: 0.86 (0.58), Average	Intervention end *IG* EE: 1.49 (0.91), Average DP: 0.94 (0.82), Average *CG*EE: 1.68 (1.00) (sig.H), Average DP: 1.00 (0.65) (sig.H), Average	6 months post intervention end *IG* EE: 1.53 (0.70), Average DP: 0.98 (0.65), Average *CG* EE: 1.65 (1.00) (sig.H), Average DP: 0.93 (0.62) , Average
Ewers et al. (2002)	UK	18	20 forensic mental health nurses	Between-group repeated measures	Psychosocial intervention skills training Group size: 10	20 days over 6 months	MBI 1996	Intervention start *IG* EE: 13.53 DP: 6.02 PA:35.37 *CG* EE: 18.82 DP: 5.74 PA: 33.81	Intervention end *IG* ↓EE: 10.51 ↓DP: 2.04 ↑PA: 39.64 *CG* EE: 18.91 (sig.H) DP: 5.96 (sig.H) PA: 32.21 (sig.L)	-

Abbreviations:
MBI=Maslach Burnout Inventory
OLBI=Olbenburg Burnout Inventory
IG=Intervention Group
CG=Control Group
EE=Emotional exhausation from Maslach's three-part conceptualisation of burnout (Maslach, 1982)
DP=Depersonalisation from Maslach's three-part conceptualisation of burnout (Maslach, 1982)
PA=Personal accomplishment from Maslach's three-part conceptualisation of burnout (Maslach, 1982)
EX=Exhaustion, one subscale of burnout on the Oldenburg Burnout Inventory (Demerouti *et al*., 2003)
DS= Disengagement, one subscale of burnout on the Oldenbury Burnout Inventory (Demerouti *et al*., 2003)

Symbols: (↑) is a significant increase from baseline result at least p<.05, (↓) is a significant decrease from baseline result at least p<.05
(sig.H) indicates that the CG is significantly higher than the IG, (sig.L) indicates that the CG is significantly lower than the IG

Only those results pertaining to burnout are given here, any non-burnout additional measures are not reported.

Participant characteristics

Generally the participants worked in physical health and in a variety of specialties, rather than mental health. Participants who worked in community and hospital settings were represented. These characteristics were varied not only across the 11 studies reviewed, but also within each individual study. Studies did not tend to report whether participants were employed by government organisations or privately. More detail is provided below:

Specialties

Two studies defined their participants exclusively as mental health professionals (Ewers *et al*., 2002; Scarnera, Bosco, Soleti & Lancioni, 2009), although the mental health nurses in Ewers *et al*. (2002) worked specifically in a forensic setting. Doyle (2007) also included professionals working in a forensic setting but explicitly classified them as mental health workers. Participants in Isaksson Rø *et al*.'s (2008) study and the 2010 follow-up were medics, including some psychiatrists. One further study with the same lead author included nurses but did not provide details of their specialties so it is possible some could have worked in mental health (Isaksson Rø, Gude, Tyssen & Aasland, 2010b).

Some studies included only physical health professionals. For example, Milstein *et al*.'s (2009) participants were all house officers on a Paediatric Residency Training Programme and the participants in Gabbe *et al*.'s (2008) study were chairs of Obstetrics and Gynaecology Departments of Schools of Medicine. Le Blanc *et al.* (2007) recruited physicians, nurses and radiotherapy assistants who worked on oncology wards. 60% of the nurses in Kravits, McAllister-Black, Grant and Kirk (2010) also specialised in oncology but 40% were recruited from community organisations, such as the Salvation Army and general

acute hospitals, and therefore they did not necessarily specialise in oncology and may have included those working in mental health.

Work setting

The participants in two studies worked exclusively in hospitals (Le Blanc *et al*., 2007; Peterson *et al*., 2008) but three studies included a mix of participants from both hospital and community settings (Isaksson Rø *et al*., 2010b; Kravits *et al*., 2010; Scarnera *et al*., 2009). Two of the studies included only staff working in forensic secure units (Doyle, 2007; Ewers *et al*., 2002). Whilst it was not specified, the participants in Gabbe *et al*.'s (2008) study presumably worked sometimes in hospitals and sometimes in academic settings. Three studies, two of which reported on the same sample, did not specify the settings in which their participants worked (Isaksson Rø *et al*., 2008, Isaksson Rø *et al*., 2010a; Milstein *et al*., 2009), although all were doctors.

Employing organisation

Only the USA and Netherlands operate only a private/insurance based healthcare system, the other study locations (UK, Norway, Sweden, Canada and Italy) have government funded systems. However, only Scarnera *et al*. (2009) referenced whether participants were publically or privately employed, and in their study participants were a mixture of both

Concept of burnout

Among the ten studies using a version of the Maslach Burnout Inventory (MBI; e.g. Maslach, Jackson & Leiter, 1996) four did not refer to Maslach's conceptualisation of burnout. Six studies opted for Maslach's three-part conceptualisation of burnout, that is to include emotional exhaustion (EE), depersonalisation (DP) and a reduced sense of personal accomplishment (PA) (Doyles, 2007; Ewers *et al*., 2002; Kravits *et al*., 2010; Le Blanc *et al*.,

2007; Milstein *et al*., 2009; Scarnera *et al*., 2009). However, even of those quoting Maslach some placed more emphasis or restricted the definition to include only EE and DP (Le Blanc *et al*., 2007; Scarnera *et al*., 2009).

Some studies failed to provide any explicit definition of burnout. For example, Gabbe *et al* (2008) did not define burnout, although they used the MBI-HSS (Maslach *et al*., 1996) and specified EE, DP and reduced PA as components of burnout in the results section. Isaksson Rø *et al*. (2008) provided no clear definition of burnout but measured EE, DP and PA using the MBI-HSS (Maslach *et al*., 1996). The three-year follow-up paper (Isaksson Rø *et al*., 2010a) is the same and whilst they note that EE is considered the primary dimension of burnout they do not expand to a full definition. Likewise, Isaksson Rø *et al*. (2010b) measured EE, DP and PA using the MBI but only discussed EE results and referenced a reduction in EE score interchangeably for a reduction in burnout (despite stating in their introduction that EE was only one dimension of burnout).

Peterson *et al*. (2008) was the only study not to use the MBI, instead they used the Oldenburg Burnout Inventory (OLBI; Demerouti, Bakker, Vardakou & Kantas, 2003) which has two subscales: exhaustion and disengagement. Peterson *et al*. (2008) did not explicitly define burnout, but they did refer to EE (although not to DP or PA). They also reference Maslach *et al*. (1996) as noting that burnout is a form of work-related stress.

Measures of burnout

Maslach Burnout Inventory

Ten of the studies reviewed used a version of the MBI. The MBI was developed by Maslach and colleagues as a standardised measure of burnout based on their three dimensional model of burnout (that is, EE, DP and reduced PA). The MBI is the most widely used

assessment tool in the field and this was also found among the studies in this review. The ten studies did not all use the same version of the MBI and five necessarily used non-English versions.

Some have criticised the MBI's seven-point response scale on the basis that some of the response options are not mutually exclusive (Barnett, Brennan & Gareis, 1999). As such, the three studies led by Isaksson Rø opted to use a five-point response scale from 1 (does not fit) to 5 (fits very well) (Isaksson Rø *et al*., 2008, 2010b; Isaksson Rø *et al*., 2010a).

Furthermore, not all studies used all three components of the MBI. Isaksson Rø *et al*. (2010a) only used the EE subscale whereas Isaksson Rø *et al*. (2008; 2010b) reported scores for all three subscales in their results but only analysed and discussed the EE results. Le Blanc *et al*. (2007) only used the EE and DP subscales of the Dutch MBI-HSS (Schaufeli & Van Dierendonck, 2000).

Use and reporting of MBI data

Studies showed considerable variation in how they interpreted and reported the MBI results. For example, the MBI yields a score for each subscale and Ewers *et al*. (2002) and Doyle (2007) chose to report the mean score for each subscale. Neither study commented on how these scores compared to normative scores. Similarly Isaksson Rø *et al*. (2008) and Isaksson Rø *et al*. (2010a) reported mean EE scores and made no reference to norms or categories.

Kravits *et al*. (2010) reported the percentage of participants achieving a high EE score, a high DP score, and the percentage achieving a low PA score as compared with normative data for medical workers, physicians and nurses working in the US. They also reported the percentage of participants meeting all three criteria for burnout (that is, high EE, high DP,

and low PA). Thus, the change in percentages post-intervention formed their outcome data. Similarly Gabbe *et al*. (2008) referred to the number of participants considered to be at risk of burnout, or 'cases'. They noted that 4% of participants achieved a high EE score, high DP score and low PA score and that this did not change after the introduction of a mentoring scheme.

Other studies also used categorisation, but chose different categories. Both Isaksson Rø *et al*. (2008, 2010b) preferred a dichotomous split of 'high' and 'low' EE groups. Both studies also referred to the number of 'cases' of EE, that is those where a participant could be considered at risk of emotional exhaustion as they scored greater than a mean of three on their scale of EE (10 questions, using five-point scale). Scarnera *et al* (2009) referred to descriptions of categories such as 'low', 'medium-low' and so on but did not state what range of scores these referred to.

Some studies presented both mean scores and categories. For example, Milstein *et al*. (2009) graphically presented the mean scores for the 15 participants at each time point, but also categorised them according to 'low', 'medium' and 'high'. Similarly, Le Blanc *et al*. (2007) presented the means for EE and DP at all time points but also referred to normative data from Dutch care providers which categorised scores into five groups, that is 1 (very low) to 5 (very high). Pre-intervention the EE and DP scores for both groups were noted as being in Group 3 (clinically average) but they did not specify the score ranges of these categories.

The use of the MBI generally enables clear interpretation of the results of each intervention reviewed here, but the inconsistencies in the reporting of the MBI data makes cross-study comparisons more difficult.

Oldenburg Burnout Inventory

Peterson *et al*. (2008) used the OLBI (Demerouti *et al*., 2003) translated from German into Swedish, but did not specify why this was chosen instead of the MBI. The OLBI is designed to measure burnout across occupational groups including, but also extending beyond, the helping professions. Unlike the MBI, the OLBI only includes two dimension of burnout, namely exhaustion and disengagement from work. The conceptualisation of exhaustion includes affective aspects of exhaustion as EE in the MBI does but, unlike EE, it also includes cognitive and physical aspects (Demerouti *et al*., 2003). The conceptualisation of disengagement also differs from the depersonalisation MBI subscale in that it concerns emotions towards the respondent's work tasks and their job in general, rather than emotions towards those 'helped' (including distancing from one's work and negative attitudes towards aspects of one's work) (Demerouti *et al*., 2003).

Eight OLBI items refer to exhaustion and a further eight to disengagement. Participants rate the items on a scale from 1 (totally disagree) to 4 (totally agree). On each subscale four items are negatively worded and four positively worded addressing the authors' criticism of the one-sided framing of the MBI questions (Demerouti *et al*., 2003). Peterson *et al*. (2008) present the mean and standard deviations of scores at all time points for both exhaustion and disengagement, but they do not specify what level the scores are or how they compare to norms. The factorial and convergent validity of the OLBI and the MBI were confirmed in a study of 232 participants from a variety of occupational groups (Demerouti *et al*., 2003).

Intervention type and outcomes

Psycho-educational

At least seven studies contained psycho-educational aspects, that is providing education regarding psychological information, for example the stress-response and relaxation techniques (Isaksson Rø *et al*., 2008, 2010b; Isaksson Rø *et al*., 2010a, Kravtis *et al*., 2010; Le Blanc *et al*., 2007; Milstein *et al*., 2009; Scarnera *et al*., 2009). Kravtis *et al*. (2010) explored the significance of self-care with 248 nurses through discussion and art, education on stress and the stress-response along with guided imagery, deep breathing and positive interaction practice, a review of coping strategies, and a guided exercise in which nurses created a 'wellness plan'. 37% of the nurses achieved a high EE score on the MBI-HSS before the course started. Immediately after the course this had reduced to 27% which was also found to be statistically significant (p<.0005). Similarly there was a significant (p<.0005) post-intervention reduction from 13% to 10% of the nurses achieving a high DP score. Interestingly, the percentage of participants scoring low on PA increased from 45% to 55% (significance not reported) which the authors attributed to the relaxation of the nurses' personal defences (Kravits *et al*., 2010). At the start 4% of nurses m*et* all three criteria for burnout (that is, high EE, high DP and low PA) but this reduced to 0% post-intervention. No long-term follow-up was reported.

Scarnera *et al*. (2009) delivered cognitive behavioural assertiveness training aimed to develop techniques for managing difficulties within interpersonal relationships. They wanted to promote communication between staff. For the first of the six monthly sessions employees with direct patient contact (N=14) were trained in handling their negative emotions and thoughts, whilst a separate group of managers (N=11) were trained to acquire awareness of their leadership style. During the remaining five sessions teaching

was given on an aspect of assertiveness, followed by a group discussion on action strategies for dealing with stressors at work (Scarnera *et al*., 2009). There was no reduction in levels of EE either immediately post-intervention or 18-months after the course started (12 months after the immediately post-intervention measures) and no significant change in levels of PA between baseline and follow-up. However, levels of DP were significantly reduced from baseline by the end of the course and at the follow-up. This may suggest that different types of intervention affect different elements of burnout.

Providing psycho-education on the BATHE psychotherapeutic technique Milstein *et al*. (2009) found no statistical difference between study group and control group for scores on any subscale of MBI, either before or after intervention.

Intensive residential course and individual counselling session

The interventions in the three studies led by Isaksson Rø involved a five day residential course held at a Norwegian resource centre using daily lectures, group discussions and physical activity exercises for self-referring participants (Isaksson Rø *et al*., 2008, 2010b; Isaksson Rø *et al*., 2010a). The course is described as taking an integrative approach incorporating psychodynamic, cognitive and educational theories. Themes covered were possibilities and restraints in working life, resources, personality and identity, communication, team work and the prevention of burnout. Attendees were also given the opportunity to attend a 60-minute individual counselling session during the week.

Among the 153 nurses completing the course, levels of EE, DP and low PA were significantly reduced at the 57-week follow-up (Isaksson Rø *et al*, 2010b). Furthermore, the number of 'cases' of EE, that is those above cut-off scoring greater than three, significantly reduced from 62 to 40 (p=0.001). Of the 164 physicians completing either the course or a

one-day individual counselling session, levels of EE had reduced significantly from 3.00 (SD 0.9) from before the course by the one-year follow-up and this significant reduction was maintained at the three-year follow up 2.4 (SD 0.8, $p<0.001$) (Isaksson Rø *et al*., 2008; Isaksson Rø *et al*., 2010a). There was also a significant reduction in the number of weeks on sick-leave between baseline and three-year follow-up which arguably indicates the clinical significance of the EE reduction (Isaksson Rø *et al*., 2010a). The reduction between the one-year and three-year follow-up was not significant.

Peer support

Three of the interventions included significant aspects of peer support. Peterson *et al*. (2008) arranged eight peer-support groups to start among healthcare workers. Each group had five to eight participants and provided the opportunity for discussion and reflection focusing on work-related stress, and for mutual support. The groups met for two hours on ten weekly occasions, with a follow-up session four weeks later. The authors used a modified version of the problem-based method developed by Ekberg (1995) to give structure to the group and ensure participation. They also added in a modified Meta-plan visualisation technique (Knox, 2003; Schnelle, 1979).

Out of 3671 healthcare workers in one area in Sweden, Peterson *et al*. (2008) invited those scoring in the 75% percentile for exhaustion on the OLBI to participate (N=660). Seven months later and immediately prior to the start of the intervention, the OBLI and other measures were repeated on the 151 who agreed to participate. The measures were repeated three more times, the last being 12-months post-intervention. Both the control and intervention groups experienced an overall decrease in levels of exhaustion and disengagement, as well as depression and anxiety from the baseline

screening and immediately pre-intervention results at the 12-month follow-up. When only the baseline screening results were compared with the follow-up results a significant effect of the intervention was found for exhaustion, quantitative demands at work, and perceived general health ($p<.05$). Disengagement also reduced more for the intervention group during these times, although this between group difference was not significant.

In a prevention study, Gabbe *et al*. (2008) paired 14 new chairs of Obstetrics and Gynaecology Departments of Schools of Medicine in the US and Canada with experienced and successful mentors. Over a period of a year the mentors were encouraged to help the new chairs develop the competencies they needed to be successful, to help them accomplish the plan in their learning contract, and provide support. There were no differences, either pre- or post-intervention, in the distribution of burnout components or overall cases of burnout between the new chairs with mentors and the 13 controls. Furthermore, the levels did not significantly reduce for either group. It was noted that the chairs were "an emotionally healthy group" pre-intervention (Gabbe *et al*., 2008, p. 658) so they may have particular characteristics that bolster their immunity against burnout. As a preventative study the finding that burnout levels did not increase among this group, despite them taking on a new role, is in itself valuable and may be attributable to the intervention.

Team-based intervention

Le Blanc *et al*. (2007) conducted a team-based intervention over six months with nine oncology wards. One aim of the intervention was to allow wards to work on their own context-specific problems. During the intervention, team functioning was mapped and related to the wider organisational context. Sessions consisted of educational components

exploring, for example, collective behaviour, communication and social support. Sessions also had action components in which participants formed problem-solving teams to deal with the most prevalent stressors in their workplace. Initially there were no differences in EE or DP of members from the control and intervention wards, but both EE and DP were significantly lower in intervention group immediately after the intervention. Six months later the intervention group retained their lower EE levels, but not the advantage for DP.

Psychosocial interventions training

Two studies offered psychosocial interventions training to their participants and investigated its effect on levels of burnout (Ewers *et al*., 2002; Doyle, 2007). Psychosocial interventions include a wide range of interventions for users of mental health services, including low-level cognitive behavioural therapy or CBT, relapse prevention and family interventions. Psychosocial interventions are recommended by the National Institute for Clinical Excellence Guidelines for Schizophrenia (NICE, 2002).

Doyle (2007) offered 16 weekly sessions, each lasting three hours, to participants. This was based on a similar intervention by Ewers *et al*. (2002) who offered 20 days of PSI training over a six month period. Doyle's (2007) participants showed no significant difference in EE, DP, or PA between pre- and post- measures, although PA did increase by a non-significant two points and EE and DP decreased. There were no significant differences between his intervention (N=10) or control groups (N=10) at either time point. However, Ewers *et al*. (2002) found that participants undertaking their psychosocial interventions training experienced statistically significant changes in the desired directions for EE, DP and PA. There were also significant differences between groups in favour of the intervention group, where differences did not exist pre-training.

Other features of interventions

Duration

Some of the interventions were very brief, for example Milstein *et al*. (2009) held a 45-minute session to educate about the reflective psychotherapeutic technique, BATHE. Some interventions were significantly more involved, for example the participants in Isaksson Rø's studies attended a five-day residential course which involved daily lectures, group exercises and an individual counselling session (Isaksson Rø *et al*., 2008, 2010b; Isaksson Rø *et al*., 2010a). One intervention consisted of a six-hour class (Kravtis *et al*., 2010), two studies held weekly sessions over ten weeks (Peterson *et al*., 2008) and 16 weeks (Doyle, 2007), two held monthly sessions over six months (Le Blanc *et al*., 2007; Scarnera *et al*., 2009), one held 20 sessions over six months (Ewers *et al*., 2002) and Gabbe *et al*. (2008) evaluated the impact of a year-long mentoring scheme.

Occupational groups

It is difficult to draw conclusions as to the differences in results for those working in physical health and those in mental health as several of the successful interventions included participants from both areas of healthcare (e.g. Isaksson Rø *et al*., 2010). Scarnera *et al*. (2009) delivered assertiveness training to mental health professionals and found that EE did not significantly change but a significant reduction in DP was maintained at 12-month follow-up. On the other hand, Ewers *et al*. (2002) found significant changes on all subscales of EE after their psychosocial interventions training for mental health nurses, although their participants worked exclusively in a forensic setting which limits the generalisability.

Initial levels of burnout

Four studies recruited participants who were either self-referring (Isaksson Rø *et al*., 2008, 2010b; Isaksson Rø *et al*., 2010a) or selected specifically due to their high scores on

measures of burnout (Peterson *et al*., 2008). Of these, all saw a reduction in levels or EE or exhaustion. For the studies led by Isaksson Rø this reduction was statistically significant, for those in Peterson *et al*. (2008) the intervention group scored significantly lower on exhaustion than the control group after the intervention despite the absence of between group differences before the intervention. Isaksson Rø *et al*. (2008) and Isaksson Rø *et al*. (2010a) did not analyse the DP results, but Isaksson Rø *et al*. (2010b) did find a statistically significant reduction on this subscale. PA levels in this latter study showed a non-significant increase. Although Peterson *et al*. (2008) saw a reduction on disengagement in both intervention and control groups, the groups were not significantly different on this measure post-intervention.

Gabbe *et al*. (2008) found no significant changes among their mentors who were described as emotionally healthy, but they also did not perceive the need for mentoring.

Length of follow-up

Four studies completed their follow-up measures immediately after the end of the intervention (Doyle, 2007; Ewers *et al*., 2002; Gabbe *et al*., 2008; Kravits *et al*., 2010). Of these, two found no differences between intervention and control groups on EE, DP or PA (Doyle, 2007; Gabbe *et al*., 2008). However, two found significant improvements post-intervention, Ewers *et al*. (2002) found their intervention group to score favourably on EE, DP and PA and Kravits *et al*. (2010) found a significant increase in EE and DP.

Scarnera *et al*. (2009) also administered measures at the end of their intervention and found no significant benefit on EE, nor at their 12-month follow-up. Interestingly, there was a there was a significant post-intervention reduction in PA although this was not maintained at follow-up. DP showed a significantly reduction post-intervention which was

maintained at 12-month follow-up (Scarnera *et al*., 2009). Conversely, Le Blanc *et al*. (2007) found that of their significant favourable between group differences for EE and DP immediately post-intervention, only the benefit for EE was maintained six months later.

Milstein *et al*. (2009) completed follow-up measures after three months, but found no benefit of their brief intervention. A further four studies completed their follow-up measures approximately one year after the intervention end (Isaksson Rø *et al*., 2008, 2010b; Peterson *et al*., 2008; Scarena *et al*., 2009) and Isaksson Rø *et al*., (2010a) completed the longest term follow-up at three years after the same intervention with the same participants in Isaksson Rø *et al*. (2008).

As mentioned Scarnera *et al*. (2009) only found a reduction for DP at 12 months, not for EE and they did not find a PA increase, and Peterson *et al*. (2008) only found a significant between group benefit for exhaustion, not disengagement. Both Isaksson Ro's studies (2008, 2010b), which lasted a shorter time overall but were more intensive, noted a significant reduction in EE and in 2010(a) a significant DP reduction was also found approximately a year later. The reduction in EE in Isaksson Rø *et al*. (2008) was maintained three years later (Isaksson Rø *et al*., 2010a).

Common limitations and methodological issues

The scope of studies varies greatly within the literature. In practice it may be difficult to avoid and by also mixing participants from different professional backgrounds and specialisms it is difficult to determine the utility of interventions for certain professional groups. In a similar way, most of the interventions were multi-faceted making it difficult to identify the useful or redundant parts of the intervention. Only Milstein *et al*. (2009) used

just one specific group of professionals and one specific intervention but participants reported that they did not use the technique so their intervention was not effective.

Four of the studies completed their post-intervention measures immediately at the end of their interventions. The usefulness of such results, especially given the nature of burnout, does not seem the most valid time point to measure. Perhaps a more ecologically valid measurement would occur once the participants had returned to work.

Related to this, only Peterson *et al*. (2008) noted the possible impact of seasonal variations between pre-and post-intervention measures as their baseline measures were taken in February and their pre-treatment questionnaire in September. They argued that the best comparator with the post-intervention measure were those measures taken in February as the post-intervention measures were completed the following February. In September, they add, participants are likely to have returned from a holiday which may affect their levels of exhaustion.

Discussion

The interventions used in the reviewed studies range from intensive residential courses, team-based workshops, the teaching of a simple psychotherapeutic technique, to psychosocial interventions training. Nearly all of the interventions involved some form of psycho-education but it was not clear which forms or aspects of psycho-education were effective as it was nearly always offered in conjunction with another intervention. There was also considerable variation in the effectiveness of the reviewed interventions, ranging from no reduction in burnout to sustained long-term reductions in at least one element of burnout, usually EE. No interventions were found to have long-term reductions in all elements of burnout.

Milstein *et al*. (2009) had poor outcomes for their brief intervention study. However, this is most likely to be attributable to the acceptability of the psychotherapeutic technique to the participants and their failure to implement the technique in real-life stressful work situations (as reported in interviews with participants), rather than intervention brevity. Indeed, the intervention in Kravits *et al*. (2010) lasted only six hours but saw a significant reduction in the number of high EE cases and in the number of high DP cases thus demonstrating that short interventions can have at least a short-term impact upon the most severe cases. It would be interesting to investigate whether brief psycho-education on a topic chosen by a staff group and at a time requested by them had better outcomes.

The results from the studies led by Isaksson Rø suggest that intensive interventions involving psycho-education, group discussions and a residential stay can be effective in significantly reducing burnout (or at least EE) among those with a self-perceived need, and

that this is maintained at one-year and three-year follow-ups. At the one-year follow-up, cases of high EE among nurses in Isaksson Rø *et al*. (2010b) had reduced from 40% to just 26%. It is worth noting that these studies achieved good quality scores of 17 (Isaksson Rø *et al*., 2010b) and 18 (Isaksson Rø *et al*., 2008; Isaksson Rø *et al*., 2010a) out of 19. Although staff who report high levels of burnout did appear to benefit, without a control group it is unclear whether the financial cost of such an intervention is justifiable. It could be that it is "feeling invested in" or time away from work (rather than the specific content of the course) that is the crucial ingredient for burnt-out healthcare professionals, both of which could be achieved at a lesser cost. Equally, there is no evidence for the cost-effectiveness of the use of this course as a preventative strategy (i.e. for those with low levels of burnout).

Some of the interventions involved peer-support or team-based sessions (Gabbe *et al*., 2008; Le Blanc *et al*., 2007; Peterson *et al*., 2008). Peterson *et al*. (2008) recruited participants and controls for ten weekly peer-support reflecting groups from the highest scoring 25% of healthcare workers in the local area on the OLBI (Demerouti *et al*., 2003). They found that levels of exhaustion were significantly lower amongst the intervention group (N=47) than the controls (N=63) at the 12-month follow-up. The peer-support mentoring scheme for new chairs of Obstetrics and Gynaecology Departments described by Gabbe *et al*. (2008) did not find such beneficial results, however it is unclear what the peer-support consisted of for the 14 in the intervention group and how much they actually utilised the availability of their experienced mentors. Gabbe *et al*. (2008) commented that their participants were "an emotionally healthy group" (p. 654) and this could explain the difference in results as compared with Peterson *et al*. (2008). Moreover participants in Gabbe *et al*. (2008) had reached a high-level of seniority and, therefore, such a position (or

the characteristics necessary to obtain such a position) may differentiate this group from others. Unfortunately very little information was presented on the characteristics of participants in this study. Also worth noting is that Peterson *et al*. (2008) scored the maximum of 19 on the quality assessment but Gabbe *et al*. (2008) was the lowest out of all the reviewed studies scoring just 12 and this difference in methodological quality could account for some of the discrepancy.

Le Blanc *et al*.'s (2007) team-based approach found a significant benefit in reduction of EE at six-month follow-up for participants from the nine oncology wards involved in the intervention. These benefits are interesting because, unlike the peers in Peterson *et al*. (2008), participants worked with each other and were part of the same "organisational unit" (Le Blanc *et al*., 2007, p. 216). Additionally, they were not selected on the basis of high levels of burnout. As such, peer-support and team interventions show promise for those with high levels of burnout or for normal functioning teams (preventative) and may be beneficial for individuals meeting with strangers or for whole work teams meeting together.

Doyle (2007) and Ewers *et al.* (2002) both trained staff from a secure forensic unit in the UK in psychosocial interventions. Doyle (2007) saw a reduction in the level of EE and DP in the intervention group although this was not significant like it was in Ewers *et al.* (2002). Participants in Ewers *et al.* (2002) received 20 training sessions whereas Doyle (2007) offered only 16 weekly sessions. This may account for some of the difference since the extra content may be have been beneficial but also lengthier interventions allow for longer time away from usual work responsibilities. Participants in Doyle's (2007) study were nominated according to whether they had clinical client contact, were available to

attend sessions, could practise skills learned and had access to supervision. Criteria for Ewers *et al.* (2002) were less stringent in that participants had to have over 35 hours of clinical client contact and must not have received the training before. It may be that participants in Doyle (2007) had received previous training, although this is not possible to determine.

Participant characteristics

The majority of participants were from physical health backgrounds rather than mental health although across, and even within, studies there was representation of a wide mix of professions, work settings and specialties. This shows that interventions can be effective for a range of healthcare professionals but makes it hard to determine which professionals benefit most from different types of intervention.

Measures and conceptualisation of burnout

Even though all but one study used the MBI, authors varied in their use of Maslach's three-part conceptualisation of burnout with some placing more emphasis on EE than DP or PA. Generally the interventions reviewed did appear to have a lesser effect on PA than the other two subscales. The consistent use of the MBI somewhat negates the effect of differences in conceptualisation of burnout, however there was considerable variation in the way the MBI was used through, for example, different languages, norm comparisons and the way in which the data was reported (e.g. levels, percentages, categories and cases). Thus, direct comparison across studies is more difficult than perhaps would be initially perceived.

Healthcare context

Unsurprisingly the studies were conducted in a range of countries, but the working conditions, structure and nature (government funded or not) of the healthcare systems varies even between western countries. On one hand this might appear to make it more difficult to generalise the results to the healthcare professionals working in the NHS; however, it more likely suggests that evidence for successful burnout interventions is not limited to just one country or healthcare system.

Conclusion

Overall the initial evidence for the introduction of interventions for burnout among healthcare staff is promising, but the evidence for interventions for those with higher levels of burnout is stronger than for preventative strategies. Intensive residential courses seem to produce the most beneficial results which last at least three years, and also those involving large aspects of peer-support rather than just psycho-education alone.

Whilst there was good evidence from some studies that reductions in burnout can be long lasting, no study found long-term reductions in all three elements of burnout as defined by the MBI. Although the number of studies reported is small, the heterogeneity of interventions, design and sample characteristics makes it difficult to draw comparisons across studies or tease out what the effective aspects of the interventions are, and moreover whether the effects are long-lasting. That said, an intervention does not have to have long-term effects to be valuable and investigations into "top-up" interventions (e.g. refresher courses for previous participants) might be interesting. Such intervention may help participants by, for example, reminding them of the relaxation techniques taught or prompting them to use their coping strategies to deal with stressful situations at work. As such this might help their burnout levels to remain at a clinically low level.

Limitations of the review

Whilst controlling for the quality of the studies, selecting only those from peer-reviewed journals risks the omission of potentially important findings from unpublished sources, for example from dissertations. Indeed it is also important to be mindful of the potential for publication bias in peer-reviewed sources. Furthermore, limiting the search to articles published in English potentially means that some relevant articles published in other languages were excluded. For a more thorough approach the reference list inspection could have been extended to those articles that appeared in the search results, rather than just those accepted for review.

By not including terms other than burnout (e.g. VT, STS and CF) and not including more general terms such as *well-being* and *stress* the search may not have been sensitive enough to retrieve relevant articles that used a different term to refer to the same concept. Given the lack of conceptual clarity and inconsistent use of terminology to describe staff members' experience of burnout in the literature this is particularly relevant.

Whilst some successful studies used a control group, none used a control group who received the same time away from normal work activities. It may be that this itself can account for some of the reduction in burnout scores, particularly emotional exhaustion, and so this requires further investigation.

Implications for practice

As it stands the literature does not strongly implicate the implementation of a particular preventative strategy for burnout among healthcare professionals, but peer-support interventions (whether with strangers or team colleagues) show promising results. There is also good evidence that intensive interventions for those reporting the highest levels of

burnout can be beneficial. As such organisations should be mindful of and willing to respond to the needs of individual employees, as well as seeking to maximise opportunities for peer-support on a more routine basis.

Implications for future research

Future research needs to concentrate on determining what the effective components of burnout interventions are. To do this there should be more purposeful design of studies and greater restrictions on included participants to enable understanding of what factors help which groups of healthcare professionals. Moreover, control groups should also experience the same time out from normal work duties and pressures as those in the intervention groups as this could be a key component in reducing burnout in those with initially higher levels.

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Part II: Empirical Paper

Professional quality of life among mental health workers: predictors of compassion satisfaction and fatigue

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This paper is written in the format ready for submission to the British Journal of Clinical Psychology. Please see Appendix D for the Guideline for Authors for the Empirical Paper.

8217 words

(excluding abstract, tables, figures, footnotes and references)

Abstract

Objectives. The main aim of the study was to provide an empirical test of the Positivity-Negativity Ratio Model proposed by Radey and Figley (2007) to explain the development of Compassion Satisfaction (CS) and Compassion Fatigue (CF). The model suggests that the ratio of positive to negative affect experienced can predict the development of CS or CF. The secondary aim was to determine the extent to which other work-related factors were predictors of CS or CF.

Method. Participants were 197 employees of a NHS Mental Health Foundation Trust in the north of England identifying themselves as mental health professionals with clinical client contact. Using a survey method, information was collected on participant demographics, their recent emotional experience, work-related factors previously suggested to influence levels of CF, and levels of CS and CF themselves.

Results. By itself the positivity-negativity ratio predicted only 17% of the variance in CS but 30% of the variance in CF. Non-ratio models of positive and negative affect predicted more of the variance in both CS and CF. Surprisingly the extra work-related factors explained less than 8% of the variance in the scores, although of these the amount of supervision appeared to be the most important.

Conclusions. As it stands, the Positivity-Negativity Ratio Model was a useful but not sufficient predictor of the variance in CS and CF scores among this group. The notion of emotional experience in explaining some of the variance remains useful and employers should look to maximise employees positive affect.

Introduction

Whilst working in a mental health profession can be rewarding there can also be "a cost to caring" (Figley, 1995, p. 1). Such cost may be seen in many areas of a professional's life through, for example, difficulties in relationships, a disruption in their view of themselves, the world and others (McCann & Pearlman, 1990; Sabin-Farrell & Turpin, 2003), addictive and compulsive behaviours, symptoms akin to traumatic stress such as intrusive images (Regehr, Chau, Leslie & Howe, 2002a, 2002b), and avoidance of work with the traumatised (Canfield, 2005; Steed & Downing, 1998; Trippany, White Kress & Allen Willcox, 2004).

According to the Open Your Mind campaign launched by NHS Employers in March 2010, per year mental ill health is estimated to cost employers around £1035 per each member in their workforce, a total cost to the employers in England of over £25 billion per year (NHS Employers, 2009). Undoubtedly this represents a significant financial burden to the NHS as the largest employer in Europe.

Moreover, the Boorman Review (DoH, 2009a) highlights that when the well-being of NHS staff is prioritised improvement can be seen in performance and patient care, along with better rates of staff retention and sickness absence. Indeed it seems inevitable that staff well-being can impact upon patient care and this is well documented in the literature. For example, among therapists there is evidence to suggest that empathic abilities and efforts to maintain a therapeutic stance can be adversely affected, as well as the disruption of boundary establishment and maintenance (Schauben & Frazier, 1995; Sexton, 1999). Freudenberger (1974) was among the first to document such phenomena among the helping professions and noted that over the course of a year initially "dedicated and

committed" (p. 74) volunteers working in a drug addictions clinic in New York demonstrated a reduction in their motivation, idealism and commitment to the work.

With such implications it is not only important that professionals are mindful of their own well-being but this issue must also be addressed by their employers, training institutions and government policy makers.

The Department of Health accepted the 20 recommendations that follow from the Boorman Review (DoH, 2009b), one of which was to adopt a prevention-focused health and well-being strategy for staff. To enable a prevention-focused strategy in mental health sectors a clear understanding of how mental health professionals come to experience the above difficulties is needed. This would allow for useful interventions and changes in practice to improve staff well-being, lessen the financial burden to NHS employers, and ultimately preserve good patient care. Therefore the aim of this research is to further the understanding of how mental health professionals come to pay the "cost of caring" in the course of their work (Figley, 1995, p. 1).

Conceptual clarity

A variety of different terms, often applied interchangeably, have been used to describe the "cost of caring" (Figley, 1995, p. 1). This has led to a lack of conceptual clarity that has arguably hindered the progress of research in the field. Commonly used terms include Compassion Fatigue (CF; Figley, 1995), Secondary Traumatic Stress (STS; Munroe *et al.,* 1995) and burnout (Pines & Maslach, 1978).

Authors have outlined that the symptoms of STS parallel those of Post-Traumatic Stress Disorder identified in the Diagnostic and Statistical Manual of Mental Disorders (APA, 2000) and are usually sudden in onset and closely related to client experience (Figley,

1995; Pearlman & Saakvitne, 1995). In this way, STS is thought to occur following secondary exposure to traumatic events experienced by clients (Stamm, 2009).

Burnout has been referred to as "a state of physical, emotional and mental exhaustion caused by long-term involvement in emotionally demanding situations" (Pines & Aronson, 1988, p. 9) and similarly as involving the gradual experience of hopeless or difficult feelings in relation to one's work (Figley, 1995; Maslach, 1982; Stamm, 2010).

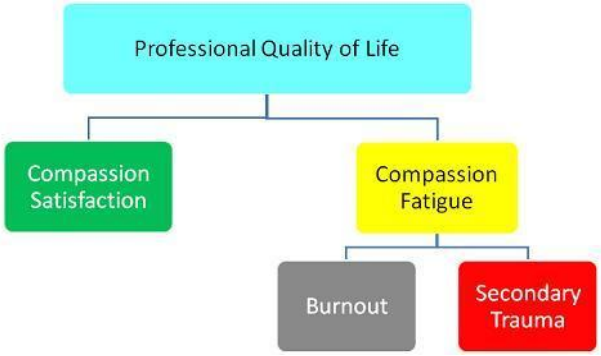

Figure 1. Structure of the Professional Quality of Life Scale (Stamm, 2009; 2010)

In earlier work, CF and STS had been often been used interchangeably (e.g. Figley, 2002; Salston & Figley, 2003). However, CF is now more often thought of as limited to those in caring professions whereas STS can be applied more widely (Elwood, Mott, Lohr & Galovski, 2011). CF also goes further than STS in that it includes the consequences of the symptoms, that is a reduction in the helper's capacity to extend empathy to their clients. In light of the conceptual ambiguity that exists, Stamm's (2009; 2010) view of CF as incorporating both STS and burnout depicted in Figure 1 provides a particularly helpful model. As such, her conceptualisation of CF will be used in this study.

Recently, some have supported a shift from a focus on avoiding CF towards identifying what might lead instead to Compassion Satisfaction (CS), that is being able to derive positive fulfilment from one's work (Stamm, 2002; 2009; 2010) or experiencing "a sense of flourishing" (Radey & Figley, 2007, p. 208) and is conceptualised as being at the opposite end of the continuum to CF. Arguably this concept has not yet been adequately defined or explored within the literature.

Development of Compassion Satisfaction and Fatigue

What leads to the development of CS or CF remains unclear. Factors such as a clinician's personal trauma history (e.g. Figley, 1995; Pearlman & MacIan, 1995; Pearlman & Saakvitne, 1995), characteristics of their caseload (e.g. Arvay & Uhlemann, 1996, Schauben & Frazier, 1995), the availability of supervision (e.g. Mauldin, 2001; Sexton, 1999) and their experience level (e.g. Adams, Matto & Harrington, 2001; Crothers, 1995; Pearlman & MacIan, 1995) have all been suggested as mediators of CF.

Indeed, among 188 trauma therapists Pearlman and MacIan (1995) found greater difficulties among those with a personal trauma history than those without. Those with a higher proportion of traumatised clients on their caseload were found to be more vulnerable to symptoms of STS (e.g. Arvay & Uhlemann, 1996; Brady, Guy, Poelstra & Brokaw, 1999; Kassam-Adams, 1995; Marmar et al., 1999; Ortlepp & Friedman, 2002; Resnick, Kilpatrick, Best & Kramer, 2002; Schauben & Frazier, 1995). The availability of supervision has been suggested to minimise the negative effects of vicarious exposure to client's traumatic material (e.g. Mauldin, 2001; Sexton, 1999) and newer therapists tend to report a higher level of disturbance (Adams *et al*., 2001; Crothers, 1995; Pearlman & MacIan, 1995). However, opposing effects for all of these factors can be found within the

research. For example, Azar (2000) found that some more experienced therapists may be vulnerable because they have been working without awareness of the risk.

A conceptual developmental model

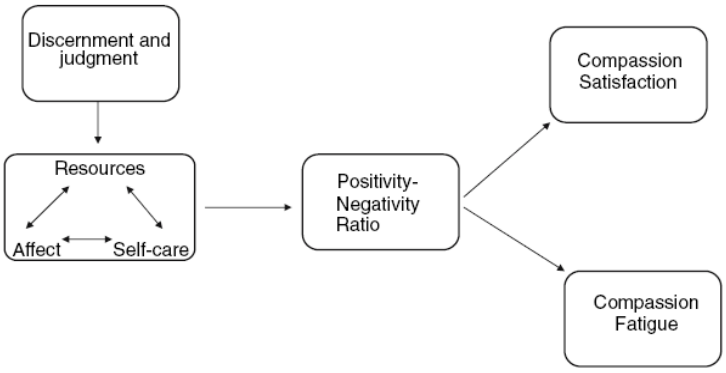

Figure 2. The Positivity-Negativity Ratio Model (Radey & Figley, 2007).

Radey and Figley (2007) present the Positivity-Negativity Ratio Model (PNR Model, see Figure 2) as a way of understanding the origins of CS and CF among social workers. The model draws heavily on Fredrickson and Losada's (2005) investigation into mental health and emotional experience in which those who were flourishing, that is to "live within an optimal range of human functioning" (Fredrickson & Losada, 2005, p. 678), among a sample of American college students, reported having experienced three positive emotions for every one negative emotion over a 28-day period. Similar ratio results have been found in the field of marital relations (Gottman, 1994) and among successful business teams (Losada, 1999).

Positivity Negativity Ratio

Radey and Figley (2007) note that both positive and negative emotions are experienced by workers in the helping professions but, based on the results from Fredrickson and Losada's (2005) investigation, they extrapolate that it is the relationship between the amount of

positive and negative affect experienced that is crucial in determining the development of CS or CF. More specifically they argue that it is the ratio between the two affect types that is the key determinant, rather than simply the level of each affect type experienced. Presumably then one can assume from this that if a clinician experiences a large amount of negative emotion, so long as their experience of positive emotion is sufficiently large, they can still experience CS rather than CF.

Other aspects of the model

The model also suggests that there is a reciprocal relationship between affect, resources and self-care, which is influenced by discernment and judgement (Radey & Figley, 2007). Together these factors result in a positivity-negativity (affect) ratio (PNR) which mediates the development of CF or CS.

Affect

The PNR Model also draws from the broaden-and-build theory proposed by Fredrickson (1998) in which positive emotions such as joy, interest and contentment increase the range of actions available to a person at a given moment. Conversely, negative emotions such as fear, anger and sadness limit behaviour towards survival actions, for example fight or flight. From this viewpoint positive emotions are more than the absence of negative emotions. Thus, the PNR Model suggests that positive affect increases the resources available to a clinician (for example, it results in extra ideas for intervening with clients) but negative affect restricts their ability to help their clients (Radey & Figley, 2007, p. 209).

Resources

Radey and Figley (2007) refer to resources used in the management of stress. They suggest that physical, intellectual and social resources which arise from positive affect also cause a reciprocal increase in positive affect in the individual. They quote McGahie, Mytky, Brown and Cameron (2002) who refer to a “compassionate core” that is made up of an

individual's inner resources and capacities (that is, thriving and resilience) and accumulated wisdom derived from life experiences (Radey & Figley, 2007, p. 209). As such these inner resources and wisdom enable social workers to maintain their enthusiasm for their job and their work.

Self-care

Self-care within the PNR Model refers to the ability to "first help ourselves" (Radey & Figley, 2007, p. 210). Radey and Figley (2007) discuss both general self-care strategies for individuals aimed at maintaining good overall health (for example, eating well, engaging in physical activity and taking leave from work) and also organisational-level strategies (including the availability of supervision and reasonable limitations on clinicians' caseloads).

Discernment and judgement

In their model Radey and Figley (2007) consider discernment and judgement to be critical mediators of the PNR. The presence of positive affect, resources and self-care is necessary but not sufficient to create a favourable PNR and ultimately lead to CS. What is needed is for the clinician to exercise discernment and judgement in determining the appropriate amount of help or altruism demonstrated in professional, social or intimate situations, and not to offer too much or too little (Radey & Figley, 2007).

Implications of the PNR Model

If evidence were found in support of the PNR Model then there would be implications for how a prevention-focused health and well-being strategy were implemented among social care organisations, but arguably also for those working in mental health since the evidence in the literature does not limit the concept of CF to social workers but extends it to those in the helping professions. Indeed Radey and Figley (2007) outline that social workers report entering the profession due to a desire to help others and relieve suffering, which are

reasons also generally given by those working in mental health. Moreover, they describe how social workers "connect and empathise with [their] clients" (Radey & Figley, 2007, p. 207) which again is something not unique to social workers but shared by those in the helping professions.

Study Aims

As far as can be ascertained, Radey and Figley's (2007) PNR Model has not received previous empirical investigation. Therefore the main aim of this study was to empirically investigate the application of the PNR Model to the development of CS and CF among mental health professionals during the normal course of their professional practice. Specifically, the aim was to determine the extent to which the variance in reported levels of CS and CF could be predicted by the professional's reported Positivity-Negativity Ratio (PNR). Since Radey and Figley's (2007) model draws heavily from Fredrickson and Losada's (2005) investigation into human flourishing, this study endeavoured to replicate their methodology and data analysis procedures as far as possible within the constraints of time and access to participants.

A second aim of the study was to find a way of modelling the relationship between positive affect and negative affect that best explains the variance in CS scores and likewise, to find the best model of positive affect and negative affect for explaining the most variance in CF scores.

The final aim is to investigate whether other factors previously suggested to be related to the "cost of caring" (Figley, 1995, p. 1), that is, years working in mental health, hours worked per week, hours of supervision received per month, the number of clients

seen per week, hours spent with clients per week and the number of traumatised clients seen per week, account for any of the variance found in CS and CF scores.

Method

NHS ethical approval was obtained from Leeds (Central) Research Ethics Committee.

Participants

197 employees of a NHS Mental Health Foundation Trust in the north of England participated in the study between September 2010 and February 2011. 27 of those opted to return paper copies of the survey and 170 participated online. The study was publicised at team meetings and via the Trust email system. Participation was limited to those with clinical client contact and who identified themselves as a mental health professional. Two participants indicated that they had no contact with clients and therefore were excluded from the analysis.

Measures

Demographics and other factors

Using a survey method, information was collected on participant demographics (gender, age and professional background) and other factors that have previously been suggested to influence levels of CF, that is experience ('To the nearest year, how long have you worked in mental health?'), caseload characteristics ('In this role, how many hours do you work per week?', 'On average, how many clients do you see per week', 'On average, how many hours do you spend with clients per week?' and 'On average, how many clients that you would consider to be traumatised do you see per week') and the availability of supervision ('On average, how many hours of supervision do you receive per month?').

Affect rating scales

Modified Fredrickson and Losada (2005) Affect Measure (FLAM)

Due to Radey and Figley's (2007) heavy emphasis on Fredrickson and Losada's (2005) investigation into human flourishing, in order to best apply an empirical test to the PNR Model, participants' affect was assessed using a measure based on that developed by Fredrickson and Losada (2005). In their investigation Fredrickson and Losada (2005) asked participants to report the extent to which they had experienced each of 19 emotions (11 positive, 8 negative) on a 5 point scale ranging from 0 (not at all) to 4 (extremely) (see Appendix P). Participants in Fredrickson and Losada's (2005) study completed the measure each evening for a total of 28 days.

To increase the likelihood of participation in the current investigation participants were asked to base their responses on their experience over the last 30 days[1], rather than completing the measure each evening. Indeed, it is not unusual for affect and mood measures to be used retrospectively (e.g. Bradburn, 1969; Kercher, 1992; Watson, Clark & Tellegen, 1988). From their responses, scores for Positive Affect (PA) and Negative Affect (NA) were calculated as described later on.

No psychometric data exists for the FLAM whether used in its original format or as modified here. Notably there are more positive than negative emotions which gives greater opportunity for a higher PA score than NA score.

[1] A 30 day period was used to comply with the time period on the ProQOL

Positive and Negative Affect Schedule (PANAS; Watson et al., 1988)

Due to the lack of psychometric data for the FLAM and the unequal number of positive and negative items, the Positive and Negative Affect Schedule (PANAS; Watson *et al*., 1988) was also administered in the current study to yield a score for PA and NA.

The PANAS asks participants to report the extent to which they have experienced each of 20 emotions (10 positive, 10 negative) on a 5 point scale ranging from 1 (very slightly or not at all) to 5 (extremely) (see Appendix Q). To be consistent with the other measures used, participants were asked to base their responses on their experience over the last 30 days. Unlike the FLAM, the PANAS has been found to be psychometrically acceptable when used as a retrospective measure of affect. The Cronbach's alpha internal consistency reliabilities range from .86 to .90 for the PA scale and .84 to .87 for the NA scale depending upon the time frame referenced. The correlations between the PA scale and NA scale are desirably low, ranging from -.12 to -.23. The authors also present good evidence for the test-retest reliability and the convergent and discriminant validity of the two scales (Watson *et al*., 1988).

Professional Quality of Life Scale – Version 5 (ProQOL; Stamm, 2009; 2010)

The Professional Quality of Life Scale – Version 5 (ProQOL; Stamm, 2009; 2010) consists of 30 statements concerning a participant's experience over the last 30 days, for example, "I feel worn out because of my work as a *[helper]"* (Stamm, 2010, p. 26; see Appendix R). Participants are asked to rate how frequently they experienced each of these things in the past 30 days on a scale from 1 (never) to 5 (very often) (Stamm, 2010, p. 26; see Appendix R). The ProQOL yields a separate score for three concepts, namely Compassion Satisfaction (CS), STS and burnout, and the 30 statements are divided equally between these concepts. The measure has undergone much development over the years and it has been frequently

used in research exploring these concepts (e.g. Lauvrud, Nonstad & Palmstierna, 2009; Stamm, 2009; 2010). Importantly there is only 2% shared variance between the scales (r=-.23; co-σ = 5%; n=1187) (Stamm, 2010, p. 13).

In the current study participants' responses were scored as outlined in steps 1 and 2 in The Concise ProQOL Manual (Stamm, 2010; see Appendix R) yielding a score for CS, STS and burnout. Stamm (2010) suggests that a score of 22 or less on the CS scale is indicative of low levels of CS, a score between 23 and 41 indicates average levels but a score greater than 42 indicates high levels of CS. The same categorisations apply to STS and burnout.

Version 5 of the ProQOL does not yield a score for CF but, for the purposes of this study, following Stamm's (2009) conceptualisation of CF (see Figure 1) the scores for STS and burnout were combined to give a CF score. Because the CF score has been created for the purposes of this study there are no descriptive categorisations available. Higher scores will signify greater risk of CF but comparisons can only be made between participants.

Procedure

The online and paper versions of the study followed the same order and participants were able to choose which version they completed. Participants completed the demographic questionnaire followed by the modified FLAM, the PANAS and then the ProQOL. The final page contained information on where to find support for any issues that the survey may have raised, and it also contained a link to the ProQOL website.

Pre-Analysis Data Preparation

Calculating Positive Affect (PA) and Negative Affect (NA) Scores

Thresholds method

To remain consistent with the procedure adopted by Fredrickson and Losada (2005) the number of positive emotions which had been rated at 2 or more on the Likert scale on the FLAM were counted to give a score for PA. Likewise, the number of negative emotions rated at 1 or more were counted to give a score for NA. In this way the FLAM scores could range from 0 to a maximum of 11 for PA and 8 for NA.

Fredrickson and Losada (2005) used these thresholds to account for what they argue are "well- documented asymmetries between positive and negative affect – namely, negativity bias and the positivity offset" (Fredrickson & Losada, 2005, p. 683). The negativity bias being "that bad is stronger than good (Baumeister, Bratslavsky, Finkenauer & Vohs, 2001; Cacioppo & Berntson, 1999)" (Fredrickson & Losada, 2005, p. 684) and the positivity offset being "the general principle that most people feel at least mild positive affect most of the time (Cacioppo & Berntson, 1999)" (Fredrickson & Losada, 2005, p. 684).

The same principles were applied to the PANAS responses. However, since the response options on the FLAM were five points on a scale from 0 to 4 but on the PANAS were five points on a scale from 1 to 5, the thresholds applied to the PANAS were adjusted. For the PANAS the number of positive emotions experienced rated at 3 or more were counted to give a score for PA and the number of negative emotions rated at 2 or more were counted to give a score for NA. In this way the thresholds applied to both affect measures were equivalent, that is they both start at the same point on each scale. The scores for both PA and NA on the PANAS calculated in this way could range from 0 to 10.

Totals method

Although in line with Fredrickson and Losada's (2005) investigation, the usefulness and validity of using thresholds as described above in this investigation is questionable given that the PNR Model arguably already accounts for the positivity and negativity bias (Baumeister *et al*., 2001; Cacioppo & Berntson, 1999). Moreover, the application of a threshold largely negates another important factor of the model, that is the intensity of the emotional experience (for example, the score of an individual who experienced all of the negative emotions at a present but low level is the same as one who experienced the same negative emotions at the maximum extent). Therefore the affect measure responses were also totalled in line with the guidance in the original PANAS paper (Watson *et al*., 1988) to give a second PA and NA score for each affect measure; not subjected to thresholds and tallied as described above. Thus, the intensity of the experience is reflected in the scores. For the PANAS then, the scores for PA and NA could range from 10 to 50 whereas on the FLAM PA could range from 0 to 44 and NA from 0 to 32.

Standardised FLAM affect scores

There are more positive than negative emotions listed in the FLAM. As such, standardised PA and NA scores for both affect measures were calculated by dividing by the maximum possible score on each scale, for example FLAM PA scores calculated using the totals method were divided by 44 and FLAM PA scores calculated using the threshold method were divided by 11 (see Table 2). Standardised scores allow for fair comparisons between PA and NA to be made.

Data Analysis

Agreement between measures

The intraclass correlations of the corresponding affect scores from the FLAM and PANAS were calculated to see how strongly the two measures agreed. Since the correlation between the affect measures was not strong (see Table 3), only one affect measure was used in subsequent analysis. The PANAS was chosen because of the validity issues with the FLAM highlighted previously. Likewise, due to additional concerns about the application of a threshold, the PA and NA scores used were those derived from the totals method. This method of calculation is consistent with the original PANAS scoring guidelines (Watson *et al*., 1988). It also avoids later difficulties in calculating a ratio from threshold scores where a score of zero for either PA or NA was possible, but using the totals method with the PANAS data the minimum score on either PA or NA is 10.

Calculation of Positivity-Negativity Ratio (PNR)

In order to apply an empirical test to the Radey and Figley (2007) model a PNR was derived from the PANAS totalled scores in accordance with the procedure employed in the Fredrickson and Losada (2005) paper; that is, PA was divided by NA. Distribution of the PNR was checked for normality using a histogram (see Figure 3).

Testing of the PNR Model

A univariate general linear model regression calculation was used with PNR as predictor variable and CS and then CF as dependent variable. However, scatterplots of PNR against CS and CF were also used to suggest what the most appropriate regression model would be. Hierarchical multiple regression was used to determine the contribution to the variance of the other factors measured. An alpha level of .05 was used throughout.

Results

27 participants returned paper versions of the survey and 170 participants completed the survey online. Two online participants were excluded from the analysis as they indicated that they had no clinical client contact, leaving a total of 195 participants.

Participant characteristics

Characteristics of the participants are presented by professional background in Table 1. Median values are presented due to the skew evident in the responses of some professional groups (see Appendix T for boxplots).

Nursing represented the largest professional group with 91 participants identifying this as their professional background (27 male, 62 female, 2 unspecified). The modal age group for Nurses was '31-40' (N=44).

Psychology represented the second largest professional group with 53 identifying this as their professional background (10 male, 43 female). 35 of these specified their job title as 'Trainee Clinical Psychologist' and therefore would have been enrolled on the local Clinical Psychology training course. This training course is unique in that it selects trainees directly from the Hull and York Psychology undergraduate degrees and thus would account for the modal age group being '21 - 30' (N=38) and the positive skew towards fewer years working in mental health.

18 participants initially identified social work as their professional background, and the job titles of a further two participants from the 'Other' category indicated that they

Table 1. Demographic, employment and caseload characteristics of participants (N = 194) by professional background

Variable	Nursing	Psychology	Social Work	Counselling	Psychotherapy	OT	Medicine	Physio.	Other	Total
	N=91	N=53	N=20	N=5	N=6	N=5	N=3	N=6	N=5	N=194
Gender										
Male	27	10	6	0	2	0	1	0	0	46
Female	62	43	13	5	4	5	2	6	5	145
Missing	2	0	1	0	0	0	0	0	0	3
Age										
20 and under	6	0	3	0	1	0	2	0	2	52
21-30	19	38	2	0	1	0	0	2	0	32
31-40	44	8	6	4	1	3	1	2	3	68
41-50	17	4	7	1	1	2	0	1	0	32
51-60	5	3	2	0	2	0	0	1	0	10
61 and over	0	0	0	0	0	0	0	0	0	0
Years in Mental Health										
Median	16.0	3.0	7.0	5.0	17.0	11.5	1.0	9.5	16.0	-
IQR	17	4	17	13	20	16	-	12	15	-
Missing	1	1	1	0	0	1	0	0	0	4
Hours worked per week										
Median	37.5	37.5	37.0	35.0	37.0	37.5	40.0	30.8	37.5	-
IQR	0	22.5	5.75	12.95	21.75	8.75	9.5	18.81	5.00	-
Missing	3	0	0	0	0	0	0	0	0	3
Supervision (hrs/month)										
Median	1.0	4.0	1.0	3.0	2.0	1.0	4.0	0.75	1.0	-
IQR	1.0	2.6	0.0	2.0	1.5	-	-	0.97	1.75	-
Missing	2	1	0	0	0	0	0	0	0	3
Clients per week										
Median	5.0	8.0	13.5	18.5	11.0	10.0	18.0	8.0	12.0	-
IQR	8.50	5.00	6.75	10.00	7.25	5.50	-	15.25	8.50	-
Missing	2	0	0	1	0	0	0	0	0	3

Table 1. (*Continued*)

Variable	Nursing	Psychology	Social Work	Counselling	Psychotherapy	OT	Medicine	Physio.	Other	Total
	N=91	N=53	N=20	N=5	N=6	N=5	N=3	N=6	N=5	N=194
Client hours per week										
Median	15.0	8.0	17.5	18.0	13.0	12.0	20.0	11.5	18.0	-
IQR	13.00	5.50	10.75	15.00	9.50	15.38	-	11.00	19.00	-
Missing	3	0	0	0	0	0	0	0	0	3
Traumatised clients seen per week										
Median	3.00	2.00	4.00	6.00	4.00	1.00	12.00	2.50	8.00	-
IQR	4.00	4.00	4.00	7.00	9.75	2.75	-	4.75	8.50	-
Missing	4	1	2	1	0	0	0	0	0	8

Note. Missing data are those which were not reported or where the intended response was unclear. One participant did not clearly indicate their professional background and therefore is not included in the table.

were best classified as from a social work background and so were reclassified as such (N=20; 6 male, 13 female, 1 unspecified).

Other professions were less frequently represented. Five participants identified psychotherapy as their professional background and the job title of another participant from the 'Other' category indicated that they were best classified as from a Psychotherapy background (N=6; 2 male, 4 female). The job titles of a further 6 from the 'Other' category indicated that they could best be categorised as sharing a Physiotherapy background and so were regrouped as such.

Affect measures

Positive Affect (PA) and Negative Affect (NA) scores

The median scores for PA and NA derived from each affect measure are presented in Table 2. Due to the discrepancy between the number of positive and negative emotions on the FLAM standardised scores are presented. Median values are used due to the skew evident for some data (see histograms in Appendix U.).

Table 2. Positive and Negative Affect scores presented by affect measure and calculation method

		Positive Affect		Negative Affect	
		FLAM	PANAS	FLAM	PANAS
		N=192	N=194	N=193	N=194
Threshold method	Median (IQ range)	0.82 (0.27)	8.0 (4.0)	0.75 (0.50)	6.0 (4.0)
Totals method	Median (IQ range)	0.60 (0.23)	32.0 (10.0)	0.28 (0.27)	19.0 (9.0)

Note. Standardised FLAM scores are used

Wilcoxon matched pairs tests show that for both the FLAM and PANAS, PA is significantly higher than NA whether calculated using thresholds or the totals method (p<.01) .

The intraclass correlations of the corresponding affect scores from the FLAM and PANAS were calculated to see how strongly the two measures agreed (for example, PA from the PANAS calculated using thresholds was compared with PA from the FLAM also calculated using thresholds). For both PA and NA, whether calculated using thresholds or the totals method, the agreement between the FLAM and the PANAS was not strong (see Table 3). This was also evident from the scatterplots and was true for both standardised and unstandardised FLAM scores (see Appendix V).

Table 3. Intraclass reliability coefficients of standardised FLAM and PANAS affect scores by calculation method and affect type

	Threshold method	**Totals method**
Positive Affect	.09	.03
Negative Affect	.13	.04

The use of PANAS and totals calculation method

Since the correlation between the affect measures was not strong, only one affect measure was used in subsequent analysis. The PANAS was chosen because of the validity issues with the FLAM discussed previously. The totals method was used for

calculating the scores due to the issues with using a threshold also discussed previously (see pages 72-73).

Positivity Negativity Ratio (PNR)

PANAS data was available for 194 participants[2]. In order to test the predictive ability of the PNR Model (Radey & Figley, 2007) PA was divided by NA to give a PNR score for each participant. The median PNR score was 1.61 with an interquartile range of 0.86. The PNR data showed a slight positive skew as seen in Figure 3 when plotted in a histogram with normal curve.

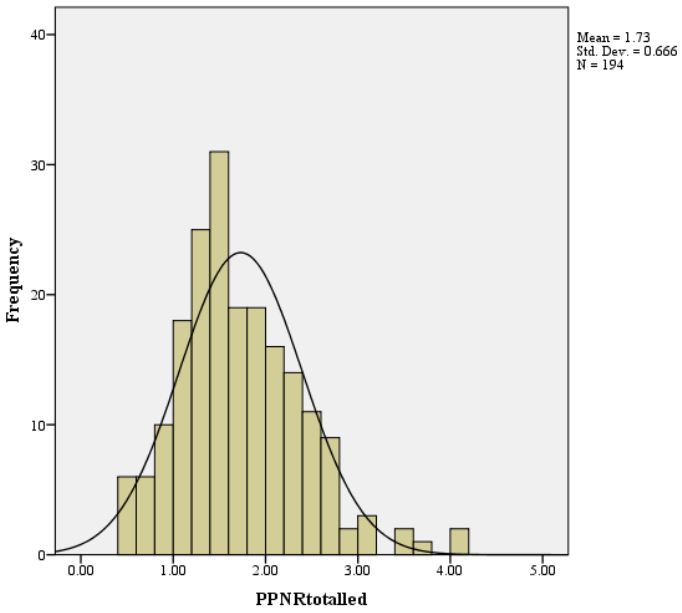

Figure 3. Histogram of PANAS PNR

Compassion Satisfaction and Compassion Fatigue scores from the ProQOL

[2] One participant did not correctly complete the PANAS and therefore was excluded from subsequent analyses.

CS and CF scores were calculated from participants' responses to the ProQOL (as described on Page 70). Mean and standard deviations of CS and CF scores are presented in Table 4 and their distributions appeared to be well fitted by a normal curve when a histogram was plotted (see Appendix W). The mean CS score is in the 'Average' range as described by Stamm (2010).

Table 4. Mean and standard deviations of CS and CF scores

	Compassion Satisfaction N=195	Compassion Fatigue N=193
Range of possible scores	10 - 50	20 - 100
Mean	35.7	45.1
Standard deviation	5.8	8.8

Testing of the Positivity Negativity Ratio Model (Radey & Figley, 2007)

PNR and Compassion Satisfaction

The first test of the PNR Model was to explore the relationship between the PNR and CS. When CS was plotted against PNR fitting a local linear regression smoother to ease detection of a non-linear relationship it suggested that CS was not linearly related to PNR (see Figure 4).

Nevertheless, to continue with the empirical test of Radey and Figley's (2007) PNR Model a univariate general linear model regression calculation with PNR as the predictor variable and CS as the outcome variable found that PNR explained a

significant 17% of the variance in CS (F = 40.43, p<.01). Whilst this figure is significant it is not an excellent fit of the data.

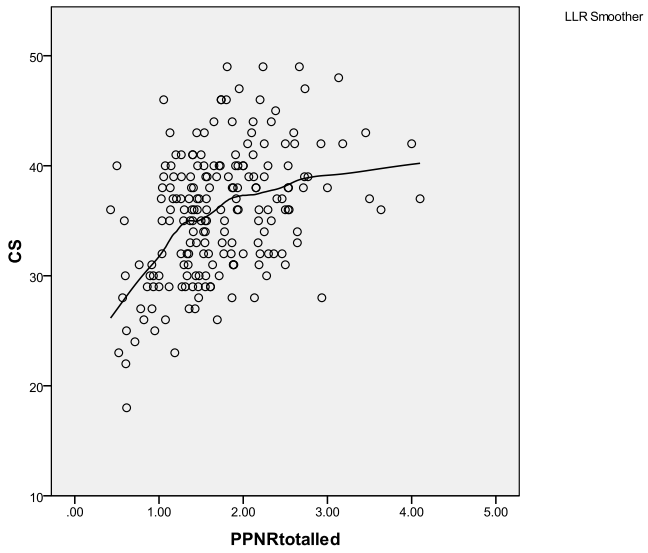

Figure 4. Scatterplot of PNR and CS score using local linear regression smoother

Log transformation of PNR

When CS was plotted against PNR as shown in Figure 4, the resultant curve suggested that a logarithmic transformation of PNR might better predict CS than the untransformed PNR. Therefore a logarithmic transformation was applied to PNR and the resulting variable, LogPNR, was plotted against CS as shown in Figure 5, again with a local linear regression smoother fitted. The scatterplot shown in Figure 5 suggests that there is a linear relationship between LogPNR and CS.

A univariate general linear model regression calculation using LogPNR as the predictor variable and CS as the outcome variable found that LogPNR explained a significant 20% of the variance in CS (F = 48.58, p<.01) which is more than was explained by the untransformed PNR. Again, whilst this is significant there may be other better fitting models.

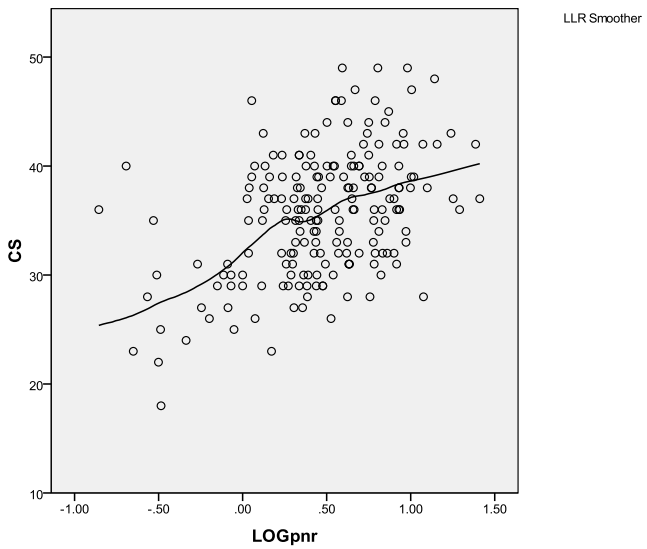

Figure 5. Scatterplot of LogPNR and CS score using local linear regression smoother

Other predictive models of CS

The PNR represents one way of modelling the PA and NA data, but in light of the results shown above another model may better predict CS, namely 1) a hierarchical multiple regression of PA and NA on CS or 2) a univariate general linear model regression with 'Affect Difference' (that is, PA minus NA) on CS. As such these two further ways of modelling the PA and NA data in relation to CS are explored below:

1. Hierarchical multiple regression of PA and NA on CS

When PA was plotted against CS a positive linear relationship between the two variables was suggested (see Figure 6). When NA was plotted against CS a negative linear relationship was apparent, albeit with a shallower gradient (see Figure 7).

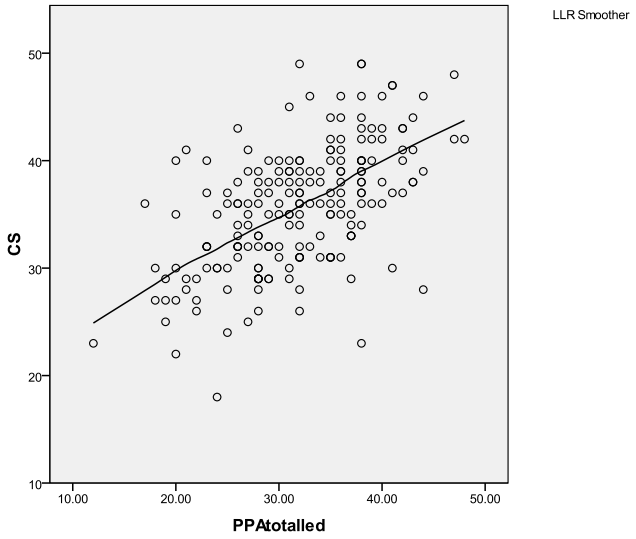

Figure 6. Scatterplot of PA and CS score using local linear regression smoother

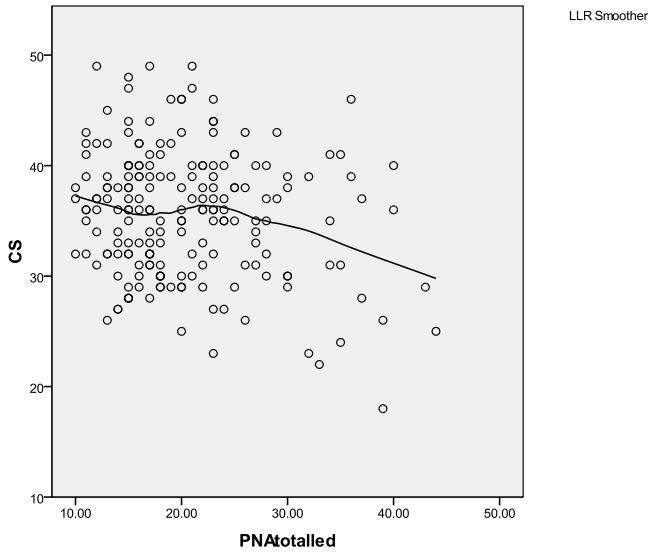

Figure 7. Scatterplot of NA and CS score using local linear regression smoother

The predictive effect of the untransformed PA and NA variables on CS were explored using a hierarchical multiple regression analysis. PA was entered first and explained a significant 32% of the variance in CS (F = 88.92, p<.01). When NA was added only a further significant increment of 2% of the variance (F = 50.79, p<.01)

was explained. The regression equation is summarised in Table 5. This model explained more of the variance in CS than either the PNR or LogPNR models.

Table 5. Hierarchical multiple regression of Positive Affect (PA) and Negative Affect (NA) as predictors of Compassion Satisfaction

Blocks	*B*	Standard Error *B*	R^2	Sig
Block 1:				
PA	.48	.05	.32	.00
Block 2:				
PA	.48	.05	.32	.00
NA	-.14	.05	.34	.00

2. Univariate general linear model regression of 'Affect Difference' on CS

The scatterplot shown in Figure 8 suggests a positive linear relationship between Affect Difference and CS. A univariate general linear model regression calculation was then fitted using Affect Difference as the predictor variable and CS as the dependent variable. In this model Affect Difference explained a significant 27% of the variance (F=69.39, p<.01). This suggests that this is a better predictor of CS than PNR or LogPNR but not as good as a hierarchical multiple regression using PA and NA.

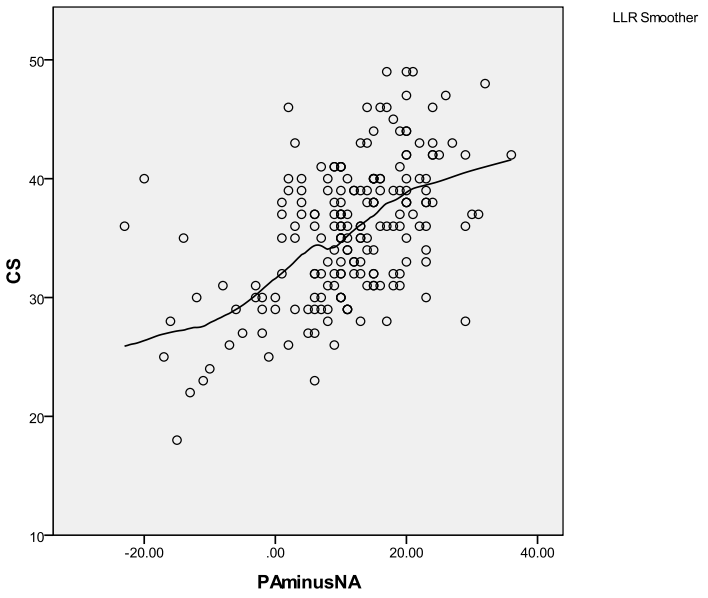

Figure 8. Scatterplot of Affect Difference and CS score using local linear regression smoother

PNR and Compassion Fatigue

The second test of the PNR Model was to explore the relationship between the PNR and CF. When CF was plotted against PNR fitting a local linear regression smoother to ease detection of a non-linear relationship it suggested that there was a negative linear relationship between PNR and CF (see Figure 9). It does not indicate that a logarithmic transformation of PNR might be a better predictor of CF (as was the case with CS) and therefore the PNR variable was not transformed in that way.

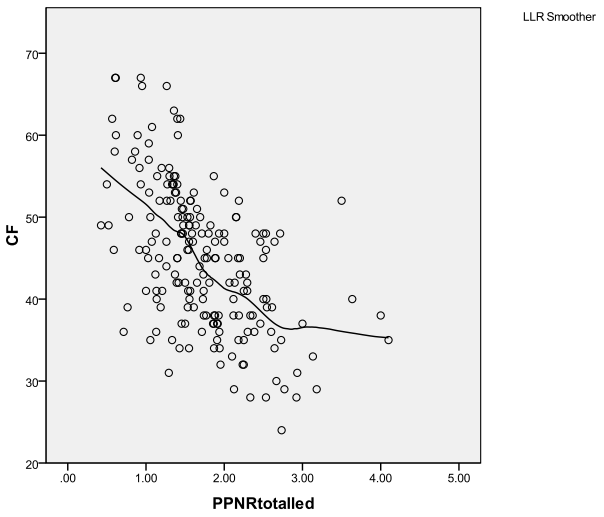

Figure 9. Scatterplot of PNR and CF score using local linear regression smoother

A univariate general linear model regression calculation with the PNR as predictor variable and CF as the dependent variable found that PNR could explain a significant 30% of the variance in CF (F =83.53, p<.01).

Other predictive models of CF

Although this is a significant result, it does not explain enough of the variance in the data to be considered an excellent predictive model of CF. This could indicate that the use of a ratio of PA and NA is not the best way to account for the relationship between these factors and CF. The two additional modelling methods that were applied to the PA and NA data and the relationship to CS were therefore repeated with CF as the outcome variable.

1. Hierarchical multiple regression of PA and NA on CF

The scatterplot of the relationship between PA and CF as shown in Figure 10 suggested a negative linear relationship between the two variables. When NA was

plotted against CF a positive linear relationship was suggested (see Figure 11). This is the opposite to the relationship of PA and NA to CS and is as would be expected from an understanding of these concepts.

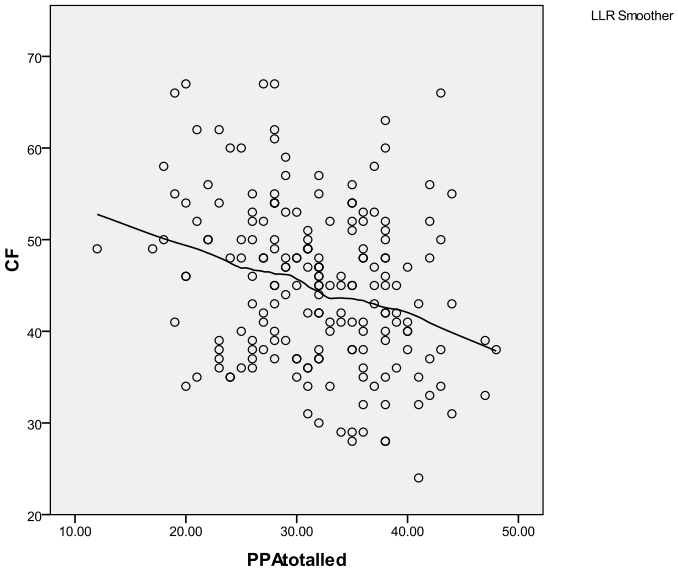

Figure 10. Scatterplot of PA and CF score using local linear regression smoother

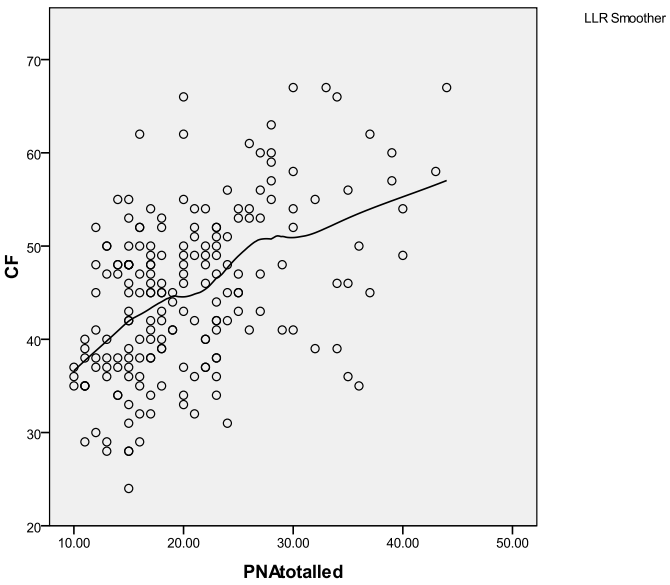

Figure 11. Scatterplot of NA and CF score using local linear regression smoother

The predictive effects of PA and NA on CF were then explored using a hierarchical multiple regression analysis as is summarised in Table 6. In view of the scatterplots in Figures 10 and 11, NA was entered first and explained a significant 24% of the variance (F=59.10, p<.01). When PA was added a further significant increment of 7% of the variance (F=42.48, p<.01) was explained. This explains only 1% more of variance than is explained by univariate general linear model regression calculation using the PNR.

Table 6. Hierarchical multiple regression of predictors of Compassion Fatigue

Blocks	***B***	**Standard Error *B***	**R^2**	**Sig**
Block 1:				
NA	.59	.08	.24	.00
Block 2:				
NA	.59	.07	.24	.00
PA	-.35	.08	.31	.00

2. Univariate general linear model regression of 'Affect Difference' on CF

The scatterplot of 'affect difference' (that is, PA minus NA) with a local linear regression smoother suggests that there is a negative linear relationship between this variable and CF (see Figure 12).

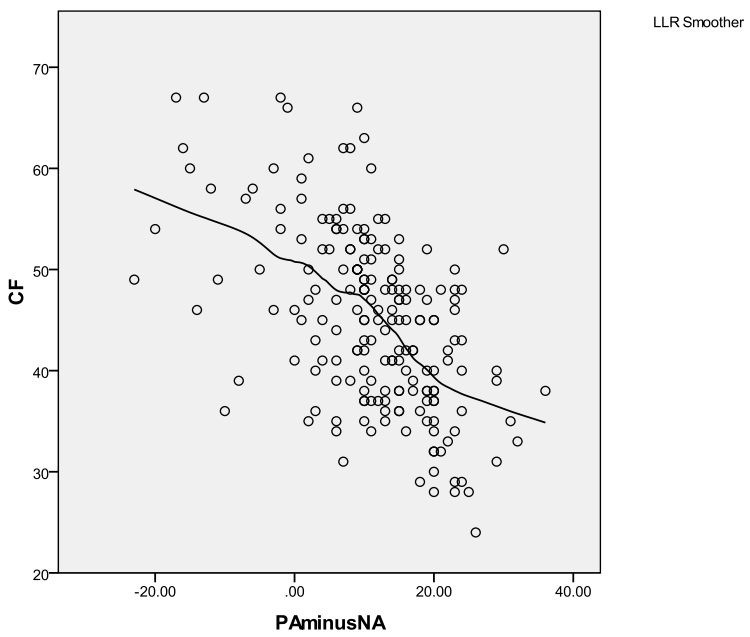

Figure 12. Scatterplot of Affect Difference and CF using local linear regression smoother

A univariate general linear model regression calculation using Affect Differences as the predictor variable and CF as the dependent variable explained a significant 29% of the variance in CF (F =78.25, p<.01). This suggests that this is not quite as good a predictor of CF as PNR or a hierarchical multiple regression analysis using NA and PA.

Summary of main findings from alternative predictive models

Compassion satisfaction

The PNR explained only 17% and LogPNR explained only 20% of the variance in CS scores, neither of which are sufficiently high enough for the PNR to be considered a an excellent predictive model of CS. A univariate general linear model regression of Affect Difference on CS was only slightly more successful as it explained 27% of the variance in CS scores, and therefore was still not an excellent predictor of CS. The

best of the models was a hierarchical multiple regression of PA and NA on CS which explained 34% of the variance in CS.

Compassion fatigue

The PNR explained 30% of the variance in CF score, almost two times more variance than it explained for CS scores. A hierarchical multiple regression of NA and PA on CF explained 31% of the variance and a univariate general linear model regression of Affect Difference on CF explained a slightly lower 29% of the variance in CF. No particular way of modelling the affect scores to predict variance in CF stood out as distinctly superior.

The influence of other factors on the prediction of variance in CS and CF

Participants provided information on other work-related factors that have previously been suggested to influence levels of CF, that is their experience level, caseload characteristics and the availability of supervision. The second aim of this project was to investigate the influence of these other factors on CS and CF, and their effect on the predictive ability of the PNR Model. The correlation between these other factors was checked prior to further analyses. None were highly correlated with another and therefore were treated as independent throughout the following analyses:

Other factors and prediction of CS

As CS was best predicted by the hierarchical multiple regression analysis with PA entered first followed by NA this calculation was repeated, but the other factors added first in Block 1. The other factors together explained a non-significant 6% of the variance (F=1.83, p=.096). On their own, only the effect of Years in Mental

Health and Supervision were found to be significant (p<.05). However, since the overall predictive value of all variables was minimal and non-significant the predictive effect of these other factors on CS can be considered negligible. Overall this model explained a significant 39% of the variance in CS (F=13.52, p<.01) (see Table 7).

Table 7. Hierarchical multiple regression of PA and NA as predictors of CS, including other factors

Blocks	***B***	**Standard Error *B***	**R^2**	**Sig**
Block 1:				
YearsMH	.11	.05	.06	.096
Hours a Wk	.06	.08		
Supervision	.59	.28		
Clients	-.08	.06		
ClientHrs	.05	.07		
TraumaClients	.02	.09		
Block 2:				
Positive Affect	.49	.05	.37	.00
Block 3:				
Negative Affect	-.12	.05	.39	.00

Analysis of the standardised residuals from this model using a Kolmogorov-Smirnoff test indicates that the residuals are normally distributed and their

distribution appeared to be well fitted by a normal curve when a histogram was plotted (see Appendix X).

Other factors and prediction of CF

CF was best predicted by a hierarchical multiple regression analysis with NA entered first followed by PA. This calculation was repeated but with the other factors added first in Block 1. The other factors together explained a significant 8% of the variance in CF (F=2.33 p=.034). On their own only the effect of Supervision was found to be significant (p=.025). However, since the predictive effect of all variables was minimal the predictive effect of Supervision on CF is negligible. Overall this model explained a significant 37% of the variance in CF (F=12.08, p<.01) (see Table 8).

Analysis of the standardised residuals from this model using a Kolmogorov-Smirnoff test indicates that the residuals are normally distributed and their distribution appeared to be well fitted by a normal curve when a histogram was plotted (see Appendix X).

Table 8. Hierarchical multiple regression of predictors of CF, including extra factors

Blocks	*B*	Standard Error *B*	R^2	Sig
Block 1:				
Hours a Wk	-.06	.12	.08	.034
Supervision	-.94	.41		
Clients	.10	.10		
ClientHrs	-.08	.10		
TraumaClients	.14	.13		
YearsMH	-.08	.07		
Block 2:				
Negative Affect	.60	.08	.31	.00
Block 3:				
Positive Affect	-.32	.08	.37	.00

Summary of main findings from analysis of other factors

The addition of the other factors to the best models from each section explained an extra 6% of the variance in CS and an extra 8% for CF. Supervision was found to be significant in explaining some of the variance in both CS and CF scores, although as the overall variance explained by all the other factors was minimal this contribution is also minimal. Years working in Mental Health was also significant in explaining some of the variance in CS, although for the same reasons the contribution of this can be considered minimal. Given the well-documented relationship between these factors and CF these results are surprising.

In conclusion, when combined with the best predictive models from the previous section, the addition of the other factors increases the utility of the models for explaining the variance in CS and CF scores. Using a hierarchical multiple regression where the other factors were entered followed by PA and NA separately, 39% of the variance in CS could be explained. Similarly, in a hierarchical multiple regression where the other factors were entered first followed by NA and PA, 37% of the variance in CF could be explained.

Discussion

The primary aim of this study was to apply an empirical test to Radey and Figley's (2007) Positivity-Negativity Ratio Model. That is, to test the extent to which the ratio of positive to negative affect experienced by mental health professionals in their day to day working lives was predictive of their levels of CS and CF. To a limited extent the predictive value of the PNR was confirmed, but it was a better predictor of CF than CS.

The secondary aim of the investigation was to determine the best way of modelling the affect data to predict as much of the variance in CS and CF as possible. For CS, this was to use a hierarchical multiple regression of the separate elements of PA and NA on CS, rather than using a ratio of the two. This explained 34% of the variance in CS, with PA accounting for 32%. When the extra work-related factors were taken into consideration this model explained 39% of the variance. Thus, one might consider this a good model for the prediction of variance in CS scores.

For CF, a hierarchical multiple regression of NA and PA on CF explained roughly the same amount of variance in CF scores as the PNR (i.e. 31% and 30% respectively) and a univariate general linear model regression of Affect Difference on CF explained 29% of the variance. As such no particular way of modelling the data was preferential for CF.

Based on these results the PNR was somewhat useful in explaining the variance in the CS and CF scores of those participating in the study. However,

there were better ways of modelling the affect data to predict more of the variance in both.

Given that CS is regarded as a desirable thing and CF is not, it is not surprising that PA was a better predictor of CS than NA (and *vice versa* for CF). These results provide further evidence that the concept of CS needs clarification. If it were merely the other end of the CF continuum then one would not expect to find such discrepancy between the predictive ability of the PNR model for CS and CF. The majority of the variance predicted in CS was accounted for by PA rather than NA, which might suggest that CS as measured by the ProQOL is not significantly distinct from PA.

It is possible that other aspects of the PNR Model (i.e. resources, affect and self-care under the influence of discernment and judgement) remain important in mediating the development of CS and CF. However, it may be that these other aspects do not determine the overall emotional experience (or PNR) as Radey and Figley (2007) originally suggested (see Figure 2), but instead mediate the effect of the PNR on the development of CS and CF (see Figure 13). This modification to the original model is suggested as an explanation for the remaining variance based upon the same factors highlighted by Radey and Figley's (2007) as being important. Obviously further investigation of these factors, in conjunction with emotional experience, is required to substantiate this change. Of course it is possible that there are alternative or additional important factors that are missing from the model which would better account for the unexplained variance.

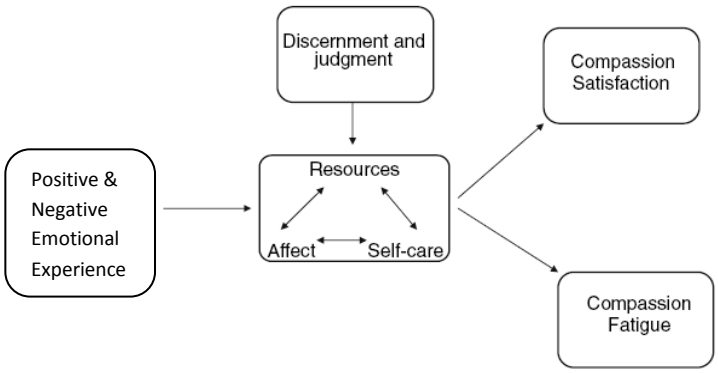

Figure 13. Proposed modification to the PNR Model (Radey & Figley, 2007)

Other factors relating to CS and CF

Given the well-documented relationship between the other factors considered here and CF it is surprising that they did not explain more of the variance in the results. However, the measures used here were brief screening questions and may not have encapsulated all the critical information about each factor. For example, supervision for mental health professionals can be variable in purpose, nature and quality (i.e. case management versus exploration of process issues), and the quality of the supervisory relationship has also been noted to be important in the success of supervision (e.g. Norcross, 2002; Palomo, Beinart & Cooper, 2004). These factors are also likely to vary between professional groups. Supervision was relevant to both CS and CF (i.e. higher levels of supervision were associated with higher levels of CS and lower levels of supervision associated with lower levels of CF) but its overall contributions were very low.

Likewise, the measure of traumatised clients on participants' caseloads was dependent upon each clinician's own perception of trauma and therefore is likely to have been variable. A more valid approach may have been to assess the trauma

status of each of their clients according to a specified checklist e.g. The Trauma Symptom Checklist-33 (Briere & Runtz, 1989), although clearly this would have taken a considerable amount of time.

The use of a similar measure of clinician's personal trauma history was considered, however the inclusion of questions of such a sensitive nature in a brief online survey would have been inappropriate without the availability of support. It is also unlikely that participants would be willing to disclose such information to a researcher employed within the same Trust. Moreover the relationship between a clinician's own trauma history and the development of CF is likely to be complex and may, for example, depend upon the similarity of clinician's trauma to that of their clients.

Unfortunately no detailed information was collected on the type of client group that participants worked with as it was felt that this could reduce the anonymity of their responses and therefore the likelihood of their participation.

Limitations

Measurement

Notably the CF score was derived from STS and burnout scores on the ProQOL on the basis of Stamm's (2009; 2010) conceptualisation of CF (see Figure 1). Earlier versions of the ProQOL yielded a CF score in its own right (e.g. Stamm, 2005) but there is no guidance on how scores should be combined in the latest version and, therefore, no psychometric data is available (Stamm, 2010). As such the CF score used here should be treated with caution and only as an estimation of CF level. Reliable measures exist for concepts such as burnout (e.g. The Maslach Burnout

Inventory; Maslach, Jackson & Leiter, 1996) but the ProQOL is the measure recommended for use when exploring "positive and negative reactions to work experiences" (Elwood *et al*., 2011, p. 32).

The affect measured used by Fredrickson and Losada (2005) was found to be inadequate when compared with the psychometrically sound PANAS, even when standardised scores were used to remediate for the unequal number of positive and negative emotion response options.

Sampling

It was not possible to use a sampling frame of all the employees of the Trust, nor were figures accessible for the number of employees within the Trust who had clinical client contact (although as of April 2011 the Trust employed around 2,800 people). Therefore, one cannot ascertain whether the sample is representative of the employees of the Trust or mental health professionals nationwide.

All staff received a recruitment email but it was not possible for the researchers to attend all team meetings to publicise the study. Thus, coupled with staff absence or unavailability, not all staff received the same amount of encouragement to participate and it is not clear how the responses from non-responders would have affected the results. Those with the highest levels of CF may have been the least likely to respond, or conversely the most motivated to share their feelings.

General design limitations

The design of the study allows only for correlational assumptions to be made about the data; that is it is not possible to say conclusively from the results that the variance in CS

and CF levels is explained by the PNR as suggested by the PNR model (Radey & Figley, 2007). It could equally be that levels of CS and CF causally influence the variance in the PNR. Therefore an intervention study would be needed to investigate the direction of causality in the model.

Implications for future research

It was not possible to investigate the influence or experience of professional group due to the limited number of responses from some professions. Furthermore, there was marked heterogeneity of experience level within groups, especially Psychology. Therefore future research could investigate the utility of the concept of the PNR for explaining variance in CS and CF scores within different professional groups.

Due to the proportion of unexplained variance in this study there is scope for further research into what influences either the PNR or CS and CF. This could start with resources, affect and self-care as repositioned in Figure 13. Nevertheless, as the influence of affective experience has been demonstrated by the present results it might be fruitful to investigate the short-term and long-term effects on CS and CF levels of specific interventions for maximising positivity.

Implications for practice

In its present form the PNR Model (Radey & Figley, 2007) does not give a full understanding of how mental health professionals come to pay "the cost of caring" (Figley, 1995, p. 1) yet it, and the other ways of modelling the data explored here, highlight that affective experience may play a part. Therefore, this study provides evidence that to adopt a prevention-focused health and well-being strategy for staff as recommended by the Boorman Review (DoH, 2009) healthcare

organisations should, as a minimum, facilitate positive emotional experience among their workforce, particularly when a team or staff member has experienced some marked negativity. This can be achieved, for example, through providing clinicians with a varied caseload which allows for some "successes" thereby introducing optimism and other positive emotions. Allowing a team the space and time to reflect on positive cases together may also introduce optimism and hope to the team, and discussion of the more difficult cases allows "reframing" to occur further instilling hope or contentment. Indeed Radey and Figley (2007) suggest that allowing distance from distressing client issues increases one's ability to remain optimistic. This will not be entirely sufficient to mediate against compassion fatigue but seems a necessary first step.

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Part III: Appendixes

Clinical Psychology Review:

Guide for Authors

Preparation

Use of wordprocessing software

It is important that the file be saved in the native format of the wordprocessor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the wordprocessor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier: http://www.elsevier.com/guidepublication). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic illustrations.

To avoid unnecessary errors you are strongly advised to use the "spell-check" and "grammar-check" functions of your wordprocessor.

Article structure

Manuscripts should be prepared according to the guidelines set forth in the Publication Manual of the American Psychological Association (6th ed., 2009).

Manuscripts should ordinarily not exceed 50 pages. Exceptions may be made with prior approval of the Editor in Chief for manuscripts including extensive tabular or graphic material, or appendices.

Appendices

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering:

Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information

Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible. **Note: The title page should be the first page of the manuscript document indicating the author's names and affiliations and the corresponding author's complete contact information.**

Author names and affiliations. Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name, and, if available, the e-mail address of each author within the cover letter.

Corresponding author. Clearly indicate who is willing to handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that telephone and fax numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address.**

Present/permanent address. If an author has moved since the work described in the article was done, or was visiting at the time, a "Present address"' (or "Permanent address") may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Abstract

A concise and factual abstract is required (not exceeding 200 words). This should be typed on a separate page following the title page. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separate from the article, so it must be able to stand alone. References should therefore be avoided, but if essential, they must be cited in full, without reference to the reference list.

Highlights

Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters including spaces, or, maximum 20 words per bullet point). See http://www.elsevier.com/highlights for examples.

Keywords

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, "and", "of"). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations

Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Footnotes

Footnotes should be used sparingly. Number them consecutively throughout the article, using superscript Arabic numbers. Many wordprocessors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

Table footnotes

Indicate each footnote in a table with a superscript lowercase letter.

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Tables

Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

References

Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Sixth Edition, ISBN 1-4338-0559-6, copies of which may be ordered from http://books.apa.org/books.cfm?id=4200067 or APA Order Dept., P.O.B. 2710, Hyattsville, MD 20784, USA or APA, 3 Henrietta Street, London, WC3E 8LU, UK. Details concerning this referencing style can also be found at http://humanities.byu.edu/linguistics/Henrichsen/APA/APA01.html

Citation in text

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of

the publication date with either "Unpublished results" or "Personal communication" Citation of a reference as "in press" implies that the item has been accepted for publication.

Web references

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

References in a special issue

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

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Reference style

References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters "a", "b", "c", etc., placed after the year of publication. **References should be formatted with a hanging indent (i.e., the first line of each reference is flush left while the subsequent lines are indented).**

Examples: Reference to a journal publication: Van der Geer, J., Hanraads, J. A. J., & Lupton R. A. (2000). The art of writing a scientific article. *Journal of Scientific Communications,* 163, 51-59.

Reference to a book: Strunk, W., Jr., &White, E. B. (1979). *The elements of style.* (3rd ed.). New York: Macmillan, (Chapter 4).

Reference to a chapter in an edited book: Mettam, G. R., & Adams, L. B. (1994). How to prepare an electronic version of your article. In B.S. Jones, & R. Z. Smith (Eds.), *Introduction to the electronic age* (pp. 281-304). New York: E-Publishing Inc.

Appendix B: Quality assessment checklist

Quality assessment checklist

Number	Question	Yes (1)	No (0)	N/A	Can't determine
Reporting					
1	*Is the hypothesis/aim/objective of the study clearly described?*				
2	*Are the main outcomes to be measures clearly described in the Introduction or Methods section?* • If the main outcomes are first mentioned in the Results section, the question should be answered no.				
3	*Are the characteristics of the participants included in the study clearly described?*				
4	*Are the interventions of interest clearly described?*				
5	*Are the main findings of the study clearly described?* • Simple outcome data (including denominators and numerators) should be reported for all major findings so that the reader can check the major analyses and conclusions. (This question does not cover statistical tests which are considered below).				
6	*Does the study provide estimates of the random variability in the data for the main outcomes?* • In non-normally distributed data the inter-quartile range of the results should be reported. In normally distributed data the standard error, standard deviation or confidence intervals should be reported. If the distribution of the data is not described, it must be assumed that the estimates used were appropriate and the question should be answered yes.				
7	*Have the characteristics of the patients lost to follow-up been described?* • This should be answered yes where there were no losses to follow-up or where losses to follow-up were so small that findings				

	would be unaffected by their inclusion. This should be answered no where a study does not report the number of patients lost to follow-up.				
8	*Have actual probability values been reported (e.g. 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001?*				
External validity					
9	*Were the subjects asked to participate in the study representative of the entire population from which they were recruited?* • The study must identify the source population for participants and describe how the participants were selected. Patients would be representative if they comprised the entire source population, an unselected sample of consecutive patients, or a random sample. Random sampling is only feasible where a list of all members of the relevant population exists. Where a study does not report the proportion of the source population from which the participants are derived, the question should be answered as unable to determine.	1			
10	*Were those subjects prepared to participate representative of the entire population from which they were recruited?* • The proportion of those asked who agreed should be stated. Validation that the sample was representative would include demonstrating that the distribution of the main confounding factors was the same in the study sample and the source population.				
Internal validity – bias					
11	*If any of the results of the study were based on "data dredging", was this made clear?* • Any analyses that had not been planned at the outset of the study should be clearly indicated. If no retrospective unplanned subgroup analyses were reported then answer yes.				
12	*In trials and cohort studies, do the analyses adjust for different lengths of follow-up of participants, or in case-control studies, is the period between the intervention and outcome the same for cases and controls?* • Where the follow-up was the same for all study participants the answer should be yes. If different lengths of follow-up were adjusted for by, for example, survival analysis the answer should be yes. Studies where differences in follow-up are ignored should be answered no.				

13	*Were the statistical tests used to assess the main outcomes appropriate?* • The statistical techniques used must be appropriate to the data. For example, non-parametric methods should be used for small sample sizes. Where little statistical analysis has been undertaken but where there is no evidence of bias, the question should be answered yes. If the distribution of the data (normal or not) is not described then it must be assumed that the estimates used were appropriate and the question should be answered yes.				
14	*Was compliance with the interventions reliable?* • *Where there was non compliance with the intervention of where there was contamination of one group, the question should be answered no. For studies where the effect of any misclarification was likely to bias any association to the null, the question should be answered yes.*				
15	*Were the main outcome measures used accurate (valid and reliable)?* • For studies where outcome measures are clearly described, the question should be answered yes. For studies which refer to other work or that demonstrates the outcome measures are accurate, the question should be answered yes.				
Internal validity – confounding (selection bias)					
16	*Were the participants in different intervention groups recruited from the same population?* • For example, participants for all comparison groups should be recruited from the same workplace. The question should be answered unable to determine for cohort and case-control studies where there is no information concerning the source of patients included in the study.				
17	*Were the participants in different intervention groups recruited over the same time period?* *Where time period is not specified answer unable to determine.*				
18	*Were the study subjects randomised to intervention groups?*				
19	*Were the losses of participants to follow-up taken into account?*				

Column total:

Quality score: / 19

Appendix C: Data Extraction Form

Data Extraction Form

Title:

Author:

Year:

Participants: *Consider numbers, demographics, profession, client group, place of work, experience level, motivation*
Place/country of intervention:
Intervention: *Consider a description, level, time frame*

Burnout: *Consider conceptualisation & measure used*
Measures: *Consider which & when*
Results: *Consider pre-, mid- and post- levels*
Other comments: *Consider methodological strengths & limitations*

Appendix D: Guidelines for Authors for the Empirical Paper

British Journal of Clinical Psychology

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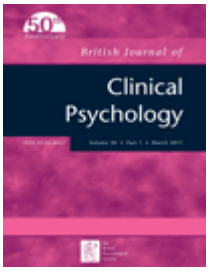

Edited by: Gillian Hardy and Michael Barkham

Impact Factor: 1.753

SI Journal Citation Reports © Ranking: 2009: 41/93 (Psychology Clinical)

Online ISSN: 2004-8260

Author Guidelines

The British Journal of Clinical Psychology publishes original contributions to scientific knowledge in clinical psychology. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour through to studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicitly social and psychological levels of analysis.

The following types of paper are invited:

• Papers reporting original empirical investigations

• Theoretical papers, provided that these are sufficiently related to the empirical data

• Review articles which need not be exhaustive but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications

• Brief reports and comments

1. Circulation

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

2. Length

Papers should normally be no more than 5000 words (excluding abstract, reference list, tables and figures), although the Editor retains discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length.

3. Submission and reviewing

All manuscripts must be submitted via http://www.editorialmanager.com/bjcp/. The Journal operates a policy of anonymous peer review.

4. Manuscript requirements

• Contributions must be typed in double spacing with wide margins. All sheets must be numbered.

• Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript with their approximate locations indicated in the text.

• Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate sheet. The resolution of digital images must be at least 300 dpi.

• For articles containing original scientific research, a structured abstract of up to 250 words should be included with the headings: Objectives, Design, Methods, Results, Conclusions. Review articles should use these headings: Purpose, Methods, Results, Conclusions.

• For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full.

• SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.

• In normal circumstances, effect size should be incorporated.

• Authors are requested to avoid the use of sexist language.

• Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright. For guidelines on editorial style, please consult the APA Publication Manual published by the American Psychological Association.

5. Brief reports and comments

These allow publication of research studies and theoretical, critical or review comments with an essential contribution to make. They should be limited to 2000 words, including

references. The abstract should not exceed 120 words and should be structured under these headings: Objective, Method, Results, Conclusions. There should be no more than one table or figure, which should only be included if it conveys information more efficiently than the text. Title, author name and address are not included in the word limit.

6. Supplementary data

Supplementary data too extensive for publication may be deposited with the British Library Document Supply Centre. Such material includes numerical data, computer programs, fuller details of case studies and experimental techniques. The material should be submitted to the Editor together with the article, for simultaneous refereeing.

7. Copyright

Authors will be required to assign copyright to The British Psychological Society. Copyright assignment is a condition of publication and papers will not be passed to the publisher for production unless copyright has been assigned. To assist authors an appropriate copyright assignment form will be supplied by the editorial office and is also available on the journal's website at http://www.blackwellpublishing.com/pdf/CTA_BPS.pdf. Government employees in both the US and the UK need to complete the Author Warranty sections, although copyright in such cases does not need to be assigned.

8. Colour illustrations

Colour illustrations can be accepted for publication online. These would be reproduced in greyscale in the print version. If authors would like these figures to be reproduced in colour in print at their expense they should request this by completing a Colour Work Agreement form upon acceptance of the paper. A copy of the Colour Work Agreement form can be downloaded **here**.

9. Pre-submission English-language editing

Authors for whom English is a second language may choose to have their manuscript professionally edited before submission to improve the English. A list of independent suppliers of editing services can be found at http://authorservices.wiley.com/bauthor/english_language.asp. All services are paid for and arranged by the author, and use of one of these services does not guarantee acceptance or preference for publication.

10. Author Services

Author Services enables authors to track their article – once it has been accepted – through the production process to publication online and in print. Authors can check the status of their articles online and choose to receive automated e-mails at key stages of production. The author will receive an e-mail with a unique link that enables them to

register and have their article automatically added to the system. Please ensure that a complete e-mail address is provided when submitting the manuscript. Visit http://authorservices.wiley.com/bauthor/ for more details on online production tracking and for a wealth of resources including FAQs and tips on article preparation, submission and more.

11. The Later Stages

The corresponding author will receive an email alert containing a link to a web site. A working e-mail address must therefore be provided for the corresponding author. The proof can be downloaded as a PDF (portable document format) file from this site. Acrobat Reader will be required in order to read this file. This software can be downloaded (free of charge) from the following web site: http://www.adobe.com/products/acrobat/readstep2.html.

This will enable the file to be opened, read on screen and annotated direct in the PDF. Corrections can also be supplied by hard copy if preferred. Further instructions will be sent with the proof. Hard copy proofs will be posted if no e-mail address is available. Excessive changes made by the author in the proofs, excluding typesetting errors, will be charged separately.

12. Supporting Information

BJC is happy to accept articles with supporting information supplied for online only publication. This may include appendices, supplementary figures, sound files, videoclips etc. These will be posted on Wiley Online Library with the article. The print version will have a note indicating that extra material is available online. Please indicate clearly on submission which material is for online only publication. Please note that extra online only material is published as supplied by the author in the same file format and is not copyedited or typeset. Further information about this service can be found at http://authorservices.wiley.com/bauthor/suppmat.asp

13. Early View

British Journal of Clinical Psychology is covered by the Early View service on Wiley Online Library. Early View articles are complete full-text articles published online in advance of their publication in a printed issue. Articles are therefore available as soon as they are ready, rather than having to wait for the next scheduled print issue. Early View articles are complete and final. They have been fully reviewed, revised and edited for publication, and the authors' final corrections have been incorporated. Because they are in final form, no changes can be made after online publication. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so they cannot be cited in the traditional way. They are cited using their Digital Object Identifier (DOI) with no volume and issue or pagination information. E.g., Jones, A.B. (2010). Human rights Issues. *Human Rights Journal*. Advance online publication. doi:10.1111/j.1467-9299.2010.00300.x

Appendix E: Ethics Committee Approval

Leeds (Central) Research Ethics Committee
Yorkshire and Humber REC Office
Millside
Mill Pond Lane
Meanwood
Leeds
LS6 4EP

Telephone: 0113 3050108
Facsimile:

04 June 2010

Miss Hayley J Walker
Trainee Clinical Psychologist
Humber Foundation Trust
Department of Clinical Psychology
Hertford Building, Hull University
Cottingham Road, Hull
HU6 7RX

Dear Miss Walker

Study Title:	**Professional Quality of Life among Mental Health Workers**
REC reference number:	**10/H1313/45**
Protocol number:	**2**

The Research Ethics Committee reviewed the above application at the meeting held on 21 May 2010. Thank you for attending to discuss the study.

Ethical opinion

The Committee commented that the study included a good protocol and had no major ethical issues.

Members requested an indication of the start date and it was confirmed that the study would commence once ethical approval and R&D approval had been obtained, which would hopefully be by July 2010.

The Committee questioned that the variables for the study do not include the sub-groups of patients with whom the mental health workers work and other research has shown that burnout can vary dependent on the sub-group being treated. It was explained that this had been considered, but that due to the limited number of people available, it may distort the statistics. It was explained that this was a useful first study and could be rolled out further in the future.

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and

supporting documentation, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk. Where the only involvement of the NHS organisation is as a Participant Identification Centre, management permission for research is not required but the R&D office should be notified of the study. Guidance should be sought from the R&D office where necessary.

Sponsors are not required to notify the Committee of approvals from host organisations.

1. The information sheet should explain that survey monkey will not collect IP addresses.
2. All study documents being given to participants should be printed on headed paper.
3. The consent form needs the standard paragraph for audit purposes. I understand that relevant sections of my medical notes and data collected during the study, may be looked at by individuals from [company name], from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records'.

It is responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers.

Approved documents

The documents reviewed and approved at the meeting were:

Document	*Version*	*Date*
REC application		23 January 2010
Investigator CV	1	01 January 2010
CV - Tim Alexander		01 January 2010
Initial Email to team leaders	1	01 January 2010
Recruitment email to staff	1	01 January 2010
Reminder Email	1	01 January 2010
Poster-professional quality of life among mental health staff	1	01 January 2010
Protocol	2	23 March 2010
Participant Information Sheet: Paper copy	1	01 January 2010
Participant Information Sheet: Online version	1	01 January 2010
Participant Consent Form: Online version	1	01 January 2010
Participant Consent Form: Paper copy	1	01 January 2010
Flyer - professional quality of life among mental health staff	1	01 January 2010
Fredrickson and Losada's Affect Measure scoring sheet		
The Panas scoring sheet		
ProQOL scoring sheet	5	
Support Information sheet	1	01 January 2010
Compassion and satisfaction and Fatigue scoring sheet	5	
Peer Review Forms	1	08 January 2010

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document “After ethical review – guidance for researchers” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

10/H1313/45	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project

Yours sincerely

Dr Margaret L Faull
Chair

Email: Rachel.bell@leedspft.nhs.uk

Enclosures: *List of names and professions of members who were present at the meeting and those who submitted written comments*
"After ethical review – guidance for researchers"

Copy to: *Mr Stephen Walker*
Research & Development Dept
Trust Headquarters
Willerby Hill
Beverly Road
Willerby, HU10 6ED

Leeds (Central) Research Ethics Committee

Attendance at Committee meeting on 21 May 2010

Committee Members:

Name	*Profession*	*Present*	*Notes*
Dr Chris Bennett	Consultant Clinical Geneticist	Yes	
Mr Mick Burns	Senior Commissioning Manager	Yes	
Dr Margaret L Faull	Chair	Yes	
Mr Mark Godley	Lay Member	Yes	
Dr Janet Holt	Senior Lecturer	Yes	
Ms Sarah Kirkland	Lay Member	Yes	
Dr Louis Loizou	Consultant Neurologist	Yes	
Mr Vernon Long	Consultant Ophthalmologist	Yes	
Mrs Caroline Minchin-Burville	Lay Member	Yes	
Mr Chikezie Dean Okereke	Consultant in A&E	Yes	
Mrs Claire M Ramsden	Health visitor	Yes	
Dr Jinous Tahmassebi	Senior Lecturer and Specialist in Paediatric Dentistry	Yes	
Ms Bren Torry	Lay Member	No	

Also in attendance:

Name	*Position (or reason for attending)*
Miss Rachel Bell	Committee Co-ordinator
Mrs Rabina Razak	Temp Assistant Co-ordinator

Appendix F: Trust Research Governance Approval

Appendix G: Recruitment Email to Team Leaders

Dear [Team Leader],

I am conducting an investigation into some of the factors that might affect how people feel about working in mental health. Participation is open to all employees of Humber Foundation Trust with clinical client contact and will involve completion of a 20 minute survey concerning their employment history, professional quality of life and recent emotional experience. All responses will be completely anonymous.

The research is being undertaken as part of my doctoral clinical psychology training course at the University of Hull and the results will be fed back to the Trust. It has been reviewed by Leeds (Central) Research Ethics Committee and approved by Research and Development.

I would be grateful if I could attend one of your team meetings to explain the study to staff. I will not be asking staff to complete the survey at the meeting. Please could you let me know a time when this would be convenient?

If you would like any more information please do not hesitate to contact me.

Best wishes,

Hayley Walker

Trainee Clinical Psychologist
Humber Foundation Trust

E: Hayley.walker@humber.nhs.uk

T: 01482 464106

P: The Dept of Clinical Psychology and Psychological Therapies, Hertford Building, University of Hull, Cottingham Road, Hull HU6 7RX

Appendix H: Recruitment Email Follow Up

Dear Staff,

You may recall receiving an invitation (via email or our attendance at your team meeting) to participate in our investigation into how people feel about working in mental health. If you have not already, we would like to invite you to take part.

Who can take part?

Participation is open to all employees of Humber Foundation Trust with clinical client contact.

What would I have to do?

Taking part will involve completion of a 15 minute survey concerning your employment history, professional quality of life and recent emotional experience. All responses will be completely anonymous.

What now?

For more information, or to take part: **www.surveymonkey.com/pro_qual_life**

Alternatively, you can request a paper copy of the survey which can be returned using our freepost envelopes. To do this please send an email with your name and address to hayley.walker@humber.nhs.uk

Best wishes,

Hayley Walker

Trainee Clinical Psychologist
Humber Foundation Trust

E: Hayley.walker@humber.nhs.uk

T: 01482 464106

P: The Dept of Clinical Psychology and Psychological Therapies, Hertford Building, University of Hull, Cottingham Road, Hull HU6 7RX

Appendix I: General Recruitment Email

Dear Staff,

Why have I been sent this email?

We are investigating some of the factors that might affect how people feel about working in mental health and want to invite you to take part.

Who can take part?

Participation is open to all employees of Humber Foundation Trust with clinical client contact.

What would I have to do?

Taking part will involve completion of a 20 minute survey concerning your employment history, professional quality of life and recent emotional experience. All responses will be completely anonymous.

What now?

For more information, or to take part: **www.surveymonkey.com/pro_qual_life**

Alternatively, you can request a paper copy of the survey which can be returned using our freepost envelopes. To do this, please send an email with your name and address to hayley.walker@humber.nhs.uk

Best wishes,

Hayley Walker

Trainee Clinical Psychologist
Humber Foundation Trust

E: Hayley.walker@humber.nhs.uk

T: 01482 464106

P: The Dept of Clinical Psychology and Psychological Therapies, Hertford Building, University of Hull, Cottingham Road, Hull HU6 7RX

Appendix J: Recruitment Flyer

UNIVERSITY OF Hull

Professional Quality of Life among Mental Health Staff

We are investigating some of the factors that might affect how people feel about working in mental health and we want to invite you to take part.

Participation is open to all employees of Humber Foundation Trust with clinical client contact. Taking part will involve completion of a 20 minute survey concerning your employment history, professional quality of life and recent emotional experience. All responses will be completely anonymous.

You can complete the survey by following this link:

www.surveymonkey.com/pro_qual_life

Alternatively, you can request a paper copy of the survey which can be returned using our freepost envelopes. To do this, please send an email with your name and address to hayley.walker@humber.nhs.uk.

Further information and contact details

The research is organised by Hayley Walker, a trainee Clinical Psychologist employed by Humber Foundation Trust and training at the University of Hull. If you have a concern about any aspect of this study ore require any further information you can contact her by email: hayley.walker@humber.nhs.uk

Appendix K: Recruitment Poster

UNIVERSITY OF Hull

Professional Quality of Life among Mental Health Staff

We are investigating some of the factors that might affect how people feel about working in mental health and we want to invite you to take part.

For more information, or to take part:

www.surveymonkey.com/pro_qual_life

Paper copies and more information also available by emailing: hayley.walker@humber.nhs.uk.

www.surveymonkey.com/pro_qual_life
www.surveymonkey.com/pro_qual_life
www.surveymonkey.com/pro_qual_life
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www.surveymonkey.com/pro_qual_life

Appendix L: Participant Information Sheet: Online and Paper

Professional Quality of Life among Mental Health Staff

We would like to invite you to take part in a research study. Before you decide we would like you to understand why the research is being done and what it would involve for you. Please read this information carefully. If you have any questions that are not answered below please contact us before continuing.

What is the purpose of the study?

We are investigating some of the factors that might affect how people feel about working in mental health. The completed project will be submitted as part of the researcher's clinical psychology training course at the University of Hull. In addition, the results will be fed back to Humber Foundation Trust who may choose to publish the results in their own publications. It is also hoped that the results will be published in international journals and presented at conferences.

Why have I been invited?

You have been invited to take part because you are an employee of Humber Foundation Trust and you have clinical contact with clients.

What will I be asked to do?

You will be asked a series of questions concerning your employment history, professional quality of life and recent emotional experience. It should take no more than 20 minutes to complete.

Do I have to take part and what if I change my mind?

No, it's up to you to decide to join the study; no-one will know if you decide to take part in the study or not. If you agree to take part via the online version of this survey, you may discontinue at any time by clicking on the 'discontinue' button shown on every page. If you discontinue your responses will not be saved and will not be used in the study. As the data is anonymous, once the survey has been submitted it cannot be withdrawn. Similarly, once you return the paper version of this survey you cannot withdraw your answers because all the data will be anonymous.

Will my taking part in this study be confidential?

No personally identifiable information will be collected during this study and survey monkey will not save your computer's IP address. Therefore, we cannot trace your responses back to you and all data collected will be anonymous.

Potential Risks

Some people may become distressed when completing this survey. If you do, you can discontinue at anytime and your data will not be stored or used in the study. At the end of the survey (or if you decide to discontinue) a screen will be presented containing helpful resources, websites and contact numbers if you feel you need some support or further information. This information can also be found at the end of the paper version.

What are the possible benefits of taking part?

We cannot promise this study will help you but it may raise your awareness of the signs of 'Compassion Fatigue' in yourself and among your colleagues. The information we obtain from this study may help to understand and improve the professional quality of life among mental health professionals.

Can I find out my results or what they mean?

Since data will be collected anonymously we are not able to let you know your scores. At the end of the survey (or if you decide to discontinue) there will be a screen containing a link to a website where you can complete part of the questionnaire again and find out how to score and interpret your own responses.

Expenses and payments

You will not be paid for taking part in the study and you cannot claim any expenses.

Who has reviewed this study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by Leeds (Central) Research Ethics Committee. It has also been peer reviewed by the research team at the Department of Clinical Psychology and Psychological Therapies at the University of Hull and is being sponsored by Humber Foundation Trust Research and Development.

Further information and contact details

The research is organised by Hayley Walker, a trainee Clinical Psychologist employed by Humber Foundation Trust and training at the University of Hull. If you have a concern about any aspect of this study you should contact her by email: hayley.walker@humber.nhs.uk

Appendix M: Participant Consent Form: Online

Consent

To continue with the survey please tick the boxes to indicate that you agree with the following:

☐ I have read and understand the information for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

☐ I understand that my participation is voluntary and that I am free to stop at any time without giving any reason and without my employment or legal rights being affected.

☐ I understand that once I have submitted the survey it is not possible for my answers to be withdrawn since all the data is anonymous.

☐ I understand that data collected during the study may be looked at by individuals from the University of Hull, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to the data.

☐ I agree to take part in the above study

CONTINUE

Appendix N: Participant Consent Form: Paper

Consent

By filling out and returning the survey you agree to the following:

- I have read and understand the information for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

- I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my employment or legal rights being affected.

- I understand that once I have submitted the survey it is not possible for my answers to be withdrawn since all the data is anonymous.

- I understand that data collected during the study may be looked at by individuals from the University of Hull, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to the data.

- I agree to take part in the above study

Appendix O: Demographic Questionnaire

The following questions are about you:

Please indicate your gender: Male Female

What is your age?

☐ 20 and under
☐ 21-30
☐ 31-40
☐ 41-50
☐ 51-60
☐ 61 and over

Which of the following best describes your professional background?

☐ Counselling
☐ Medicine
☐ Nursing
☐ Occupational Therapy
☐ Psychology
☐ Psychotherapy
☐ Social Work
☐ Other - please specify.....

To the nearest year, how long have you worked in mental health? .....

The following questions are about your current employment:

What is your current job title? (e.g. CPN, Clinical Psychologist, Social Worker)

.....

In this role, how many hours do you work per week?

On average, how many hours of supervision do you receive per month?

The following questions are about your clients:

-In your answers please include all clients seen individually or in group sessions.

On average, how many clients do you see per week?

On average, how many hours do you spend with clients per week?

On average, how many clients that you would consider to be **traumatised** do you see per week?

Appendix P: Modified Fredrickson and Losada (2005) Affect Measure (FLAM)

Please rate the extent to which you have experienced each of the following emotions over the past 30 days:

Amusement	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Awe	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Compassion	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Contentment	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Gratitude	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Hope	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Interest	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Joy	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Love	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Pride	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Sexual desire	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Anger	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Contempt	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Disgust	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Embarrassment	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Fear	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Guilt	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Sadness	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**
Shame	**(not at all)**	**0**	**1**	**2**	**3**	**4**	**(extremely)**

Appendix Q: The Positive and Negative Affect Schedule (PANAS; Watson et al., 1988)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way during the past 30 days. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	**a little**	**moderately**	**quite a bit**	**extremely**

__ interested

___distressed

___excited

___upset

___strong

___guilty

___scared

___hostile

___enthusiastic

___proud

___irritable

___alert

___ashamed

___inspired

___nervous

___determined

___attentive

___jittery

___active

___afraid

Appendix R: Professional Quality of Life (ProQOL; Stamm, 2009, 2010)

PROFESSIONAL QUALITY OF LIFE SCALE (PROQOL)

Compassion Satisfaction and Fatigue (ProQOL) Version 5 (2009)

When you *[help]* people you have direct contact with their lives. As you may have found, your compassion for those you *[help]* can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a *[helper]*. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the *last 30 days*.

1=Never 2=Rarely 3=Sometimes 4=Often 5=Very Often

_____ 1. I am happy.
_____ 2. I am preoccupied with more than one person I *[help]*.
_____ 3. I get satisfaction from being able to *[help]* people.
_____ 4. I feel connected to others.
_____ 5. I jump or am startled by unexpected sounds.
_____ 6. I feel invigorated after working with those I *[help]*.
_____ 7. I find it difficult to separate my personal life from my life as a *[helper]*.
_____ 8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I *[help]*.
_____ 9. I think that I might have been affected by the traumatic stress of those I *[help]*.
_____ 10. I feel trapped by my job as a *[helper]*.
_____ 11. Because of my *[helping]*, I have felt "on edge" about various things.
_____ 12. I like my work as a *[helper]*.
_____ 13. I feel depressed because of the traumatic experiences of the people I *[help]*.
_____ 14. I feel as though I am experiencing the trauma of someone I have *[helped]*.
_____ 15. I have beliefs that sustain me.
_____ 16. I am pleased with how I am able to keep up with *[helping]* techniques and protocols.
_____ 17. I am the person I always wanted to be.
_____ 18. My work makes me feel satisfied.
_____ 19. I feel worn out because of my work as a *[helper]*.
_____ 20. I have happy thoughts and feelings about those I *[help]* and how I could help them.
_____ 21. I feel overwhelmed because my case [work] load seems endless.
_____ 22. I believe I can make a difference through my work.
_____ 23. I avoid certain activities or situations because they remind me of frightening experiences of the people I *[help]*.
_____ 24. I am proud of what I can do to *[help]*.
_____ 25. As a result of my *[helping]*, I have intrusive, frightening thoughts.
_____ 26. I feel "bogged down" by the system.
_____ 27. I have thoughts that I am a "success" as a *[helper]*.
_____ 28. I can't recall important parts of my work with trauma victims.
_____ 29. I am a very caring person.
_____ 30. I am happy that I chose to do this work.

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What is my score and what does it mean?

In this section, you will score your test and then you can compare your score to the interpretation below.

Scoring

1. Be certain you respond to all items.
2. Go to items 1, 4, 15, 17 and 29 and reverse your score. For example, if you scored the item 1, write a 5 beside it. We ask you to reverse these scores because we have learned that the test works better if you reverse these scores.

You Wrote	Change to
1	5
2	4
3	3
4	2
5	1

To find your score on **Compassion Satisfaction**, add your scores on questions 3, 6, 12, 16, 18, 20, 22, 24, 27, 30.

The sum of my Compassion Satisfaction questions was	So My Score Equals	My Level of Compassion Satisfaction
22 or less	43 or less	Low
Between 23 and 41	Around 50	Average
42 or more	57 or more	High

To find your score on **Burnout**, add your scores questions 1, 4, 8, 10, 15, 17, 19, 21, 26 and 29. Find your score on the table below.

The sum of my Burnout questions	So My Score Equals	My Level of Burnout
22 or less	43 or less	Low
Between 23 and 41	Around 50	Average
42 or more	57 or more	High

To find your score on **Secondary Traumatic Stress**, add your scores on questions 2, 5, 7, 9, 11, 13, 14, 23, 25, 28. Find your score on the table below.

The sum of my Secondary Traumatic Stress questions	So My Score Equals	My Level of Secondary Traumatic Stress
22 or less	43 or less	Low
Between 23 and 41	Around 50	Average
42 or more	57 or more	High

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YOUR SCORES ON THE PROQOL: PROFESSIONAL QUALITY OF LIFE SCREENING

Based on your responses, your personal scores are below. If you have any concerns, you should discuss them with a physical or mental health care professional.

Compassion Satisfaction _____

Compassion satisfaction is about the pleasure you derive from being able to do your work well. For example, you may feel like it is a pleasure to help others through your work. You may feel positively about your colleagues or your ability to contribute to the work setting or even the greater good of society. Higher scores on this scale represent a greater satisfaction related to your ability to be an effective caregiver in your job.

The average score is 50 (SD 10; alpha scale reliability .88). About 25% of people score higher than 57 and about 25% of people score below 43. If you are in the higher range, you probably derive a good deal of professional satisfaction from your position. If your scores are below 40, you may either find problems with your job, or there may be some other reason—for example, you might derive your satisfaction from activities other than your job.

Burnout_____

Most people have an intuitive idea of what burnout is. From the research perspective, burnout is one of the elements of compassion fatigue. It is associated with feelings of hopelessness and difficulties in dealing with work or in doing your job effectively. These negative feelings usually have a gradual onset. They can reflect the feeling that your efforts make no difference, or they can be associated with a very high workload or a non-supportive work environment. Higher scores on this scale mean that you are at higher risk for burnout.

The average score on the burnout scale is 50 (SD 10; alpha scale reliability .75). About 25% of people score above 57 and about 25% of people score below 43. If your score is below 18, this probably reflects positive feelings about your ability to be effective in your work. If you score above 57 you may wish to think about what at work makes you feel like you are not effective in your position. Your score may reflect your mood; perhaps you were having a “bad day” or are in need of some time off. If the high score persists or if it is reflective of other worries, it may be a cause for concern.

Secondary Traumatic Stress_____

The second component of Compassion Fatigue (CF) is secondary traumatic stress (STS). It is about your work related, secondary exposure to extremely or traumatically stressful events. Developing problems due to exposure to other’s trauma is somewhat rare but does happen to many people who care for those who have experienced extremely or traumatically stressful events. For example, you may repeatedly hear stories about the traumatic things that happen to other people, commonly called Vicarious Traumatization. You may see or provide treatment to people who have experienced horrific events. If your work puts you directly in the path of danger, due to your work as a soldier or civilian working in military medicine personnel, this is not secondary exposure; your exposure is primary. However, if you are exposed to others’ traumatic events as a result of your work, such as providing care to casualties or for those in a military medical rehabilitation facility, this is secondary exposure. The symptoms of STS are usually rapid in onset and associated with a particular event. They may include being afraid, having difficulty sleeping, having images of the upsetting event pop into your mind, or avoiding things that remind you ofthe event.

The average score on this scale is 50 (SD 10; alpha scale reliability .81). About 25% of people score below 43 and about 25% of people score above 57. If your score is above 57, you may want to take some time to think about what at work may be frightening to you or if there is some other reason for the elevated score. While higher scores do not mean that you do have a problem, they are an indication that you may want to examine how you feel about your work and your work environment. You may wish to discuss this with your supervisor, a colleague, or a health care professional.

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Appendix S: Support Information Sheet

Professional Quality of Life among Mental Health Staff

Thank you.

(If you opted to discontinue the survey your responses have not been saved and will not be used in the study).

If you require more information about professional quality of life for those in caring profession you may find the following website useful: http://www.proqol.org/

You can also download the Professional Quality of Life questionnaire we used in this survey from this website, along with instructions on how to score and interpret your responses: http://www.proqol.org/ProQol_Test.html

If you feel you need some support or further information you should speak to your line manager or supervisor in the first instance. You may also find the following useful:

Staff Intranet: Information on 'Improving Working Lives', including 'Healthy Workplaces' is available on the staff intranet:

http://www.humber.nhs.uk/templates/Page.aspx?id=2106

Occupational Health (A free confidential counselling service is also available): 01482 389335

Samaritans : Confidential support for people experiencing feelings of distress or despair.
08457 90 90 90 (24-hour helpline)

www.samaritans.org.uk

For further information, or if you have a concern about any aspect of this study, you can contact the researcher using the details below:

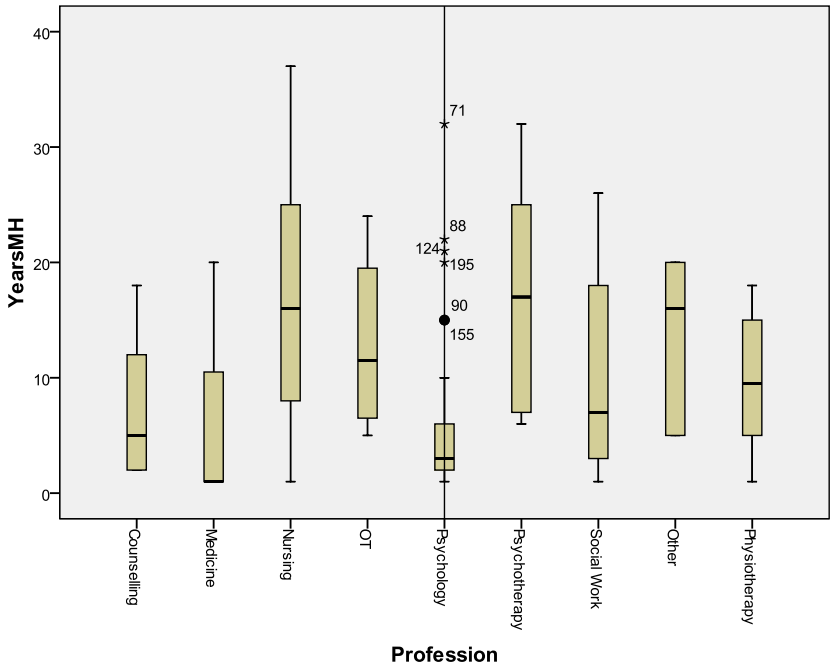
Email: hayley.walker@humber.nhs.uk

Telephone: 01482 464106

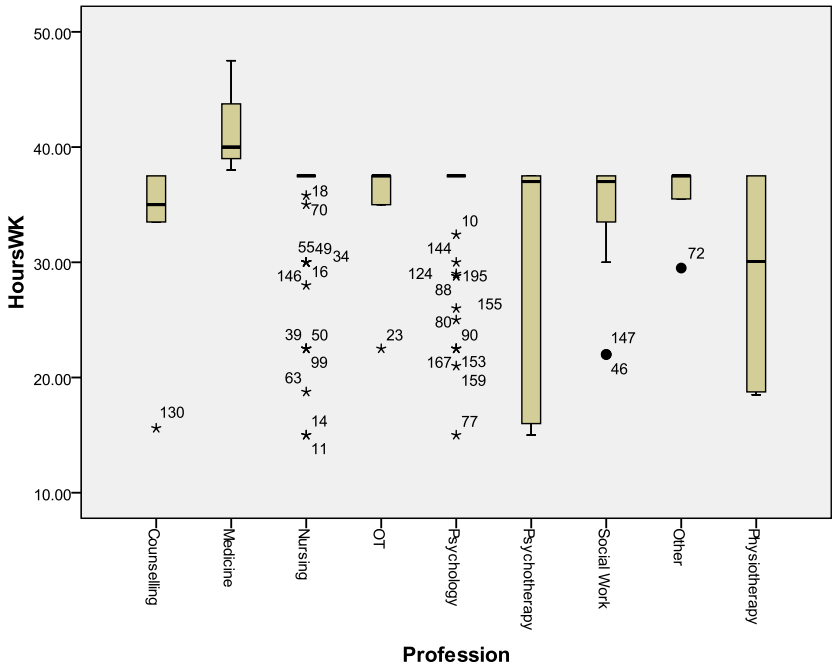
Post: The Dept of Clinical Psychology and Psychological Therapies, Hertford Building, University of Hull, Cottingham Road, Hull HU6 7RX

Appendix T: Boxplots of Demographic Information by Profession

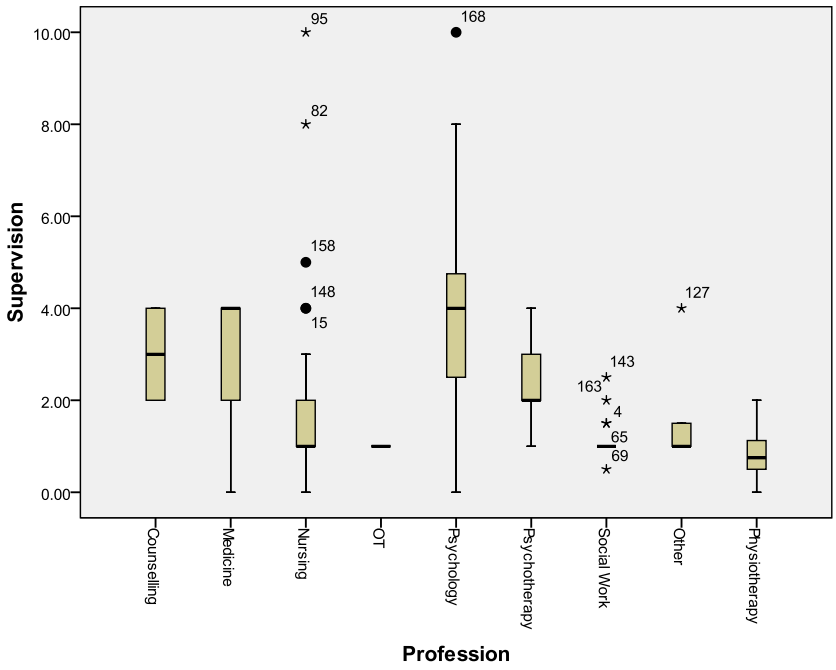
To the nearest year, how long have you worked in mental health?



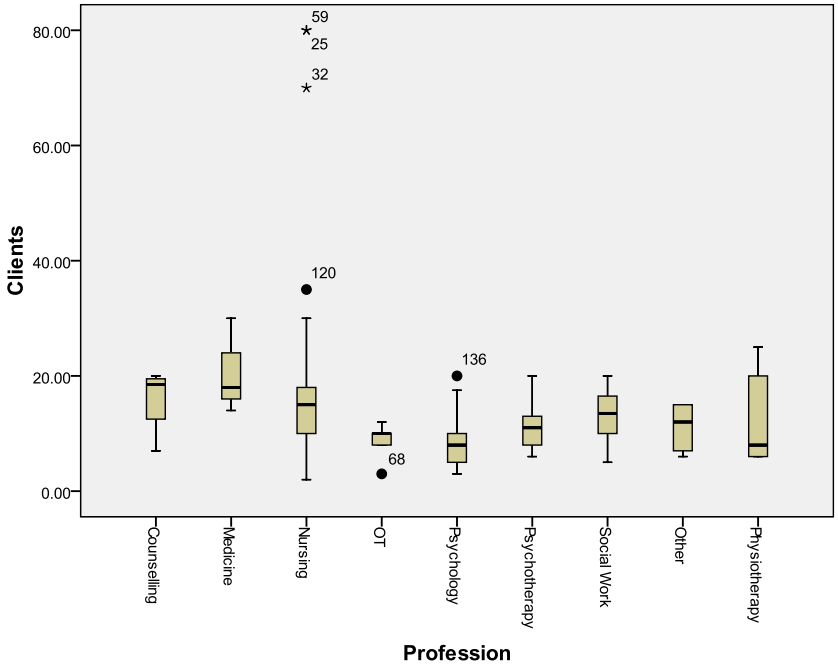
In this role, how many hours do you work per week?



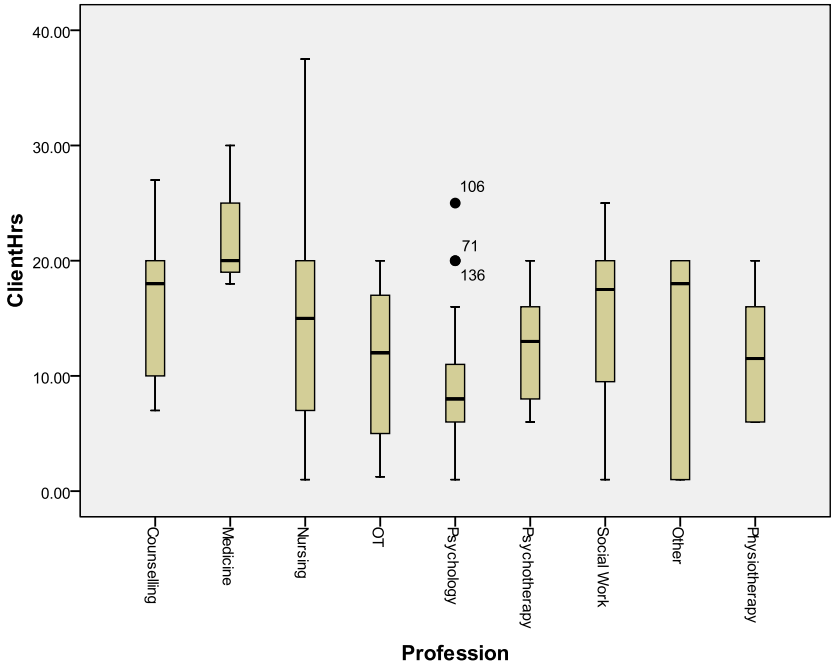
On average, how many hours of supervision do you receive per month?



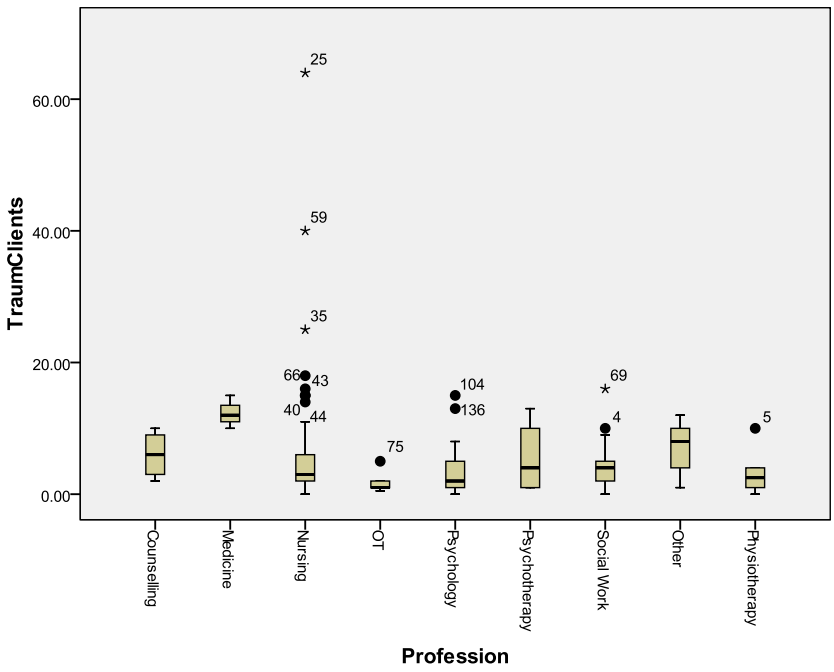
On average, how many clients do you see per week?



On average, how many hours do you spend with clients per week?



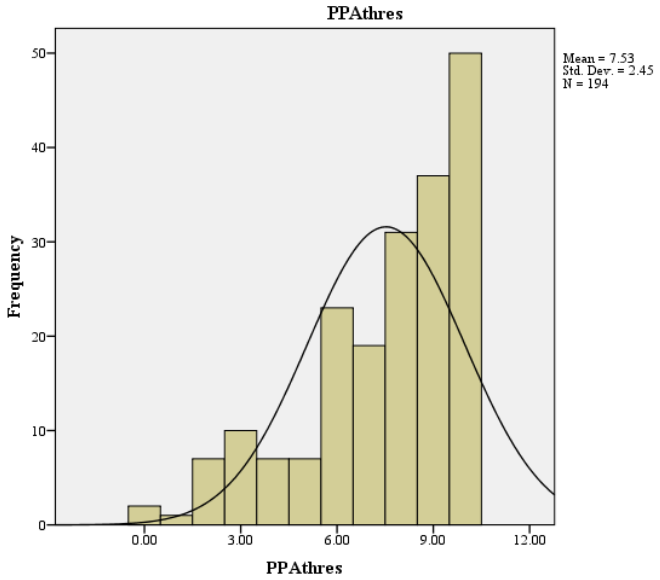
On average, how many clients that you would consider to be traumatised do you see per week?



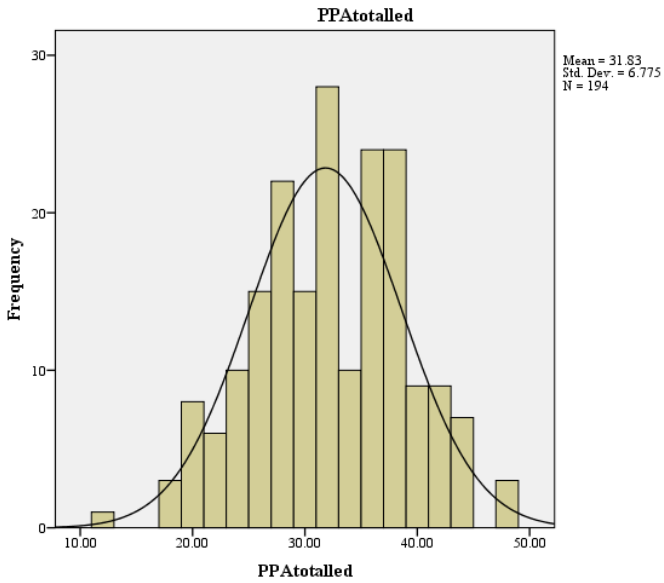
Appendix U: Affect Scores: Histograms

PANAS

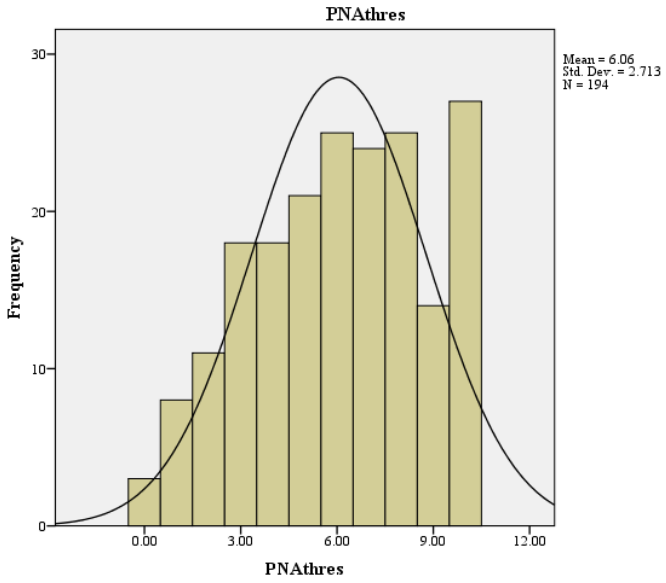
Histogram with Normal Curve of Positive Affect Scores from the PANAS Calculated Using the Threshold Method



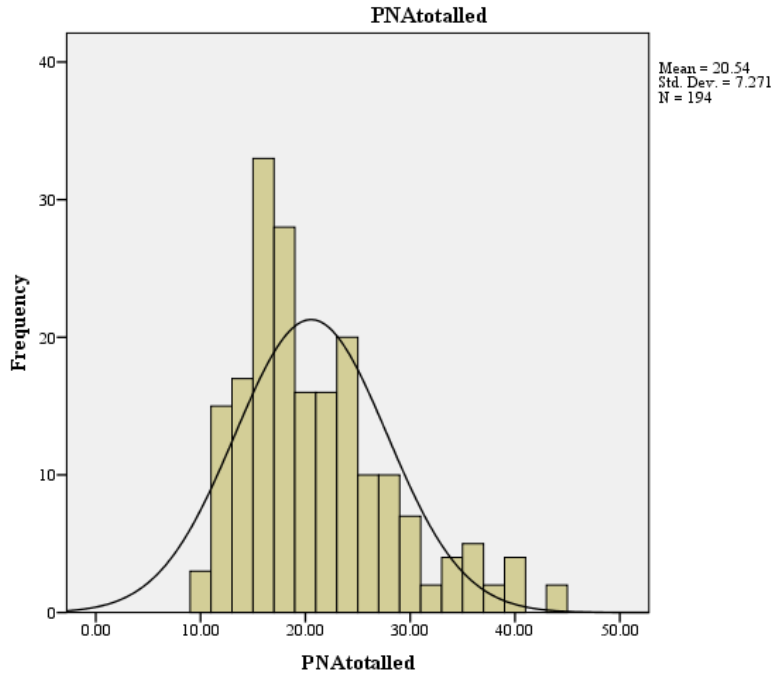
Histogram with Normal Curve of Positive Affect Scores from the PANAS Calculated Using the Totals Method



Histogram with Normal Curve of Negative Affect Scores from the PANAS Calculated Using the Threshold Method

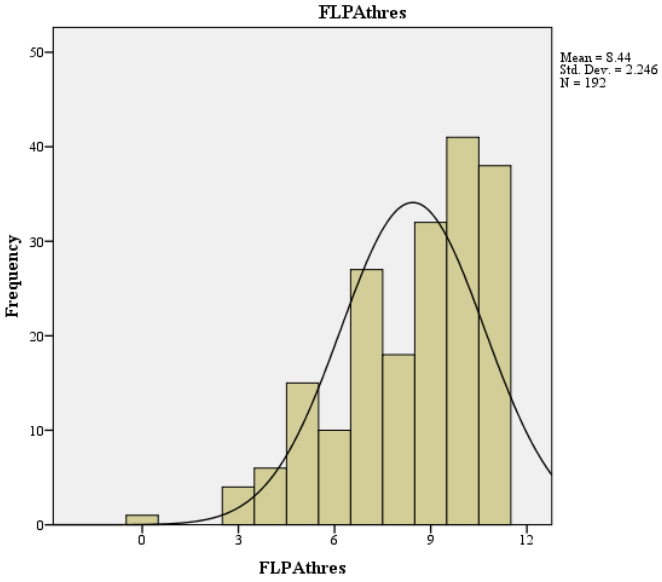


Histogram with Normal Curve of Negative Affect Scores from the PANAS Calculated Using the Totals Method

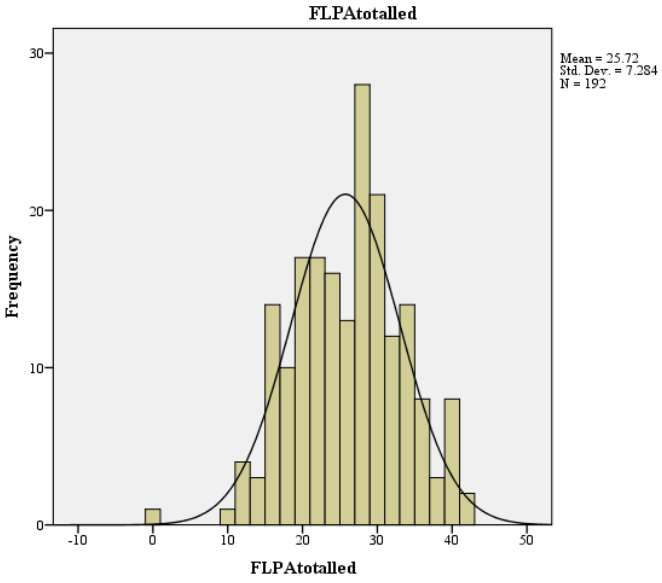


FLAM - Unstandardised

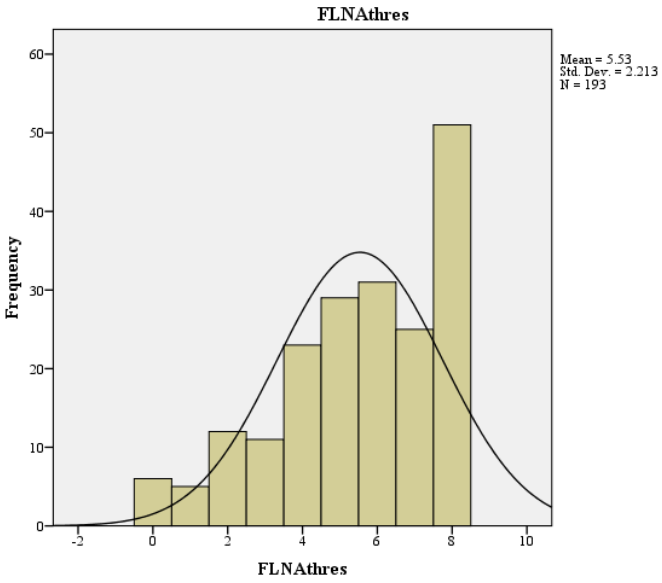
Histogram with Normal Curve of Unstandardised Positive Affect Scores from the FLAM Calculated Using the Threshold Method



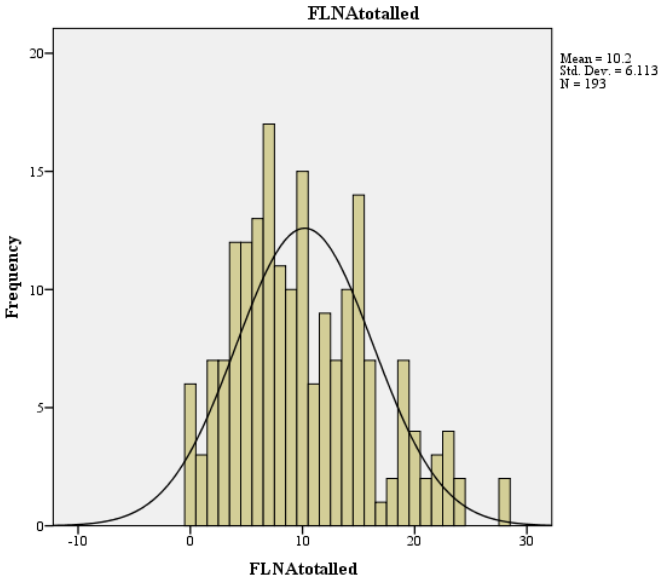
Histogram with Normal Curve of Unstandardised Positive Affect Scores from the FLAM Calculated Using the Totals Method



Histogram with Normal Curve of Unstandardised Negative Affect Scores from the FLAM Calculated Using the Threshold Method

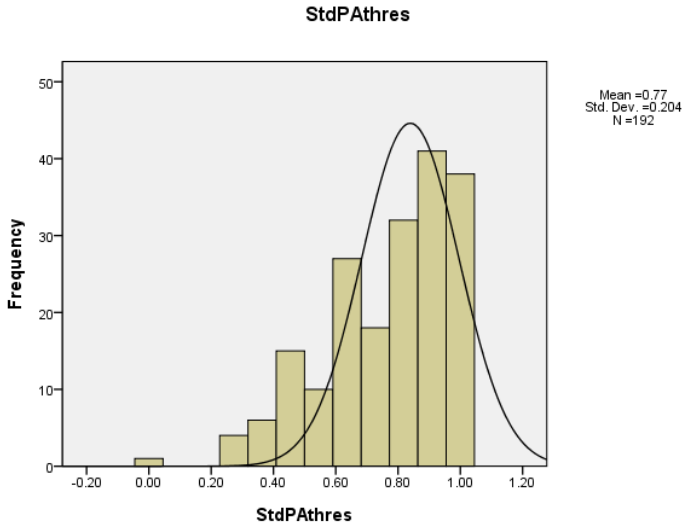


Histogram with Normal Curve of Unstandardised Negative Affect Scores from the FLAM Calculated Using the Totals Method

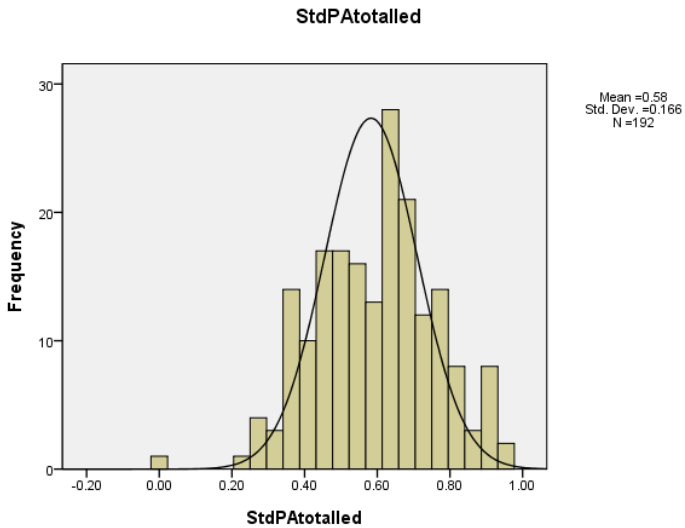


FLAM – Standardised

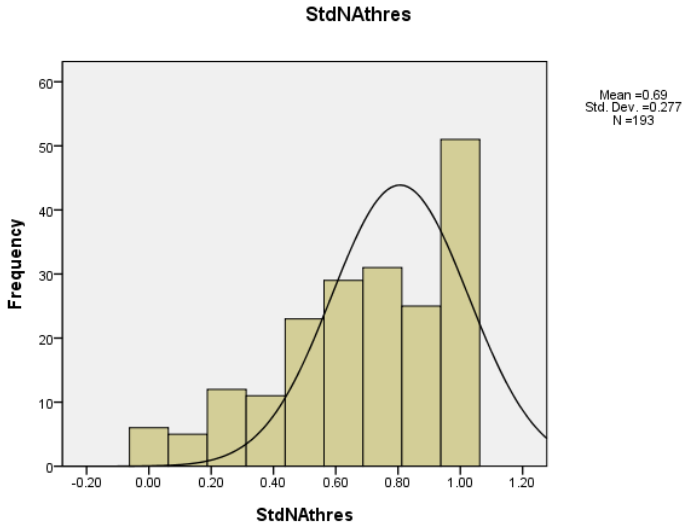
Histogram with Normal Curve of Standardised Positive Affect Scores from the FLAM Calculated Using the Threshold Method



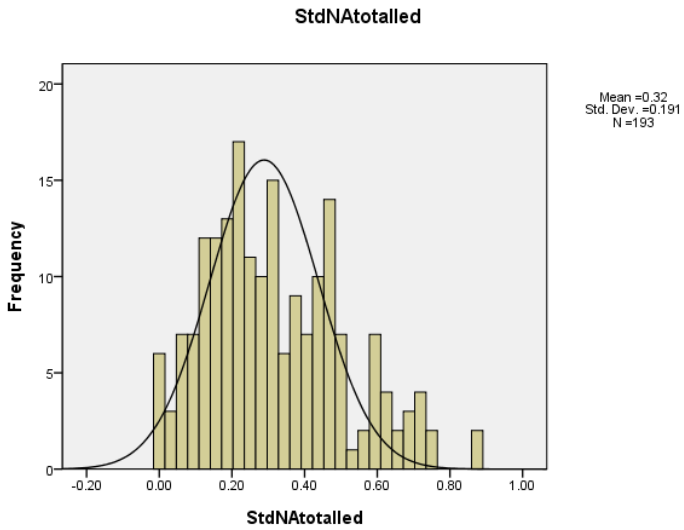
Histogram with Normal Curve of Standardised Positive Affect Scores from the FLAM Calculated Using the Totals Method



Histogram with Normal Curve of Standardised Negative Affect Scores from the FLAM Calculated Using the Threshold Method

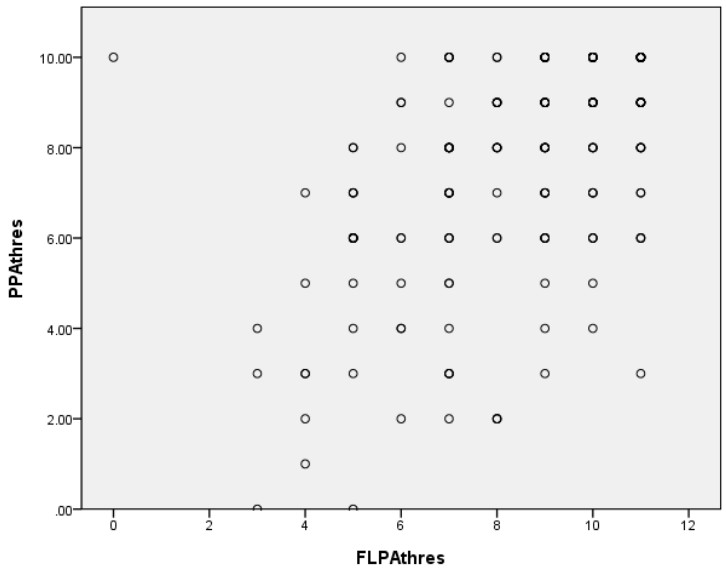


Histogram with Normal Curve of Standardised Negative Affect Scores from the FLAM Calculated Using the Totals Method

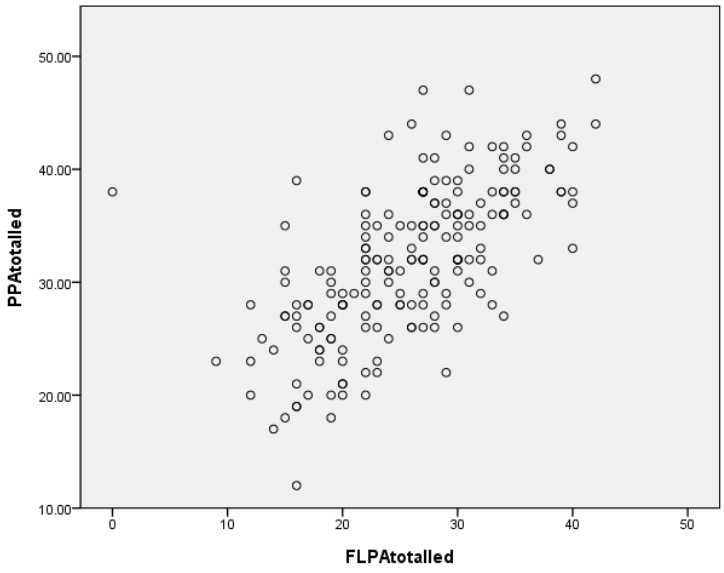


Appendix V. Intraclass Correlations for Affect Scores

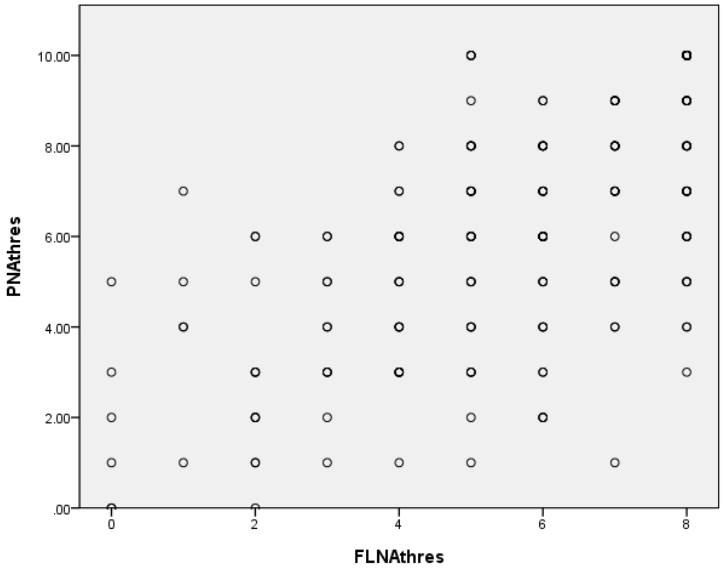
Scatterplot of Positive Affect Threshold Scores: PANAS and unstandardised FLAM



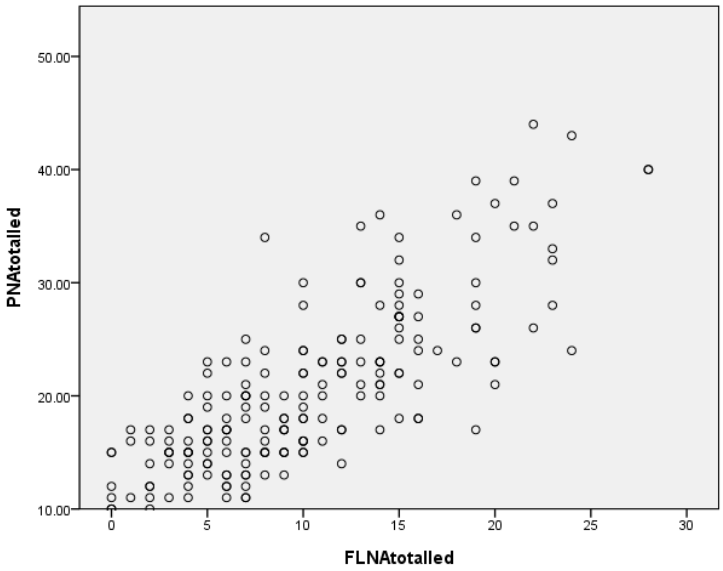
Scatterplot of Positive Affect Totalled Scores: PANAS and unstandardised FLAM



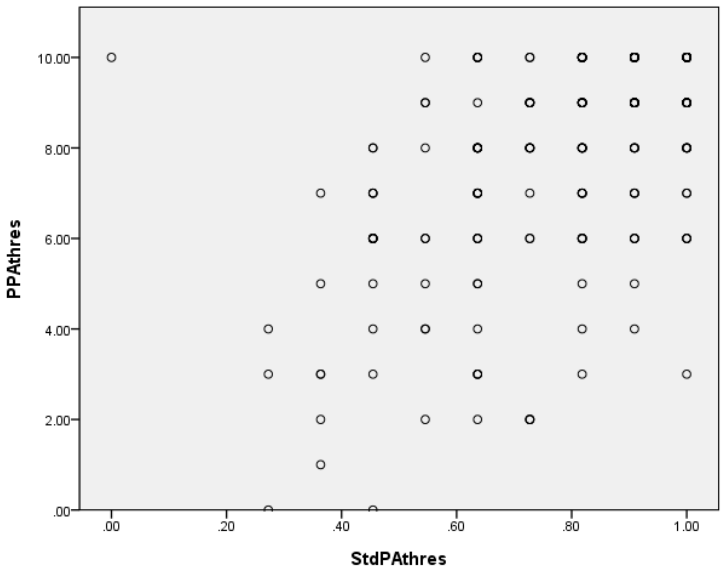
Scatterplot of Negative Affect Threshold Scores: PANAS and unstandardised FLAM



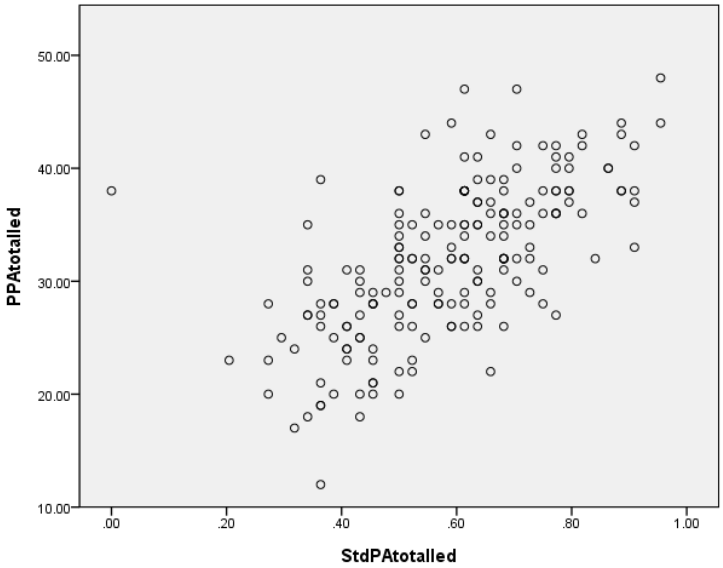
Scatterplot of Negative Affect Totalled Scores: PANAS and unstandardised FLAM



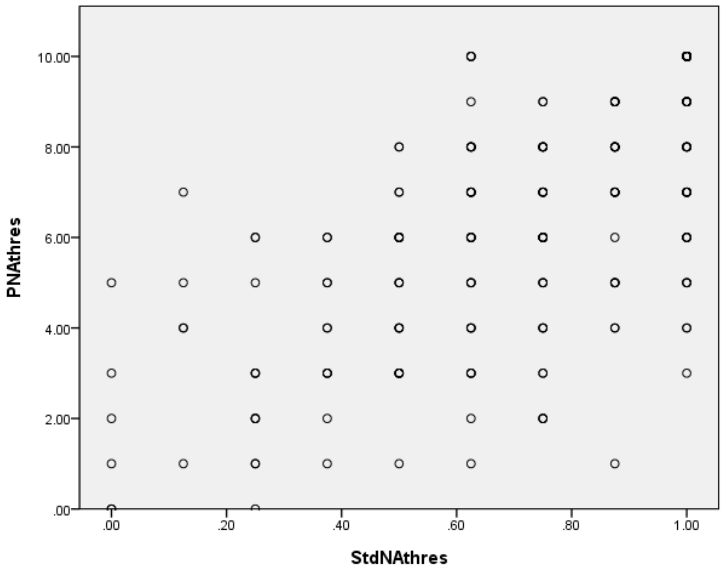
Scatterplot of Positive Affect Threshold Scores: PANAS and standardised FLAM



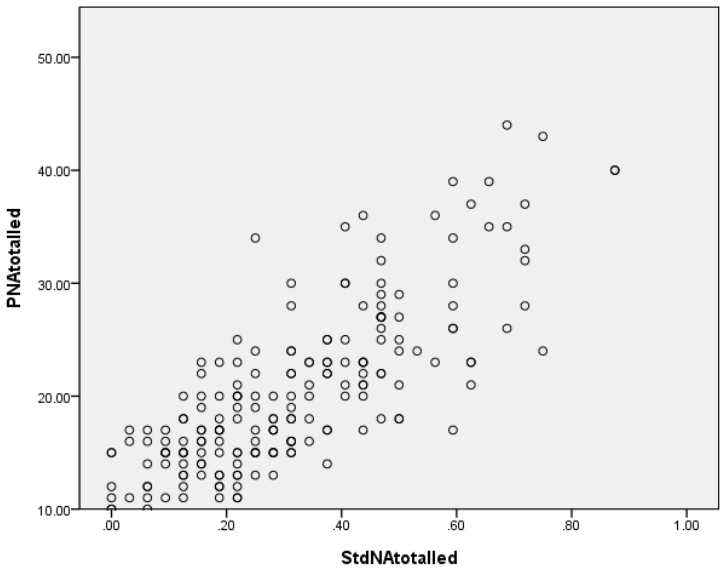
Scatterplot of Positive Affect Totalled Scores: PANAS and standardised FLAM



Scatterplot of Negative Affect Threshold Scores: PANAS and standardised FLAM

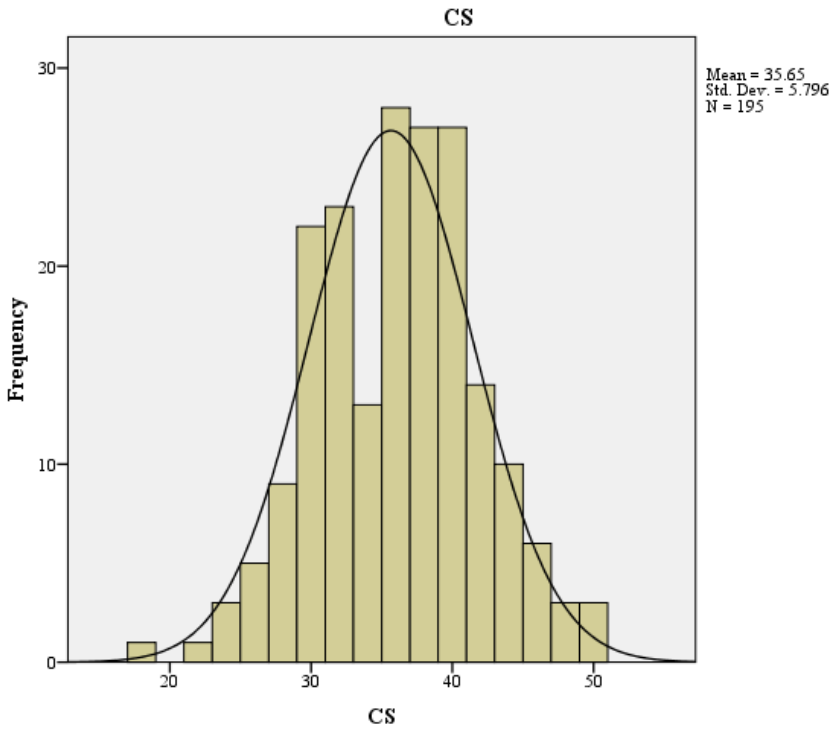


Scatterplot of Negative Affect Totalled Scores: PANAS and standardised FLAM

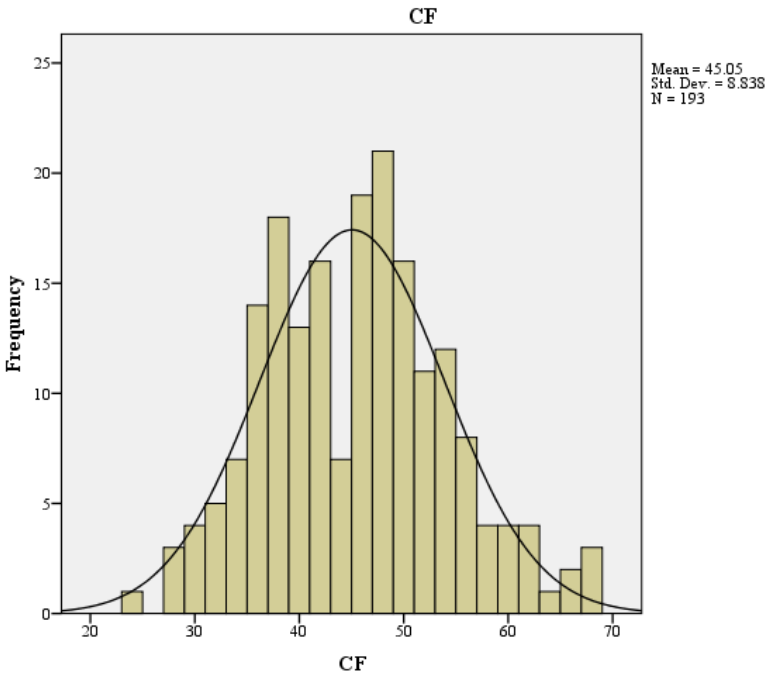


Appendix W: Histograms for Compassion Satisfaction and Compassion Fatigue Scores derived from ProQOL

Histogram of Compassion Satisfaction



Histogram of Compassion Fatigue



Appendix X: Analysis of Residuals

Tests of Normality for Hierarchical multiple regression of PA and NA on CS, including other factors

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Standardized Residual for regression model for CS containing all predictors	177	90.8%	18	9.2%	195	100.0%

Descriptives

			Statistic	Std. Error
Standardized Residual for regression model for CS containing all predictors	Mean		.0000000	.07343645
	95% Confidence Interval for Mean	Lower Bound	-.1449294	
		Upper Bound	.1449294	
	5% Trimmed Mean		-.0107392	
	Median		-.0580294	
	Variance		.955	
	Std. Deviation		.97700842	
	Minimum		-2.63138	
	Maximum		2.64883	
	Range		5.28021	
	Interquartile Range		1.38732	
	Skewness		.150	.183
	Kurtosis		.147	.363

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for regression model for CS containing all predictors	.055	177	.200*	.989	177	.203

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Tests of Normality for Hierarchical multiple regression of NA and PA on CF, including other factors

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Standardized Residual CF and NA then PA	176	90.3%	19	9.7%	195	100.0%

Descriptives

			Statistic	Std. Error
Standardized Residual CF and NA then PA	Mean		.0000000	.07363476
	95% Confidence Interval for Mean	Lower Bound	-.1453265	
		Upper Bound	.1453265	
	5% Trimmed Mean		.0048214	
	Median		.0866681	
	Variance		.954	
	Std. Deviation		.97687549	
	Minimum		-2.87768	
	Maximum		2.23350	
	Range		5.11117	
	Interquartile Range		1.42267	
	Skewness		-.151	.183
	Kurtosis		-.213	.364

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual CF and NA then PA	.060	176	.200*	.992	176	.394

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Appendix Y: Reflective Statement

From the initial planning stage and throughout the compilation of the Ethics application, recruitment and dissemination stages I have been surprised by the interest with which this project has been met. As I visited different teams within the Trust I found that people were keen to share their own experiences and their thoughts as to how mental health professionals might come to experience difficulties in their work. Their interest told of the relevance of the concepts such as Compassion Fatigue and burnout to so many of those working in mental health.

What struck me further was the sheer inability of this project, or any empirical project, to capture the essence of their experience. With the aims of this project in mind, that is to provide an empirical test of the PNR Model proposed by Radey and Figley (2007), I still feel that it was right to commit to a quantitative design. However, as I began to implement this project I became even more certain that human experience cannot easily be summarised and captured by a simple model or a mathematical expression. As I met the people who contributed to this project I learned that the factors that influence their experience of working in mental health was multi-faceted and their well-being was dependent upon a wealth of work and non-work factors, and the interactions between them.

One of the strengths of my approach to this research was the consideration of the issues surrounding recruitment. Having both a paper and online version of the survey enabled participants to choose the format that they felt most comfortable with and did not simply deny those not comfortable with computers the right to participate. Sending an email direct to staff using the Trust's global email with a weblink in proved highly successful and it is through this that I gained most of my participants.

One thing I found particularly difficult was deciphering the responses of some participants. Having to delete responses which remain unclear not only affects the validity of the data sample but raises the uncomfortable feeling that one has wasted valuable resources (that is, the participant's time) and degraded their contribution to the research.

Looking back over the research process I have learned that however long I anticipated that each stage would take, even if my estimates were generous, it is actually likely to take longer. Working on the Results section of the Empirical Paper was particularly protracted. Despite having given some thought to the data analysis in the initial planning stages there were so many possible combinations and transformations of Positive Affect and Negative Affect scores that could have been explored to try and predict someone's likely experience of Compassion Satisfaction or fatigue. It felt important to get the best use out of the data that had been so generously gifted by the participants. I remain frustrated that in research the complete range of possible analyses can rarely be undertaken.

Although Radey and Figley (2007) originally published their work in the Journal of Social Work, Social Workers were not the focus of the Empirical Paper and a variety of different professional groups are represented. As Psychologists comprised one of the most frequently represented professional groups, and Compassion Satisfaction and Compassion Fatigue are concepts closely related to psychological well-being, it was felt that the British Journal of Clinical Psychology would be a better choice. Moreover, because of the impact that such phenomena have on a wide range of mental health professionals it necessitated a journal with a particularly wide readership and, indeed, the British Journal of Clinical Psychology has consistently high impact ratings. Clinical Psychologists reading the British Journal of Clinical Psychology often have important and influential roles within mental health teams and would be in a prime position to disseminate the results to their mental health colleagues and service managers. For similar reasons, Clinical Psychology Review

was chosen as an appropriate journal to submit the SLR to. I may also consider submitting these articles to the Journal of Mental Health given that burnout and Compassion Fatigue are problems of mental health, but also given the focus on the mental health staff groups in both, particularly the empirical paper.